

# Royal Life Saving Summer Drowning Report 2021/22

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An investigation into drowning across  
Australia between 1 December 2021  
and 28 February 2022



**ROYAL LIFE SAVING**  
AUSTRALIA

SUPPORTED BY



Australian Government

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### > OUR VISION

**A water-loving nation  
free from drowning.**



## ABOUT ROYAL LIFE SAVING

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Royal Life Saving is focused on reducing drowning and promoting healthy, active and skilled communities through innovative, reliable, evidence based advocacy; strong and effective partnerships; quality programs, products and services; underpinned by a cohesive and sustainable national organisation.

Royal Life Saving is a public benevolent institution (PBI) dedicated to reducing drowning and turning everyday people into everyday community lifesavers. We achieve this through: advocacy, education, training, health promotion, aquatic risk management, community development, research, sport, leadership and participation and international networks.

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Australian Government

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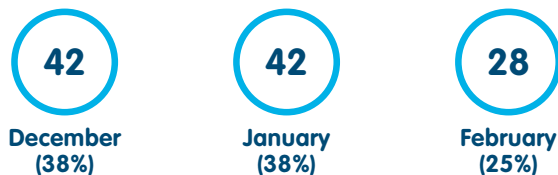
## SUMMER DROWNING REPORT 2021/22 SNAPSHOT

### SUMMER 2021/22

1 December 2021 to 28 February 2022



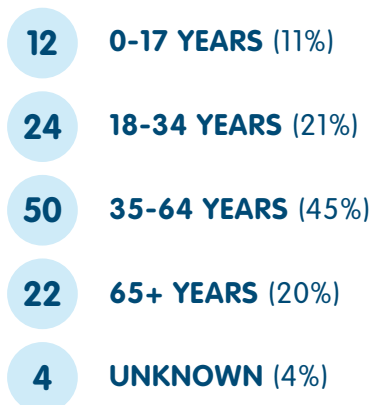
#### Month



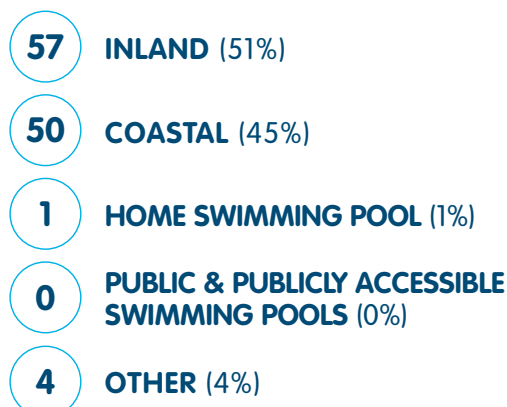
#### Sex



#### Age



#### Location



### SUMMER 2020/21

1 December 2020 to 28 February 2021



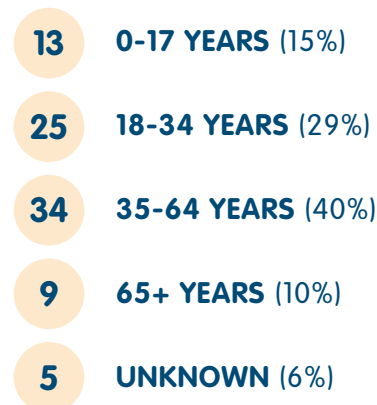
#### Month



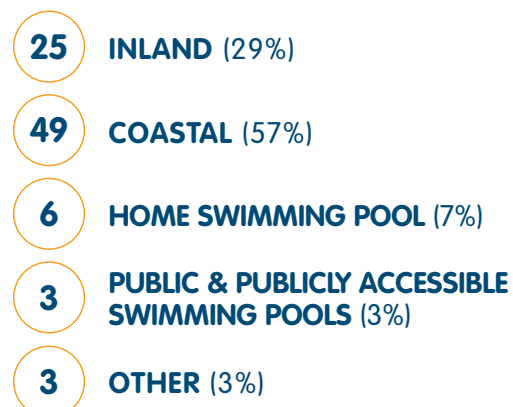
#### Sex



#### Age



#### Location

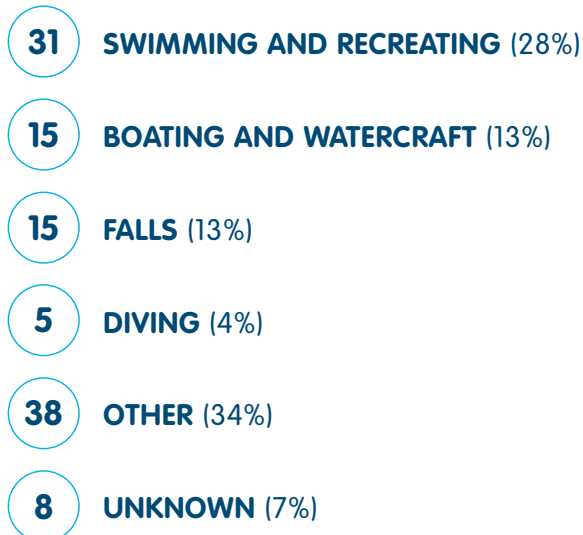




## SUMMER 2021/22

1 December 2021 to 28 February 2022

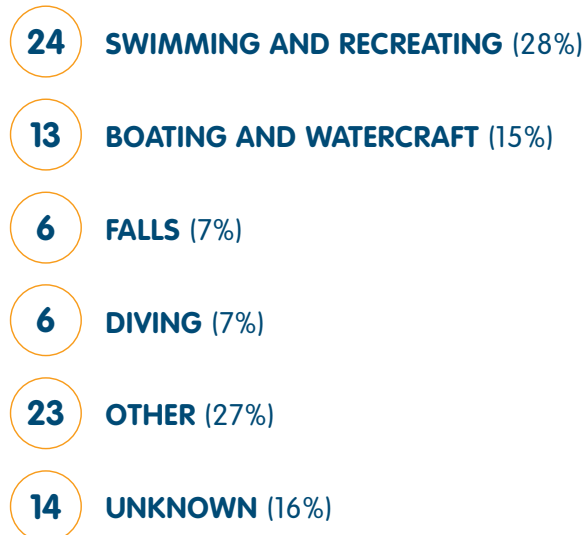
### Activity



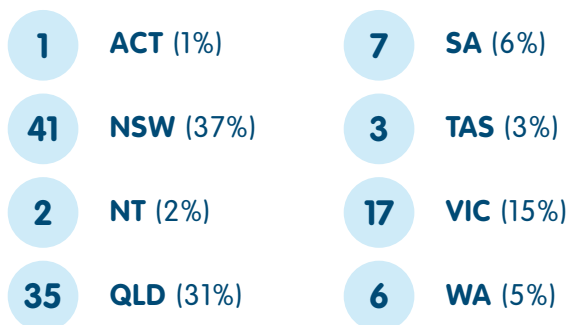
## SUMMER 2020/21

1 December 2020 to 28 February 2021

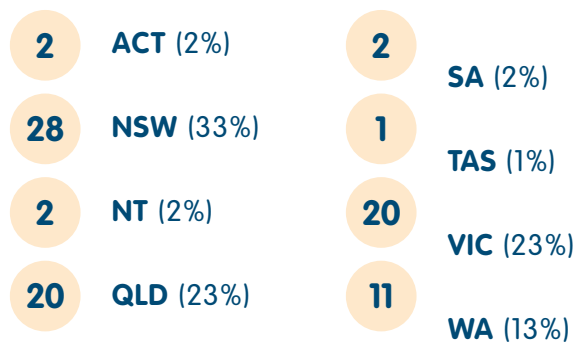
### Activity



### State or Territory



### State or Territory



## Location definitions

**Inland** – includes rivers, lakes and dams

**Coastal** – includes beaches, coastal rocks and oceans

**Home swimming pools** – includes home pools, portable pools

**Public and publicly accessible pools** – includes aquatic facilities, resorts

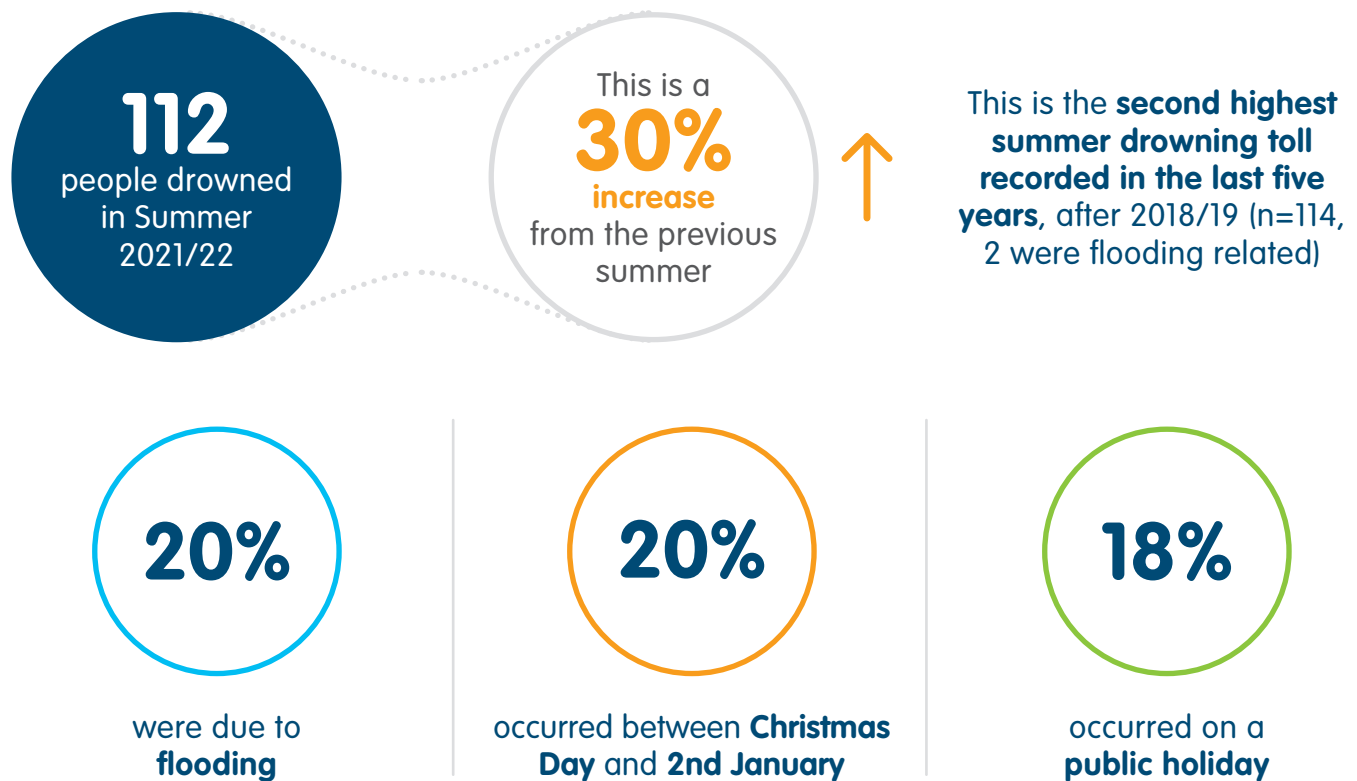
**Other** - includes rescue, jumped in, fishing and rock fishing, swept away and swept in

## Disclaimer – Media Analysis Only

2021/22 figures shown are derived from media reports only. As such, they should be considered interim, pending the outcome of ongoing coronial investigations.

2020/21 figures are derived from media reports and may vary from coronial statistics.

## SUMMER 2021/22 – KEY INSIGHTS



- This coincides with the highest number of visitations to aquatic locations recorded for this summer
- **People aged 65 years+** accounted for the highest group for drowning (with and without flooding deaths), an increasing trend over the past five summers
- **Children** account for the lowest number of drowning deaths over summer, has stayed consistent over the last five years.
- **42% drowning deaths occurred in the afternoon**; at the time most people visit aquatic locations.
- **Intense weather patterns** due to La Niña including heatwaves and intense rainfall influenced drowning trends.
- Compared to last summer, drowning deaths **increased** in Queensland, NSW, South Australia and Tasmania.
- Over half of all drowning deaths in Queensland were **flooding related**.
- Drowning deaths **decreased** in ACT, Victoria and Western Australia from summer 2020/21.
- Western Australia experienced severe heatwaves with consecutive days of over 40°C in many parts of the State.
- Over the past five summers (2018/19 to 2021/22), drowning at inland locations has decreased, while coastal drowning deaths have increased
- Visitation patterns indicate that while visitors to aquatic locations generally bounced back to 2019/20 trends, reflecting the relaxing of Covid-19 restrictions and state borders re-opening, the number of people travelling 100km+ to visit/holiday at aquatic locations this summer was still lower than in 2019/20.
- The number of people travelling locally with 50km remained higher than for previous summer.

## BACKGROUND

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Royal Life Saving has been running a Summer Drowning Toll website since summer 2018/19 in response to the number of drowning deaths that occur almost daily over the summer months and various media collating their own records of people drowning. The purpose of the website is to inform media and the public of drowning deaths in real time.

The website is publicly accessible on the Royal Life Saving website and updated daily from the 1st December to 28th February and is a record of all drowning deaths that are recorded in media reports during the summer months. This is also informed by the Victorian Coroners Prevention Unit through Life Saving Victoria, and Surf Life Saving Australia incident reports. The deaths reported on the Summer Drowning Toll website are not yet under investigation from the coroner, therefore numbers are considered interim and will be different to the confirmed drowning deaths published in the National Drowning Report released in September.

The Summer Drowning Toll has informed a number of water safety media stories and awareness campaigns to increase public awareness of water safety and drowning during the summer months and informs prevention strategies for the following year.

For summer 2021/22, the drowning deaths in this report include flood-related cases where the person was missing as of the 28th February 2022, and numbers are to the best of the authors knowledge as of 8th March 2022.

### Aims

- Analyse summer drowning deaths that were reported in the media between 1 December 2021 and 28 February 2022
- Compare trends of drowning deaths reported in the media from the previous five years (2016/17 up to 2021/22)
- Analyse external factors such as weather and visitation patterns on drowning deaths that occurred over the summer period

**IN THE LAST 10 YEARS,  
80 PEOPLE HAVE LOST THE LIVES  
DUE TO FLOOD WATERS**



**THATS AN AVERAGE OF  
8 PER YEAR**

PART 1: SUMMER DROWNING DEATHS SUMMER 2021/22

Between 1 December 2021 and 28 February 2022



people drowned  
in Australia



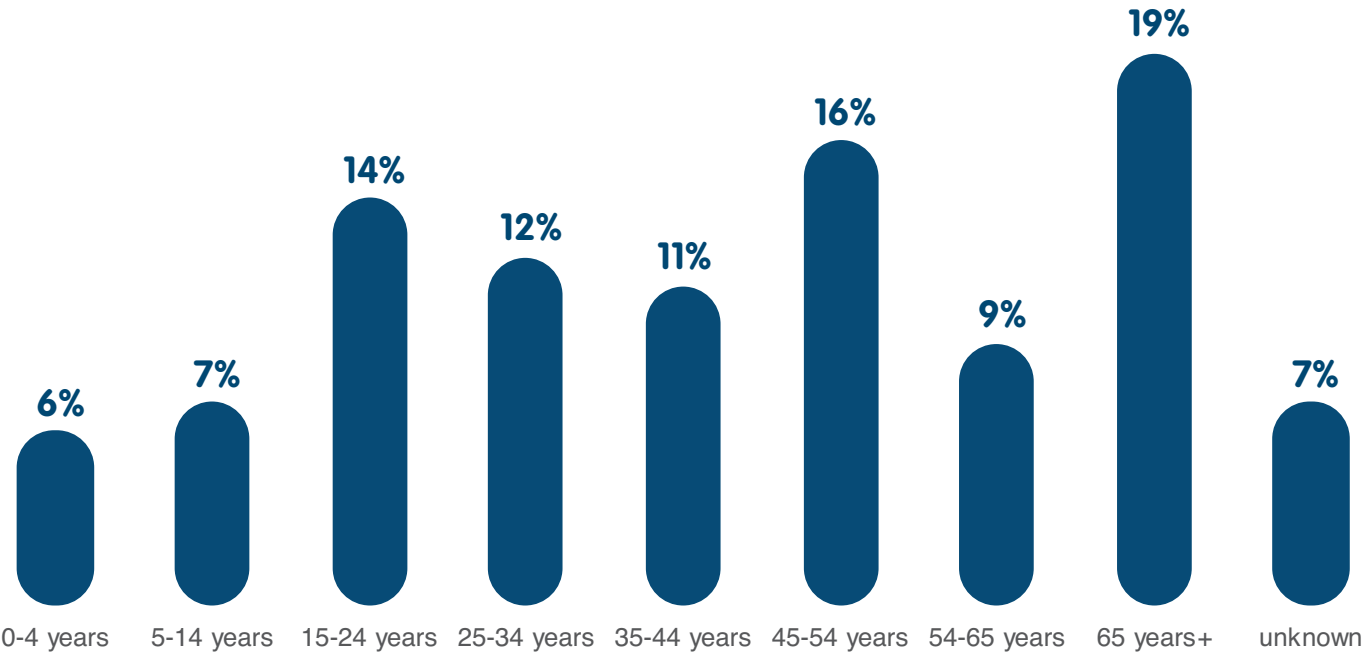
Recreational



Flooding /  
natural disaster related



Age breakdown



Environment



Coastal waterways  
(beaches, oceans/  
harbour and rocks)



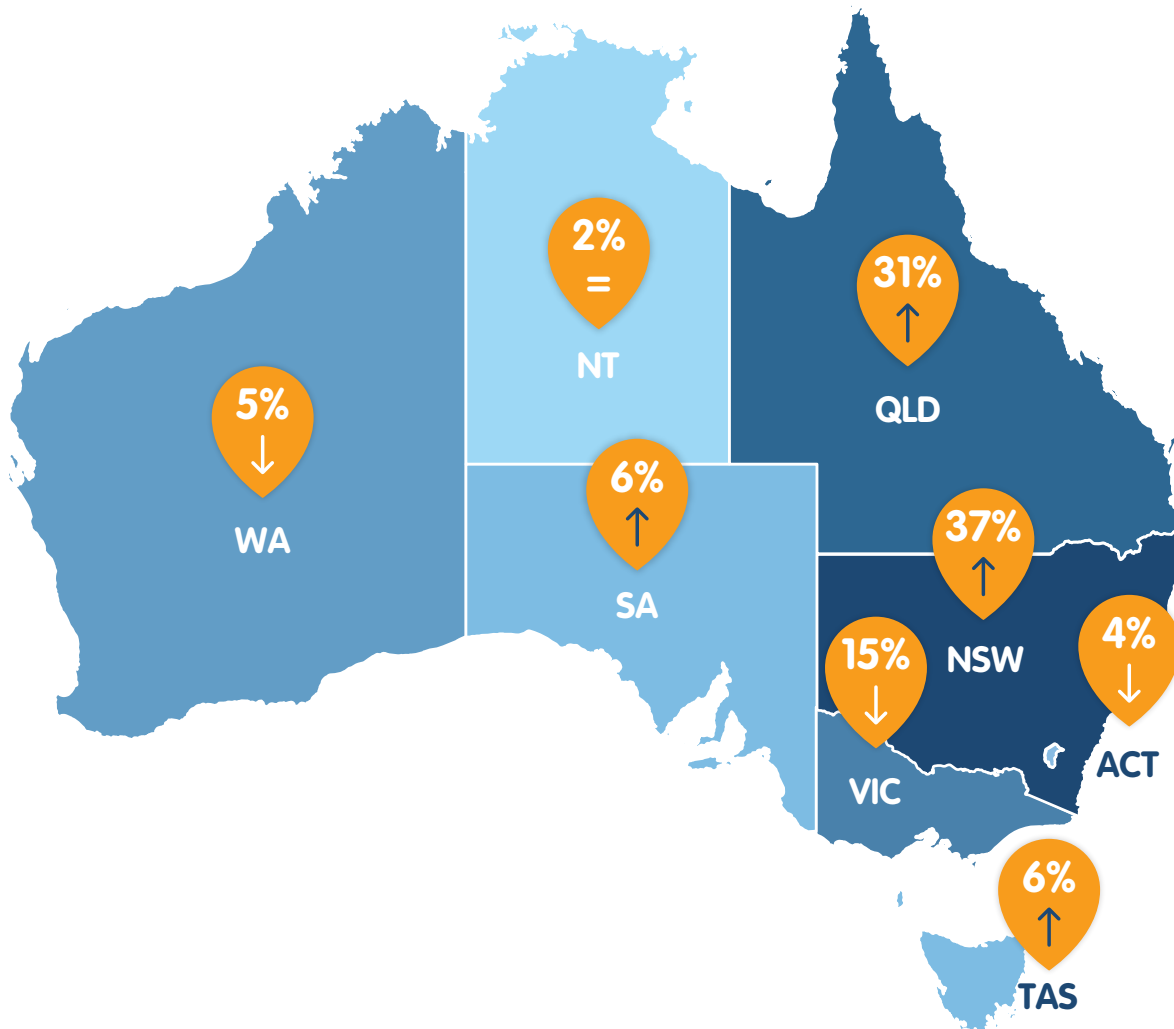
Inland waterways  
(rivers, creeks,  
lakes and dams)



Other  
(swimming  
pools, tanks,)



## State and Territory breakdown



### Location



**34% BEACH**



**26% RIVER/CREEK**



**11% OCEAN/HARBOUR**



**13% LAKE/DAM**



**10% ROCKS**



**4% OTHER**



**1% SWIMMING POOL**

### Activity



**32% SWIMMING AND RECREATING**



**17% FALL**



**14% BOATING AND WATERCRAFT**



**7% ATTEMPTED RESCUE**



**6% DIVING/SNORKELLING**



**6% ROCK FISHING**

WHEN DID PEOPLE DROWN?



on the weekend



occurred on a public holiday



occurred during the two weeks from **Christmas Day to Monday 3rd January**

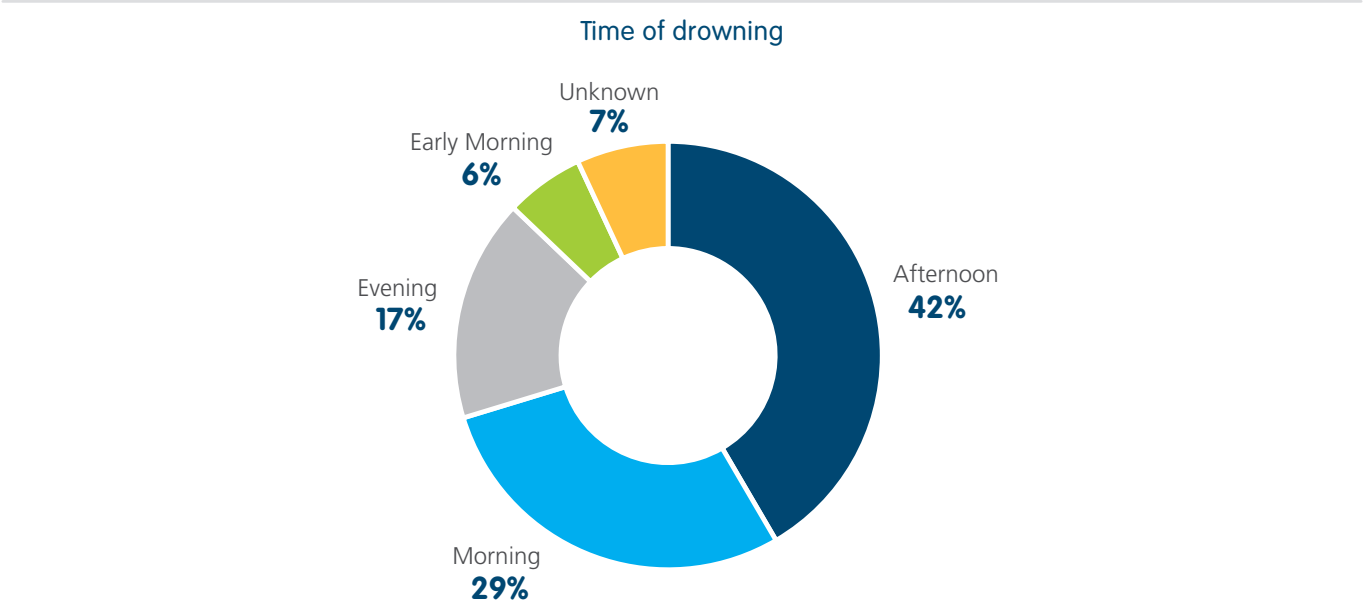
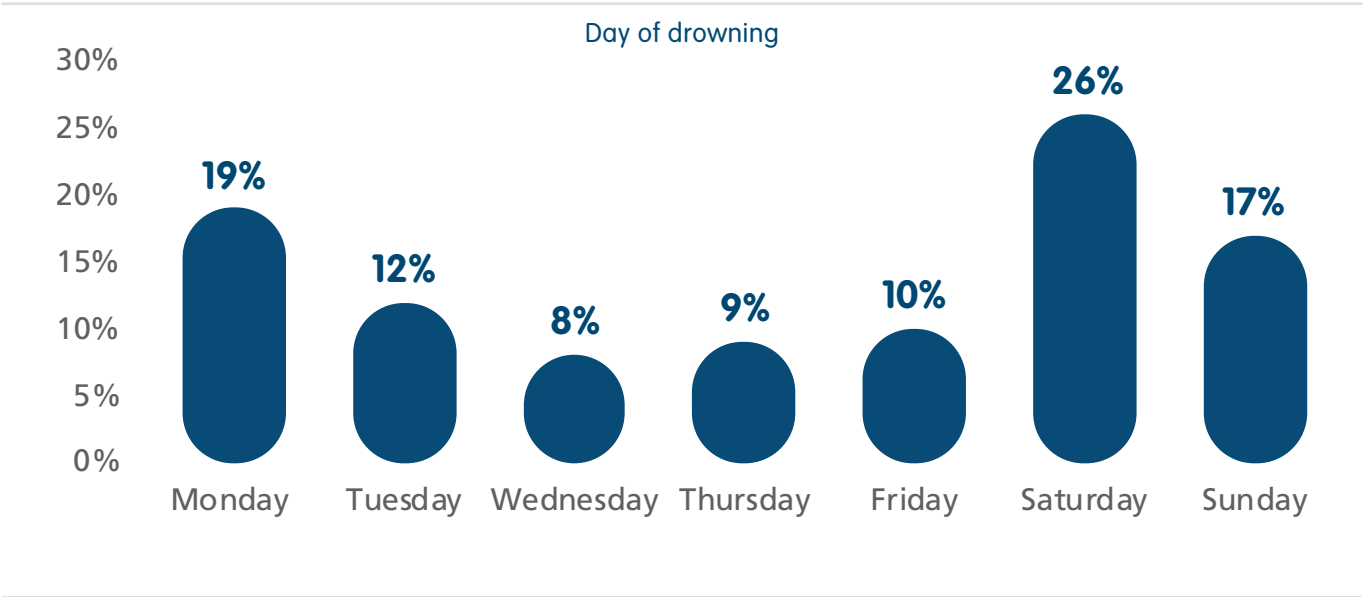
The two days that recorded the highest number of drowning deaths:



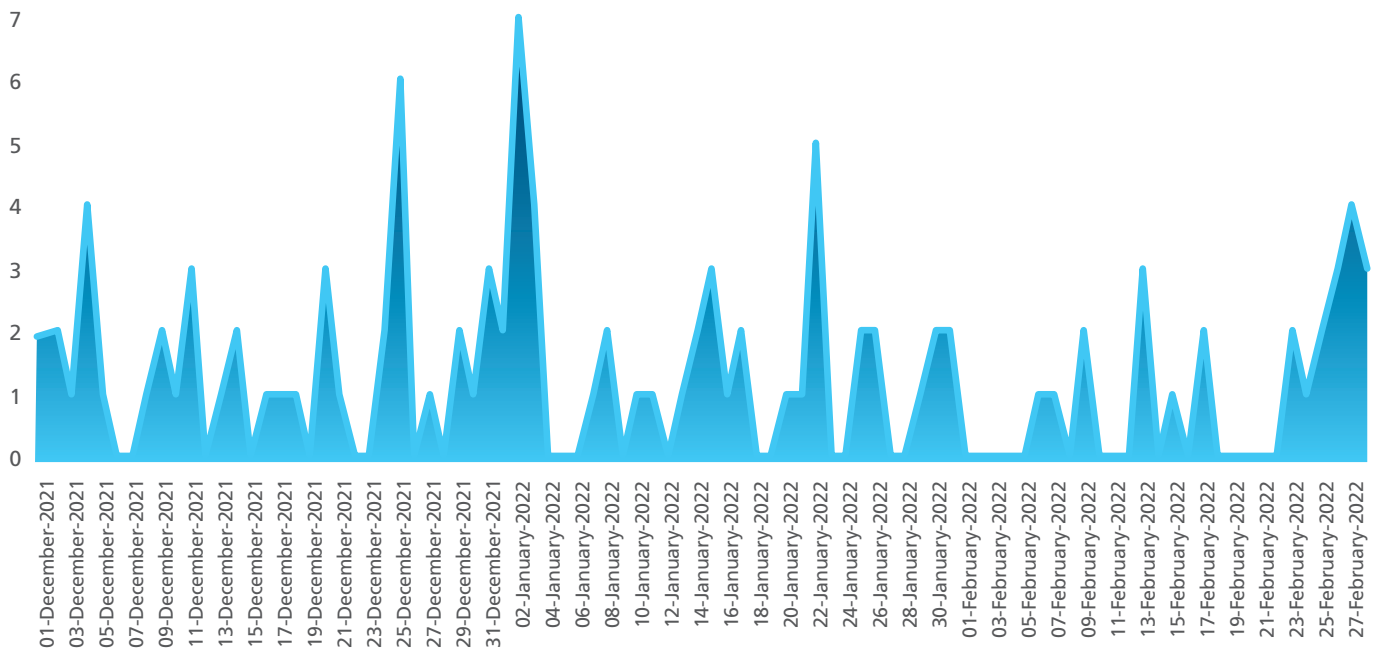
Sunday 2nd January



Saturday 25th December (Christmas Day)



Number of drowning deaths by date 1-December-2021 to 28-February-2022



### Risk Factors\*

\*Based on the information available at the time of writing



Some people who drowned were alone at the time of the incident – were either alerted by a member of the public at the time, or the person was notified as being missing hours or days later.



A lifejacket was not being worn by those who drowned when boating or fishing.



Sadly, 4 people drowned while attempting to rescue others.



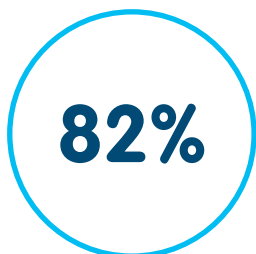
Several people were cited as being poor or non-swimmers.



Involvement of alcohol and drugs unknown at this stage.

## IN FOCUS: FLOOD-RELATED DROWNING DEATHS

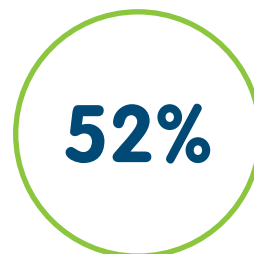
Between 1 December 2021 to 28 February 2022 22 people drowned due to a flood-related event\*



Queensland



New South Wales

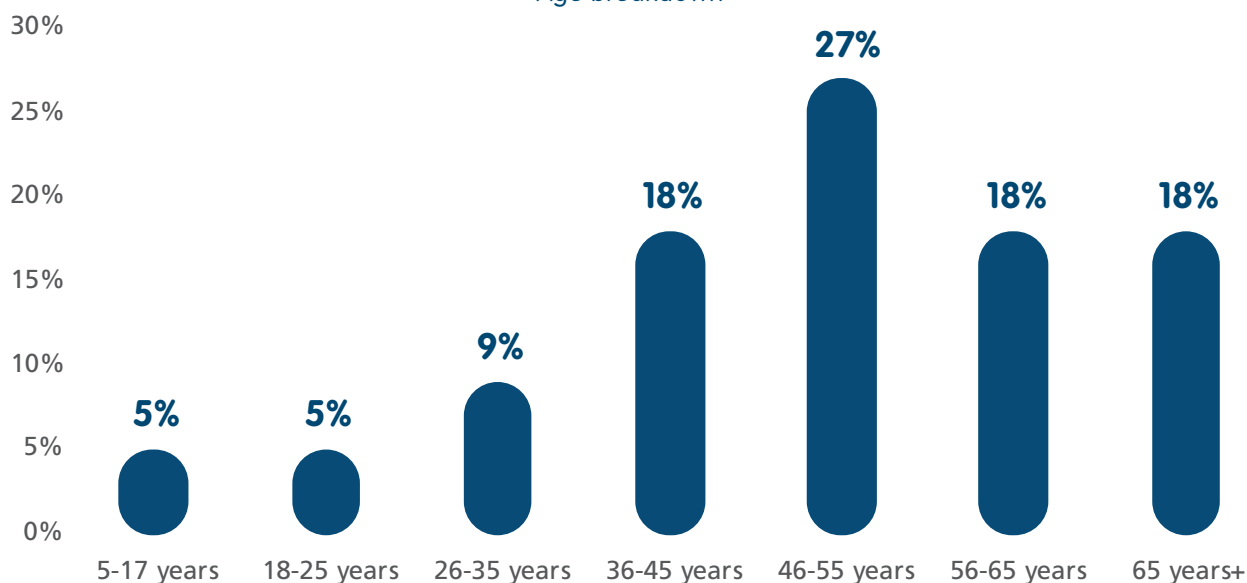


Northern Territory

68% of flood-related drowning deaths were males



Age breakdown



64%

occurred when **attempting to drive through floodwater** (non-aquatic transport)

27%

occurred in the **early morning**

14%

**swept away** by floodwater

68%

occurred in the **last week of February**

\*Flood-related – includes any drowning death that has been attributed to a flooding event, e.g. swept away, driving a vehicle or playing / swimming in flood water. This includes people who went missing prior to and inclusive of 28th February and were recovered in March.

## Royal Life Saving flooding response and awareness messages



Royal Life Saving Society - Australia

3 March · 🌐

Royal Life Saving Society Australia would like to extend our thoughts and safe wishes to the communities across Australia that are experiencing flooding at this time.

Looking after yourself during and following a flood event is an important part of the flood recovery process.

If you have lost someone during a recent flooding event, or been rescued, it is especially important to check in with your support network and identify steps to help you get the additional support you may need.

Everyone processes grief differently, and there is no one 'right' way to grieve, but we all need help in difficult times.

If you are in need of support, please follow the link for grief & trauma resources: <https://bit.ly/3suKHE1>



**After The Flood:**  
Grief & Trauma Resources



Royal Life Saving Society - Australia

22 February · 🌐

Only 15cm of water is enough to cause a driver to lose control or stall a car. Just 60cm will cause all cars to float, including a four-wheel drive.

Once afloat, the strength of the water pushes the vehicle sideways, causing the vehicle to roll, leaving the occupants only seconds to escape.

Driving through floodwater is extremely dangerous, and does not only threaten your life but the lives of your passengers and bystanders who may try to help.

Driving through floodwaters, it's not worth the risk.

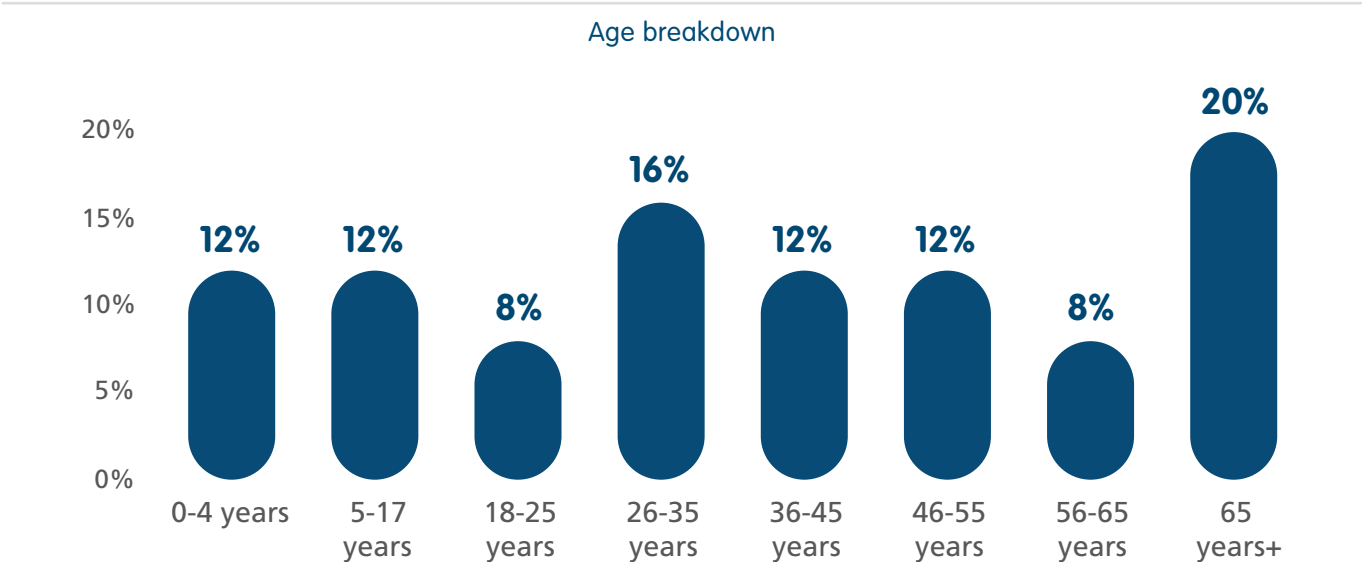
<https://www.abc.net.au/.../research-shows-cars-deadly.../7522798>



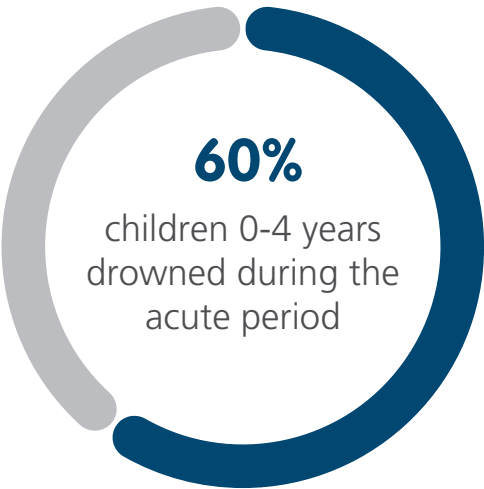


IN FOCUS: PEAK DROWNING PERIOD - 25 DECEMBER 2021 TO 3 JANUARY 2022

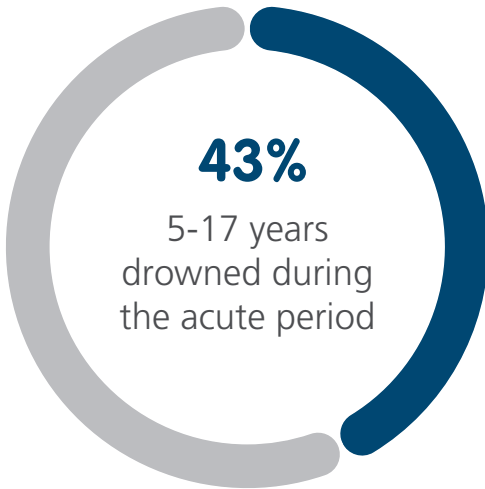
Between Saturday 25th December and Monday 3rd January



Among children aged 0-4 years, the majority drowned during this period



Among children aged 5-17 years, 43% drowned during this period



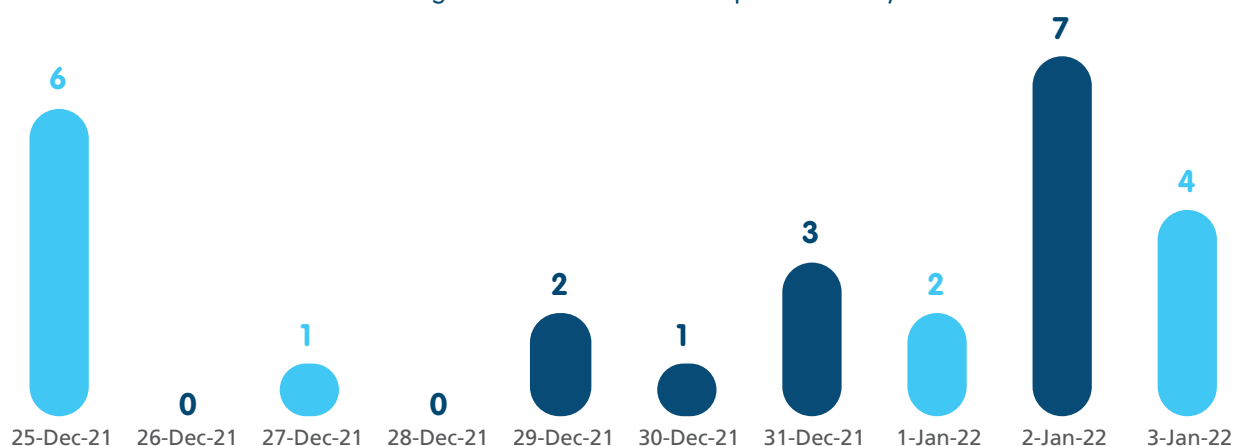
The **two days** that recorded the highest number of drowning deaths over the entire summer period:



This period was Inclusive of:



Drowning deaths that occurred on public holidays



#### Where

**In Victoria**, 47% of total summer drowning deaths were during this period

**In South Australia**, 29% of total summer drowning deaths were during this period

**In NSW**, 26% of total summer drowning deaths were during this period

#### Environment



**42%** Inland



**42%** Coastal

**12%** Other

#### Activity



**42%**  
Swimming & recreating



**23%** Fall into water



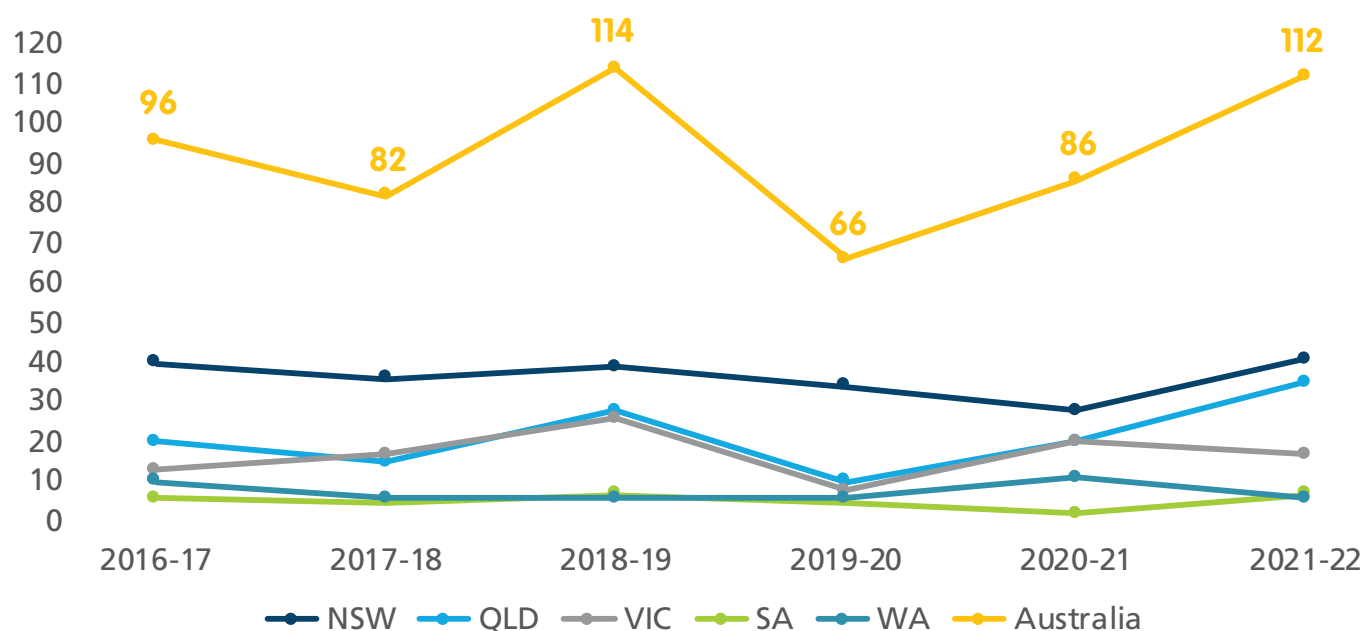
**12%** Rock fishing

## IN FOCUS: HISTORICAL SUMMER DROWNING TRENDS

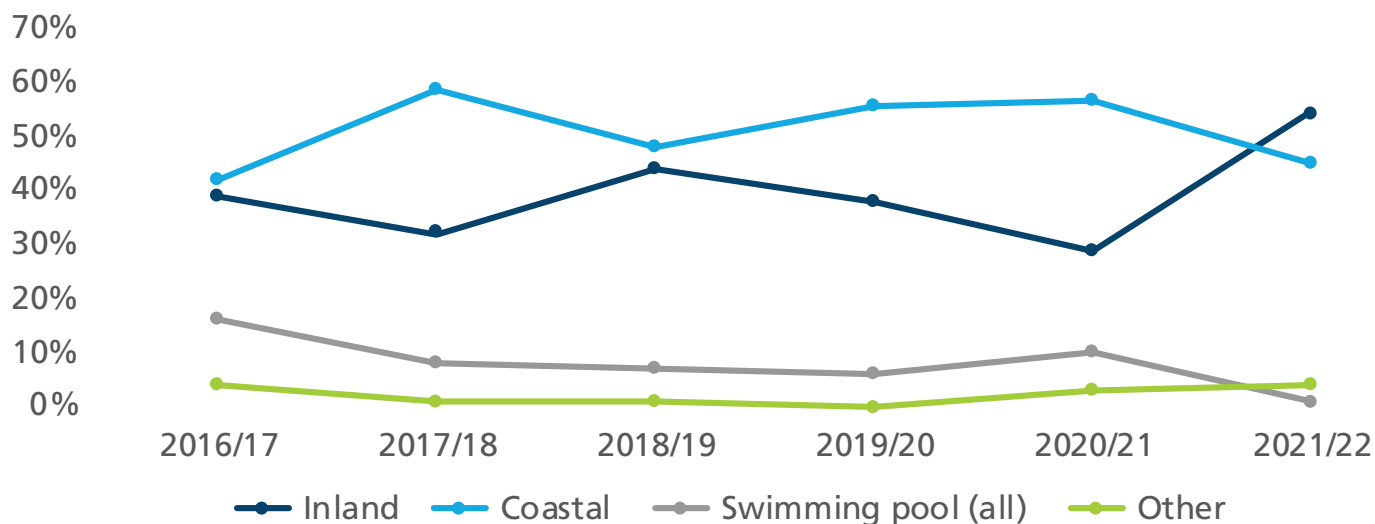
### Based on media reporting for comparison purposes (including flooding)

- > The highest number of summer drowning deaths occurred in **2018/19**, of which 2 deaths were known to be flooding related
- > **States/Territories that recorded 5 or more drowning deaths** during the summer were included in this analysis, see the following pages for state breakdowns for NSW, QLD, SA, VIC and WA.
- > Drowning during the Summer in **Western Australia** has stayed consistent over the last six summers compared to other states/territories.

Historical summer drowning trends 2016/17 to 2021/22



Historical summer drowning trends 2016/17 to 2021/22 by general location



## RECREATIONAL DROWNING DEATHS ONLY

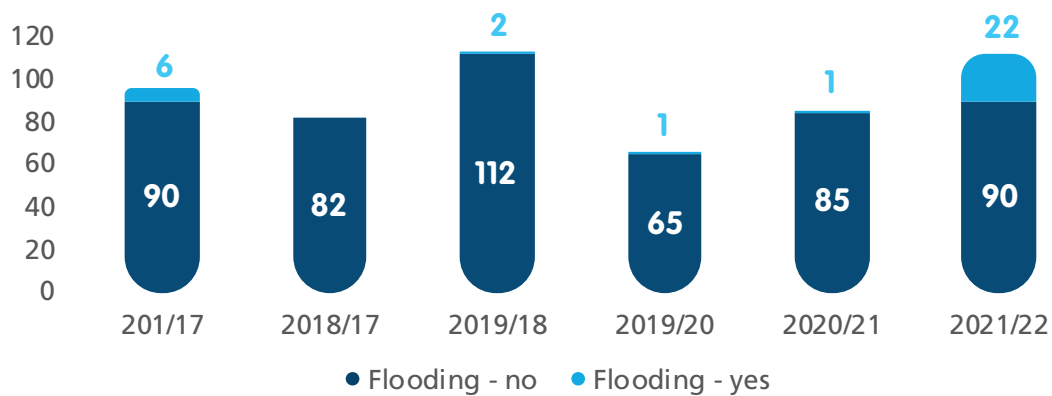
Summer drowning deaths for **2021/22** were equal to 2016/17 (n=90)

And a **6% increase** from the previous summer



The **lowest number of summer drowning deaths** were recorded in 2019/20, with a gradual increase reported over the two summers since then.

Historical summer drowning trends 2016/17 to 2021/22



## Gender and Age breakdown



Drowning deaths in summer among people **aged 35–64-years** are on the rise

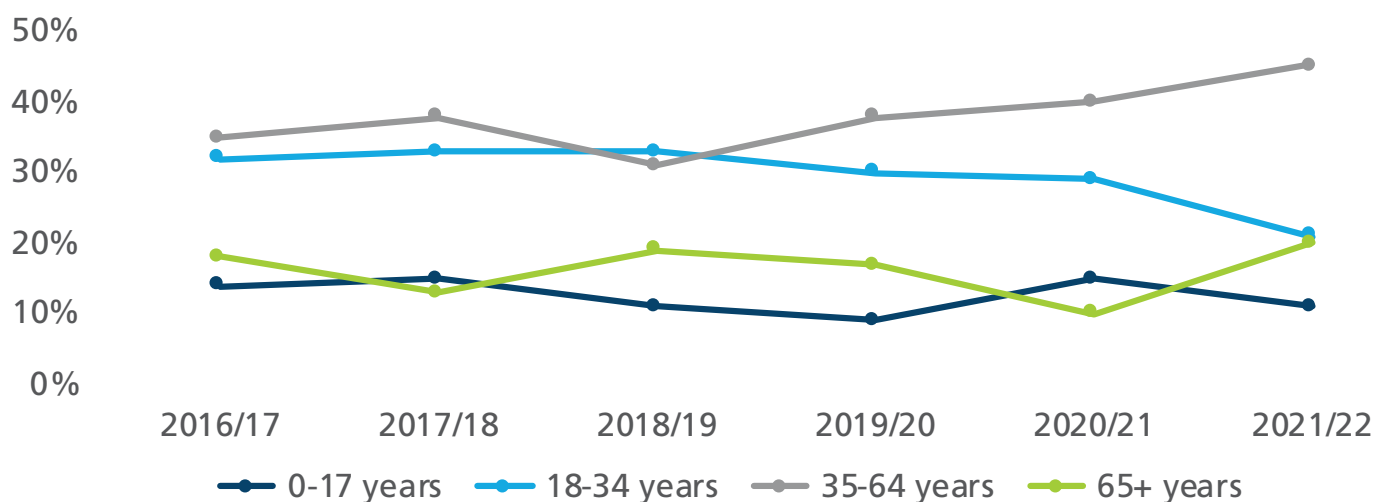


In comparison, drowning deaths among people **aged 18–34 years** are decreasing

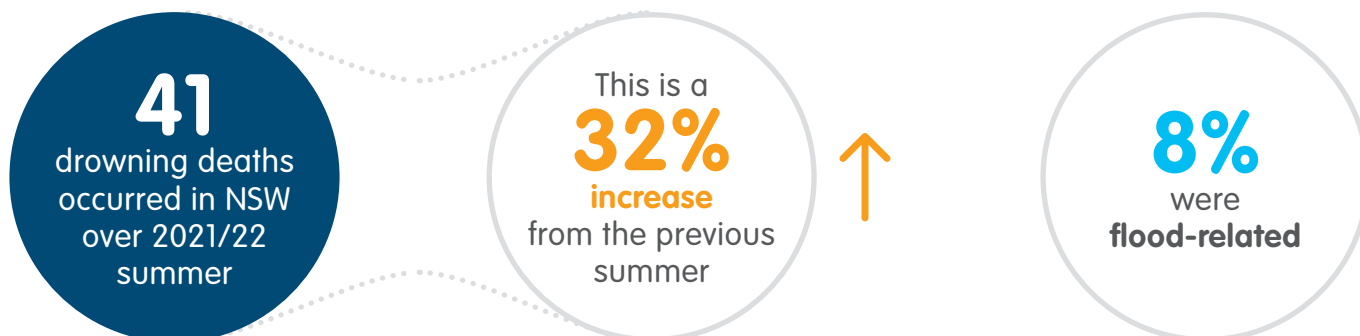


Children **aged 0–17 years** consistently account for the lowest numbers of summer drowning deaths

Historical summer drowning trends 2016/17 to 2021/22 by age groups



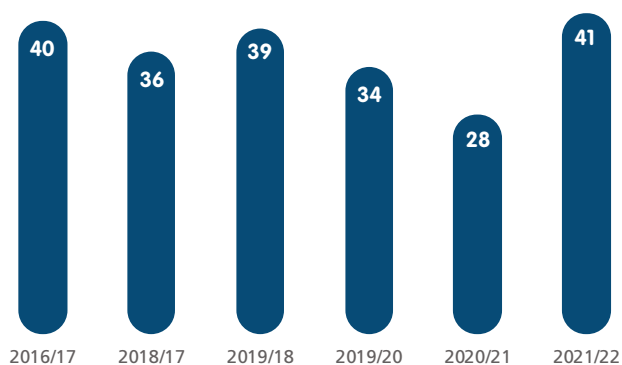
## STATE BREAKDOWN: NEW SOUTH WALES



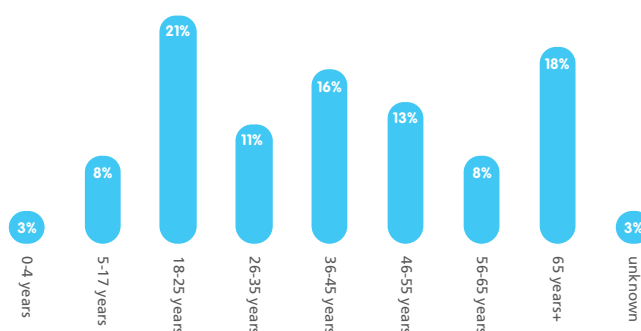
**88%** of drowning deaths in New South Wales were male



Summer drowning deaths in New South Wales  
2016/17 to 2021/22



Age breakdown



When

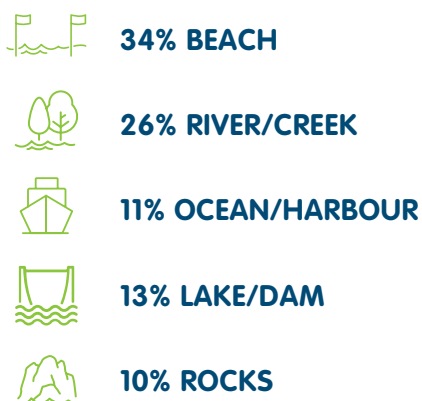
**45%** in the afternoon

**43%** in January

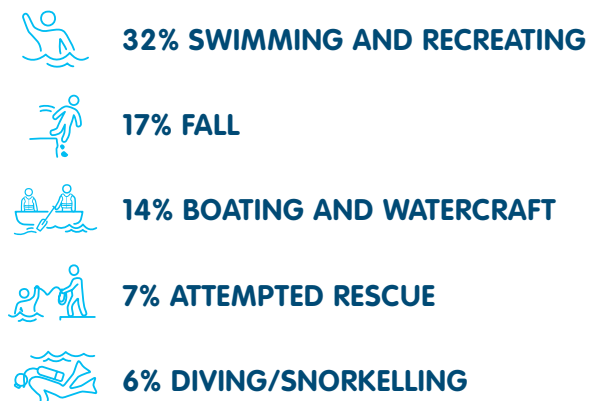
**23%** occurred on a public holiday

**28%** occurred between 25th December and 3rd January

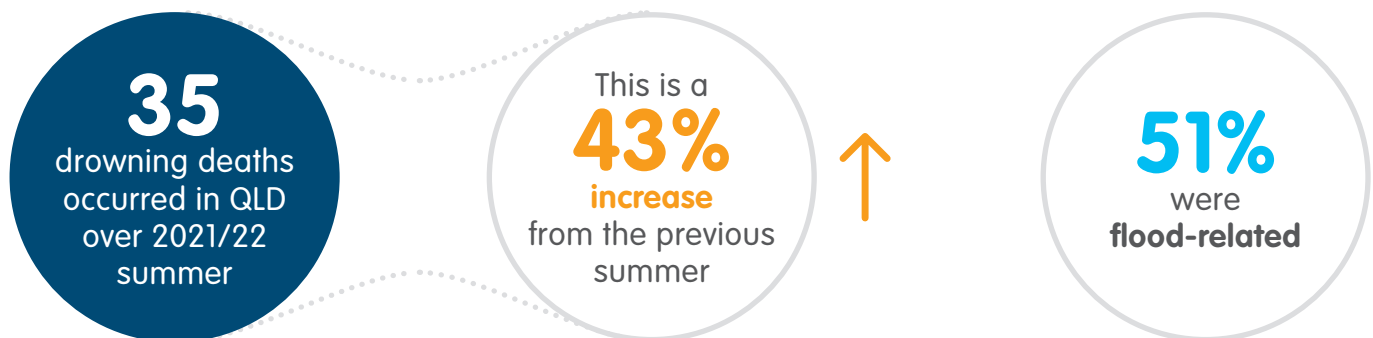
Location



Activity



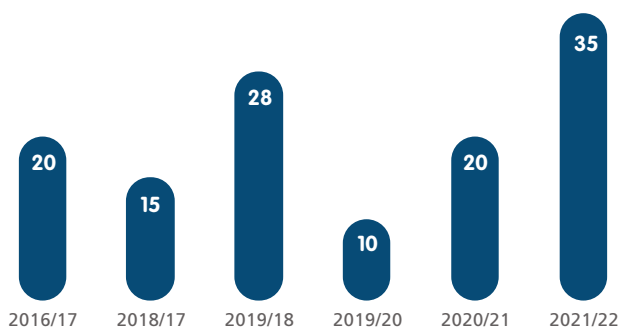




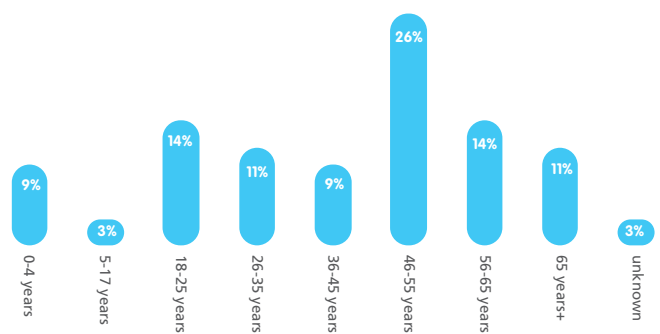
**88%** of drowning deaths in Queensland were male



Summer drowning deaths in Queensland  
2016/17 to 2021/22



Age breakdown



When

**43%** on a weekend

**11%** occurred on a public holiday

**11%** occurred between 25th December and 3rd January

Location



**69% RIVER/CREEK**



**20% BEACH**



**18% ROCKS**



**13% LAKE/DAM**



**6% OCEAN/HARBOUR**

Activity



**33% SWIMMING AND RECREATING**



**14% BOATING AND WATERCRAFT**



**14% ROCK FISHING**



**17% FALL**



**6% SWEEPED AWAY**

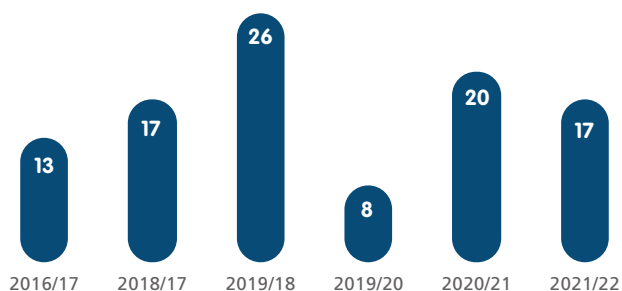
## VICTORIA



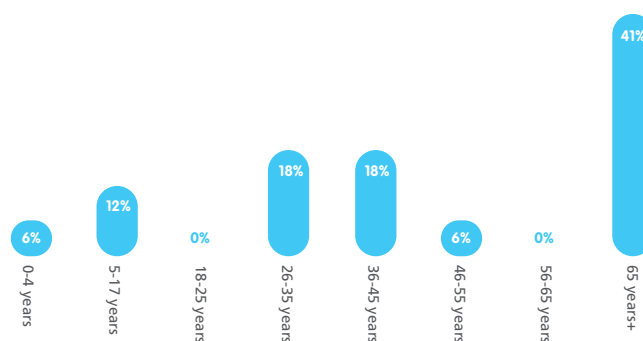
88% of drowning deaths in Victoria were male



Summer drowning deaths in Victoria  
2016/17 to 2021/22



Age breakdown



When

41% on a weekend

59% occurred in December

24% occurred on a public holiday

47% occurred between 25th December and 3rd January

Location



34% BEACH



13% LAKE/DAM



26% RIVER/CREEK

Activity



41% SWIMMING AND RECREATING



35% FALL



4% DIVING/SNORKELLING



4% ROCK FISHING



6% BATHING

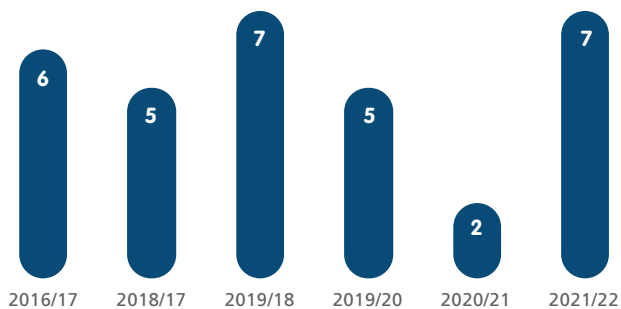
## SOUTH AUSTRALIA



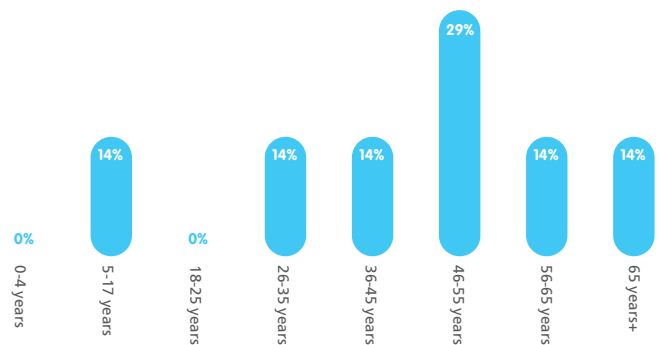
**86%** of drowning deaths in South Australia were male



Summer drowning deaths in South Australia  
2016/17 to 2021/22



Age breakdown



When

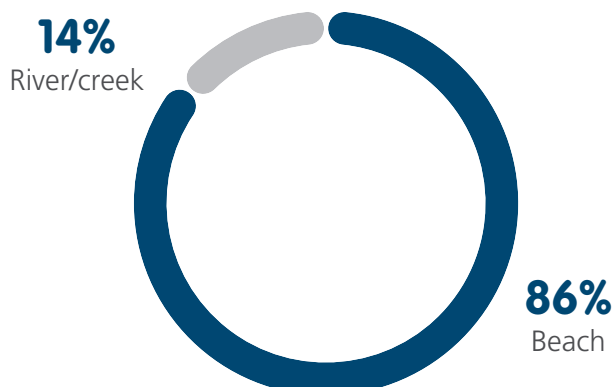
**57%** Afternoon

**43%** on a weekend

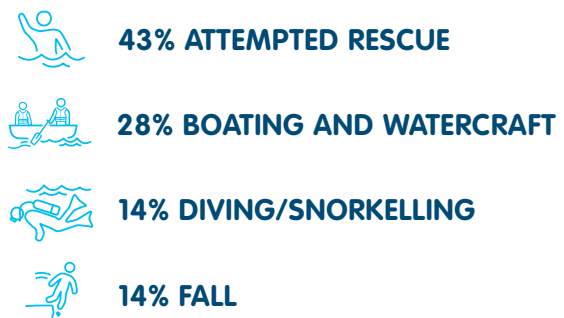
**57%** occurred in December

**29%** occurred between 25th December and 3rd January

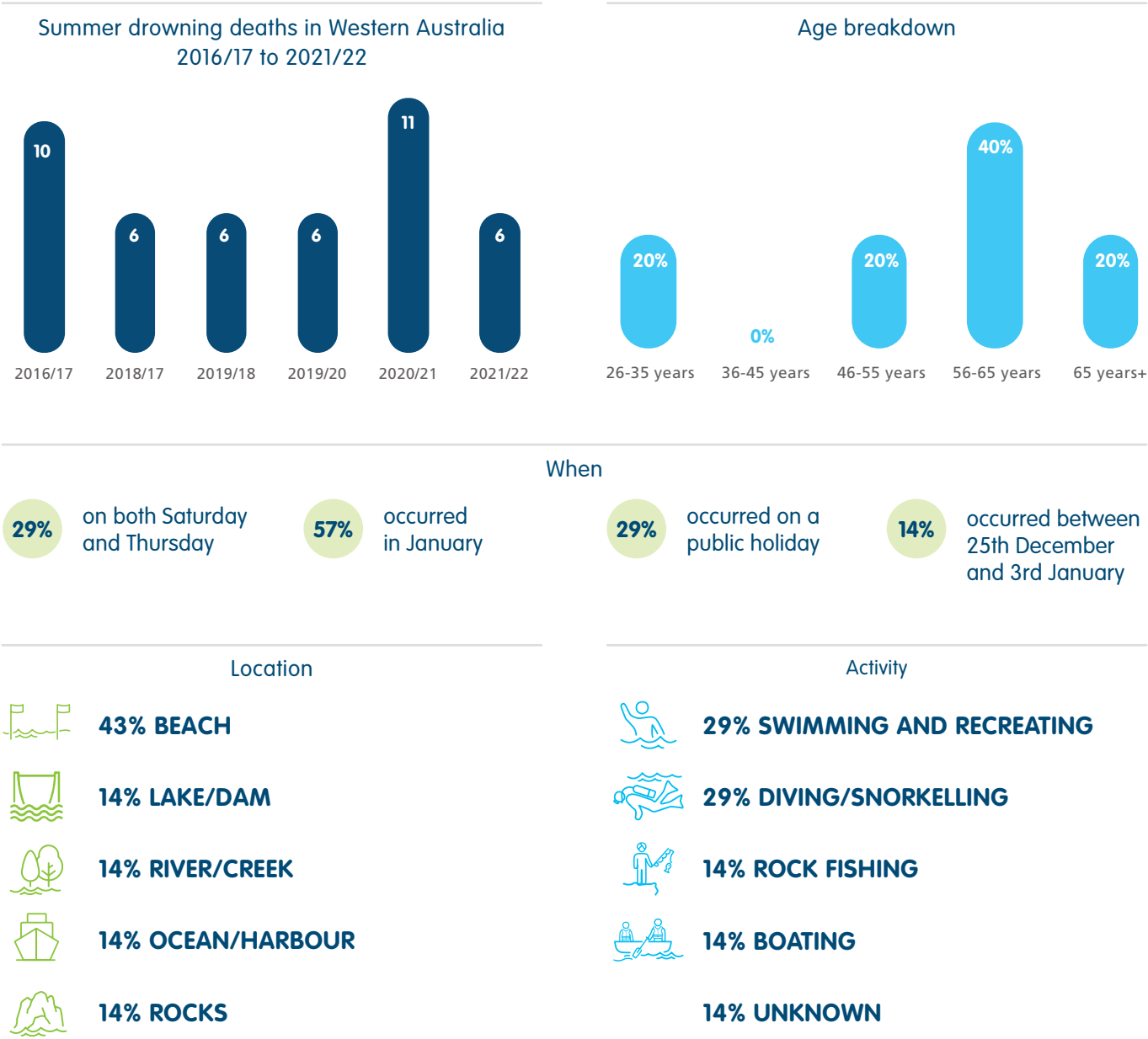
Location



Activity



WESTERN AUSTRALIA









## PART 2: INFLUENCING FACTORS TO DROWNING RISK OVER THE SUMMER

### Visitation to aquatic locations (natural water environments)

Royal Life Saving has been monitoring visitation of key blackspot locations for drowning, as well as popular aquatic locations to better understand exposure and where drowning prevention strategies are best delivered. Visitation information has been sourced from Roy Morgan People Movement Dashboards that have been tailored to Royal Life Saving.

Currently 40 aquatic locations across Australia are being monitored for visitor trends. These locations include a mix of inland rivers, lakes, dams, waterholes, beaches, and harbour locations.

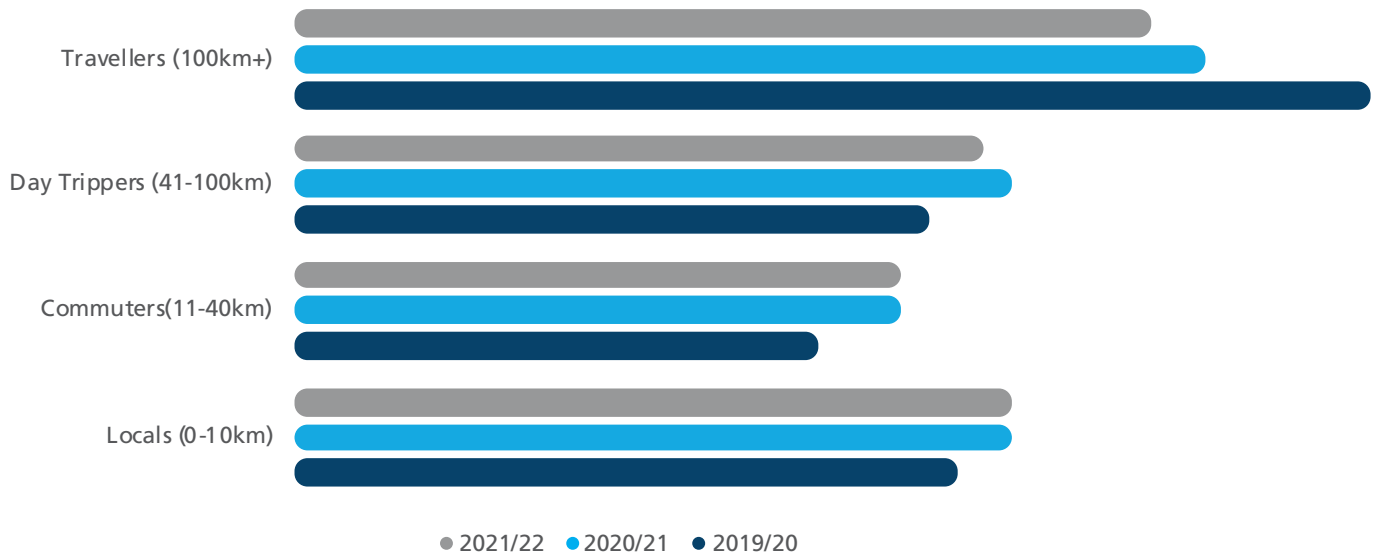
Photo: Murray River, Noriel Park, Albury

### Overall insights

- Overall, visitation numbers have returned to or exceeded pre-Covid numbers (2019/20) in some places
- Visitation trends for summer 2021/22 indicate that more people visited aquatic locations compared to summer 2020/21 and the number of people travelling and visiting aquatic locations have returned to pre-Covid levels (2019/20)
- The highest numbers for visitation overall for this summer was on January 2nd
  - This day recorded the highest number of drowning deaths
- For summer 2019/20 and 2020/21, the highest number of visitors recorded was on 26th January = Australia Day
- Compared to summer 2019/20, there is still a higher number of people visiting their local aquatic sites and less people travelling 100km or further to get to an aquatic location
- On average, people are spending about 2 hours at an aquatic location
- The most common time that people are visiting is in the afternoon (12:01pm to 6pm), coinciding with the time that people most frequently drown
- Note that this is an overall national summary which may smooth out the detail at a state/territory level and between the different aquatic locations.



## Visitors trends by distance travelled to aquatic location 2019/20 to 2021/22



## Number of visitors to aquatic locations 2019/20 to 2021/22



Source: Royal Life Saving People Movement Dashboard, Roy Morgan, March 2022

## Extreme weather

Summer 2021/2022 was punctuated by extreme weather and natural events that can be linked to drowning risk.

### These events included

- Heavy rain causing extreme flooding in December and February, specifically in south-east Queensland and northern NSW.
- Heat waves, particularly in Western and Northern Australia across the summer
- Tropical cyclones and monsoon rain affecting the northern and eastern states
- Tsunami warning for the eastern states in January
- Weather patterns across Australia for the 2021/22 summer months were influenced by La Niña and the Southern Annular Mode (SAM)<sup>1</sup>

### Maximum temperatures were above average for:

- Most of Western Australia and northern Australia
- Far south-eastern South Australia
- Far south-west New South Wales
- Most of Victoria except the north-east and East Gippsland
- All of Tasmania

### In contrast, maximum temperatures were cooler than average for:

- Much of western and central South Australia
- The eastern half of New South Wales, and adjacent inland southern Queensland

### State breakdown

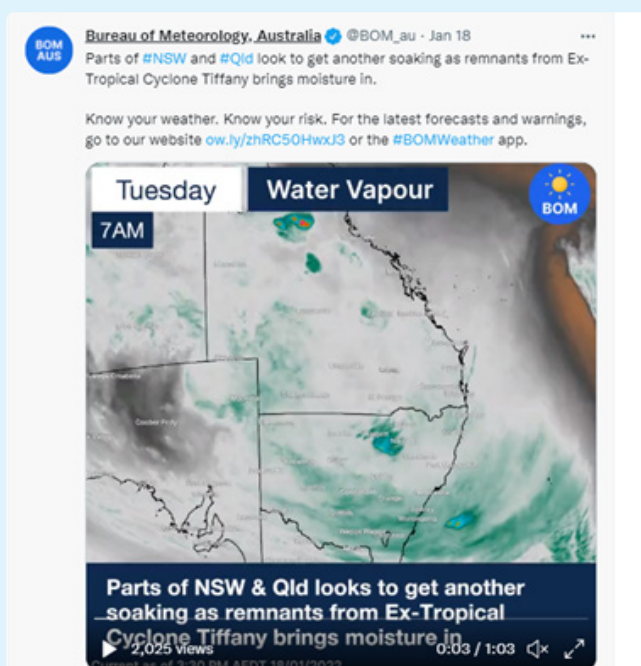
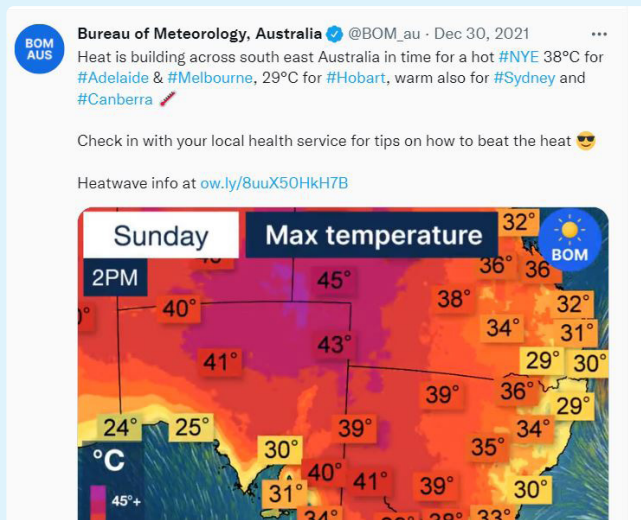
- Western Australia has experienced consistent heatwave conditions this summer.
- Melbourne experienced the warmest January on record and the most days of over 30°C
- Queensland and NSW experienced ongoing heavy rain over January and February, with the heaviest rainfall occurring in the last week of February causing damaging floods
- See Appendix 2 for a detailed state breakdown of weather patterns over the 2021/22 summer

### Swimmable days

In previous summer drowning reports<sup>2</sup>, the number of “swimmable days” were recorded, being days with a temperature over 27°C without any rainfall. Overall, there were fewer “swimmable days” across Australia this summer. However, temperatures over 27°C were recorded for the first few days of 2022 across the country, coinciding with the period for the highest number of drowning deaths.

## Impact of Covid-19

- By mid-December 2021, many states/territories had lifted restrictions and re-opened state borders in time for the summer holiday period.
- Due to Covid-19 restrictions and lockdowns, many businesses stayed closed for longer than usual over the Christmas and New Year break or encouraged staff to take their annual leave that had built up over the past 12 months, so potentially there were more people off work or on holiday for longer than usual.
- Due to the combination of restrictions easing and more mobility, Covid-19 cases increased significantly in many states/territories over the summer period, leading to widespread staff shortages and many people isolating at home during this period.
- Pools were shut periodically over the last two years due to Covid-19 lockdowns especially in the eastern states, resulting in many children and adults unable to attend lessons or swim regularly for fitness and exercise.





## AWARENESS CAMPAIGNS

### National Water Safety Day

December 1st marks the first day of summer and the launch of various water safety awareness campaigns from a range of organisations.

In 2020, the Australian Government declared the first day of Summer, 1 December, National Water Safety Day. Led by Royal Life Saving and Surf Life Saving, backed by the Australian Government, the intent of this day is to raise awareness of water safety across the Australian public heading into the summer months.

#### Key Actions and Safety Tips

1. Swim at a patrolled beach between the red and yellow flags – surf lifesavers or lifeguards are there to help if you get into trouble
2. Wear a lifejacket if you are going boating, rock fishing, or on watercraft
3. Avoid alcohol and drugs while undertaking water activities
4. Always supervise children on, in and around water at all times

**NATIONAL  
WATER  
SAFETY  
DAY**

### Royal Life Saving Summer Safety Campaign

This campaign was launched prior to the Christmas holiday break and promoted across December, January and February and focused on looking out for friends and family around water, and to enjoy the water safely over the summer.

Messages were also translated into Mandarin, Arabic and Hindi and played on SBS Radio in-language.

<https://www.royallifesaving.com.au/about/campaigns-and-programs/Summer-Water-Safety>

#### Key messages

- Know the conditions
- Avoid alcohol around water
- Wear a life jacket
- Avoid going alone
- Always supervise children around water





## Make the Right Call

Now into the third year, the Make the Right Call campaign specifically targets males aged 25 – 45 years to raise awareness of the issues and educate them on the risks and consequences of their actions when recreating in, on and around water.

It advocates a commonsense approach by asking men to 'Make the Right Call' and look out for themselves and their mates when around water. This campaign focuses on water safety in, and around inland waterways and regional locations and targeted advertising specifically aimed at men aged 25 – 45 years, including radio, print and digital media.

<https://www.royallifesaving.com.au/about/campaigns-and-programs/make-the-right-call>

### Key messages

- › Avoid alcohol around water
- › Wear a lifejacket when boating and fishing
- › Avoid going alone



## Keep Watch

Royal Life Saving's annual water safety campaign focusing on young children 0-4 years old.

Keep Watch has been a key child drowning prevention campaign for over 25 years and is released in November every year via a media campaign that is targeted to parents of young children with consistent key messages that have not changed over the course of the campaign.

<https://www.royallifesaving.com.au/about/campaigns-and-programs/keep-watch>

### Keep Watch key actions

- › Supervise
- › Restrict access
- › Teach
- › Respond



### Other summer water safety awareness campaigns (selected examples only)

- **Surf Life Saving Australia** – Swim between the Flags and the Think Line campaign
- **Victorian Government stakeholders** - Play it Safe by the Water
- **Victorian Government stakeholders** - Unsinkable campaign targeting males
- **Marine Safety organisations** - Boating safety messages
- **Lawrie Lawrence** - Kids Alive
- **Bureau of Meteorology** – Dangerous weather, surf, wind and flooding warnings

## SO WHAT?

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Several factors are likely to have contributed to increased drowning over the 2021/22 summer. Firstly, we acknowledge the devastating impact of flooding on our communities and the lives lost from flooding in December and again in February and March.

The nature of La Niña weather patterns this summer provided heavy rain for much of summer, however there were still periods of heatwaves across the country that coincided with the Christmas-New Year break when the highest number of people drowned.

Easing of Covid-19 restrictions and re-opening of state borders in December saw the increased mobility of people, travelling inter and intra-state, as well as many people taking extra time off this summer, potentially exposing more people to water, adults and children alike. Visitor numbers to aquatic locations appear higher than last summer, indicating that visitor numbers are returning to pre-Covid levels (summer 2019/20), before Covid-19 restrictions were introduced in March 2020.

A combination of people being off work and school, being able to travel interstate, both hot and wet weather and increased visitation to aquatic locations combined are likely to have contributed to the high number of drowning deaths over summer 2021/22.

While some of these factors are beyond our control, we can continue to raise awareness and promotion of key water safety messages. Although the numbers of children drowning remain low, it is essential that supervision messages for all age groups are constantly promoted over the summer period, especially during the Christmas-New Year period where the highest numbers of children drowned.

The increasing trend of adults aged 35-64 years warrants a tailored approach to water safety awareness for this demographic. More research is required to better understand the role of weather and climate change on drowning.

## RECOMMENDATIONS

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- Complete a detailed analysis of summer safety awareness campaign, and explore the potential consolidation of key messages
- Extend partnerships with local councils, tourist agencies, accommodation providers to raise awareness of water safety among domestic tourists, specifically during the Christmas and New Year holiday period
- Continue integration of water safety and drowning prevention strategies into flood awareness and disaster resilience programs in collaboration with key agencies
- Development of comprehensive local government water safety plans or strategies
- Conduct research into the role of weather and climate change on drowning in Australia
- Review campaigns and programs targeting Australian's over the age of 65 years
- Implement measures to address generation of children who have missed out on learning to swim and survive
- Deliver water safety awareness activations on-site at key locations during the summer, in the afternoon, when people are most likely to visit



## METHODS

### Collation of summer drowning cases

The data collated for this report are derived primarily from media reports of drowning deaths that occurred between 1-December-2021 and 28-February-2022.

**As such, these numbers should be considered interim, pending the outcome of ongoing coronial investigations.** Drowning data for Victoria are drawn from a combination of media reports and data from the Coroners Prevention Unit. Historical drowning numbers used for this report have been derived from previous years Summer Drowning Tolls for comparative purposes, which are also from media monitoring, therefore numbers will not be the same as that reported in National Drowning Reports. Consistent with all Royal Life Saving drowning reports, where deaths were known to be a result of suicide or homicide, deaths from natural causes, shark and crocodile attack were excluded. The data included in this report are to the best of the authors knowledge and as per the information available at the time. At the time of completing this report, 90% of cases were under coronial investigation.

### Definitions

The circumstances of the drowning incident were coded into defined variables related to age, sex, location, day of drowning incident, time of drowning, activity being undertaken. The time of drowning was coded into four bands: early morning (12:01am to 6am), morning (6:01am to 12pm), afternoon (12:01pm to 6pm) and evening (6:01pm to 12am).

### Flood-related

Any drowning death that has been attributed to a flooding event, e.g., swept away, driving a vehicle or playing / swimming in flood water. This includes people who went missing prior to and inclusive of 28th February and were recovered as of 8th March 2022.

### Recreational

All other drowning related deaths over summer that have occurred in a recreational or home context, including bathing. Note: underlying cause of death, such as a medical condition, is usually unknown until the coronial investigation has been completed and therefore all non-flood-related deaths have been included as recreational for the purposes of this analysis. As such, factors such as medical conditions, alcohol and drug involvement are unknown and not included in this report.

### Locations

- **Inland:**  
includes rivers, lakes and dams
- **Coastal:**  
includes beaches, coastal rocks and oceans
- **Home swimming pools:**  
includes home pools, portable pools
- **Public and publicly accessible pools:**  
includes aquatic facilities, resorts
- **Other:**  
includes rescue, jumped in, fishing and rock fishing, swept away and swept in

### Peak drowning period

In previous reports, 25th December to the 2nd of January was described as the acute drowning period due to the high exposure of water for many people being peak summer and the number of public holidays where people are off work and in the middle of summer school holidays. Due to how the public holidays fell over summer 2021/22, this peak period was extended to include 25th December to the 3rd January as the 3rd was a public holiday day (New Year's Day observed).

### Weather patterns

Information related to the weather during this period was sourced from the Australian Bureau of Meteorology (BOM). BOM supplies publicly available climate summaries for both individual months and seasons for all States/Territories. The December 2021, January 2022 and February 2022 summaries were utilised to extract information related to temperature and rainfall, including any new records set during the course of the month.

### Visitation information

Visitation information is sourced from Roy Morgan People Movement Dashboards that have been tailored to Royal Life Saving. Currently 40 aquatic locations across Australia are being monitored, ranging from 3 – 10 locations in each state/territory. This includes key drowning blackspot locations in addition to popular locations where we know a high number of people are exposed to water. These locations include a mix of inland rivers, lakes, dams, waterholes, beaches and publicly accessible (free) outdoor swimming pools (note - these are not aquatic centers that may or may not have lifeguards present, only two are being monitored). Data has been derived from three time periods:

- 1st December 2019 to 28th February 2020 ('pre-Covid')
- 1st December 2020 to 28th February 2021)
- 1st December 2021 to 28th February 2022.



## LIMITATIONS

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As indicated throughout the report, the figures regarding drowning deaths over summer 2021/22 should be regarded as interim until ongoing coronial investigations have been finalised. Following the conclusion of formal investigations, relevant documentation will be assessed, including autopsy reports, toxicology reports and coroner's findings.

It is possible that the formal investigation of some cases may result in a change in the assigned cause of death. For example, a case may be determined to be due to natural causes, rather than drowning. This is why the final number of drowning deaths that occurred in summer reported in the Royal Life Saving National Drowning Report (released in September) will differ.

Risk factors commonly reported in Royal Life Saving National Drowning Report, such as the presence of alcohol and drugs, lifejackets, swimming ability were unknown at the time of writing and unlikely to be known until the coronial investigation has been conducted.



## APPENDIX 1: HISTORICAL SUMMER DROWNING TRENDS

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Total</b>	96	82	114	66	86	112
<b>Flooding related</b>	6	0	2	1	1	22

### Month

December	41%	39%	40%	38%	35%	38%
January	35%	32%	35%	39%	45%	38%
February	24%	29%	25%	23%	20%	25%
Male	80%	74%	87%	91%	80%	79%
Female	20%	26%	13%	9%	17%	21%
0-17 years	14%	15%	11%	9%	15%	11%
18-34 years	32%	33%	33%	30%	29%	21%
35-64 years	35%	38%	31%	38%	40%	45%
65 years+	18%	13%	19%	17%	10%	20%
Unknown	1%	1%	6%	6%	6%	4%

### State

ACT	1%	1%	3%	0%	2%	1%
NSW	42%	44%	34%	52%	33%	37%
NT	4%	0%	1%	2%	2%	2%
QLD	21%	18%	25%	15%	23%	31%
SA	6%	6%	6%	8%	2%	6%
TAS	2%	2%	2%	3%	1%	3%
VIC	14%	21%	23%	12%	23%	15%
WA	10%	7%	7%	9%	13%	5%

### Location

Inland	51%	295	38%	44%	32%	39%
Coastal	45%	57%	56%	48%	59%	42%
Home Swimming Pool	14%	6%	6%	3%	7%	1%
Publicly accessible swimming pool	2%	2%	1%	3%	3%	0%
Other	4%	3%	0%	1%	1%	4%

### Activity

Swimming	39%	45%	46%	41%	28%	28%
Boating & watercraft	13%	13%	11%	23%	15%	13%
Falls	9%	9%	7%	5%	7%	13%
Diving	5%	5%	8%	9%	7%	4%
Other	15%	9%	11%	12%	16%	7%

## APPENDIX 2: 2021/22 WEATHER CONDITIONS BY STATE/TERRITORY

State-Territory	Summary
<b>New South Wales<sup>3</sup></b> <b>42 deaths</b> <ul style="list-style-type: none"> <li>• December - 13</li> <li>• January - 17</li> <li>• February - 10</li> </ul>	<p><b>Overall</b></p> <ul style="list-style-type: none"> <li>• New South Wales experienced a wetter than average summer, the wettest since 2011–2012.</li> <li>• Many areas recorded their highest total summer rainfall for at least 20 years including - The Mid North Coast, Illawarra, the South Coast, Southern Tablelands and Snowy Mountains</li> <li>• Metropolitan Sydney average maximum temperature was 26.4 C for summer</li> </ul> <p><b>December</b></p> <p>December was generally cool and wet along the coast, but warmer and drier inland. Some locations recorded their highest total December rainfall since 1992. Metropolitan Sydney average maximum temperature for December was 25.6 C.</p> <p><b>January</b></p> <p>Overall, 94.3 mm of rain fell in January across NSW, many locations recorded their highest total January rainfall on record or for at least 20 years.</p> <p>Metropolitan Sydney average maximum temperature was 27.0 C.</p> <p><b>February</b></p> <p>Overall, 64.1 mm of rain fell in February across NSW. Cooler than average temperatures were recorded over most of NSW. On the 28th, record breaking rainfall was recorded in the Northern Rivers and Mid North Coast districts, causing major flooding over the region.</p>
<b>Queensland<sup>4</sup></b> <b>32 deaths</b> <ul style="list-style-type: none"> <li>• December - 11</li> <li>• January - 17</li> <li>• February - 10</li> </ul>	<p><b>Overall</b></p> <ul style="list-style-type: none"> <li>• Queensland experienced a wetter than average summer, the wettest since 2011–2012.</li> <li>• Summer rainfall was slightly below average overall, despite record breaking rainfall over the south-east during the last week of summer.</li> <li>• Days and nights were warmer than average for most of Queensland, except for the south-east where days were cooler than average.</li> <li>• Rainfall across parts of south-east Queensland for the 6 days ending 28 February exceeded 175% of the 1961-1990 average summer rainfall</li> </ul> <p><b>December</b></p> <p>Daytime temperatures were cooler than usual across far northern and eastern Queensland from the 27th to the 30th. Some sites recorded their highest December daily rainfall on record.</p> <p><b>January</b></p> <p>Rainfall was above average in western and southern inland parts. The west to the central coast was more than 6 °C above average, some locations recorded their highest January temperature on record on January 4th.</p> <p>Beaches at the Gold Coast and on Stradbroke Island were closed from the 3rd, due to dangerous conditions caused by ex-tropical cyclone Seth. Tsunami marine warnings were issued on the 15th January for parts of Australia's east coast after an undersea volcanic explosion in Tonga occurred.</p> <p><b>February</b></p> <p>Exceptional rainfall over south-east Queensland during the last week of February, but overall, it was a drier than average month.</p> <p>Rainfall across parts of south-east Queensland for the 6-days ending 28 February was at least 2.5 times the 1961-1990 average February rainfall, with some parts recording more than 5 times the average. Some locations in south-east Queensland, including Greater Brisbane, recorded their highest daily rainfall on record or their highest total rainfall for February in at least 20 years.</p>



<p><b>Victoria <sup>5</sup></b>  <b>17 deaths</b></p> <ul style="list-style-type: none"> <li>• December – 10</li> <li>• January - 7</li> <li>• February - 0</li> </ul>	<p><b>Overall</b></p> <ul style="list-style-type: none"> <li>• Night-time temperatures for summer were much warmer than average across most of Victoria.</li> <li>• Victoria's rainfall in January was 91% above average and was the eighth wettest January on record</li> <li>• Night-time temperatures for summer were much warmer than average across most of Victoria.</li> <li>• The mean minimum temperature was more than 3.5 °C above average, resulting in the warmest January nights on record.</li> </ul> <p><b>December</b>  Daytime temperatures were in the mid- to high-30s across the state; the highest temperature recorded for the month was 41.5 °C at Shepparton Airport on the 18th.</p> <p><b>January</b>  January was much wetter than average; this was the eighth-wettest January on record for Victoria. Daytime temperatures were warmer to much warmer than average in the central and western parts of the state. Night-time temperatures were the warmest on record across most of Victoria. January rainfall was 91% above the long-term January average. Many locations had their highest January daily rainfall on record. An intense heatwave between the 20th and 28th, with state-wide daily maximum and minimum temperatures 5 to 10 degrees above the January average, the 5th warmest January on record.</p> <p><b>February</b>  The month was drier than average for Victoria as a whole. Between the 13th and 15th, daytime temperatures across the large parts of Victoria were generally 4-10 degrees above the February average.</p>
<p><b>South Australia<sup>6</sup></b>  <b>7 deaths</b></p> <ul style="list-style-type: none"> <li>• December - 4</li> <li>• January - 2</li> <li>• February - 1</li> </ul>	<p><b>Overall</b></p> <ul style="list-style-type: none"> <li>• Summer rainfall was above average for most of South Australia, with SA recording its wettest summer since 2016/2017.</li> <li>• State-wide, summer rainfall was around 57% above average, the highest since summer 2016/2017.</li> <li>• The heavy falls in January and early February resulted in some locations recording their highest total summer rainfall on record or their highest total summer rainfall for at least 20 years</li> <li>• With cooler than average daytime temperatures and average night-time temperatures across western parts of the state, some locations in SA reported their lowest summer mean temperature on record for at least 20 years.</li> </ul> <p><b>December</b></p> <ul style="list-style-type: none"> <li>• For many locations, it was the driest December for at least 20 years, but followed South Australia's wettest November on record.</li> <li>• A heatwave affected much of southern and eastern South Australia during the last few days of December, with daily maximum temperatures more than 12 °C above average on the 31st December</li> <li>• The mean maximum temperature for South Australia as a whole was 1.02 °C above average</li> </ul> <p><b>January</b>  Rainfall in January was above average for most of South Australia, rainfall was 175% above average, making it South Australia's fourth-wettest January on record and wettest since 1984. Some locations recorded their highest January mean daily maximum temperature on record or their highest January mean daily maximum temperature for at least 20 years</p> <p><b>February</b></p> <ul style="list-style-type: none"> <li>• February rainfall was around 31% above average.</li> <li>• Daytime temperatures were cooler than average across most of the state, recording, the coolest February days since 2008</li> <li>• With the cooler than average nights across large parts of the state, some sites had their lowest February mean daily minimum temperature for at least 20 years.</li> </ul>

<p><b>Western Australia<sup>7</sup></b></p> <p><b>6 deaths</b></p> <ul style="list-style-type: none"> <li>• December - 2</li> <li>• January - 4</li> <li>• February - 1</li> </ul>	<p><b>Overall</b></p> <ul style="list-style-type: none"> <li>• Summer 2021–22 was the eighth-hottest summer on record for Western Australia in terms of maximum temperatures</li> <li>• Mean maximum temperatures were above average for most of WA, and many sites near the west coast had their hottest summer on record from Geraldton down to Cape Naturaliste</li> <li>• In December 2021, Geraldton Airport recorded 6 consecutive days with maximum temperatures at least 41°C between the 24th and 29th</li> <li>• In January 2022 (the 18th-23rd), Geraldton Airport recorded 6 consecutive days with maximum temperatures at least 43°C, and Kalbarri recorded 6 days in a row of 42°C</li> <li>• The extreme heatwave conditions in the Pilbara saw Onslow, Mardie and Roebourne had maximum temperatures over 50°C on 13 January</li> <li>• For Perth metro a new maximum mean temperature of 33.3 C was recorded</li> </ul> <p><b>December</b></p> <ul style="list-style-type: none"> <li>• It was the third-warmest December on record overall and rainfall was 26% below average for WA as a whole</li> <li>• Mean maximum temperatures were above average across, and the highest on was record in the Pilbara region.</li> <li>• WA's mean maximum temperature was 2.23°C above average</li> <li>• A severe to extreme heatwave hit the west coast, around Perth late December, with daytime and overnight temperatures peaking on Christmas Day (25th) and Boxing Day (26th); several locations recorded their highest December temperature on record or warmest December night on record</li> <li>• Locations near the west coast recorded at least 3 consecutive days with maximum temperatures at 40 °C or above</li> <li>• Perth had its first 4 consecutive days of 40°C.</li> <li>• Geraldton Airport recorded 6 consecutive days with maximum temperatures at 40°C or above between the 24th- 29th, which was its longest such run in December</li> </ul> <p><b>January</b></p> <ul style="list-style-type: none"> <li>• Mean maximum temperatures were above average, and many locations in the south-west including Perth Metro had their highest January mean daily maximum temperature on record or highest for at least 20 years</li> <li>• Temperatures reached more than 40°C in the north and central WA between the 12th-14th, and up to 50°C near the Pilbara coast on the 13th</li> <li>• A number of locations recorded their highest January temperature on record.</li> <li>• A prolonged severe heatwave hit the west coast between the 18th- 23rd, with many locations including Perth reporting their record long run of days at or above 40°C.</li> </ul> <p><b>February</b></p> <ul style="list-style-type: none"> <li>• Perth Metro and Perth Airport had their warmest February since 1996 , and the warmest February since 1985</li> <li>• A number of locations had their highest February temperature on record.</li> </ul>
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