MARIBYRNONG EXTREME HEAT SUB-PLAN

A Sub-Plan of the Maribyrnong Municipal Emergency Management Plan

Endorsed by the Municipal Emergency Management Planning Committee on 16 November 2020

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1. Introduction

The Extreme Heat Sub-plan (the Sub-plan), a subordinate plan of the Maribyrnong Municipal Emergency Management Plan (MEMP), sets out the municipality's strategic approach and arrangements to reduce the impacts and consequences of extreme heat as an emergency on social, built, economic and natural environments of the community.

1.1. Purpose

The Sub-plan details the municipal arrangements for the coordinated preparation for, mitigation of, response to and recovery from extreme heat events impacting the community, infrastructure, environment and services.

The Sub-plan utilises the term *extreme heat events* which refers to all heat events, regardless of their duration and includes the term heatwave as defined by the Bureau of Meteorology (BoM), as a period of three or more days of abnormal and uncomfortable hot weather for a given location(s).

1.2. Objectives

The objective of the Sub-plan is to clearly identify and define:

- potential risks and consequences of extreme heat events to the social, built, economic, and natural environments
- plans, policies and programs in place to mitigate these risks before, during and after an emergency
- roles and responsibilities for managing specific strategies and actions
- shared responsibility of all individuals to take action to reduce the impact of extreme heat events on themselves, their families, vulnerable members of the community and others including pets

1.3. Scope

The Sub-plan is not intended to provide detail in relation to individual agency operational plans in response to an extreme heat event. It does however provide the necessary arrangement to ensure operational activities within the municipality are undertaken in collaborative approach where applicable.

Further information and State arrangements can be found in the State Emergency Management Plan (SEMP) and it's relevant Sub-plans to extreme heat including:

- <u>State Extreme Heat Sub-plan</u>
- <u>State Public Transport Disruption Sub-plan</u>
- <u>State Health Emergencies Sub-Plan</u>
- <u>State Energy Sub-Plan</u>

1.4. Authorising Environment

The *Emergency Management Acts 1986 and 2013* is the empowering legislation for the management of emergencies in Victoria.

The State Emergency Management Plan details arrangements for emergency management in Victoria, and provides details about the roles and responsibilities different organisations undertake. Extreme Heat is a class 2 emergency with the Emergency Management Commissioner as the Controller.

As a subordinate plan of the MEMP, the Sub-plan is endorsed by the Maribyrnong Municipal Emergency Management Planning Committee (MEMPC).

In addition to the above mentioned Emergency Management Acts, the following State Acts also relate to the management of extreme heat:

- *Public Health and Wellbeing Act 2008* which strengthens local government's role through the municipal public health planning process
- *Planning and Environment Act 1987* which fosters better planning of the built environment to withstand the impact of a range of likely emergencies, including extreme heat events
- *Prevention of Cruelty to Animals Act 1986* which outlines the responsibility of animal owners to protect the health of their animal from unreasonable pain or suffering.
- Victorian Charter of Human Rights and Responsibilities Act 2006 This Act sets out the basic rights, freedoms and responsibilities of all people in Victoria.

1.5. Activation of the Sub-plan

The arrangements in the Sub-plan apply on a continuing basis and do not require activation. Activation of organisational plans is the responsibility of individual agencies and businesses.

1.6. Audience

The primary audience for the Sub-plan includes Maribyrnong City Council, relevant State Government stakeholders, agencies and services who are identified in the plan as having a significant role in the management of extreme heat events along with local businesses, communities and individuals of the City of Maribyrnong.

1.7. Linkages

The Sub-plan reflects legislation, the arrangements and State Emergency Management Priorities detailed in the SEMP and supporting plans as identified above.

The arrangements in the SEMP and supporting Sub-plans have not been repeated unless necessary to ensure context and readability. Subordinate to this Sub-plan are agency and business operational plans and arrangements that complement the management of extreme heat events.

The following Council Plans and Strategies (available on the Maribyrnong Council website), which have support from the municipal community and stakeholders, have linkages with the Sub-plan, particularly for the mitigation of extreme heat:

- Council Plan 2021-2025 which integrates the Municipal Public Health and Wellbeing Plan
- <u>Climate Emergency Strategy 2020-2025</u>
- Urban Forest Strategy 2018
- Maribyrnong 2040: Community Plan
- Maribyrnong Housing Strategy 2018

1.8. Exercising and evaluation

The Sub-plan will be exercised within one year from the date of endorsement. As part of a continuous improvement process, the exercise will be evaluated and, where improvements to the arrangements in this Sub-plan are required, it will be amended, and a revised version issued. Exercise development and management along with continuous improvement action will be undertaken by the Extreme Heat working group, a working group of the MEMPC.

1.9. Review

The Sub-plan was current at the time of publication and remains in effect until modified, superseded or withdrawn. The Sub-plan will be reviewed and updated every 3 years by the Extreme Heat working group. Consideration will be given to an earlier revision if the Sub-plan has been applied in a major emergency or exercise or following a substantial change to the relevant legislation or arrangements.

2. Extreme Heat Events

Extreme heat events can cause significant impact to human health, animal health, the natural and urban environments, businesses and services and infrastructure.

The MEMPC, through the Community Emergency Risk Assessment (CERA) determined Extreme heat to be a Medium risk to the municipality (See MEMP for details of the CERA).

The term extreme heat or extreme heat event is used to describe a:

- sustained period of high temperatures (heatwave) or;
- single day of higher than average temperature for that time of the year (a temperature that occurs infrequently or highest on record) as classified by the BoM or;
- minimum mean temperature that is likely to impact on the health of a community as defined by DHHS

With temperatures rising globally, across Melbourne 'extreme temperatures are projected to increase at a similar rate to mean temperature, with a substantial increase in the temperature reached on hot days, the frequency of hot days, and the duration of warm spells' (Climate change Australia, 2018)

A single day of extreme heat can impact on the community, across all four environments:

- Social
- Built
- Economic
- Natural,

The impact will increase with multiple days of extreme heat. Additionally it is likely the effects will be seen for a number of days after an extreme heat event, including health impacts.

In the past ten years, Victoria has experienced two significant extreme heat events in January 2009 and January 2014. These events had significant impacts on human health, resulting in 374 excess deaths in 2009 and 167 excess deaths in 2014.

Following the 2009 heatwave, Victoria, at all levels of government, implemented a number of strategies and plans to mitigate the health impacts on its community including a warning system (State Extreme Heat Plan, 2017)

In Victoria, extreme heat generally occurs during the months of December to March and is not isolated to a single municipality or region. Extreme Heat events often occur at the same time as other emergencies, most likely before or at the same time as severe storm or bushfire/grass fire conditions.

3. Consequences

Extreme heat events can impact on the social, built, economic and natural environments and each should be considered in the planning, mitigation, response and recovery phases.

3.1. Social

Extreme heat can affect anybody although certain circumstances such as age, health status and behaviour can make some people more susceptible. A list of types of people who are generally more susceptible to extreme heat can be found in Appendix B.

When the surrounding temperature is higher than skin temperature the only effective heat-loss mechanism is sweating. Therefore, any factor that reduces the effectiveness of sweating can cause the body to overheat. The following outlines the three types of heat-related illnesses:

Heat cramps: Usually muscle pains or spasms, commonly occurring in the abdomen, arms or legs and may be a symptom of heat exhaustion. Heat cramps may occur after strenuous activity in a hot environment, when the body gets depleted of salt and water.

Heat exhaustion: A serious condition that can develop into heat stroke. Someone experiencing heat exhaustion may appear pale and sweating. They may have a rapid heart rate, muscle cramps, weakness, dizziness, headache, nausea, vomiting or fainting.

Heat stroke: A life-threatening emergency, this occurs when the body temperature rises above 40.5°C. The symptoms may be the same as for heat exhaustion, but the skin may be dry with no sweating, and the person's mental condition worsens. They may stagger, appear confused, have a fit or collapse and become unconscious.

Extreme heat can also aggravate existing medical conditions such as heart disease, and medications may also affect how a person's body reacts to the heat.

Due to the extreme temperature, many social and other activities and services may be reduced, resulting in reduced social connection, increased self-reliance and may place a strain on individuals, particularly those already experiencing vulnerability.

During extreme heat events, people may experience and exhibit negative behaviours, thinking and concentration are impaired and often road rage is amplified, this in turn impacts on law enforcement and other critical services.

3.2. Built

Extreme heat events place pressure on the provision of essential infrastructure such as public transport and electricity. This may result from either heat impacts on the infrastructure or increased demand, particularly for electricity with the increase in the use of cooling systems.

The urban design (including the natural environment) influences local temperatures, particularly in a metropolitan area. The Urban Heat Island Effect (UHIE) refers to the way built up areas trap heat. It results from increased activity in an area and urban design including the dense, dark and solid surfaces in urban environments which absorb heat. Urban environments tend to be hotter during the day and due to the absorbed heat, remain hotter at night as surfaces release absorbed heat and takes longer to cool.

The UHIE is driven by a number of key factors:

• A high percentage of solid surfaces e.g. asphalt and concrete – these surfaces absorb, trap and re-radiate heat. They also prevent rainwater soaking in, reducing water available for plants, which in turn reduces evaporative cooling

- Limited vegetation reduces shading and cooling through evaporation from plants through leaves
- Urban development pressure creates denser urban environments that trap heat and removal of green areas which reduces cooling
- **Construction materials which hold heat and have low reflectivity** e.g. terracotta tiles, bricks, bitumen and concrete these materials absorb, trap and re-radiate heat
- Dense urban arrangements absorbs and traps heat
- Heat production from the activities of people produced by vehicles, split system air conditioners etc
- Air pollution creates a local 'greenhouse' effect trapping heat.

3.3. Economic

The economic impact may be a result of a number of factors affecting businesses including:

- Inability to provide services or impaired productivity due to impact on infrastructure, product temperature thresholds or loss of utility
- Reduced staff capacity due to illness or inability to perform functions due to increased risks
- Loss of products due to loss of utility, product temperature thresholds or infrastructure
- Increased costs to maintain productivity or replace losses

As heatwave events increase in severity, the economic impacts grow for those sectors reliant on the health and productivity of outdoor workers. The construction sector is highly vulnerable to heatwave. Figure 1 shows the direct economic impact of each heatwave event type on Victoria's key sectors (DELWP 2019).



Figure 1 (Source- The economic impact of heatwaves on Victoria DELWP 2019)

There are likely to be economic impacts on households due to increased power bills for cooling, disposal of spoilt foods due to power outages, loss of income if employment is reduced due to heat or consequences of heat.

3.4. Natural Environment

Extreme heat can severely impact animals, this includes pets and wildlife; Appendix D includes actions to support animals during extreme heat. Extreme heat can have significant effect on vegetation and prolonged periods of heat can dry out vegetation and greatly increase the potential for grassfires.

4. Community Resilience

The below information has been included as it supports community resilience and the planning, preparation, mitigation, response and recovery arrangements and activities for extreme heat events. Additional municipal profile information can be found in the Maribyrnong MEMP.

4.1. Area

Located in Melbourne's western suburbs approximately seven kilometres from Melbourne's central business district, Maribyrnong is a 32 square kilometre thriving hub of arts, culture, cuisine, retail, education and innovation. It is made up of 9 Suburbs including Braybrook, Footscray, Kingsville, Maidstone, Maribyrnong, Seddon, Tottenham, West Footscray and Yarraville. It bounds the City of Moonee Valley to the north, Melbourne to the east, Brimbank to the west and Hobsons Bay to the south.



Figure2 City of Maribyrnong

4.2. Residents

The City of Maribyrnong estimated resident population for 2018 was 93,448 (.idcommunity, 2020). From 2011 to 2016, the City of Maribyrnong population increased by 10,660 people (14.9%). This represents an average annual population change of 2.81% per year over the period. The city's population is forecast to increase by 63% by 2041, to over 157,794 people.

The largest changes in the age structure in this area between 2011 and 2016 were in the age groups:

- Young workforce (25 to 34) (+3,580 people)
- Parents and homebuilders (35 to 49) (+2,167 people)
- Empty nesters and retirees (60 to 69) (+1,243 people)
- Tertiary education and independence (18 to 24) (+1,150 people) (.idcommunity, 2019)

The below table provides 2016 census data on age by service groups

Service age group (years)	Number	%
Babies and pre-schoolers (0 to 4)	5,675	6.9
Primary schoolers (5 to 11)	5,656	6.9
Secondary schoolers (12 to 17)	3,825	4.6
Tertiary education and independence (18 to 24)	8,931	10.9
Young workforce (25 to 34)	19,006	23.1
Parents and homebuilders (35 to 49)	19,444	23.6
Older workers and pre-retirees (50 to 59)	8,586	10.4
Empty nesters and retirees (60 to 69)	5,585	6.8
Seniors (70 to 84)	4,207	5.1
Elderly aged (85 and over)	1,379	1.7
Total	82,294	100.0

 Table 1 -2016 Residential population by service age groups (.idcommunity, 2019)

In 2016, 40 per cent of the City of Maribyrnong population was born overseas and 42 per cent speak a language other than English at home. This also included approximately 7,500 people who spoke another language, but did not speak English well or at all. Between 2011 and 2016, the city welcomed 9,146 permanent new arrivals. All contribute to and enhance the city's vibrant community, whose diversity is reflected in the fact that more than 135 countries are represented and more than 80 languages are spoken. The longstanding influence of migrants from Vietnam, China, Greece and Italy is still apparent, but other cultural groups speaking Hindi, Urdu and Arabic are emerging (.idcommunity, 2019).

In 2016, 3,847 people or 4.7% of the population in City of Maribyrnong identified as needing help in their day to day lives due to a disability. This includes people needing help or assistance in one or more of the three core activity areas

- Self-care;
- Mobility; and/or
- Communication.

People needing assistance covers a range of disabilities, including physical disability, long-term health conditions (lasting six months or more) and/or old age (.idcommunity, 2019).

Home care packages program data report 1 January – 31 March 2020 (Dept Health 2020) shows that in the Western Metro area, there are 2,148 older people waiting for a home care package (HCP): Level 1(31), level 2 (931), levels 3 (793) and level 4 (393). These people waiting for higher level packages are likely to be vulnerable during an extreme heat episode.

4.2.1. Disadvantage

City of Maribyrnong SEIFA Index of Disadvantage measures the relative level of socio-economic disadvantage based on a range of Census characteristics (.idcommunity, 2019). The index is derived from attributes that reflect disadvantage such as low income, low educational attainment, high unemployment, and jobs in relatively unskilled occupations.

A higher score on the index means a lower level of disadvantage. A lower score on the index means a higher level of disadvantage. In 2016, Yarraville had the lowest level of Disadvantage in City of Maribyrnong, with a SEIFA index score of 1,068.9. The below diagram provides an overview of the SEIFA index score across the municipality (.idcommunity, 2019).

The Victoria's Homelessness and rough sleeping action plan 2018 identifies that 'rough sleepers can experience a range of harms – such as violence, extreme weather conditions and poor diet – with lasting impacts on their health and wellbeing that can worsen over time'.



Figure 3- Index of relative socio-economic disadvantage Source (.idcommunity, 2019)

4.3. Heat Vulnerability index

The Heat Vulnerability Index (HVI)¹ identifies which populations are most vulnerable to heat. It consists of three indicators: heat exposure, sensitivity to heat (due to land cover, population density, and age), and adaptive capability (e.g. socioeconomic advantage or disadvantage). Vulnerability ratings are determined by the sum of the aggregated indicators and are scaled from 1 to 5 (1 = low vulnerability, 5 = high vulnerability). The Heat Vulnerability assessments are at the SA1 (Statistical Area 1) level, making use of 2016 Census data along with the 2018 vegetation cover and land surface temperature data (DELWP 2019).



Figure 4- Heat Vulnerability Index across greater Melbourne Local Government Area

¹ DELWP in partnership with RMIT University, CSIRO, and the Clean Air and Urban Landscapes (CAUL) Hub of the National Environmental Science Program have developed the HVI through analysis of vegetation, land use, and urban heat across Melbourne.



Figure 5 –Heat Vulnerability Index across SA1 districts of the City of Maribyrnong

4.4. Urban design

Urban design, including natural, such as vegetation and waterways, and manmade features, such as buildings and roads, can greatly influence the urban heat temperature across the City of Maribyrnong.

4.4.1. Vegetation

Vegetation Cover mapping details the vegetation structure across the municipality using CSIRO's Urban MonitorTM approach. Vegetation cover data as shown in figure 6, is grouped into five height classes: grass (0-0.5m); shrub (0.5-3m); small tree (3-10m); medium tree (10-15m); large tree (15m+) (DELWP 2019).



Figure 6- Vegetation Cover within the City of Maribyrnong in 2018

4.4.2. Urban Heat

Urban Heat data is a statistical analysis of the relationship between urban vegetation cover and urban heat island effect (UHI), based on 2018 vegetation cover and land surface temperature data. The UHI is a measure of the deviation of urban temperatures above or below a non-urban baseline temperature. Both the vegetation and UHI data were attributed to ABS 2016 Census data at the Mesh Bock (MB) level which is the smallest geographical unit defined by the ABS.



Figure 7- Urban Heat Island deviation temperatures across the City of Maribyrnong 2018

4.5. Information and warnings (communication and education)

To support individuals, communities and businesses to be more resilient and prepare for extreme heat, there are a number of services provided at State level that inform the public of an imminent heat event.

4.5.1. Temperature Forecast

The Bureau of Meteorology (BoM) provides seven-day forecasts that include the forecast maximum and minimum temperatures across the state. The BoM has a heatwave service that produces a 'Heatwave Forecast' product between November and the end of March that provides an assessment of the location of low intensity heatwaves, severe intensity heatwaves, and extreme intensity heatwaves for the last two three-day period and the next five three-day period. Through a set of maps the BoM colour-codes areas where heatwave conditions are forecast to occur and indicate the intensity of the heatwave as to whether it is expected to reach severe or extreme intensity status.

4.5.2. Heat Health Alert (HHA) system

The Department of Health and Human Services has identified heat health temperature thresholds for Victoria, indicating where heat-related illness and mortality increase substantially. These thresholds differ across the nine weather forecast districts in Victoria; in the City of Maribyrnong (Central District), the heat

health temperature threshold is 30°C. What this means for Maribyrnong residents and visitors is that if the daily minimum and maximum temperature forecasts for the city average above 30°C degrees, the Chief Health Officer will issue a heat health alert for the district (see Appendix F).

The Heat Health Alert System operates between November and the end of March and alerts may be issued several days prior to a heat event. Alerts are available on the Chief Health Officer's website: www.health.vic.gov.au/chiefhealthofficer/index.htm and can also be found on the VicEmergency.gov.au website.

Individuals, communities and businesses can subscribe to the HHA service (via the <u>Heat Health alert status</u> website) to directly receive alerts via email. State and Local Government and other organisations are expected to activate their heat plans in the event of a HHA in their district.

4.5.3. Warning Messages

The State will coordinate messaging to the community and the Emergency Management Commissioner may issue warnings through the State's warning platform VicEmergency.gov.au, about forecast extreme heat events. This enables everyone to arrange to protect themselves, their family, their neighbours, and the broader community as much as possible from the effects of extreme heat.

Communication may include channels such as media conferences, radio, and mainstream advertisements to ensure all those within Victoria are reached, along with use of social media to target specific groups and provide heat health messages.

4.5.4. Heat Health Campaign

A suite of communication resources have been developed by the Department of Health and Human Services to support Local Government, health services and other agencies to raise awareness about the impact of extreme heat on human health (https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat). This campaign material is disseminated to individuals, communities and organisations by Local Government, agencies and community to support the preparation and response to extreme heat events, particularly for vulnerable individuals.

5. Collaboration

5.1. Emergency Management Arrangements

The Emergency Management Commissioner (EMC) is the Controller for extreme heat events under the State Emergency Management Plan. As Extreme Heat events will generally occur across multiple municipal boarders and regional boarders and often coincide with other emergencies and consequences, State level control is required.

5.2. Roles and Responsibilities

Many of the State Government departments support municipal emergency management either from State or Regional level therefore the below information includes roles and responsibilities at these levels.

5.2.1. Department of Health and Human Services

DHHS performs a number of vital roles specifically regarding human health and heat, before, during and after extreme heat events.

DHHS, at State level, provides heat health information and resources to other government departments, departmental program areas, local government and service providers. A comprehensive communications strategy is also implemented to provide heat health information to health and community service providers, non-government organisations and community groups who will further distribute information to their clients and their carers.

DHHS is responsible for coordinating and delivering the Survive the Heat campaign. The purpose of the campaign is to minimise the health impact of extreme heat on the Victorian community and health services including ambulance services, primary health and hospitals, by encouraging the public to prepare for heat events and protect themselves and those in their care during a heat event.

The campaign includes 'Never leave kids in cars' in partnership with Kidsafe Victoria to highlight the dangers of leaving children unattended in cars. Children are more at risk from heat -related problems because their body temperature can rise 3 to 5 times faster than an adult's, and the temperature inside a parked car can be 20 to 30 degrees hotter than the temperature outside.

The Heat Health Plan for Victoria is implemented by DHHS to plan and prepare for, as well as respond to, health related impacts to extreme heat events across Victoria.

DHHS is responsible for the coordination of relief and recovery at the regional level and supports municipal planning through the MEMPC.

The Chief Health Officer, issues the Heat Health Alerts. During a heat health event, Ambulance Victoria is the Heat Health Commander and the DHHS is the Health Coordinator. The State Health Emergency Response Plan (SHERP) outlines the arrangements for coordinating the health and medical response to emergencies.

DHHS' high-rise apartment buildings are equipped with electrical generators to operate core functions and elevators to ensure that tenants will be able to safely exit premises in the event of a power outage. DHHS has also identified and prepared community rooms within a number of housing complexes that can be maintained as cool places available to tenants during extreme heat events.

The Victorian Public Health and Wellbeing Plan 2019-23 for the first time includes Climate Change as a key public health priority. The related Outcomes in the plan are:

- Outcome 5.1 Victorians belong to resilient and liveable communities
- Outcome 5.2 Victorians have access to built and natural environments

5.2.2. Health Services and Ambulance Victoria

At the State level Ambulance Victoria undertake the position of State Health Commander to coordinate the pre-hospital response to extreme heat events. As part of its internal emergency response plan, Ambulance Victoria enacts a whole of organisation response to scale up available operational resources to manage increased workload in the community, and manage staff welfare (State Extreme Heat Sub-plan, 2016). At the municipal level, Ambulance Victoria sit on the MEMPC and support the development of municipal planning.

5.2.3. Victoria Police

In an extreme heat event, Victoria Police undertake the Municipal Emergency Response Coordination role. As extreme heat events may impact infrastructure, such as electricity generation and distribution or transport failure, as well as human health impacts, Victoria Police will play a key role in ensuring appropriate coordination responses are conducted at the municipal level.

5.2.4. Public Transport

Extreme heat events may lead to unplanned disruption to the public transport network. Although individual operators are responsible for managing their networks, the SERP State Public Transport Disruption Sub-plan details the arrangements for the coordinated response to major public transport disruptions and is utilised in conjunction with the State Extreme Heat Sub-plan.

5.2.5. Utilities

Utilities such as electricity, water and gas may be impacted during extreme heat events, either due to increased demand or due to failures in systems due to temperature. The State Electricity and Gas Supply Sub-plan details the arrangements for a coordinated response.

5.2.6. Power Dependent Customers

Section 5.6 of the Electricity Distribution Code specifies the obligations of electricity distribution businesses with regard to customers with special needs (otherwise known as life support customers or power dependent customers). Where a customer or an electricity retailer provides an electricity distributor with confirmation from a registered medical practitioner or a hospital that a person residing at the customer's supply address requires Life Support Equipment the distributor must:

- Register the supply address as being a Life Support Equipment Supply address
- Give the customer advice to assist the customer in preparing a plan of action should an unplanned interruption to electricity supply occur
- Provide the customer with an emergency telephone contact number

Under Section 5.7 of the Electricity Distribution Code, and in the event of a widespread supply incident, a distributor must inform the Department of Health and Human Services (DHHS) of the street address of these customers where it is likely that electricity supply will be disrupted for a period greater than 20 hours. Once DHHS has received this reporting, it will decide on the appropriate actions to be undertaken to ensure these customers' wellbeing needs are being met. DHHS' responsibilities are defined in the Emergency Management Manual Victoria. (State Extreme Heat Sub-plan, 2016)

5.2.7. Department of Education and Training

State and Regional Level

As outlined in the State Extreme Heat Sub-plan, DET is responsible for distributing Heat Health warnings and information to children's services and schools advising predicated extreme heat events. This is also distributed to TAFE facilities and the Catholic Education Office and Independent Schools Victoria.

5.2.7.1. Schools

Schools are responsible for the health and wellbeing of staff and pupils and should make provisions for extreme heat. Education and information about extreme heat is provided to the school community and considerations for outdoor activities and events should be made.

Schools do not close on days of extreme heat (exception will be due to declared fire risk days which may be concurrent to extreme heat event). If there are extreme conditions, midday recess may be reduced to no less than thirty minutes, and dismissal time may be adjusted accordingly. These requirements enable individual schools to tailor arrangements to accommodate conditions. Students are only sent home when there is someone to look after them. Teachers must remain on duty until the normal time to supervise those students who remain at school.

5.2.7.2. Early Childhood Services

While there is no state-wide policy regarding the management of extreme heat for early childhood services, having regard to the vulnerability of young children, individual services are required to have policies and procedures in relation to Health and safety, including matters relating to:

- Nutrition, food and beverages, dietary requirements
- Sun protection, Water safety, including safety during any water-based activities
- Administration of first aid
- Providing a child safe environment

5.2.8. Residents and Visitors

Everyone in Maribyrnong has a role in preparing for and coping with heatwaves. Prior to periods of heat, residents and visitors are advised to prepare in the following ways:

- Know where to obtain information about approaching heat events and plan your response
- Know your risks and considerations for your health during extreme heat
- Reduce your likelihood of experiencing health and other impacts
- Support others who may be impacted during extreme heat
- Support animals and wildlife during extreme heat
- Plan for utility and infrastructure outages such as power failures and public transport disruptions

Appendix C provides 'survive the heat tips from DHHS for residents, visitors and others to utilise.

5.2.9. Local Government

Local Government have a key role in all phases of an emergency, with specific emphasis on urban planning and the environment, to implement mitigation actions to reduce the urban heat island effect, and to support public health and wellbeing and the building of resilient communities.

5.2.10. Businesses, Community Groups, Sporting Groups and Service Providers (includes Council as a business/service provider)

Supporting communities and individuals throughout the City of Maribyrnong is a shared responsibility. Businesses and service providers have a responsibility to ensure the health and wellbeing of their staff, customers and/or clients is managed. Businesses and service providers may meet their responsibilities through the development of internal policies and plans that include actions to take before, during and after an extreme heat event. Community groups and not for profit organisations can also support their clients, members and communities in various ways to prepare for, respond to and recover from extreme heat, particularly those who may be more vulnerable to the effects of extreme heat. Appendix E includes suggested actions for all the above groups.

5.2.11. Residential Aged Care Providers

Residential Aged Care Providers are responsible for protecting the health and safety of residents, staff and visitors, so it is important to have plans in place to manage emergency events including those associated with potential heatwave situations.

In particular, the *Commonwealth Aged Care Act 1997* requires providers to meet the Aged Care Accreditation Standards. Within these, providers are required to demonstrate that residents receive appropriate clinical care and live in a safe and comfortable environment. In addition, there is state-based occupational health and food safety legislation that has implications for residential aged care providers in their heatwave planning arrangements. (From Residential Aged Care Services heatwave ready resource Department of Health (now DHHS) 2013).

6. Capability

Capability includes the collaboration, plans and preparations, including mitigation to build capability to manage extreme heat events.

6.1. Municipal Emergency Management Planning

The Municipal Emergency Management Planning Committee is a multi-agency committee responsible for the development and endorsement of the MEMP and who support the development of individual hazard treatments and sub-plans such as this Sub-plan. Individually agencies have internal action plans to support their staff and clients.

Collectively the Extreme Heat working group made up of agencies from the MEMPC meet regularly to coordinate and collaborate on aspects of mitigation, communication and education and other actions to support the Maribyrnong Community.

7. Appendix A. Plans identified in the Sub-plan and external resources

Better Health Channel Survive the Heat <u>https://www.betterhealth.vic.gov.au/campaigns/Survive-the-heat</u>

DHHS Communication and Resources <u>https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat</u>

Heat Health plan for Victoria

https://www2.health.vic.gov.au/about/publications/policiesandguidelines/heat-health-plan-for-victoria

Preparing for emergencies: A reference guide for organisations in the Health and Community Services Sectors <u>https://providers.dhhs.vic.gov.au/emergency-management</u>

Residential aged care services heatwave ready resource <u>https://www2.health.vic.gov.au/ageing-and-aged-care/residential-aged-care/emergency-preparedness/heat-health</u>

State Emergency Management Plan <u>https://www.emv.vic.gov.au/responsibilities/semp</u>

State Extreme Heat Sub-plan and Public Transport Disruption Sub-Plan

https://www.emv.vic.gov.au/publications

State Health Emergency Response Plan https://www2.health.vic.gov.au/emergencies/shera

Victorian Emergency Animal Welfare Plan

http://agriculture.vic.gov.au/agriculture/emergencies/response/victorian-emergency-animal-welfareplan

8. Appendix B. Vulnerability and extreme heat

Extreme Heat can affect anybody. The following population groups may be more susceptible to heat-related illness:

- people aged over 65 years, especially those living alone
- people who have a medical condition such as heart disease, high blood pressure, diabetes, cancer or kidney disease
- people taking medications that may affect the way the body reacts to heat such as:
 - o allergy medicines (antihistamines)
 - some blood pressure and heart medicines (betablockers and vasoconstrictors)
 - o seizure medicines (anticonvulsants)
 - thyroid medications (thyroxine)
 - water pills (diuretics)
- people who have a mental illness, particularly those on medication (antidepressants or antipsychotics)
- people with problematic alcohol or other drug use such as amphetamines
- people with an illness or infection that causes dehydration or fever
- people with cognitive impairment who may not be able to identify or communicate their discomfort or need for water
- people who have trouble moving around (such as those who are bed bound or in wheelchairs)
- people who are overweight or obese
- pregnant women, breastfeeding mothers, babies and young children
- people who work in hot environments or are physically active outdoors (such as gardeners and labourers)
- people with health conditions that impair sweating including people with, skin disorders (including sunburn, prickly heat and extensive scarring from burns), congenital impairment of sweating, cystic fibrosis, quadriplegia and scleroderma
- people who are unable to acclimatise
- people who are homeless
- people who are dehydrated
- people of low socioeconomic status
- people who live alone or are socially isolated
- people with very low cardiovascular fitness
- visitors from other countries, especially from northern European countries
- non-English speaking people who may not be able to understand heat event messaging or have reduced access to, or understanding of, health or support services

(EMV State Extreme Heat Sub-plan 2017)

9. Appendix C. Survive the heat tips

Drink plenty of water

- Keep a full drink bottle with you.
- Take small sips of water frequently.
- If your doctor normally limits your fluids, check how much you should drink during hot weather.

Never leave anyone in a car

- Never leave kids, adults or pets in cars the temperature can double in minutes.
- Visit the Never Leave Kids in Cars page for more information on kids in hot cars (<u>https://www.betterhealth.vic.gov.au/campaigns/never-leave-kids-in-cars</u>)

Stay somewhere cool

- Spend as much time as possible in cool or air-conditioned buildings (shopping centres, libraries, cinemas or community centres).
- Keep yourself cool by using wet towels, putting your feet in cool water and taking cool (not cold) showers.
- Block out the sun at home during the day by closing curtains and blinds.
- Open the windows when there is a cool breeze.
- Stay out of the sun during the hottest part of the day.
- If you must go out, wear a hat and sunscreen and take a bottle of water with you.
- Dress yourself and those in your care lightly.
- Wear light-coloured, loose-fitting clothing made from natural fibres like cotton and linen.
- Eat smaller meals more often and cold meals such as salads.
- Make sure food that needs refrigeration is properly stored.
- Avoid intense activity like exercise, renovating and gardening.
- Watch or listen to news reports for more information.
- Don't forget your pets a cool bath, wet towel to lie on, a place next to a fan and plenty of fresh water work just as well for animals.

Plan ahead

- Keep up to date with weather forecasts watch the news daily, check the BOM forecast online and read the current heat health alert on health.vic.
- Cancel non-essential outings and plan essential activities for the coolest part of the day.
- Stock up on food, water and medicines so you don't have to go out in the heat.
- Visit your doctor to check if changes are needed to your medicines during extreme heat.
- Store medicines safely at the recommended temperature.
- Check that your fan or air-conditioner works well. Have your air-conditioner serviced if necessary.
- Prepare for power failures ensure you have a torch, battery-operated radio, fully charged mobile phone or battery back-up, food items that don't require refrigeration, medications, plenty of drinking water and other essential items.
- Look at the things you can do to make your home cooler such as installing window coverings, shade cloths or external blinds on the sides of the house facing the sun.

Check in on others

• Look after those most at risk in the heat – your neighbour living alone, older people, young children, people with a medical condition and don't forget your pets.

- Keep in touch with friends and family who may need help. Call or visit them at least once on any extreme heat day.
- Encourage them to drink plenty of water.
- Offer to help family, friends and neighbours who are aged over 65 or have an illness by doing shopping or other errands so they can avoid the heat.
- Take them somewhere cool for the day or have them stay the night if they are unable to stay cool in their home.
- If you observe symptoms of heat-related illness, seek medical help.

(Source Better Health Channel, Survive the heat <u>https://www.betterhealth.vic.gov.au/campaigns/Survive-the-heat</u>)

10. Appendix D. Reducing risk to pets and wildlife in extreme heat

10.1. Tips for owners of all types of pets

- Always provide plenty of cool, clean water. Fill two bowls with water in case one is knocked over. If outside, ensure your pets are in the shade.
- Ensure pets have access to cool, shady and well ventilated areas during all parts of the day.
- It is best to leave pets at home during heat-waves; they will be much more comfortable in a cool home than riding in a hot car.
- If pets must be taken along for the ride, don't leave them alone in a parked vehicle. Even with the windows open, a parked car can quickly become a furnace. Pets can get heat stroke, brain damage or die in as little as 4 to 6 minutes. Never, under any circumstances, leave pets unattended in a car even on a mild day when the car is in the shade and has the windows down.
- If you and your pet must travel, carry an extra thermos filled with fresh, cool water just for them. Put the air conditioning on and if possible, use a window shield (the type used for babies and small children) on the rear windows.
- Add ice blocks to your pet's water bowl throughout the day.
- Fill an empty container or drink bottle with water, freeze it, and place in your pet's bed. Alternatively, place wet towels in the freezer for a few hours, remove and place in your pet's bed.
- Where possible, leaving the air-conditioning or fans on in the house will help to keep pets cool.
- If you know it is going to be a hot day and you will be at work, close the blinds in one or two rooms to keep the sun out. This will help the rooms to stay cooler.
- Animals can get sunburned too. Protect hairless and light-coated dogs and white cats with sunscreen when your animal will be outside in the sun for an extended period of time. Put sunscreen or zinc on exposed areas of pink skin (ear tips and noses).
- Animals with long coats can be clipped to increase comfort in hot weather.
- Be aware of the signs of heat stroke in animals this can be potentially fatal. Signs include rapid panting, lethargy, drooling, weakness, muscle tremors, or collapse.
- Pets with signs of heat stroke should be put in a cool shady area, wetted down with cool (not icy) water and fanned. If the animal is conscious, offer cool (not cold) drinking water. Don't allow it to gulp large amounts. Contact the nearest vet immediately, but don't transport animals in a hot car.

(Source - Agriculture Victoria <u>https://agriculture.vic.gov.au/livestock-and-animals/animal-welfare-victoria/dogs/health/heat-and-pets</u>)

10.2. Wildlife

What will wildlife do?

Wildlife exposed to prolonged heat often display a range of symptoms and can appear lethargic, disoriented or unresponsive.

Tree-dwelling and nocturnal wildlife such as possums and koalas may be seen on the ground in search of water if suffering from heat stress, while birds will often pant and stretch their wings to cool down.

Grey-headed flying-foxes are particularly prone to heat stress. They typically flap their wings and move down lower in the trees to escape heat from direct sunlight

How can I help?

Members of the community can assist wildlife during days of extreme heat by placing bowls of water out around your garden to help keep them hydrated. Use the garden hose to spray mist into trees and shrubs to create cooler niches that they can use to escape the heat.

If you see wildlife resting in your garden, you should keep people and pets away and allow it to rest and recover. Noise should also be kept to a minimum.

You should not try to capture or handle wildlife. This may put them under additional stress or you could injure them. They may also bite or scratch you. Under no circumstances should you touch or handle a flying-fox as they can carry diseases that can be transmitted to humans.

Further information

For further information or to seek advice or assistance for wildlife suffering from heat stress, contact your local vet, a licensed wildlife shelter or rehabilitation organisation. Contact details for wildlife rehabilitation organisations can be found at <u>https://www.wildlife.vic.gov.au/sick-injured-or-orphaned-wildlife/sick-injured-or-orphaned-wildlife</u>.

(Source – Department of Environment, Land, Water and Planning. Wildlife Emergencies- Heat Stress in wildlife https://www.wildlife.vic.gov.au/wildlife-emergencies/heat-stress-in-wildlife2)

For further information visit the Department of Environment, Land, Water and Planning https://www.wildlife.vic.gov.au/)

11. Appendix E Actions that can be taken before, during and after extreme heat

The following tables have been taken from the DHHS Heat Health Plan for Victoria.

Outcome	Prior to summer	Within three days of forecast	During an extreme heat event	After an extreme heat
achieved		extreme heat		event
Empowering	Support heat health planning at the community	Issue heat health messages	Issue media releases or hold	Consider regional and
Victorian	level to protect all Victorians, particularly those	through digital platforms and	interviews or press conferences	state-level recovery
communities	most at risk.	radio in line with the Heat	with the Chief Health Officer,	activities and community
	Incorporate heat health messages into existing	health communication	Ambulance Victoria and Emergency	messaging in line with the
	departmental programs that provide services to	strategy.	Management Commissioner to	Heat health
	those most at risk.		explain the event and how to	communication strategy.
	Prepare community heat health messages and	Consider issuing emergency	protect health.	
	the department's communication strategy to	advertising in consideration of	Issue heat health messages	
	help identify heat health risks and mitigation	the current forecast.	through digital platforms and radio	
	actions.		in line with the <i>Heat health</i>	
	Undertake preparedness activities to support		communication strategy.	
	public housing tenants including releasing tips to			
	stay cool as part of the 'Keeping in Touch'			
	program for participating public housing tenants			
	who are 75 years of age or older. ²			
Sector	Host regional seasonal preparedness and	Issue a heat health alert when	Actively monitor impacts through	[this cell is blank]
partnerships	engagement forums to highlight seasonal	the heat health temperature	partnerships with Ambulance	
	preparedness arrangements for extreme heat.	threshold is reached or	Victoria, NURSE-ON-CALL and the	
	Identify and prepare 'Cooler Places' ³ for public	exceeded in a weather	Real-time Health Emergency	
	housing tenants where possible.	forecast district.	Monitoring System.	
	Identify established and develop networks to		Enact emergency management	
	connect and engage with Aboriginal and		plans for services managed by the	
	culturally diverse communities.		department.	

Actions of the Department of Health and Human Services before, during and after extreme heat

² The Keeping in Touch program is offered to tenants living alone who are aged 75 years of age or older. Registered tenants receive additional calls during heatwave periods to check on their welfare and provide details of the Cooler Places across the state.

³ The Cooler Places program involves more than 100 public housing community facilities across Victoria operating as Cooler Places upon the declaration of a heat health alert. These Cooler Places are air-conditioned 'drop in' centres open to all public housing tenants and residents seeking relief from extreme temperatures.

Outcome	Prior to summer	Within three days of forecast	During an extreme heat event	After an extreme heat
achieved		extreme heat		event
	Provide local government, health and community			
	service providers and community organisations			
	with access to heat health communication			
	resources.			
	Participate in heat health and emergency			
	preparedness forums to promote heat health			
	planning, preparedness and response.			
	Provide emergency management preparedness			
	and response guidance to health and human			
	service providers.			
Coordination of	Attend and support pre-season briefings with	Undertake a risk and	Monitor health system demand in	Consider conducting an
emergency	Emergency Management Victoria and the Office	consequence assessment of	line with the State Health	evaluation and debrief
arrangements	of the Chief Health Officer.	the potential impact on the	Emergency Response	including of health impacts
	Ensure consistent and up-to-date public	Victorian community and	Arrangements.	in accordance the Health
	messaging is available on public communication	health sector.		and Human Services
	channels including the Better Health Channel and	Assess the need for a		Emergency management
	VicEmergency websites and apps.	departmental emergency		evaluation guidelines.
	Collaborate with other government agencies and	management operational		Consider and implement
	departments to promote a whole-of-government	structure to coordinate		lessons learnt.
	emergency communications approach.	departmental preparedness		
		and response.		

Recommended actions for local government before, during and after extreme heat

Outcome	Prior to summer	Within three days of forecast	During an extreme heat	After an extreme heat event
achieved		extreme heat	event	
Empowering	Review organisational heat health	Provide consistent heat health	Reschedule any non-	Actively engage with clients
Victorian	plans and other plans containing	messages during client visits and	essential events, meetings	about how they are
communities	heat health-related actions.	telephone calls.	and services to another	recovering from the heat and
	Update individual heat health plans	Ensure appropriate staffing levels	day or to a cooler part of	identify and respond to any
	for clients and vulnerable-client	and consider staff and client safety in	the day.	new or emerging needs.
	lists.	extreme heat.	Increase community	
	Talk with clients, family and carers	Ensure staff engaging with the public	messaging through local	
	about subscribing to receive heat	are aware of council activities to	media and standard	
	health alerts.		communication channels.	

Outcome	Prior to summer	Within three days of forecast	During an extreme heat	After an extreme heat event
achieved		extreme heat	event	
	Develop or review the <i>Heat health</i> <i>communication strategy</i> . Order and display heat health communication material in council venues and distribute to clients. Consider long-term planning opportunities to reduce the impacts of extreme heat.	support and protect Victorians from extreme heat. Instigate consistent community messages through local media or other communication channels. Update council websites and social media pages with heat health information or messaging from the mayor or CEO. Restock heat health communication		
		materials and distribute to clients,		
Partnerships	Engage with key stakeholders and community members to raise awareness about the risks of extreme heat. Engage staff across council to identify opportunities to promote heat health and enhance activities to respond to extreme heat. Identify established and informal networks to connect and engage with Aboriginal and culturally diverse communities.	Encourage local services, clubs and organisations to reschedule services or major events during the period of extreme heat.	Encourage local services, clubs and organisations to share heat health-related information through local networks.	Actively encourage local service providers to engage with clients about how they are recovering from the heat and identify and respond to any new or emerging needs.
Coordination	Review and update the heat health plan and other relevant heat plans, including Municipal emergency management plans, business continuity plans. Ensure all relevant service areas of local government are subscribed to receive heat health alerts.	Take action in accordance with heat health plans or other plans containing heat-related actions such as business or service continuity plans, emergency management plans and occupational health and safety plans.	Undertake council activities in the relevant heat health or emergency management plan as required.	Consider undertaking local recovery activities as required. Consider and implement lessons learnt.

Outcome	Prior to summer	Within three days of forecast	During an extreme heat	After an extreme heat event
achieved		extreme heat	event	
	Identify relevant information	Monitor local weather conditions on		
	sources for residents who may be	the Bureau of Meteorology's		
	at risk of extreme heat in heat	website.		
	health planning.			
	Participate in exercises and forums			
	to discuss and improve individual			
	and collective responses to			
	extreme heat.			

Recommended actions for health and community service providers before, during and after extreme heat

Outcome	Prior to summer	Within three days of forecast	During an extreme heat event	After an extreme
achieved		extreme heat		heat event
Empowering	Ensure appropriate staffing levels and	Reschedule services to the	Ensure adequate drinking	Actively engage with
Victorian	consider staff and client safety in hot	cooler part of the day.	water is available for clients,	clients about how
communities	weather.	Provide consistent heat health	visitors and staff.	they are recovering
	Update individual heat health plans for	messages in line with	Reschedule any non-essential	from the heat and
	clients and vulnerable-client lists.	departmental advice during	events, meetings and services	identify and respond
	Talk with clients, families and carers about	client visits and telephone calls.	to another day or to the	to any new or
	preparing for extreme heat by subscribing to	Ensure staff engaging with the	cooler part of the day.	emerging needs.
	receive heat health alerts.	public are aware of local	Increase consistent	
	Develop and review the organisation's Heat	activities to support and protect	community messaging	
	health communication strategy.	those at risk.	through local media and	
	Order and display heat health	Restock heat health	standard communication	
	communication resources in service venues	communication resources in	channels.	
	and distribute to clients.	service locations and distribute		
	Engage with key stakeholders and	to clients.		
	community members to raise awareness			
	about the risks of extreme heat.			
Partnerships	Attend local seasonal preparedness forums.	Talk with families and carers	Talk with families and carers	Talk with families
	Ensure staff are appropriately trained to	about identifying actions to	about identifying actions to	and carers about
	identify clients who may need assistance	protect vulnerable clients and	protect vulnerable clients and	how their family
	during extreme heat.			members or clients

Outcome	Prior to summer	Within three days of forecast	During an extreme heat event	After an extreme
achieved		extreme heat		heat event
	Talk to your local council about what local	family members from the	family members from the	are recovering from
	arrangements are in place to support people	impacts of extreme heat.	impacts of extreme heat.	the impacts of
	who are vulnerable to extreme heat.			extreme heat and
				any opportunity to
				improve support for
				future events.
Coordination	Review and update the heat health plan and	Take action in accordance with	Monitor temperatures in	Consider undertaking
	other relevant heat plans, including business	heat health plans or other plans	client areas on the Bureau of	local recovery
	continuity plans.	containing heat-related actions	Meteorology's website.	activities as required.
	Subscribe to the heat health alert system.	such as service continuity plans,		Consider and
	Participate in exercises to discuss and	emergency management plans		implement lessons
	improve individual and collective responses	and occupational health and		learnt.
	to extreme heat.	safety plans.		
		Monitor local weather		
		conditions on the Bureau of		
		Meteorology's website.		

Recommended actions for health services before, during and after extreme heat

Outcome	Prior to summer	Within three days of forecast	During an extreme heat event	After an extreme
achieved		extreme heat		heat event
Empowering	Identify at-risk patients and begin talking	Make the department's heat	Make the department's heat	Where appropriate,
Victorian	about what will be required for them	health brochure available to	health brochure available to	actively engage with
communities	during extreme heat.	patients and carers.	patients and carers.	patients about how
	Order and distribute the department's heat	Keep waiting and outpatient	Keep waiting and outpatient	they are recovering
	health brochure to patients, their carers	rooms cool, and provide water.	rooms cool, and provide	from the heat and
	and families.	Consider cancelling or deferring	water.	identify and respond
	Download or order the department's	outpatients or other non-	Consider cancelling or	to any new or
	Factsheet for clinicians.	essential hospital programs that	deferring outpatients or other	emerging needs.
		are scheduled during extreme	non-essential hospital	
		heat.	programs that are scheduled	
		Review discharge plans for at-risk	on extreme heat days.	
		patients, keeping in mind their		

Outcome	Prior to summer	Within three days of forecast	During an extreme heat event	After an extreme
achieved		extreme heat		heat event
		specific needs, during extreme heat.	Review discharge plans for at- risk patients, keeping in mind their specific needs, during extreme heat.	
Partnerships	Include hospital preparedness arrangements and essential actions during extreme heat as part of hospital orientation. Talk with clients, families and carers about preparing for extreme heat. Order and display heat health communication resources in service venues and distribute to clients.	[this cell is blank]	[this cell is blank]	[this cell is blank]
Coordination	Develop and review the organisation's heat health and business continuity plans to address the needs of staff, patients and carers. Check contingency planning for air- conditioning and power supply. Plan for power outages, for example, what to do with vaccine fridges. Ensure staff are familiar with the <i>State</i> <i>health emergency response plan</i> . Subscribe to the heat health alert system. Participate in heatwave exercises to discuss and improve individual and collective responses to extreme heat.	Take action in accordance with any relevant heat plans. Monitor local weather conditions, heat health information and emergency warnings via the Bureau of Meteorology and VicEmergency websites. Plan for increased demand from patients with heat-related illness or exacerbated medical conditions. This may include a significant increase in ambulance transfers, admissions to the emergency department, short- stay unit and wards. Plan for increased staff absenteeism.	Monitor health service demand in line with escalation and notification arrangements under the <i>State health</i> <i>emergency response plan</i> .	Consider a formal debrief of the response in order to revise and improve the hospital's heat health plan. Consider and implement lessons learnt. Update plans and activities as required.

12. Appendix F. Heat Health Alert System

Heat health alert system

Information and guidance for local government and other stakeholders



Introduction

The Department of Health and Human Services operates a heat health alert system to notify the department's program areas, hospitals, health and community service providers and the general public via email about forecasted extreme heat conditions which are likely to impact human health. The heat health alert system operates annually between November to the end of March.

A heat health alert is issued when mean temperatures are predicted to reach or exceed heat health thresholds. The department recommends that you continue to monitor local conditions and take action in line with your heat plan, business continuity plan and occupational health and safety (OH&S) plan.

Weather forecast districts

The heat health alert system uses the Bureau of Meteorology weather forecast districts and boundaries, as shown in Figure 1.

Heat health temperature thresholds

Temperature thresholds have been identified for Victoria, above which heat-related illness and mortality increases substantially.

These thresholds differ across the state in recognition of the higher average temperatures experienced in northern parts of Victoria. Temperature thresholds have been established for each of the nine weather forecast districts, as shown in Figure 1.



Figure 1: Weather forecast districts and corresponding heat health temperature thresholds Image adapted from the Country Fire Authority's 'Know your total fire ban district'.



Health and Human Services

How we decide to issue an alert

The department monitors the Bureau of Meteorology forecast daily minimum and maximum temperatures and calculates the daily average temperature for each weather forecast district, as shown in Figure 2.

Calculating the average temperature

The average temperature is calculated from the forecast **daily maximum** (in this case Tuesday) and the forecast overnight temperature, which is the **daily minimum for the following day** (in this case Wednesday).

An example of this calculation is demonstrated below:

Melbourne

Max: 38 °C

Wednesday

Min: 25 °C

Max: 31 °C

 Average calculation

 Tuesday
 for Tuesday

 Min: 20 °C
 (38+25)/2 = 31.5°C

The threshold for Melbourne = average of 30°C.

The temperature forecast indicates that the threshold will be exceeded.

This calculation will be repeated for each of the seven days included in the daily forecast.

Figure 2: Example calculation of the daily average temperature

temperatures below threshold levels can still impact on health.

The average temperature for any given day is the average of the forecasted daily maximum temperature and the forecasted overnight temperature (which is also the daily minimum for the following day).

When forecast average temperatures are predicted to reach or exceed the heat health temperature threshold the department issues heat health alerts for the appropriate districts.

Heat health alerts

Heat health alerts are issued via the department's email subscription service. To subscribe to receive heat health alerts and other emergency advice from the department go to: www.health.vic.gov.au/subscribe

The department's subscription service is available to anyone with an email address.

An email will be sent requesting you confirm your subscription. Please ensure that you activate your subscription by logging in to your email account and following the steps to confirm your subscription.

The department recommends that organisational heat plans are followed, once a heat health alert is issued. People in the general community should take action to

in their care from the impact of extreme heat, particularly those most at risk.

The department may also consider other factors that may influence vulnerability, such as very high maximum or minimum temperatures and high temperatures over a prolonged consecutive period. High temperature alerts may be issued in these circumstances even if the average temperature threshold is not exceeded. Prolonged high

Where possible, heat health alerts will be issued 3-4 days prior to forecast extreme heat conditions providing alert recipients with an early warning. Even though the department will be monitoring forecast temperatures across the state, it is important for local councils and other organisations to continue to monitor local conditions. It may be necessary for local councils to activate heat plans in the absence of a heat health alert being issued. Council contacts are encouraged to monitor local conditions using the Bureau of Meteorology at: www.bom.gov.au

Further information about the extreme heat and the alert system is available on the Health website at:

www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-andextreme-heat

The department produces a range of educational resources that are available at:

www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-andextreme-heat/beatwave-community-resources

To receive this publication in an accessible format phone 1300 761 874, using the National Relay Service 13 36 77 if required, or email: extreme.weather@dhhs.vic.gov.au

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Available at: www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwayesand-extreme-heat

Source <u>https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heat-health-alerts</u>

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