



Emergency Management

October 2021

SOUTH AUSTRALIA'S DISASTER RESILIENCE NEWSLETTER

VICTORIA'S EARTHQUAKE

On 22 September 2021, a 5.9 magnitude earthquake hit Victoria's northeast. The epicentre was located north of Rawson and was recorded at a depth of approximately 10kms. The quake was followed by two smaller aftershocks. It was the largest recorded earthquake to hit south east Australia.



The initial earthquake caused damage 130kms away in Melbourne and shaking was felt in Sydney, Canberra, Adelaide and Launceston. Insurance companies reported receiving hundreds of claims, including the collapse of a building wall. 35,000 homes lost power and one minor injury was reported.

Two weeks later, on Saturday October 9, a magnitude 4.8 earthquake was felt near Pinnaroo in SA, followed by 3 smaller aftershocks. Geoscience Australia have stated that due to distance the two earthquakes are not linked.

South Australia's most serious earthquake was the 1954 Darlington earthquake which caused around \$578million (in 2017 dollars) damage. Many of Adelaide's buildings suffered serious damage and partial collapse. This was Australia's most damaging earthquake until the Newcastle, NSW earthquake in 1989.

The Newcastle earthquake killed 13 people and injured 160. It caused an estimated \$4billion in damage, impacting 50,000 buildings, over an area extending 9000 square kilometres.

For further information, visit [Geoscience Australia's](https://www.ga.gov.au) website.

ZONE EMERGENCY MANAGEMENT SYMPOSIUM



The Zone Symposium brings together those who work in emergency management, including Zone Emergency Management Committee (ZEMC) members and emergency services.

The theme for this year's symposium is *"Living the new normal"*. It focusses on the offerings 2020 and 2021 have delivered. There is a great line up of speakers ranging from managing multiple hazards in a COVID environment here in SA and interstate, psychological impact of ongoing uncertainty and climate change.

Registrations open soon.

Date: Friday, 10 December 2021

Time: 10.00 am to 04:00pm

Venue: Morphettville Racecourse,
79 Morphett Road, Morphettville, SA





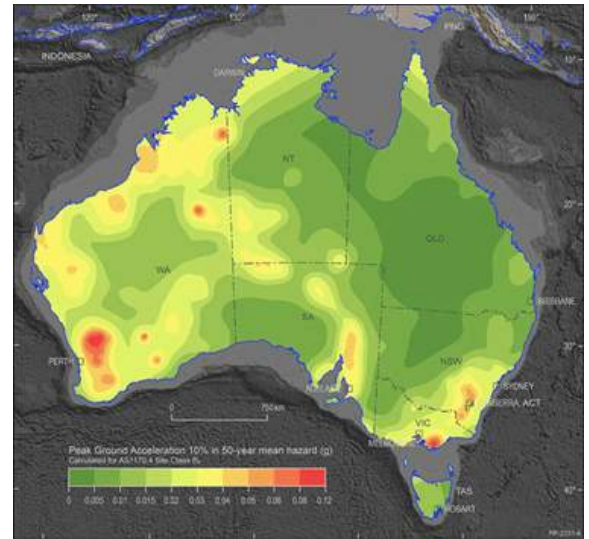
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PLANNING FOR EARTHQUAKES

We may never be able to predict when or where the next earthquake will happen or how big it will be. But we can estimate the likelihood of future events and this can assist us to be better prepared to cope with them.

Geoscience Australia develops the National Seismic Hazard Assessment (NSHA) for Australia. The NSHA defines the level of earthquake ground shaking across Australia that has a likelihood of being exceeded in a given time period. Knowing how the ground-shaking hazard varies across regions allows higher hazard areas to be identified. Mitigations strategies can then be developed so communities can be more resilient to earthquake events.



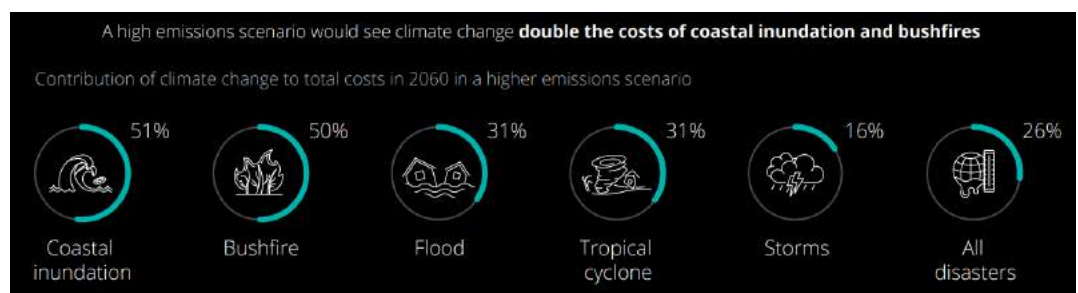
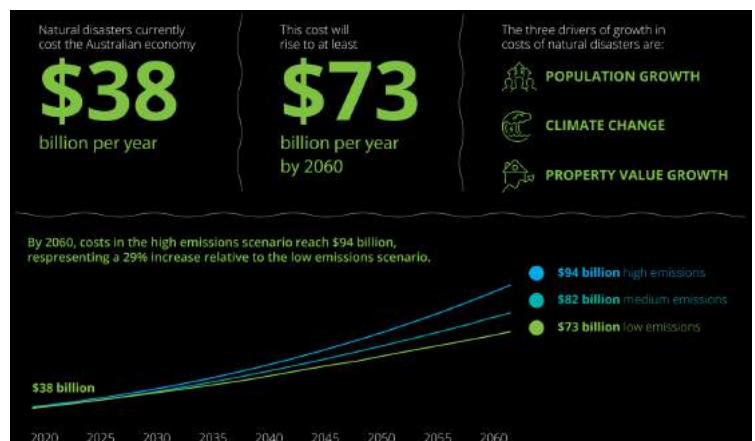
Prior to 1989, when the Newcastle earthquake occurred, earthquake was not accounted for in the Building Code. Many buildings built prior to this may be vulnerable to even small amounts of ground shaking.

Further information can be found on the [Geoscience Australia](https://www.ga.gov.au) website.

DELOITTE SPECIAL REPORT: UPDATE TO THE ECONOMIC COSTS OF NATURAL DISASTERS

A deeper understanding of the costs of natural disaster in Australia informs better decision making around investments in resilience, mitigation and post-disaster recovery. This report updates the previous estimates of the costs with new data and extends the analysis to consider how climate change will affect future costs.

The full report can be found on [Deloitte's website](https://www.deloitte.com/au/special-report).



Each decision and action makes us more vulnerable to disasters – or more resilient to them. Thus disaster risk reduction involves every part of society, every part of government, and every part of the professional and private sector." United Nations International Strategy for Disaster Reduction.



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FLOODMON SYSTEM IMPROVING FLOOD FORECASTING AND WARNINGS

Did you know that the responsibility for providing flood forecasting and warning for flash flood catchments lies with the South Australian State Emergency Service (SASES), as the Control Agency Flood and Department for Environment and Water (DEW), as the Flood Hazard Leader, in partnership with local governments?

In 2015, SASES and DEW introduced FloodMon, a web-based flood intelligence system that provides near real-time rainfall, water level and forecast rainfall data to provide timely flood warnings in flash flood catchments.

Operational Systems Officer Aaron Blasch explained that prior to the introduction of FloodMon there was no single point of truth for rainfall and water level data in South Australia.

'FloodMon now allows us to view all relevant data in one place and identify the areas most likely to be impacted by flash flooding. With this level of details we are then able to better warn people in advance of the impact' Aaron said.

'However, the flash flood forecasting component of FloodMon has not yet been customised for SA, so we are running a pilot program using the Pedler Creek catchment. 'The performance of the system will be assessed by comparing the forecasted flood levels against the water levels observed at the monitoring stations.

Aaron said once FloodMon's flash flood warning capability has been validated for the Pedler Creek catchment, we intend to roll this out to other high-risk flash flood catchments in SA.



A temporary flood level validation device on Pedler Creek, Commercial Rd.

AFTER THE DISASTER PODCAST

ABC Radio has a newly released podcast, After the Disaster, focussed on what to expect and how to manage after a disaster. Host Dr Kate Brady is a disaster recovery nerd and an enthusiastic science communicator. She is the National Recovery Adviser for the Australian Red Cross and is a Research Fellow with Melbourne University.

Guests include those who have experienced disasters as well as those who have researched the best way forward.

Access episodes on the [ABC Radio](https://www.abc.net.au/radio/podcasts/after-the-disaster) website.





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EVOLUTION OF COMMUNICATIONS AND WARNINGS

Communication and warnings are now seen as a priority in any emergency, but this hasn't always been the case.

With historical roots in military-style command and control, emergency management has undergone massive changes in the last few decades, in response to changing hazards, changing communities and a growing appetite for information.

Bushfire and Natural Hazards CRC research has shaped warnings, public information campaigns and recovery to help emergency services protect communities from floods, bushfires, heatwaves and other natural hazards, and to help communities bounce back after a disaster.

A new documentary series highlights some of that research. It follows communications and engagement practitioners from different sectors as they meet the researchers and learn how they can apply this knowledge to their own work.

More information and the videos can be found at the Bushfire & Natural Hazards CRC website.



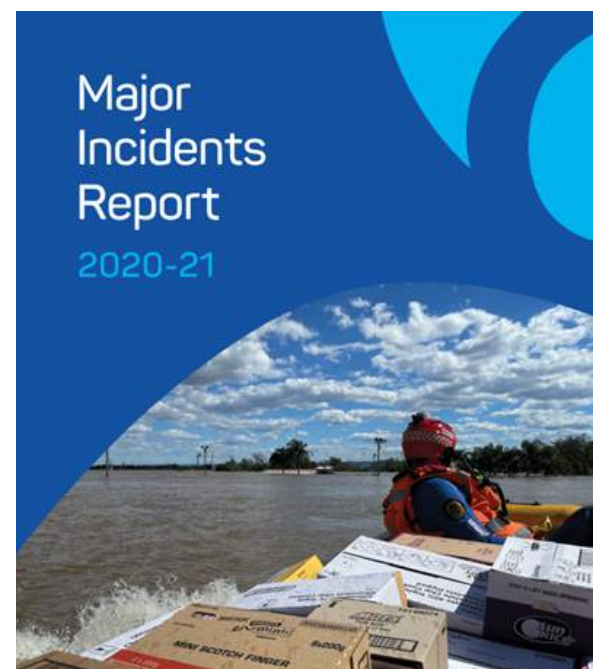
MAJOR INCIDENTS REPORT 2020-2021

Australian Institute for Disaster Resilience (AIDR) has released a report providing an overview of major incidents that have involved the fire and emergency services sector in the past financial year.

The report highlights significant incidents that have been of impact or consequence for fire and emergency services, as identified by the sector; providing background information about the incident and the corresponding response.

Recent reports include key observations (where identified) to identify and analyse recurring and emerging insights across hazards, sectors and jurisdictions.

For a copy of the report, or to view previous reports, visit [AIDR's website](#).



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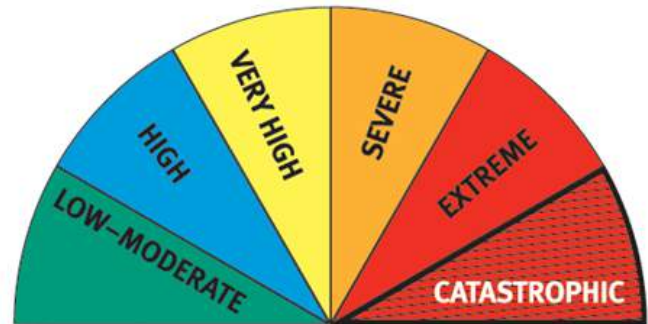


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AUSTRALIAN FIRE DANGER RATING SYSTEM TRIAL

The Australian Fire Danger Rating System (AFDRS) program is building a modern and consistent fire danger rating system. By redesigning the forecasting of fire danger, it aims to improve public safety and reduce the impacts of bushfires by improving the way that fire danger is calculated and communicated.



With the new system set to commence in 2022, jurisdictions are undertaking operational trials throughout their 2021-22 fire danger seasons. Operational trials are testing the science and functionality behind the AFDRS, allowing for further development and refining ahead of its implementation.

The components of the AFDRS that are being trialled include:

- **Fuel state editor:** a centrally hosted, interactive and common tool that allows fire and land management agencies to capture field information and update maps relating to the fuel component of fire danger.
- **Fire danger viewer:** a centrally hosted, interactive and common visualisation tool for states and territories to view and interrogate fire hazard information; it includes the fire danger ratings in map and table format, weather data, fuel data, etc.
- **Bureau of Meteorology standard products:** this will be standard across Australia and will be available via the [BoM website](#).

More information is available on the [National Council for Fire & Emergency Services \(AFAC\)](#) website.

HAZARD REDUCTION BURNING



Hazard reduction burning has an important role to play in fire management across Australia. Used alongside other fire management approaches, it can reduce the intensity, hazard, and impact of a bushfire, and the potential for loss of life and property.

Australia's national science agency CSIRO and AFAC have developed an animation to explain what hazard reduction burning is and its role in

managing fire. The animation highlights fuel management as a key factor to mitigate risk, and the challenges and opportunities of hazard reduction burning.

Further information can be found at [CSIRO's](#) website.



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RESCUE

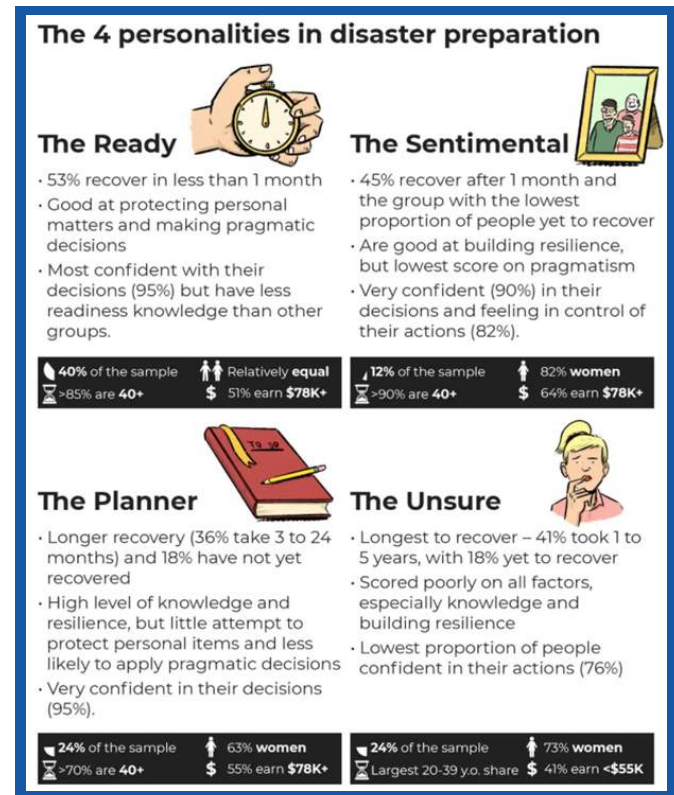
UNDERSTANDING PREPAREDNESS AND RECOVERY

Emergency recovery goes beyond survival. It is a complex process with potentially long-lasting impacts on people's lives. Within research, policy and practice, there is a widespread assumption that preparing for a disaster has a positive impact on recovery. However, there is a limited amount of research proving this link between preparedness actions and recovery.

Research, commissioned by the Australian Red Cross, and recently released, examined the experiences of 165 people who lived through a disaster such as fire and flood between 2008 and 2019 and identified a number of steps people wished they'd taken to prepare for disaster, such as protecting sentimental items, planning where the family should meet if separated and better managing stress.

Through this research, four types of persona emerged in terms of preparing for a disasters. Hopefully identifying these groups means that preparedness messaging can in future be customised, based on people's characteristics.

For a copy of the report, visit [Redcross' website](#).



Infographic by *The Conversation* - 2 Sept 2021

DISASTER RESILIENCE

To stay up to date between editions of EM News, sign up for Neil Dufty's [This Week in Disaster Resilience](#) for a range of articles related to disaster resilience throughout Australia and the world.

