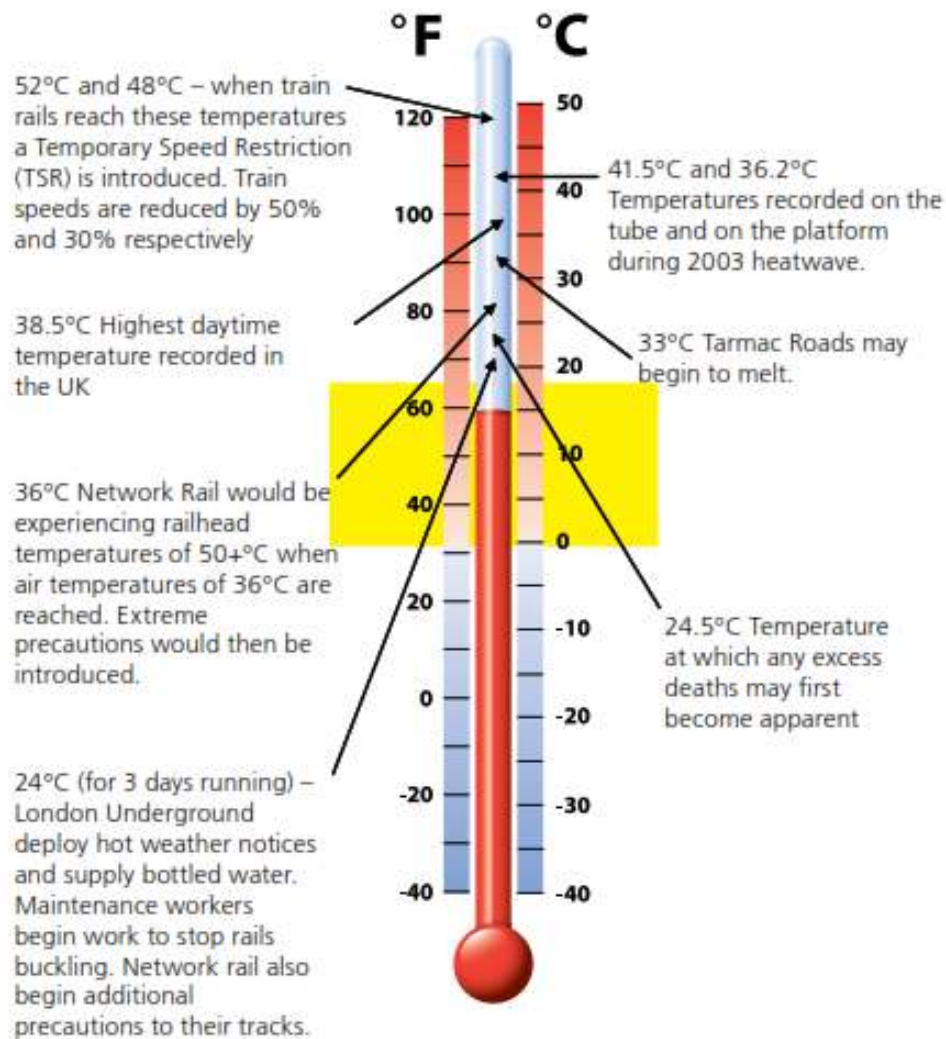


## Extreme Heat Warning and why it matters to Rotary

- Heatwaves can kill and cause long term damage to skin and organs.
- What are the Trigger temperatures? The following is from the Heatwave Plan for England reveals:



- Excess deaths start at 25c.



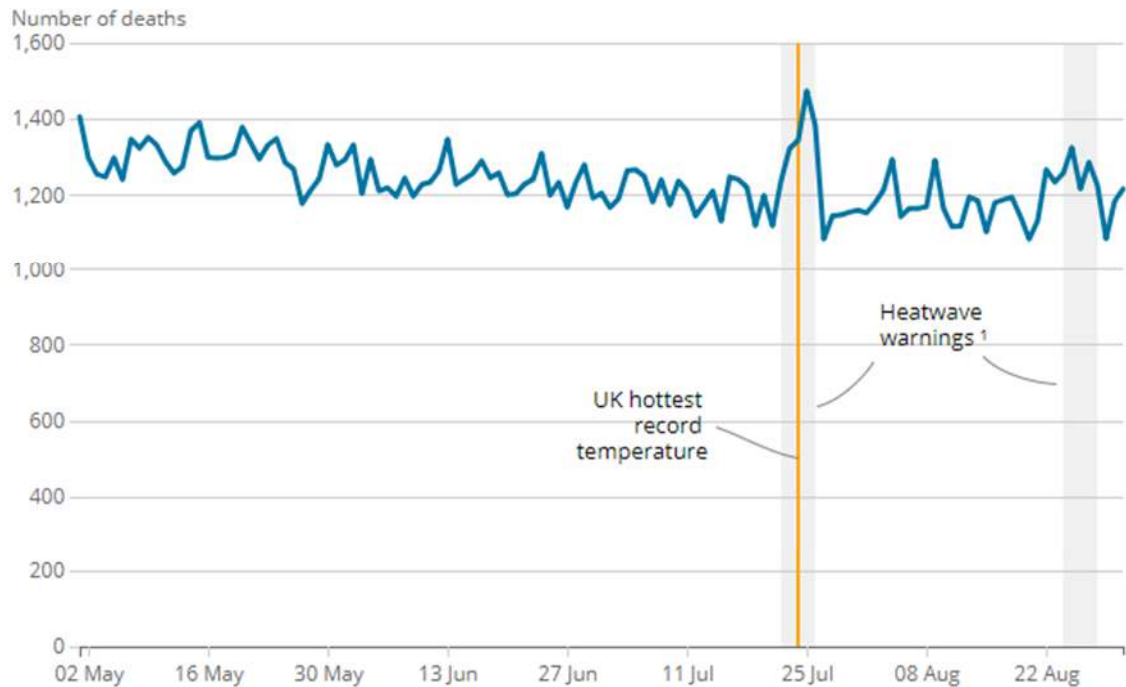
- Based on official data summer heatwaves killed 900 people across UK in 2019
- Based on official figures 2556 excess deaths occurred due to summer heatwaves in 2020 of that number 2244 excess deaths occurred in the 65+ age group. As follows:

Year	65+ excess deaths*
2016	908
2017	778
2018	863
2019	892
2020	2244

\*Based on Public Health England Official figures excluding Covid deaths in 2020



- In 2019 this looked like this



Source: Deaths registered weekly in England and Wales, Office for National Statistics

- Climate Change will increase both the duration and severity of heatwaves.
- The University of Reading says "*Vulnerable people do die. Outdoor workers can get long-term kidney disease. We can also see a rise in air pollution, which affects people's lungs.*"

**Air quality** – smogs typically accompany heatwaves as these often occur during periods of limited dispersion and/or easterly continental air masses arriving in the UK – as a result pollutants are less well spread or added to a higher background concentration which can lead to high concentrations of nitrogen dioxide and particulate matter.



**Ozone Levels**-Heatwave conditions often lead to increased ozone levels following interactions of other pollutants with sunlight. Information on the latest pollution levels and the air quality forecast can be found on the UK-Air website (Defra). This is <https://uk-air.defra.gov.uk/>

**Water quality** – prolonged sunshine can accelerate the growth of blue-green algae, which can cause problems for aquatic life, including fish, as well as toxic algal blooms, causing problems for public recreational water activities

**Odour Dust and Vermin**- a prolonged heatwave may cause increased health and environmental problems including odour, dust and vermin infestation, increasing public nuisance and complaint – additional measures would be necessary to mitigate these problems, including more frequent refuse collections and enhanced pollution control measures at landfills and other waste treatment facilities

**Wildfires**-The risks during a heatwave can be greater because the vegetation will be that much drier than usual. The smoke and other risks from wildfire can cause the closure of motorways and contributes to local and regional air pollution

**Animal Welfare**-there is the potential for an increase in the distress to animals and the number of pet fatalities due to owners leaving them in restricted enclosures with poor ventilation (eg dogs in cars or poorly ventilated rooms).

**Water Shortages**-strong demand during a heatwave has the potential to jeopardise the availability of water supplies, particularly in southern and some other parts of the UK. In the short term this could lead to hose pipe bans but can quickly lead to the introduction of water saving measures such as reducing water pressure or limiting 24/7 supply. In the event of a loss of



mains supply, water companies are required to supply water by alternative means, such as in static tanks or bottled water. There is a requirement to provide not less than 10 litres per person per day, with special attention given to the needs of vulnerable people, hospitals and schools

- **How do people get ill?** The main causes of illness and death during a heatwave are respiratory and cardiovascular diseases. Additionally, there are specific heat-related illnesses including:

**heat cramps** – caused by dehydration and loss of electrolytes, often following exercise

**heat rash** – small, red, itchy papule

**heat syncope** – dizziness and fainting, due to dehydration, vasodilation, cardiovascular disease and certain medications

**heat exhaustion** (more common) - occurs as a result of water or sodium depletion, with non-specific features of malaise, vomiting and circulatory collapse, and is present when the core temperature is between 37°C and 40°C. Left untreated, heat exhaustion may evolve into heatstroke.

heatstroke – can become a point of no return whereby the body's thermoregulation mechanism fails. This leads to a medical emergency, with symptoms of confusion; disorientation; convulsions; unconsciousness; hot dry skin; and core body temperature exceeding 40°C for between 45 minutes and eight hours. It can result in cell death, organ failure, brain damage or death. Heatstroke can be either classical or exertional (eg in athletes)

- The world has already warmed by about 1.2C since the industrial era began, and temperatures will keep rising unless governments around the world make steep cuts to emission



- With Climate Change deaths will increase exponentially as a result.



## Protecting Rotarians and protecting others

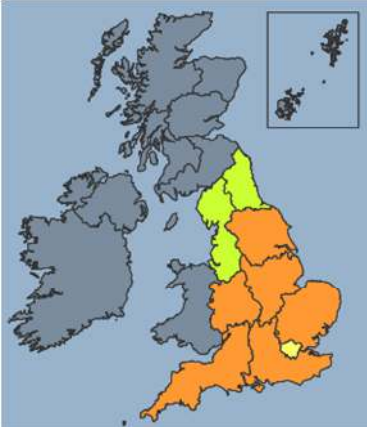
By protecting fellow Rotarians, we are better placed to help others.

Heatwave alerts have only been broadcast on the weather forecasts since June 2021.

The Met Office issued its First level 3 Heatwave alert-on 19<sup>th</sup> July 2021. A Level 3 Alert is one down from the declaration of a National Emergency.

<https://www.metoffice.gov.uk/public/weather/heat-health/?tab=heatHealth&season=normal#?tab=heatHealth>

This is:



**Current watch level: Level 3 - Heatwave Action**

Issued at: 15:59 on Mon 19 Jul 2021

There is a 90 % probability of Heat-Health Alert criteria being met between 1600 on Monday and 0900 on Thursday in parts of England.

The settled period of weather is expected to continue through much of the coming week. Temperatures will start very warm or locally hot for many southern, central, and eastern areas, but as the week progresses, the focus of the higher temperatures is likely to move to more northwestern areas. The south of the northwest region could start to see close to threshold values by Thursday, with most other parts away from the northeast continuing to see very warm temperatures but lower than of late. Current indications are then for temperatures falling below trigger criteria into the weekend as cloud and thundery rain spreads north.

An update will be issued when the alert level changes in any region. Alerts are issued once a day by 0900 if required and are not subject to amendment in between standard issue times. Note that the details of the forecast weather are valid at the time of issue but may change over the period that an alert remains in force. These details will not be updated here unless the alert level also changes, the latest forecast details can be obtained at the following link: <http://www.metoffice.gov.uk/public/weather/forecast/#?tab=map>

Key:

- Region not included
- Summer preparedness and long-term planning
- Alert and readiness
- Heatwave action
- National Emergency

Level 1	Level 2	Level 3	Level 4	Heat-Health threshold values	Regional risk values
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**Amber — Heatwave action**

Triggered when the Met Office confirms threshold temperatures for one or more regions have been reached for one day and the following night, and the forecast for the next day has a greater than 90% confidence level that the day threshold temperature will be met. This stage requires social and healthcare services to target specific actions at high-risk groups.

**Advice:** Look out for others, especially older people, young children and babies and those with underlying health conditions. Close curtains on rooms that face the sun to keep indoor spaces cooler and remember it may be cooler outdoors than indoors. Drink plenty of fluids and avoid excess alcohol, dress appropriately for the weather and slow down when it is hot.

Advice on how to reduce the risk can be obtained from the [Heatwave Plan for England](#) page, from your doctor or local chemist, or ring NHS 111.





Based on the advice from Public Health England in its Heatwave Plan 2020 you should consider in the short term as follows:

**Stay out of the heat:**

- keep out of the sun between 11am and 3pm
- if you have to go out in the heat, walk in the shade, apply sunscreen and wear a hat and light scarf
- avoid extreme physical exertion
- wear light, loose-fitting cotton clothes

**Cool yourself down:**

- have plenty of cold drinks, and avoid excess alcohol, caffeine and hot drinks
- eat cold foods, particularly salads and fruit with a high water content
- take a cool shower, bath or body wash
- sprinkle water over the skin or clothing, or keep a damp cloth on the back of your neck

**Keep your environment cool:**

- keeping your living space cool is especially important for infants, the elderly or those with chronic health conditions or who can't look after themselves
- place a thermometer in your main living room and bedroom to keep a check on the temperature
- keep windows that are exposed to the sun closed during the day, and open windows at night when the temperature has dropped
- close curtains that receive morning or afternoon sun, however, care should be taken with metal blinds and dark curtains, as these can absorb heat – consider replacing or putting reflective material in-between them and the window space
- turn off non-essential lights and electrical equipment – they generate heat
- keep indoor plants and bowls of water in the house as evaporation helps cool the air
- if possible, move into a cooler room, especially for sleeping
- electric fans may provide some relief, if temperatures are below 35°C<sup>2</sup>

Please note that using a fan when the temperature is 35c or more can have the effect of not preventing heat related illness because they can cause dehydration. The advice is to place fans at a certain distance from people not aiming it directly at the





body and to have regular drinks. This is especially important where there are sick people confined to bed



## In the Long term and in looking out for others in your care:

(Longer-term)

- consider putting up external shading outside windows
- use pale, reflective external paints
- have your loft and cavity walls insulated – this keeps the heat in when it is cold and out when it is hot
- grow trees and leafy plants near windows to act as natural air-conditioners (see 'Making the Case')

### **Look out for others:**

- keep an eye on isolated, elderly, ill or very young people and make sure they are able to keep cool
- ensure that babies, children or elderly people are not left alone in stationary cars
- check on elderly or sick neighbours, family or friends every day during a heatwave
- be alert and call a doctor or social services if someone is unwell or further help is needed

### **If you have a health problem:**

- keep medicines below 25 °C or in the refrigerator (read the storage instructions on the packaging)
- seek medical advice if you are suffering from a chronic medical condition or taking multiple medications

### **If you or others feel unwell:**

- try to get help if you feel dizzy, weak, anxious or have intense thirst and headache; move to a cool place as soon as possible and measure your body temperature
- drink some water or fruit juice to rehydrate
- rest immediately in a cool place if you have painful muscular spasms (particularly in the legs, arms or abdomen, in many cases after sustained exercise during very hot weather), and drink oral rehydration solutions containing electrolytes.
- medical attention is needed if heat cramps last more than one hour
- consult your doctor if you feel unusual symptoms or if symptoms persist



## Rotary and Outdoor events

In normal years Rotary groups are organizing lots of outdoor events.

Summer is a time for people to get outside and enjoy themselves.

Large scale public events, such as music and arts festivals; sports events; and national celebrations are held up and down the country every summer providing enjoyment to millions of people.

Large public events increase exposure to heat and direct sunlight and can make organisational responses more difficult.

Individual behaviours often change (for example, people may be reluctant to use the toilet facilities due to the long queues and so purposely reduce fluid intake).

At many large events, people get into a good position to see the event and then reduce fluid intake and heat avoidance behaviours so as not to lose their spot. This can lead to heat-related illness, dehydration and/or collapse.

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Doncaster St Leger

District 1220 Environment Officer

