

OFFICIAL

Disaster Management Branch

SA Health Extreme Heat and Heatwave Strategy

Version 7.0 November 2023



Government
of South Australia

SA Health

Document Control Information

Document Owner:	Disaster Management Branch (DMB)
Title:	SA Health Extreme Heat and Heatwave Strategy
Description:	The SA Health Extreme Heat Strategy aims to reduce the risk of harmful effects of extreme heat on the health of the South Australian community and possible associated workload increase / surge workload before, during and after such events.
Subject:	Extreme Heat; Disaster Management, Climate Risk Reduction, Climate Change, Prevention, Preparedness, Response Recover; PPRR
Document Location:	
ISBN	
Next Review	May 2025 or this document is reviewed bi-annually to capture lessons learnt from extreme heat events.

Version	Author	Comments	Approved	Date
6.0	Disaster Mgt Branch (DMB)	First version	DRAFT	Nov 2014
6.10	DMB	Inclusion of the Mental Health section and review	Approved	Nov 2016
7.0	SAH Extreme Heat Workgroup, chaired by DMB	Full review of content, update of template and structures	Endorsed by SA Health Disaster Resilience Committee	September 2023
7.0	DMB	Final review and approval	HCEC	November 2023

Contents

Document Control Information	2
SA Health Statement of Reconciliation	5
Acknowledgement of Country	5
Introduction	5
Purpose	6
Target audience.....	6
Context	6
Climate change.....	6
Roles and responsibility.....	8
Hazard Risk Reduction Leader	8
Control Agency	8
Support Agency	8
Functional Support Group	8
Disaster Management Branch (DMB)	9
Phased approach	9
Prevention	11
Preparedness.....	11
DMB preparedness activities.....	11
LHN-based preparedness activities	12
SA government extreme heat communications plan.....	12
SA Health Extreme Heat Communication Plan.....	12
SA Health Healthy in the Heat booklets and fact sheets.....	13
Response	13
SA Health – DHW and State Arrangements.....	13
Understanding and reporting heat impacts to the health system.....	13
Temperature and triggers for alert levels	14
Media and Communications.....	16
SA Ambulance Service.....	17
SA Health Local Health Networks (LHNs).....	19
Rural and Remote Aboriginal Community Controlled Health Services (ACCHOs).....	19
Cultural considerations	19
Department for Human Services, including Disability	20
SA Housing Authority	20
Aged Care	20
Consideration for people using mental health services.....	20
Recovery	22
Appendix 1 Workgroup members and References.....	23
Appendix 2 – People at risk in heatwaves	25
Appendix 3 – Heat-related illness signs, symptoms, and treatment.....	28
Appendix 4 – Guidance for Local Health Networks	32

Appendix 5 – Guidance for Community Care Services 35
Appendix 6 – Guidance for Mental Health Services and Clinician Heatwave Checklist..... 38
Mental Health Clinician Heatwave Checklist..... 39
Appendix 7 – Guidance for Aged Care Services (community and residential)..... 41
Appendix 8 – Guidance for General Practice..... 44
Appendix 9 – Heatwave preparedness checklist for the community 48

SA Health Statement of Reconciliation

SA Health recognises Aboriginal and Torres Strait Islander peoples as the first Australians, and we seek to engage Aboriginal people in decision making processes for matters that affect their lived experiences in the community and through the health system.

Together we will develop services and practices to be non-discriminatory, and inclusive of Aboriginal people, respectful of Aboriginal beliefs and culture, fostering Aboriginal self-determination and producing equitable health outcomes for Aboriginal people of South Australia.

Acknowledgement of Country

We acknowledge and respect the Traditional Custodians on whose ancestral land SA Health provides services.

We acknowledge the deep feelings of attachment and relationship of Aboriginal people to country.

Introduction

Extreme heat and heatwaves have claimed more lives than any other natural hazard in Australia (Coates, et al, 2014).

Extreme heat is when the maximum and/or minimum temperatures are unusually hot for one or two days at a location. A heatwave is when the maximum and the minimum temperatures are unusually hot over a three or more-day period for that location, when considered in relation to the local climate and past weather at the location.

Heatwaves have the potential to adversely affect urban and rural communities, infrastructure, and the natural environment. They cause significant health issues, extensive stock and crop losses, damage to roads, railway lines and bridges, disrupt power supplies, loss of vegetation and contribute to an elevated fire hazard.

Extreme heat and heatwaves directly impact physical health, through heat stress, dehydration, and heat stroke, but may also worsen the symptoms of existing conditions, like cardiac, respiratory, and renal diseases. Extreme heat and heatwaves also affect mental health issues either directly by interacting with certain mental health medications, or indirectly through the psychosocial health of those who may be experiencing disaster events such as drought, floods, or bushfire. Additionally, there is evidence of increased rates of suicide, interpersonal conflicts, irritability, aggression, domestic violence, and violent crimes during heat events.

Extreme heat and heatwaves can also impact anyone wanting to exercise, play sport outside, be physically active for recreation or reduce physical work capacity for those undertaking work outside and in hot environments by exposing them to moderate to high heat stress risk. These conditions can also lead to an increased risk of injuries and accidents, including slips, trips, falls, wounds, lacerations, and burns, through a combination of direct factors like dehydration and indirect factors like impaired cognitive and physical performance. In addition, high minimum temperatures overnight are likely to contribute to a greater impact if communities, infrastructure, and the environment are unable to recover from protracted heat stress. High temperatures can also be exacerbated by high humidity.

Extreme heat and heatwaves place increased demands on the health system and may require changes to processes to maximise the safety of people using health services, clients, staff, and community partners. For example, increased strain on power networks during heatwaves can sometimes cause loss of power for short or long periods of time, and health services can experience a disruption to operations, inhibited delivery of high-quality care, or reduced access to health services for the community and create a financial burden to health care facilities. As with all external events that may challenge the health system, good preparation is essential to minimise risk and ensure a safe and appropriate response.

Purpose

The SA Health Extreme Heat and Heatwave Strategy outlines a series of guiding principles with the aim to reduce the risk of harmful effects of extreme heat and heatwave on the health of the South Australian community and reduce the impact of the associated workload increase / surge workload before, during and after such events, by:

- > ensuring a planned, managed, and effective response to an extreme heat or heatwave event
- > providing a coordinated SA Health communication plan; and
- > promoting community resilience and adaptation to extreme heat conditions.

Target audience

This document provides strategic guidance, and is intended for use across SA Health, including the Department for Health and Wellbeing (DHW), Local Health Networks (LHNs), SA Ambulance Service (SAAS), Wellbeing SA and all other SA Health clinical support services. This document is not mandatory but serves to guide all areas within SA Health in developing and maintaining their localised planning and preparedness to respond to extreme heat and heatwaves, and establish their own procedures, arrangements or plans specific to their context.

This document also recognises and acknowledges the important role the wider health, aged care and disability sectors plays during extreme heat and heatwave events, including Aged Care, General Practice, Pharmacies, Community Health, and Disability services – some of whom are Commonwealth government or non-government organisations (NGOs), as well as private businesses. Guidance for these sector partners is included within this document, for their consideration, as part of their preparedness for extreme heat and heatwaves in South Australia.

Context

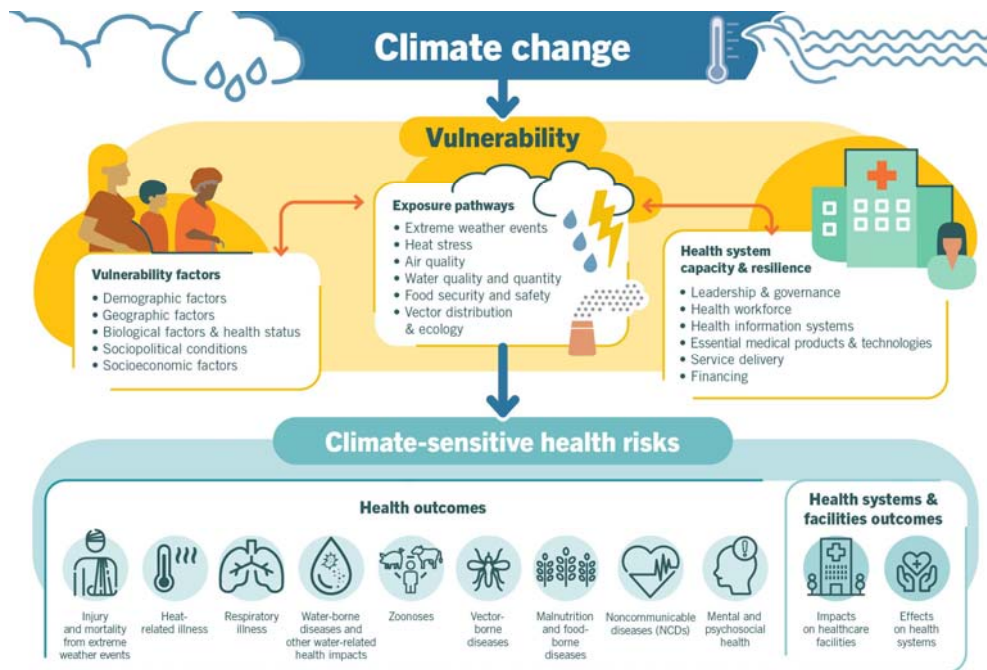
This document acknowledges non-disaster related policy and other legislative requirements that may be relevant during extreme heat or heatwave, including:

- > DHW/LHN/SAAS guidelines for Workforce Health, including remote and/or isolated work, worker wellbeing, work health safety and injury management, WorkFit, and Wellbeing.
- > SA Health Flexible Workplaces Policy, including home based worksite inspection checklist and other LHN dynamic risk assessment procedures for working from home
- > Safe Work Australia – working in the heat: <https://www.safeworkaustralia.gov.au/safety-topic/hazards/working-heat>
- > The principles of infection prevention of control as per the [Australian Guidelines for the Prevention and Control of Infection in Healthcare](#) (where applicable)

Climate change

Climate change has been described by the World Health Organisation (WHO) as the greatest threat to global health in the 21st century, because it threatens the fundamental components of good health, such as clean air, safe water, food supply and secure shelter.

Climate change has both direct and indirect impacts on health and wellbeing, through climate-related extreme events/disasters, and a range of environmental exposures (Beggs, PJ; Zhang, Y, McGushin, A et al, 2022). Individual and population vulnerability to these exposures and events depends on many factors, including location (eg. remoteness from health services), existing health conditions (eg. respiratory, cardiovascular, or mental illness), and socio-economic status.



Source: World Health Organisation

The public health risks related to a warming climate, extreme heat and heatwaves include:

- > Poor health outcomes for vulnerable people (eg. cardiovascular, renal, and respiratory conditions, as well as mental health) compromised by exposure to hotter conditions, including higher risk of death
- > Increase in heat related illness, with no respite from heat with both warmer days and nights
- > Impacts to water quality and water supply
- > Food spoilage (eg. result in food-borne disease like gastroenteritis)
- > Food security, where food quality and yield may reduce due to heat and/or droughts, resulting in famine, nutritional deficiencies, and lowered food production
- > Increase in mortality and morbidity during heatwaves.

These impacts place unprecedented pressure on the health system and exacerbate existing health inequalities, particularly in vulnerable communities — people living in remote areas, those with pre-existing health conditions, socio-economically disadvantaged people, with Aboriginal and Torres Strait Islander people being particularly vulnerable to current and future consequences of a changing climate.

Research shows that Aboriginal and Torres Strait Islander people already currently experience higher rates of climate-sensitive health conditions and socioeconomic disadvantages, which a warming climate and heatwaves will only exacerbate (HEAL Network, 2021 & Standen et al, 2022). It will also affect cultural practices, which are closely related to Aboriginal health and wellbeing.

For the South Australian health system, increase in temperature, together with the intensity and frequency of extreme weather and associated disasters, can impact ambulance callouts and hospital emergency department presentation and/or admission profiles. It will also place a substantial burden upon the health system, in terms of increased number of people in care, workforce capacity and capability, as well as the cost to infrastructure and the overall state economy.

In South Australia, we are already seeing increases in average temperatures, a greater frequency of very hot days, declining rainfall, and rising sea levels. If we do not reduce greenhouse gas emissions, then South Australia will face complex challenges. Climate modelling and future climate scenario projections by the Department for Environment and Water for 2030, 2050 and 2090 predict:

- > An increase in both daily and overnight temperatures, with more frequent and longer heatwaves, with the number of days per year over 40°C projected to more than double.
- > Reduced rainfall, with a likelihood of more frequent and/or intense droughts and associated dust storms.
- > More intense rainfall events, with increased risk of flooding and inundation.
- > Rising sea-levels, with increased coastal erosion and storm surge damage.
- > As well as an increase occurrence of coincident or multiple events or polycrisis (such as a heatwave followed by bushfire or overland flooding combined with storm surge).

For further information please visit the Department for Environment and Water's [latest climate projections for South Australia](#).

Roles and responsibility

SA Health follows legislative frameworks and disaster/emergency plans that incorporate heatwave issues. These include:

- > the *Emergency Management Act 2004*
- > the *State Emergency Management Plan*
- > the *SA Public Health Act 2011*
- > the *Public Health Emergency Management Plan*
- > the *Disaster Management in SA Health System Policy*
- > the provision of consistent whole of health policy and regulation.

Hazard Risk Reduction Leader

The State Emergency Management Plan (SEMP) identifies the South Australian State Emergency Service (SASES) as the Hazard Risk Reduction Leader for Extreme Weather events (including Heatwaves).

The SASES has overall responsibility to ensure that a robust prevention and preparedness approach is adopted by all agencies, as well as identify and communicate how agencies can develop their arrangements to complement a coordinated and consistent approach across government.

Control Agency

The SEMP identifies SASES as the Control Agency for Extreme Weather events (including Heatwaves). The SASES has overall control and responsibility to ensure that all response actions focus on the protection of life and property and to have a situational awareness of the capability of all government agencies during extreme heat events.

SASES will work with the various advisory groups, Hazard Risk Reduction Leaders, Support Agencies and Functional Support Groups to ensure that all aspects of the state's approach to the hazard, including mitigation, response, and recovery measures, are coordinated.

Support Agency

Support agencies support the nominated Control Agency and are subject to direction by the nominated Control Agency. SA Health is a support agency to SASES in relation to Heatwaves, and will provide support to SASES during heatwave events, including regularly reporting, planning, and implementing procedures within SA Health, managing health related risk reduction, and establishing partnerships with stakeholders.

Functional Support Group

Functional support groups (FSGs) perform functional roles and capability that support both the Control Agency and Support Agencies. SA Ambulance Service (SAAS) is the FSG for ambulance

services, and will provide support to SASES during heatwave events, including regularly reporting and maintaining partnerships with stakeholders.

Disaster Management Branch (DMB)

Before, during and after an extreme heat or heatwave event, the Disaster Management Branch (DMB) will:

- > Act as the sole representative for SA Health for state level arrangements in relation to Extreme Heat and heatwave, including attendance at the State Emergency Centre (SEC) as required and liaison with the Control Agency for Heat (SASES).
- > Manage and review the Extreme Heat and Heatwaves Strategy for SA Health.
- > Raise awareness of the health impacts of heat and heatwaves, and the SA Health Extreme Heat and Heatwaves Strategy, as subject matter experts, during annual seasonal preparedness.
- > Coordinate and produce heat related information for workforce and community education, including fact sheets, web content for staying healthy in the heat, and the printed *Healthy in the Heat* booklet.
- > Coordinate membership of the SA Health Heatwave email distribution list (DL:Health heatwave) for all relevant SA Health staff for use by SASES for SA government heatwave and warning messaging.
- > Produce and/or distribute intelligence reports or situational reports, regarding Heatwaves from relevant state and national emergency management sources in a timely manner.
- > Provide ongoing liaison with other emergency services and government agencies, particularly SASES.
- > Coordinate any SA Health debriefs of the incident including all relevant stakeholders once the extreme heat event has concluded.

Phased approach

Before, during and after a heatwave SA Health will follow these disaster management phases – recognised nationally and within the State Emergency Management Plan (SEMP):

Phase	Stage	Activities	Equivalent SEMP phase
Prevention	Prevention	<ul style="list-style-type: none"> > Review SA Health Extreme Heat and Heatwave Strategy > Incorporate any lessons learned from research evidence and/or previous events 	Prevention
Preparedness	Preparedness	<ul style="list-style-type: none"> > No heatwave detected (or lead up to summer hot season) > Raise awareness of heat and heatwaves, through workforce education, communication material and seasonal preparedness > Identify established and informal networks for connecting and engaging with vulnerable groups, including Aboriginal and Torres Strait Islanders and culturally and linguistically diverse (CALD) groups > Reduce the risk through mitigating heatwave effects (health system planning and exercising plans; community education through online heat information and Healthy in the Heat booklet) 	Preparedness

Phase	Stage	Activities	Equivalent SEMP phase
Response	Standby	<ul style="list-style-type: none"> > Intelligence from SASES / Bureau of Meteorology about future weather projections > Surveillance and early warning / public messaging from SASES > Provide key heat health messages through social media > SASES Community Readiness Alert may be issued to prepare the community when a significant heatwave event is on the horizon 	Alert Lean forward
	Action	<p>Three stages:</p> <ul style="list-style-type: none"> > Low Intensity advice warning issued by SASES > Severe Heat - Watch and Act warning issued by SASES > Extreme Heatwave - Emergency warning issued by SASES > Support the Control Agency (SASES) to respond to any disaster event and state emergency activation > Promulgate Control Agency (SASES) community messaging through SA Health social media and other communication channels > Provide consistent public health heat messages through SA Health social media; and during client visits, or through telephone calls or message alerts 	Stand up
	Stand down	<ul style="list-style-type: none"> > Heatwave advice – reduced threat issued by SASES > Heatwave has passed, and post heatwave presentations have ceased 	Stand down
Recovery	Recovery	<ul style="list-style-type: none"> > Support to those affected by a heatwave to achieve a proper and effective level of functioning > Debrief and evaluate actions taken during heatwaves, and include any lessons in future reviews of the SA Health Extreme Heat and Heatwave Strategy 	Recovery

Prevention

The prevention phase aims to prevent or minimise the impacts of future disasters through planning. This is also known as disaster risk reduction. For SA Health, this phase primarily involves reviewing the SA Health Extreme Heat and Heatwave Strategy and includes the following activities:

- > reviewing evidence from research and other jurisdictional activities for learnings
- > collating lessons learned from across the health system
- > engaging key stakeholders
- > identifying vulnerable populations and reviewing evidence and content for these areas
- > integrating evidence and lessons learned into final version.

Preparedness

SA Health asks all health areas and their staff to be mindful of the impact that heat can have on people, service operations and delivery, and service logistics.

The principles of the preparedness phase include:

- > Review operational plans
- > Preparation of community messages and organisational strategies
- > Liaison with other agencies and stakeholders
- > Workforce education
- > Gather intelligence.

LHNs, SAAS and Health Services should develop and/or review their plans contextualised to their service's operational function and capacity that covers seasonal preparedness, and actions to be taken if extreme heat or a heatwave is forecast.

Good preparation is essential to ensure a safe and appropriate response. For information about preparation, please view the specific appendices listed below:

Appendix 2 – People at risk in heatwaves

Appendix 3 – Heat-related illness signs, symptoms, and treatment

Appendix 4 – Guidance for Local Health Networks

Appendix 5 – Guidance for Primary Health and Community Care Services

Appendix 6 – Guidance for Mental Health Services

Appendix 7 – Guidance for Aged Care Services

Appendix 8 – Guidance for General Practice

Appendix 9 – Heatwave preparedness checklist for the community

DMB preparedness activities

During the lead up to the summer season, DMB will:

- > Review DMB operational heat action plans/procedures
- > Prepare for and maintain readiness for any anticipated event
- > Revise and update as required:
 - the 'Healthy in the Heat' booklet, and corresponding webpages (in consultation with Corporate Communications Branch)

- Topic-specific fact sheets
- > Arrange distribution of the booklet 'Healthy in the Heat' to government and non-government agencies/organisations and community groups, as per requests received
- > Develop other topic-specific fact sheets according to need
- > Present at and participate in seasonal preparedness workshops coordinated by LHNs, Primary Health Care Networks (PHNs), state emergency services, health related peak bodies, and local government as subject matter experts

LHN-based preparedness activities

During the lead up to the summer season, LHNs should review and/or exercise their emergency/heat plans, undertake seasonal preparedness workshops within their LHNs and undertake any other relevant activities in preparation for an anticipated heatwave event.

Further other guidance, please see Appendix 4 – Guidance for Local Health Networks.

SA government extreme heat communications plan

A South Australian Government Heatwave Communications Plan has been developed by the SASES as the Hazard Risk Reduction Leader and Control Agency for extreme weather in South Australia. The Plan has been developed to ensure the SA Government is able to effectively respond to heatwave events.

Particular emphasis has been placed on developing strong and consistent key messages across all Functional Support Groups.

SA Health Extreme Heat Communication Plan

The SA Health Extreme Heat Communication Plan (Health in the Heat) supports SA Health's preparedness and response by providing heat health advice to the community on mitigating actions to reduce the impact of potential heat risks.

Promotion in the media will increase awareness of the availability of information and of the importance of looking after self and others during periods of hot weather and extreme heat.

The public health communication objectives of the SA Health Extreme Heat Communication Plan are to:

- > Educate the public about the signs of heat-related illness, what to do if they or someone they know is affected, and how to keep themselves, family, and friends safe during hot weather.
- > Reduce the flow-on demand on hospitals and health services by encouraging people to take measures to prepare, protect themselves and recover from a heatwave.
- > Encourage SA Health staff to protect themselves from the effects of prolonged heat so staffing in hospitals and health services is not adversely affected.
- > Support stakeholders, including General Practitioners (GPs) and community services, so they can engage and communicate with at-risk communities and the broader public about ways to stay healthy in the heat.

Communication objectives during extreme heat are:

- > Raise public awareness about the dangers of heatwaves and the serious effects it can have on the health of individuals.
- > Prepare the South Australian public for a heatwave by providing information about how they can protect themselves and their families and friends, and what to do if they experience a health emergency during a heatwave.
- > To enable SA Health to meet its obligations in supporting the SASES as the Hazard Risk Reduction Leader and Control Agency for extreme weather and hence extreme heat. This includes supporting the SASES Extreme Heat Communications Plan.

SA Health Healthy in the Heat booklets and fact sheets

A comprehensive printed guide *Healthy in the Heat* has been produced by DMB as a SA Health publication for the general public.

It is available as a booklet or can be downloaded from the [SA Health website](#)

Hard copies of the booklet can be ordered by contacting DMB by emailing Health.DisasterManagementBranch@sa.gov.au .

SA Health heat related fact sheets (including translated information)

Additional information has been developed in the form of fact sheets focusing on specific heat topics, or for specific audiences, such as ‘pregnancy and hot weather’ or ‘exercise and hot weather’. The fact sheets are available for download from the [SA Health website](#) and include translated factsheets in 20 different languages to cater for the culturally and linguistically diverse (CALD) communities.

Response

As identified earlier, the response phase has three components – Standby, Action and Stand down, which can occur in series, or change back and forth, depending upon the incident.

Good preparedness is essential to ensure a safe and appropriate response. For information about response actions, please view the specific appendices listed below:

Appendix 4 – Guidance for Local Health Networks

Appendix 5 – Guidance for Primary Health and Community Care Services

Appendix 6 – Guidance for Mental Health Services

Appendix 7 – Guidance for Aged Care Services

Appendix 8 – Guidance for General Practice

SA Health – DHW and State Arrangements

When any Severe Heatwave – Watch and Act warning and/or Extreme Heatwave - Emergency Warning has been issued, regardless of region, then heightened situational awareness and ongoing intelligence is gathered by the DMB.

DMB will attend the State Emergency Centre (SEC) as required and liaise with the Control Agency for Heat (SASES).

Understanding and reporting heat impacts to the health system

Heat or heatwave is not routinely flagged in patient medical records and is typically identified through retrospective case-matching or coroner’s determination (Franklin et al, 2023). Similarly, heat is not captured in medical records in the days following a heatwave, although it may be a contributing factor to some cardiovascular, renal, and respiratory admissions.

Research (Williams et al, 2018) shows that a reliable and consistent indicator in the surveillance of heatwave impacts to the health system is ambulance call outs. This is because not all call outs result in a hospital admission, so call out data gives a more accurate and consistent picture of “emergency health service utilisation across all regions” including both in the community (call out but no transportation) and in the health system (if the person is taken to hospital).

SA Ambulance Service provides out of hospital demand data, including changes in call demand and transport to hospital (if an entry is made into the SACAD request for ambulance services) to the SASES, as part of their reporting actions as the Ambulance Services Functional Support Group during heatwave events. This data is captured routinely during the daylight savings period (1 October – 7 April) annually but could be extended if heat/heatwaves occur outside this time.

Temperature and triggers for alert levels

See also Appendix 2 – People at risk in heatwaves

The [Bureau of Meteorology](#) is the Commonwealth government agency responsible for the provision of weather forecasting and climate data across Australia, including South Australia.

The method for determining a heatwave is based on a calculation developed by the Bureau of Meteorology, Adelaide University, SASES and SA Health that measures the excess heat (excess heat factor (EHF)) for a specific area and relates it to the potential community impact of the heat.

EHF is calculated based on average daily temperatures over three consecutive days. This is measured in relation to the local long-term climate (by comparing the three days to a climatological threshold for that particular location) and to the local recent past (by comparing the three days to observed temperatures over the previous thirty days at that particular location).

Using EHF, the heat advice is made relevant to an area experiencing heat that exceeds the norm for that location. To enable systematic communication of the likely impact of a particular heat event in a particular location, the EHF is categorised into one of three warnings; low intensity, severe or extreme as outlined in the table below. The locations or areas are based on the Bureau of Meteorology forecast districts.

Heatwave type	Warning	EHF Severity	Impact
Low intensity heatwave	Advice	0-1	These heatwaves are most common. Most people are expected to cope with this level of heat.
Severe heatwave	Watch and Act	>1<3	These heatwaves are less frequent, and are challenging to vulnerable people, particularly those with pre-existing medical conditions
Extreme heatwave	Emergency Warning	>3	These heatwaves are rare but are dangerous for anyone who does not take precautions to keep cool, even those who are healthy. They also affect the reliability of infrastructure, such as power and transport.

The Bureau of Meteorology posts forecasts of heatwaves up to three days ahead on their website during the heatwave season – see: [Heatwave Service for Australia](#). (link accessed June 2023)

In addition to the above, SASES is provided with heatwave forecast products from the Bureau of Meteorology, who uses these to issue heatwave advice for regional forecast districts. The format of this information provided by the Bureau of Meteorology is shown below.

	A	B	C	D	E	F	G	H
1	District	20230219	20230220	20230221	20230222	20230223	20230224	20230225
2	Adelaide Metropolitan	Low Intensity	Low Intensity	Severe	Severe	Low Intensity		
3	Eastern Eyre Peninsula	Low Intensity	Severe	Severe	Severe	Low Intensity		
4	Flinders	Low Intensity	Severe	Severe	Severe			
5	Kangaroo Island	Low Intensity	Low Intensity	Severe	Severe	Low Intensity		
6	Lower Eyre Peninsula	Low Intensity	Severe	Extreme	Severe	Low Intensity		
7	Lower South East		Low Intensity	Severe	Severe	Low Intensity		
8	Mid North	Low Intensity	Severe	Severe	Severe	Low Intensity		
9	Mount Lofty Ranges		Low Intensity	Severe	Severe	Low Intensity		
10	Murraylands		Low Intensity	Severe	Severe	Low Intensity		
11	North East Pastoral	Low Intensity	Low Intensity	Low Intensity	Low Intensity	Low Intensity		
12	North West Pastoral	Severe	Severe	Severe	Low Intensity			
13	Riverland		Low Intensity	Low Intensity	Severe	Low Intensity		
14	Upper South East		Low Intensity	Severe	Severe	Low Intensity		
15	West Coast	Severe	Severe	Severe	Severe			
16	Yorke Peninsula	Low Intensity	Severe	Severe	Severe	Low Intensity		
17								
18								

SASES will issue a State Heatwave Summary when there is a heatwave forecast in any district across the state ahead of the next day (approx. 4:30pm).

This summary is communicated to SA Health via an email to the SA Health Heatwave email distribution list (DL:Health heatwave) ,in addition to other key stakeholder agencies.

An example of the State Heatwave Summary is provided below.



STATE HEATWAVE SUMMARY

Heatwave conditions have been forecast by the Bureau of Meteorology for the following locations on **Wednesday, 22 February 2023**.

Forecast District	Heatwave Forecast
Adelaide Metropolitan	Low Intensity
Eastern Eyre Peninsula	Severe
Flinders	Severe
Kangaroo Island	Low Intensity
Lower Eyre Peninsula	Severe
Lower South East	Low Intensity
Mid North	Severe
Mount Lofty Ranges	Low Intensity
Murraylands	Low Intensity
North East Pastoral	Low Intensity
North West Pastoral	Severe
Riverland	Low Intensity
Upper South East	Low Intensity
West Coast	Severe
Yorke Peninsula	Severe

The State Emergency Service recommends you take action now to make sure that you and your family stay safe.

About Heatwaves

Low-intensity Heatwaves are common in South Australia during summer and most people are able to cope well, but the very young, elderly or those with medical conditions should take care.

Severe Heatwaves are less frequent and are especially challenging for babies and young children, the elderly, pregnant women and those who are already unwell, but even healthy people should take care. The SES will issue a separate Watch and Act message for each area in which a Severe Heatwave is forecast.

Extreme Heatwaves are rare, but are dangerous for anyone who does not take precautions to keep cool, even those who are fit and healthy. People who work or exercise outdoors are particularly at risk. The reliability of infrastructure, like power and transport, can also be affected. The SES will issue a separate Emergency Warning message for each area in which an Extreme Heatwave is forecast.

This message was issued by the **State Emergency Service**.

Advice Messages and Warnings

The SASES will supplement the issue of the *State Heatwave Summary* with tailored advice messages and warnings to affected communities (districts) during the period of the heatwave.

For example, during a heatwave where the intensity is *Severe* in one district, the SASES will issue a warning for that particular district. This warning is aligned to the standardised Australian Warnings Systems (AWS) and includes public information and calls to action to prepare for and manage response to heat, and heat impacts during that period. An example of the standardised AWS warnings for heatwave and an example of SASES warnings are provided below.



Heatwave – Advice - (Yellow)

A heatwave has started. There is no immediate danger. Stay up to date in case the situation changes.



Heatwave - Watch and Act - (Orange)

There is a heightened level of threat. Conditions are changing and you need to start taking action now to protect you and your family.



Heatwave - Emergency Warning - (Red)

An Emergency Warning is the highest level of heatwave warning. You may be in danger and need to take action immediately. Any delay now puts your life at risk.



LOW-INTENSITY HEATWAVE ADVICE

This Heatwave Advice message is issued for the Flinders forecast District.

A heatwave is more than just hot weather. When it is hot during the day and it does not cool down at night, it is hard for your body to cool itself. Whilst most people will cope with a low-intensity heatwave, babies, and young children, the elderly, pregnant women and people who are already unwell are at increased risk and can become ill. The forecast is for this heatwave to get worse in the next few days. Take action now to make sure you and your family stay well during this heatwave event.

What you should do:

- The very young, older people and those who are already unwell are most at risk - check on them regularly.
- Never leave children, or pets, alone in a car and make sure your pets and animals have shade and water too.
- Keep cool and drink plenty of water, even if you are not feeling thirsty.
- Cool your home as much as possible: turn fans and air-conditioners on early in the day to stop the heat from building up.
- With even hotter weather on the way, plan now for how you will manage: make sure you have enough food, water, medications and pet food so you will not need to go out in the heat.



This message was issued by the State Emergency Service.



SEVERE HEATWAVE WATCH AND ACT

This Heatwave Watch and Act message is issued for the West Coast forecast district.

A heatwave is more than just hot weather. When it is very hot during the day and it does not cool down at night, it is hard for your body to cool itself. Babies, and young children, the elderly, pregnant women and people who are already unwell are especially at risk in a severe heatwave, but even healthy people should take care. Take action to make sure you and your family stay well during this heatwave event.

What you should do:

- Keep cool by staying indoors as much as possible and turn fans and air-conditioners on early in the day to stop the heat from building up in your home.
- Make sure you are drinking plenty of water, even if you do not feel thirsty. Carry a water bottle with you if you go out.
- Never leave children, or pets, alone in a car.
- The very young, older people and those who are already unwell are most at risk - check on them regularly.
- Make sure your pets and animals have shade and water too.



This message was issued by the State Emergency Service.



EXTREME HEATWAVE EMERGENCY WARNING

This Heatwave Emergency Warning message is issued for the Lower Eyre Peninsula forecast district.

An Extreme Heatwave is very dangerous. When we experience unusually high night and daytime temperatures, over several days, there is no chance for your body to recover. This is dangerous for anyone who does not take precautions to keep cool—even those who are healthy. People who work or exercise outdoors are particularly at risk. The reliability of infrastructure, like power and transport, can also be affected. Take action now to make sure you and your family stay well during this heatwave event.

What you should do:

- Staying indoors is the coolest option. If you want to exercise, scale back your routine or restrict your activities to early morning or in the evening when it is cooler.
- It is important to drink plenty of water, but if you are taking any prescribed medicines, check with your doctor for any additional advice.
- Do you use public transport? Plan ahead to avoid travelling in the heat if at all possible: keep to shaded areas while waiting for buses, trains or trams, drink plenty of water and give consideration to vulnerable passengers including the elderly.
- Hot weather places significant demand on the electricity system, because of both higher demand and its effect on generators and transmission lines. Be prepared for outages by keeping your mobile phone charged and make sure you have some ice, a torch and a battery powered radio for emergency information.
- Children love to cool down in a sprinkler, but check the temperature of the water when you turn it on, as water from hoses left out in the sun can be dangerously hot.



This message was issued by the State Emergency Service.

Source: SASES warnings issued in February 2023

Media and Communications

In the days leading up to the heatwave, social media posts and pro-active media opportunities aimed to increase awareness of the availability of information and of the importance of looking after self and others during periods of extreme heat.

During heatwave event SA Health Corporate Communications staff will liaise with SASES and SAAS communications teams to ensure consistency of message and information across government agencies.

SA Health will promulgate the Control Agency messaging and alerts through the SA Health social media pages.

SA Health may be called upon to provide heat health information in a Press Release or attend a press conference together with SASES.

Other Public Awareness

The South Australian Government’s across-government messaging service may also release an all-government email to provide information to all SA Government employees regarding key messages and warnings throughout the hot season.

OFFICIAL

Notification

for South Australian public sector employees

Extreme heatwave warning for South Australia

The SA State Emergency Service (SASES) has issued an extreme heatwave emergency warning for parts of South Australia.

You should pay attention to the warnings for where you live, work and travel. For information about areas most affected, visit www.ses.sa.gov.au

Be vigilant and take extra care of yourself and others during the expected extreme conditions.

Help yourself

- Drink plenty of water, wear loose and light clothing, and use your air conditioning and fans.
- Plan ahead and avoid any non-essential activities during the hottest part of the day (including travel), whether for work or for personal reasons.
- Contact your GP or visit www.healthdirect.gov.au if you are feeling unwell. For immediate medical attention, phone 000.

Help others

- Check on family, neighbours and others at risk from the heat (pregnant women, babies and young children, frail persons, anyone with health issues).
- Ensure your agency and colleagues implement appropriate work safe practices to protect from the heat.
- Keep an eye out for any heat-affected and at-risk members of the community to offer them a seat, shade, a cool drink, or help to obtain medical attention if needed.
- Welcome members of the public into government building foyers and offer them access to relevant facilities, where practical.
- Register at-risk people for the Red Cross Telecross REDI service (who check on them during heatwaves) by phoning 1800 188 071.
- Keep an eye out for animals affected by heat. If you are concerned, contact your vet or call the RSPCA on 1300 477 722.

For more information about what to do before, during and after a heatwave, please visit the [SASES website](#).

For more weather information, please visit the [Bureau of Meteorology \(BOM\)](#).

Other organisations, such as local government and non-government organisations can monitor heatwave warnings and social media messaging through visiting the [SASES website](#).

SA Ambulance Service

SAAS have a [Heatwave Event Procedure](#) that outlines heatwave identification and notification arrangements in South Australia, assists SAAS planning to meet predictable increased demand for ambulance services, and safeguards the health of SAAS staff by making them aware of forecast / current heat conditions and required actions.

SAAS response to heatwave events is based on planning, being well prepared and monitoring activities based around potential impacts upon the community, increased demand for ambulance services, staff safety and potential infrastructure impacts.

SAAS provides as much information as possible supported by checklists of required actions BEFORE Heatwave and DURING Heatwave. These include Command, Incident Management Team (IMT) and Business Continuity actions during Heatwave WARNINGS.

The Heatwave Event procedure ensures SAAS are prepared and can:

- > Support community messages and strategies
- > Maximise the use and effectiveness of staff, vehicles, and equipment
- > Support enhanced crew welfare and support; and
- > Reduce non-essential patient transport.

The SAAS level of response during heatwaves will be determined by advice from the Bureau of Meteorology and SASES, and demand for ambulance services at the time.

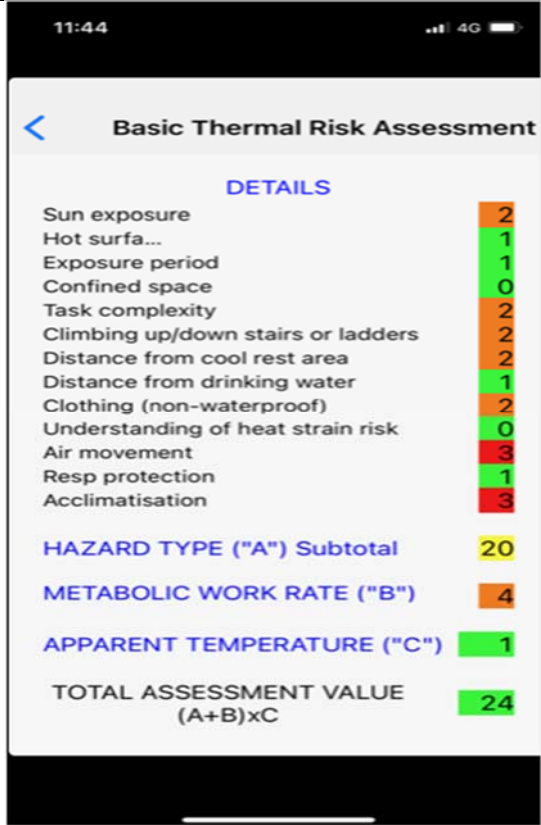

SAAS is also committed to providing and maintaining a safe and healthy work environment by actively mitigating risks associated with working in conditions where heat is a contributing factor.

A SAAS **Working in Heat Conditions Procedure** is currently being implemented to provide systems, processes, and tools to reduce the risk to staff health to as low as is reasonably practicable. This includes a self-assessment process using the **Thermal Self-Assessment Tools (TSAT)** to enable staff to assess their level of heat related risk at any point in time.

The TSAT is an app designed to identify relevant signs and symptoms of heat-related illness taking into consideration Hazard Type, Metabolic Work Rate and Apparent Temperature.

The TSAT can be used any time individuals are concerned about their pre-shift or ongoing fitness for duty as a result of heat related factors, to determine the most appropriate risk treatments, at individual and operational levels.

Example of the App

TSAT Example	
LOW Level Risk results using TSAT	LOW Risk Category
	

SA Health Local Health Networks (LHNs)

LHNs need to ensure that they have satisfactory plans, processes and arrangements in place that consider responsibility and risks during extreme heat or heatwave events to safeguard continued quality service delivery.

LHN plans need to consider (but are not limited to) the following:

- > Developing plans, processes and responses that ensure:
 - the wellbeing of their patients, especially their most vulnerable clients
 - potential surge in workload, including workforce capacity and wellbeing
 - potential and/or actual loss of essential services or infrastructure (due to increase temperature or potential power outages)
- > Alerting and notification to key personnel of Heatwave Watch and Act and/or Emergency Warnings
- > Pre-determined key actions for both a Heatwave Watch and Act as well as an Emergency Warning event
- > Manage requests for relevant capacity and capability from State Command in a timely manner
- > Potential and/or actual reduction in service delivery (clinical and/or non-clinical) to ensure that a degree of capability and capacity is maintained both within a site and also across their Network.

LHNs are to advise State Commander Health (via established disaster escalation protocols) of any significant, noteworthy heat related events or occurrences that cause either: an acute surge in workload (ie. mass gatherings / sporting events influx to an Emergency Department, etc) or where an unplanned loss of service delivery occurs (loss of essential services / accommodation / air-conditioning or infrastructure). This information will be useful as part of situational awareness and inform capacity and capability reporting to the SES, as the Control Agency for Heat under state arrangements.

For further guidance see Appendix 4 – Guidance for Local Health Networks

Rural and Remote Aboriginal Community Controlled Health Services (ACCHOs)

Aboriginal Community Controlled Health Services (ACCHOs) are responsible for the operational processes and clinical care in their clinics, including during times of extreme heat and heatwaves. They are supported by the Aboriginal Health Council of South Australia Limited (AHCSA) as the peak body representing Aboriginal community-controlled health and substance misuse services in South Australia at state and national levels.

Further information includes:

- > Aboriginal Health Council of SA (AHCSA) - <https://ahcsa.org.au/>
- > **Nganampa Health Council** - <https://www.nganampahealth.com.au/>
- > See also Appendix 5 – Guidance for Community Care Services

Cultural considerations

During times of extreme heat and heatwaves, it is recognised that developing effective and culturally sensitive messaging or accessing culturally appropriate services is key to ensuring that all people in South Australia are prepared to respond to the public health threats related to heat.

For example, when public health messaging urges the community to drink more and use fans/air conditioners to remain cool, it is important to acknowledge that in some regional areas, including the unincorporated areas of South Australia managed by the Outback Communities Authority, water, and energy security, as well as suitable social housing that supports keeping cool will need to be reviewed and improved.

In addition, effective communication of public health information to culturally, ethnically, and linguistically diverse (CALD) communities requires providing it in a language they understand; at a level they comprehend, and from a source they trust. Hence SA Health [Heat Factsheets and Translated Factsheets](#) are provided in a number of languages. In addition, SA Health provides the following state-wide health service specifically for newly arrived refugees and asylum seekers.

- > **Refugee Health Service (RHS)** - <https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/services/health+services+for/refugee+health+service>

Department for Human Services, including Disability

The Department for Human Services (DHS) has a broad mandate to work with those who, through circumstance, may have limited resources, be isolated, vulnerable, or at risk of harm and to connect them to choices and opportunities. DHS has an Extreme Heat Plan, the purpose of which is to reduce the risk of harmful effects of extreme heat on vulnerable DHS clients.

DHS provides its vulnerable clients with SA Health information on managing health in extreme heat as well as partnering with the Australian Red Cross to provide the Telecross REDi (SA) service, that supports at-risk and isolated people by calling them daily during declared heatwaves. People in the community who are at risk during extreme heat events and require phone support during these periods are encouraged to register for the service by calling 1800 188 071 or emailing telecrossredi@redcross.org.au.

DHS ensures Disability Services staff are provided with up-to-date advice on State Emergency Services (SES) alerts and sun and heat safe practices when providing care and support to South Australians with disabilities. Communication with frontline staff focuses on prevention of heat-related illness through staying informed, keeping hydrated, and avoiding non-essential activities during the hottest part of the day.

SA Housing Authority

The SA Housing Authority activates a Code Red in response to extreme weather (Heatwave) to reduce the harmful effects on people rough sleeping by:

- > connecting them with support services
- > providing additional services including extended operating hours for services, increased shelter options, additional food services, sunscreen etc.

SA Housing Authority coordinates Code Red extreme weather responses across South Australia in partnership with other service providers. When a Code Red or Code Blue response is activated, homelessness services will visit known rough sleeper locations to make people aware of the supports available to them.

Aged Care

Aged Care service providers play an integral role in taking steps to prepare their sites, staff, and care recipients for heatwave conditions. Care recipients, including those receiving care in their own home or in a residential care home are potentially vulnerable to heat-related illness and service providers should have procedures in place to minimise any avoidable adverse health effects and manage any possible disruption to essential services, such as power and water.

For further guidance – Appendix 7 – Guidance for Aged Care Services

Consideration for people using mental health services

Information in this section is in accordance with established Mental Health Clinical Program policy, including the CALHN Extreme Heat Management for Mental Health Consumers Procedure.

Vulnerability to heat stress and heat exhaustion in extreme heat conditions is more likely when there is a diagnosis of mental illness. As such a lower activation threshold is attributed to people registered to mental health services. Vulnerability may be exacerbated by:

- > Medication prescribed for mental and physical illness,
- > Other co-morbidities, and
- > Living/environmental conditions.

The principles outlined support people accessing SA Health Mental Health Services receive a heat vulnerability assessment and information on how to manage in extreme heat. In addition, if a person is assessed as vulnerable, they will receive increased monitoring during an extreme heat event to reduce the risk of harmful effects of extreme heat. Activation of monitoring, for mental health services will begin on day three of a low intensity heatwave, lasting five days or more, and on day one of a severe or extreme heatwave lasting three days or more.

Each LHN is responsible for ensuring that arrangements to support people accessing mental health services are developed and that they are in alignment with and supportive of this document.

Mental Health teams within all LHNs have a sound understanding of people experiencing mental health distress and a key part of the initial assessment and ongoing clinical relationship is to ensure that the person and any relevant risk factors are known and understood by the respective clinical teams.

It is agreed and acknowledged that the following principles accurately reflect the key operational strategies for mental health teams during extreme heat events:

- > Mental Health executive staff in LHNs will receive notification via the Heatwave distribution list (DL) notification process
- > Heatwave Watch and Act Warning - event actions are determined by the LHN extreme heat plan including the determination to stand down an activation, if required.
- > Heatwave Emergency Warning - event actions are determined by the LHN extreme heat plan and State Command will advise when a reduced threat has been issued by SASSES.
- > The welfare of people accessing mental health services is of priority and the LHN mental health clinicians / teams will ensure that ongoing, dynamic assessments are undertaken in relation to people and their welfare during extreme heat events.

To support the above, people registered to mental health services will have a heat vulnerability assessment conducted by Mental Health Services staff using the Heat Vulnerability Assessment Tool (HVAT) on CBIS/CCCME. If assessed as vulnerable, then a heat vulnerability alert must be registered on CBIS/CCCME. All people registered to mental health services will also be provided with a written information package on managing health during extreme heat events.

It is the mental health services responsibility to ensure identified vulnerable people are contacted during an extreme heat activation. If a person accessing mental health services is assessed as vulnerable and requires contact, mental health staff will register the person within local structures to ensure that they are contacted.

A Mental Health Service Clinician Heatwave Checklist is included for information purposes see [Appendix 6](#).

Recovery

SA Health recovery strategies

LHNs are to ensure that recovery strategies are considered and documented in their respective Extreme Heat Plans.

Considerations may include (but are not limited to):

- > ensuring that infrastructure is inspected, maintained, and repaired post extreme heat event use
- > restoring reduced / altered service delivery strategies
- > welfare assessments to relevant clients and staff to ensure post event recovery.

Recovery - Disaster Management Branch

- > Advise of a reduced threat any of Heatwave Watch and Act and/or Emergency Warning period
- > Maintain a heightened situational awareness of event recovery impacts and consequences across SA Health, in conjunction with internal and external stakeholders
- > Coordinate an SA Health debrief of the incident including all relevant SA Health stakeholders once the extreme heat event has concluded to discuss how they dealt with it, what went well, and what could be improved.

Security, Emergency and Recovery Management Team (DPC)

The Security, Emergency and Recovery Management Team is a unit within the Department for Premier and Cabinet that works across government and non-government sectors increasing the State's disaster recovery capacity.

As the Control Agency for extreme weather response, SASES has responsibility for ensuring that there is a seamless transition from response to recovery and for liaising with the State Coordinator and State Recovery Coordinator to facilitate this transition.

SA Health will participate in any State Recovery meetings, as required.

Appendix 1 Workgroup members and References

SAH Extreme Heat Strategy Workgroup Members

Member	Health area
Vicki Sellick, Climate Adaptation, Intel & Prevention Manager (Chair)	Disaster Management Branch, Public Health Division, DHW
Lisa Wilton, Advanced Nurse Consultant, Mental Health GP Shared Care	Office of the Chief Psychiatrist, DHW
Janette Stephens, Operations Manager, Emergency Mgt Planning	SA Ambulance Service
Darren Daff, (job title tba)	State Health Control Centre / SA Virtual Care Service
Christina Retsas, Operations Planning Officer, Emergency Management and Hazard Planning (member until July 2023) Molly Gifford, State Planning Officer	SA State Emergency Service (SES)
David Simon, Director Scientific Services	Health Protection and Regulation, Public Health Division, DHW
Bek Huppatz, Manager, Marketing Communications	Corporate Communications, DHW
Kerri Reilly, Manager	Aboriginal Health Division, System Strategy and Governance, DHW
Blesson Varghese, Senior Project Officer, Injury Surveillance & Prevention, Epidemiology Branch (member until July 2023) Gill Weston, Principal Project Officer	Prevention and Population Health Directorate, Wellbeing SA
Louise Wadsworth, Acting Advanced Nurse Manager Strategic Projects	Rural Support Services, SA Health (located in Barossa Hill Fleurieu LHN)
Greg Kemp, Disaster Resilience and Corporate Risk Coordinator	Riverland Mallee Coorong Local Health Network (RMCLHN)
Monique Anninos, Nursing Director Access and Flow	Women's and Children's Health Network (WCHN)
Kathy Williams, Manager Ageing Policy and Projects	Office for Ageing Well
Kimberly Humphrey, Public Health Medical Consultant (from late August 2023)	Public Health Division, DHW

References

Beggs PJ, Zhang Y, McGushin A, et al. The 2022 report of the MJA-Lancet Countdown on health and climate change: Australia unprepared and paying the price. *Med J Aust.* 2022 Nov 7;217(9):439-458. doi: 10.5694/mja2.51742

Coates L, Haynes K, O'Brien J, McAneney J, De Oliveira FD. Exploring 167 years of vulnerability: An examination of extreme heat events in Australia 1844–2010. *Environmental Science & Policy.* 2014 Oct 1;42:33-44.

Franklin, R.C., Mason, H.M., King, J.C. et al. Heatwaves and mortality in Queensland 2010–2019: implications for a homogenous state-wide approach. *Int J Biometeorol* 67, 503–515 (2023). <https://doi.org/10.1007/s00484-023-02430-6>

HEAL Network & CRE-STRIDE 2021, Climate Change and Aboriginal and Torres Strait Islander Health, Discussion Paper, Lowitja Institute, Melbourne, <https://doi.org/10.48455/bthg-aj15>

Standen, J.C.; Spencer, J.; Lee, G.W.; Van Buskirk, J.; Matthews, V.; Hanigan, I.; Boylan, S.; Jegasothy, E.; Breth-Petersen, M.; Morgan, G.G. Aboriginal Population and Climate Change in Australia: Implications for Health and Adaptation Planning. *Int. J. Environ. Res. Public Health* 2022, 19, 7502. <https://doi.org/10.3390/ijerph19127502>

Williams, S., Venugopal, K., Nitschke, M. et al. Regional morbidity and mortality during heatwaves in South Australia. *Int J Biometeorol* 62, 1911–1926 (2018). <https://doi.org/10.1007/s00484-018-1593-4>

For more information

Disaster Management Branch
Public Health Division
11 Hindmarsh Square, Adelaide
Karna Country
Health.DisasterManagementBranch@sa.gov.au
www.sahealth.sa.gov.au



<https://creativecommons.org/licenses>