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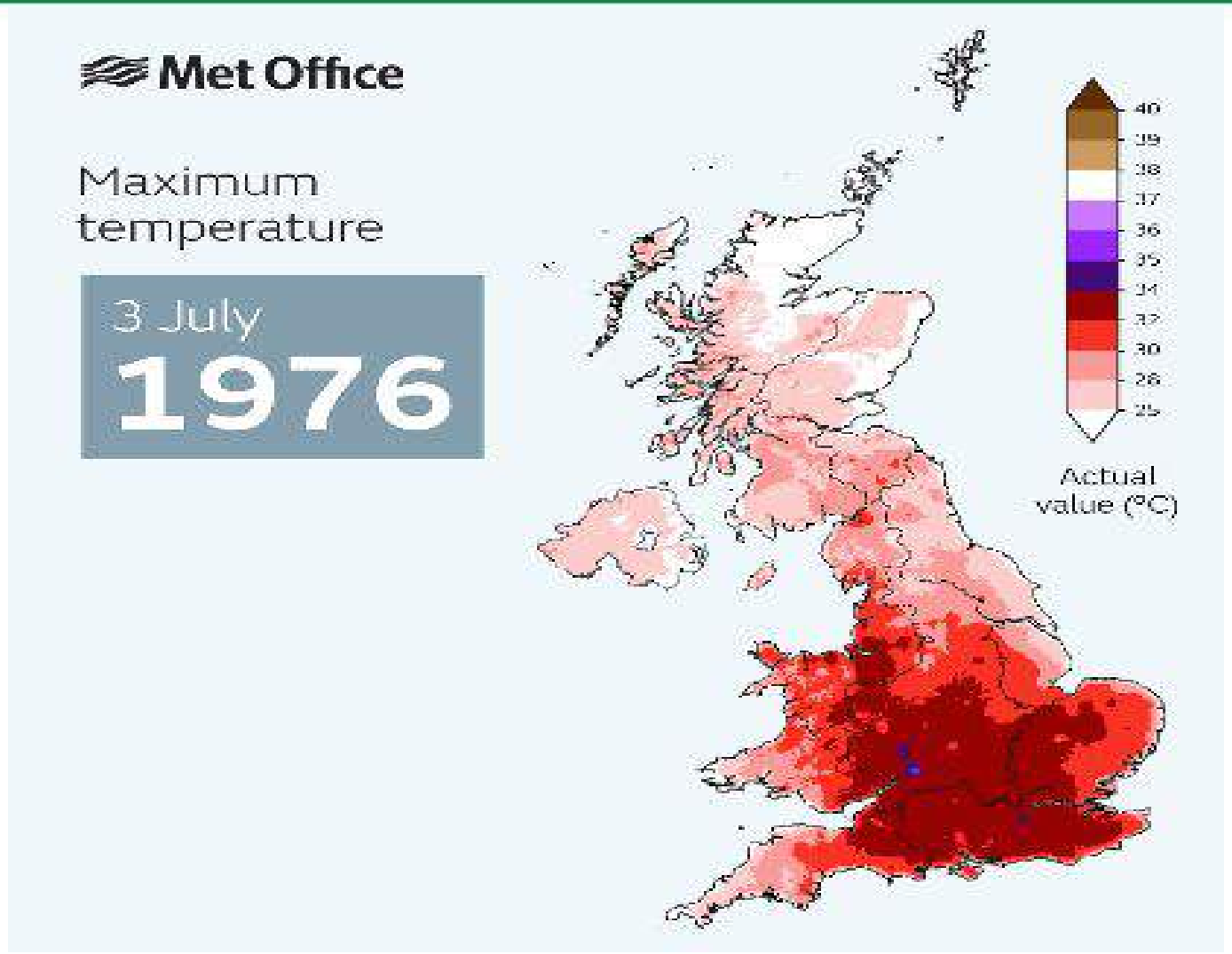
Beat the Heat



What's the issue?

- Climate change is already causing warmer temperatures in the UK. All of the warmest years on record in the UK have occurred since 2002, and in July 2022 temperatures exceeded 40°C for the first time on record
- During the five heat-periods between June and August 2022, 56,303 deaths occurred in England and Wales, this is 3,271 deaths (6.2%) above the five-year average. (females 2,159 compared with males 1,115)
- England recorded 2,803 excess deaths in over-65s during 2022 heatwaves
- The average length of warm spells have more than doubled in length in the last few decades, and
- by 2050 the UK will be 50% more likely to experience hot summers, while heat-related deaths could more than triple, to around 7,000 per year.
- Between 2000 and 2020 the UK experienced 84 heatwaves.
- In the summer months it is estimated that 2% more deaths occur for every 1°C above the daily average temperature
- "Urban heat island effect, major UK cities, such as London, Manchester and Birmingham, have seen temperatures reach up to 5-10°C above surrounding rural areas
- It is estimated that the UK's 2003 heatwave cost the health sector £41 million
- In Northern France in August 2003, unprecedentedly high day and night-time temperatures for a period of three weeks resulted in 15,000 excess deaths

Historical Records

1. 19 July 2022, Coningsby, Lincolnshire - **40.3 °C***
2. 25 July 2019, Cambridge Botanic Gardens - **38.7 °C**
3. 10 Aug 2003, Faversham, Kent - **38.5 °C**
4. 18 July 2022, Santon Downham - **38.1 °C***
5. 31 July 2020, Heathrow, London - **37.8 °C**
6. 03 Aug 1990, Cheltenham, Gloucestershire - **37.1 °C**
7. 01 Jul 2015, Heathrow, London - **36.7 °C**
8. 09 Aug 1911, Raunds Northamptonshire - **36.7 °C**
9. 02 Aug 1990, Worcester, Worcestershire - **36.6 °C**
10. 19 Jul 2006, Wisley, Surrey - **36.5 °C**

* Provisional data

What is a UK heatwave?

- A UK heatwave threshold is met when a location records a period of at least 3 consecutive days with daily maximum temperatures meeting or exceeding the heatwave temperature threshold. The threshold varies by UK county
- 28°C or more for London, Surrey, Berkshire, Bedfordshire, Buckinghamshire, Hertfordshire and Cambridgeshire
- 27°C or more for Kent, Sussex, Hampshire, Wiltshire, Essex, Norfolk, Suffolk, Oxfordshire, Gloucestershire, Worcestershire, Warwickshire, Northamptonshire, Lincolnshire, Rutland, West Midlands, Leicestershire and Nottinghamshire
- 26°C or more for the Isle of Wight, Dorset, Somerset, Herefordshire, Shropshire, Staffordshire, Cheshire, Derbyshire, South Yorkshire, and the south-east of Wales.
- 25°C or more for everywhere else in the UK for 3 days.

Who's most at risk?

- older people aged 65 years and over (note change from previous guidance of 75 years of age and above)
- babies and young children aged 5 years and under
- people with underlying health conditions particularly heart problems, breathing problems, dementia, diabetes, kidney disease, Parkinson's disease, or mobility problems
- people on certain medications
- people with serious mental health problems
- people who are already ill and dehydrated (for example from diarrhoea and vomiting)
- people who experience alcohol or drug dependence
- People who live in a top floor flat or south-facing property, in dense urban areas, or who live in poor-quality housing
- people who are physically active and spend a lot of time outside such as runners, cyclists and walkers
- people who work in jobs that require manual labour or extensive time outside
- people experiencing homelessness, including rough sleepers and those who are unable to make adaptations to their living accommodation such as sofa surfers or living in hostels.
- people who live alone and may be unable to care for themselves

Perceptions & Experiences

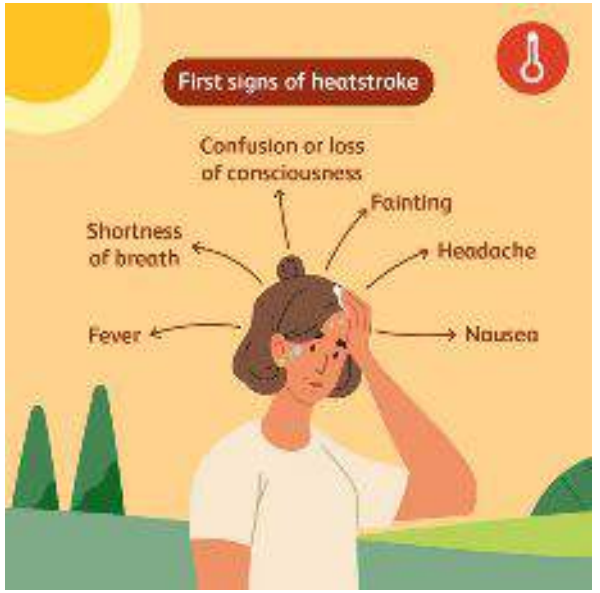
- 40% of adults say they've never seen information on how to protect themselves during a heatwave
- 22% of UK adults do not know where they can access information about how to protect themselves during a heatwave
- 57% aged 75+ do not consider themselves as vulnerable to the impact of heatwaves despite being at significantly higher risk
- 60% of UK adults have experienced at least one adverse effect of hot weather in the UK
- Headaches 33%, dizziness/feeling faint 22%, Heat rash 21%
- 17% of people in the UK are considered to be vulnerable to the health impacts of heat.
- 8% of UK adults that have needed to contact a GP, call an ambulance, go to hospital or go to A&E as a result of hot weather in the UK, compared to:
- 36% of those who work outdoors for 30 hours a week or more, 26% of those expecting a child or who have a child aged 0-3, 23% of those who have severely limited mobility, 32% of those who live in a top floor flat, 24% of those with a heart condition

Heat Exhaustion

- Heat exhaustion occurs when the body overheats and cannot cool down. Heat exhaustion does not usually need emergency medical attention if you cool down within 30 minutes. If you do not take action to cool down, heat exhaustion can lead to heatstroke.
- Common symptoms of heat exhaustion:
- tiredness
- weakness
- feeling faint
- headache
- muscle cramps
- feeling or being sick
- heavy sweating
- intense thirst

Heatstroke

- Heatstroke is where the body is no longer able to cool down and the body temperature becomes dangerously high.
- Common symptoms of heatstroke include:
- confusion
- lack of co-ordination
- fast heartbeat
- fast breathing or shortness of breath
- hot skin that is not sweating
- seizures



- Heatstroke is a medical emergency. If you think someone has heatstroke you should dial 999 and then try to cool them down.

Keep Yourself Cool

- move to a cooler place such as a room with air conditioning or somewhere in the shade
- remove all unnecessary clothing like a jacket or socks
- drink cool water, a sports or rehydration drink, or eat cold and water rich foods like cucumbers, watermelon
- apply cool water by spray or sponge to exposed skin, and using cold packs wrapped in a cloth and put under the armpits or on the neck can also help
- Frozen hot water bottle Fill it half full of cold water, squeeze the air out, secure the top, then freeze it. Take it back out when frozen and wrap in cover/towel etc. (Freezing a hot water bottle can damage the rubber seal, so keep that one for summer use and don't use it for hot water)
- You should start to cool down and feel better within 30 minutes.
- If you are concerned about symptoms, or they are worsening, seek medical advice by contacting NHS 111. In an emergency, or if you think someone has heatstroke, dial 999.

Keep your home cool

- close blinds and curtains on windows that are exposed to direct sunlight during the day
- close external shutters or shades if you have them
- move to a cooler part of the house, especially for sleeping
- open windows (if it is safe to) when the air feels cooler outside than inside, for example at night, and try to get air flowing through your home
- use electric fans, but do not aim the fan directly at your body as this can lead to dehydration
- check that any heating is turned off
- turn off lights and electrical equipment that are not in use
- go outside if it is cooler outside in the shade
- Public buildings such as places of worship, local libraries or supermarkets may be cooler than your home. If they are nearby consider visiting one of these as a way of cooling down.

Ventilation

- All windows and doors that don’t have the sun on them should be kept open when possible.
- Ensure windows are kept open on both sides of the building to allow ventilation to flow through the building.
- Opening any windows at the top of the house and on the ground floor will create a “chimney stack effect”.
- The hot air that rises is drawn upwards through the house and is released at the top.
- Bedrooms at the top of the house should have windows opened a couple of hours before going to bed.

Electric Fans

- **Bladed fans** tend to use the most energy. Typically, the larger the blades, the more energy it needs to turn them.
- **Tower fans** often have lower power consumption compared to bladed fans but tend to be less effective at moving air, so you may need to have them on a higher setting.
- **Bladeless fans**, sometimes called air multipliers, draw air in before passing it over small asymmetric blades that increase the pressure and airflow, before pushing it out into the room. This means that these can be more energy efficient than fans with more moving parts.

Electricity costs calculation

- Once you know the wattage of your fan, convert this into kilowatt-hours. Divide the wattage by 1,000 to give the amount of energy it uses per hour.
- Mini models can use as little as 5 watts, while large bladed fans can be more than 100 watts. For example, if you have a 50-watt fan, you would divide 50 by 1,000 to get 0.05. If you are using it for ten hours a day, you'll then multiply 0.05 by 10 giving you 0.5kW. This is how much energy the fan uses in a day.
- To work out the cost, you will need to know how much you pay for one unit of energy (1kw). This should be listed on your energy bill. The Ofgem energy price cap from July 2023 is £2,074, which will cap electricity prices at 30p per kWh.
- Multiply the cost of a unit of energy by the kW output of your fan and that will be how much it is costing to run your fan.
- 30p x 0.5 = 15p per 10 hour day.

Buildings, Shade & Plants

- Create cooling green spaces in the surrounding environment, with trees, shrubs, trellises, arbours, climbers (avoid ivy as it can damage buildings), green roofs and water features.
- A range of measures are recommended to retrofit homes to ensure that excessive solar gain in the summer is avoided. Some of these measures, including cavity wall and loft insulation, are also of direct benefit to retain warmth in the home during the cold winter months. Note that adequate ventilation is needed to ensure that heat does not become trapped within the building.
- Transpiration happens when the atmosphere heats up – plants will often release excess water into the air from their leaves, and by releasing evaporated water, plants cool themselves and the surrounding environment. Improving the humidity in a room will have a cooling effect
- **Some Indoor cooling plants:**
- **Rubber Plant -** very effective in replenishing the moisture in the air. The more foliage a plant has, and the bigger the leaves are, the more moisture it will release back into the air.
- **Aloe Vera -** Most people know aloe vera for its ability to cool minor burns and sunburns, but it also has a high-water content, which makes it one of the top plants for cooling down the home
- **Spider Plant -** this hardy, low maintenance houseplant is an excellent choice for cooling your indoor air and absorbing toxins like formaldehyde and xylene

Air Conditioning

What Are the Advantages and Disadvantages of Air Conditioning?

Let's take a closer look at the key advantages and disadvantages of air conditioning units:

ADVANTAGES	DISADVANTAGES
Keeps you comfortable when temperatures are high	Not environmentally-friendly
Helps to reduce the risk of dehydration	Can cause higher electricity bills
Air quality can be improved, removing pollen, dust and mould spores	Some units can be noisy
Can be used as a heating unit in most cases	Portable options are the only option for those in rented accomodations

Air Con Running Costs

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ROOM	BTU	KILOWATTS	COST PER HOUR	RUNNING TIME	DAILY COST	WEEKLY COST
Lounge	12,000	3.52Kw	£1.19	Eight hours	£9.52	£66.64
Kitchen	8,000	2.34Kw	£0.79	Four hours	£3.18	£22.27
Main Bedroom	10,000	2.93Kw	£0.99	Eight hours	£7.96	£55.78
Second Bedroom	8,000	2.34Kw	£0.79	Eight hours	£6.36	£44.55
Home Office	6,000	1.76Kw	£0.58	Eight hours	£4.78	£33.51
6-unit Multi-split	42,000	12Kw	£4.08	Eight hours	£32.64	£228.48

Cooling power is measured in British Thermal Units (BTUs). BTUs are the amount of energy the unit uses to cool and heat.

Prices are based on the current price of electricity at the time of writing (34p per kWh). Your actual running costs will depend on the type of aircon unit you own, its output, and the tariff you pay.

If you want to run a portable air conditioning unit expect to pay in the region of 44p an hour. They are useful if you want to move them into different rooms, but they are not especially energy-efficient.

Supporting vulnerable people

- Have a plan in place before the 1st June, for individuals you are responsible for to keep them and the home cool
- Share and emphasise the importance of Beat the Heat messages to clients and staff
- know who is at higher risk of heat-related illnesses and how to reduce that risk
- operationalise cool rooms or areas (able to be maintained below 26°C)
- ensuring those you care for drink plenty of fluids throughout the day and monitor for signs of dehydration
- planning activities for times of the day when it is cooler such as the morning or evening
- keeping those you care for out of the sun at the hottest time of the day

Be Prepared

- **Weather-Health Alert system**
- The heat-health alert (HHA) operates from 1 June to 30 September and the cold-health alert (CHA) operates from 1 November to 30 March
- Depending on the level of alert, a response will be triggered to communicate the risk to the NHS England, government, and public health system. Advice and information will be sent for the public and health and social care professionals, particularly those working with at-risk groups
- HHA's contain:
- headline weather conditions expected in the coming days
- an outline of what impacts might be expected
- brief overview of regional impact assessment
- links to additional information, advice and guidance
- Weather-Health Alerting system registration form
- https://forms.office.com/pages/responsepage.aspx?id=mRRO7jVKLkutR188-d6GZn06Ss-xPLpCuYeyOZ-eFiFUMEVIMDRTOE5FVzFFM0NXNjFMWUlWMkJVMCQlQCN0PWcu

Organising events in hot weather

- **Risk assessment of events**
- Providers should assure themselves that organisers of large-scale events for the summer period have taken appropriate risk assessment and mitigation of heat risks.
- Additional considerations for staff working directly with vulnerable individuals:
- identify locations for cool rooms/areas (able to be maintained below 26°C) that could be established during hot weather
- consider how to monitor temperatures of places or rooms where vulnerable individuals spend substantial time and ensure relevant staff know how to check and record temperatures and follow internal procedures if a cause for concern is identified
- ensure staff visiting vulnerable individuals have access to a thermometer or means of measuring temperature and ensure relevant staff know how to check, record, and follow internal procedures if a cause for concern is identified

Hot Dogs

- If you think your dog may have heatstroke it's vital that you immediately contact your vet while cooling them down. Getting early advice and treatment is essential to saving a dog's life. Research has found that in the UK, although 1 in 7 dogs that are taken to vets with heatstroke die
- Heavy panting, even when not exercising
- Breathing problems, particularly in flat-faced dogs
- Tiredness
- Stiffness or an unwillingness to move
- Dribbling
- Confusion
- Being sick, this can be bloody
- Upset stomach, this can be bloody
- Not walking in a straight line
- Collapse
- Fitting

Cool Dogs

- Never leave dogs in hot cars, conservatories, outbuildings or caravans on a hot day
- Stop them exercising, move them out of the heat and into the shade
- Lay them down on a cool floor
- Offer them small amounts of water to drink
- Pour water over the dog's body or sponge them if water is limited. Particularly focus on their neck, tummy and inner thighs.
- Fan them with cool air or put them in an air-conditioned room or car if possible. The impact of fanning them, or putting them somewhere that's air-conditioned, will be greatest if they're already wet
- Call a vet for advice

Summary

In responding to heatwaves
people need help with:

Immediate practical needs

- Shelter – access to shelter and the ability to stay cool at home
- Medication – particularly for people with underlying health conditions
- Cash support – for people struggling financially to protect themselves from hot weather

Mental health and psychosocial support

- Extreme heat can increase underlying mental health, anxiety and stress

Information and communication

- First aid & practical advice – to stay safe and well
- Translation – of advice and information which reaches people and communities

Advocacy, advice and support

- Advice, help, support – with information on cool outdoor spaces available locally and further community support

Further Information

- **Beat the heat: staying safe in hot weather -** Published 10 May 2023
- https://www.gov.uk/government/publications/beat-the-heat-hot-weather-advice/beat-the-heat-staying-safe-in-hot-weather
- **Supporting vulnerable people before and during hot weather: social care managers, staff, and carers -** Updated 26 May 2023
- https://www.gov.uk/government/publications/hot-weather-and-health-supporting-vulnerable-people/supporting-vulnerable-people-before-and-during-hot-weather-social-care-managers-staff-and-carers
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- **Weather-Health Alerting system registration form** - https://forms.office.com/pages/responsepage.aspx?id=mRRO7jVKLkutR188-d6GZn06Ss-xPLpCuYeyOZ-eFiFUMEVIMDRTOE5FVzFFM0NXNjFMWUlWMkJVMCQlQCN0PWcu
- **Houseplants to Keep Your House Cool During Summers | Beneficial Indoor Plants**
- https://www.youtube.com/watch?v=FydjUqHsQa8
- **Pet care in summer**
- https://www.rspca.org.uk/adviceandwelfare/seasonal/summer/dogs

Thank you for your time

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- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1950160/
- **heatwave PLAN FOR ENGLAND**
- https://www.gov.uk/government/publications/hot-weather-and-health-supporting-vulnerable-people/supporting-vulnerable-people-before-and-during-hot-weather-social-care-managers-staff-and-carers
- https://www.metoffice.gov.uk/weather/learn-about/weather/types-of-weather/temperature/heatwave#:~:text=A%20heatwave%20is%20an%20extended,be%20accompanied%20by%20high%20humidity
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- https://www.rspca.org.uk/adviceandwelfare/seasonal/summer/dogs
- https://www.housebeautiful.com/uk/garden/plants/a22048437/house-plants-cool-home-heatwave/
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