

# Is Alton prepared for the next heatwave?

7th September 2023, 7.30 pm

Garden Room,

Alton Community Centre



**Petersfield  
Society**





# Purpose of meeting

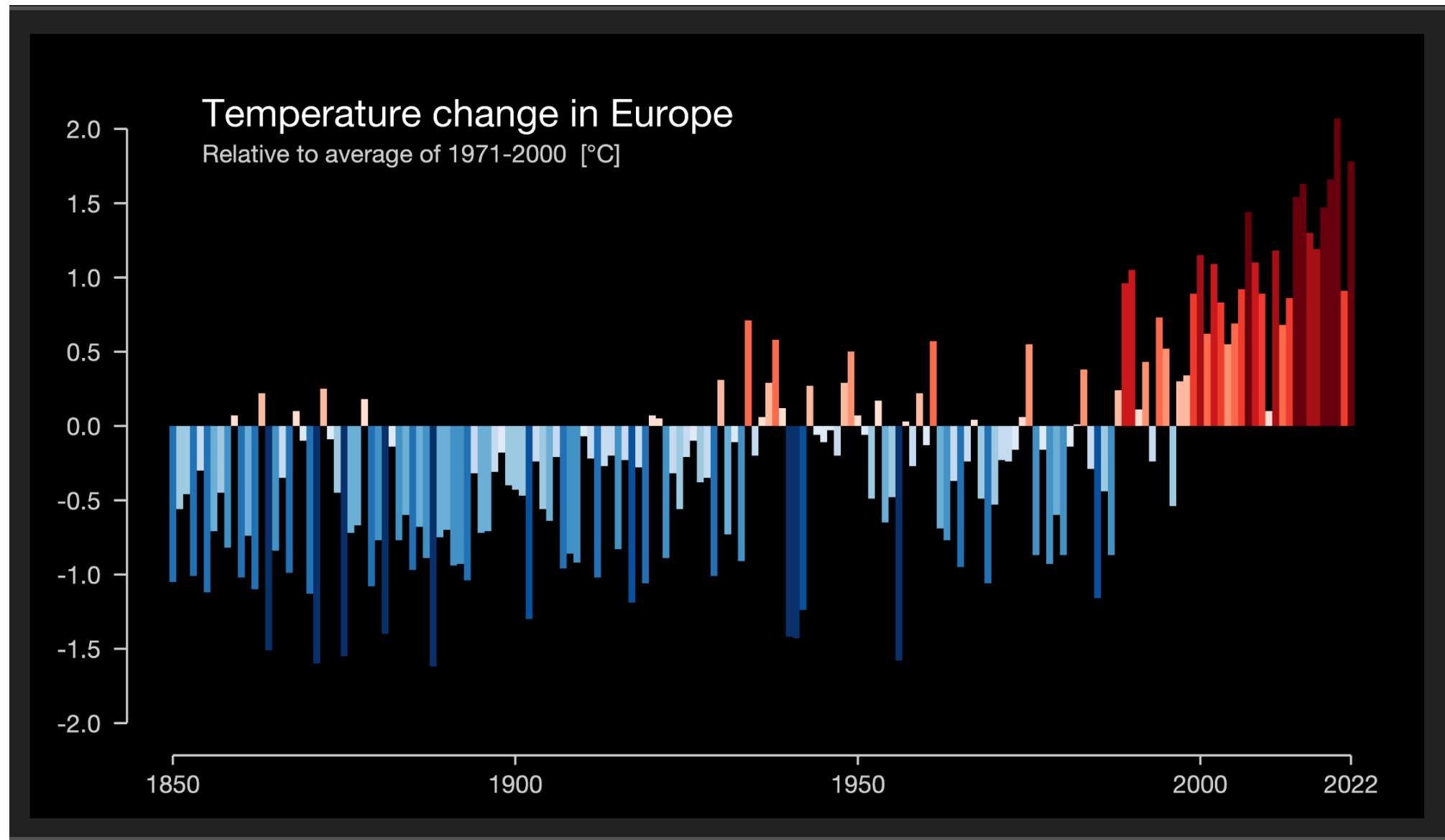
1. To share latest thinking on how Alton residents can reduce the impact of heatwaves, and protect themselves by adopting prevention and preparation measures
2. To hear from meeting participants about what concerns them about the changing climate and future heatwaves
3. To identify priorities for action and change that local authorities should be made aware of so that they can help reduce the impact of future heatwaves

# Is Alton prepared for the next heatwave?



## Programme

19.30	Introduction	Jenny Griffiths and Andy Moffat
19.40	Public health matters!	Jenny Griffiths (ACAN)
19.55	How to stop your home becoming a sauna	Peter Moss (PeCAN)
20.15	How your garden can keep you cool	Melanie Oxley (PeCAN / Pfs)
20.35	Greenspace – the town’s refrigerator	Andy Moffat (Pfs)
20.55	Q & A – general discussion	All
21.30	Close	

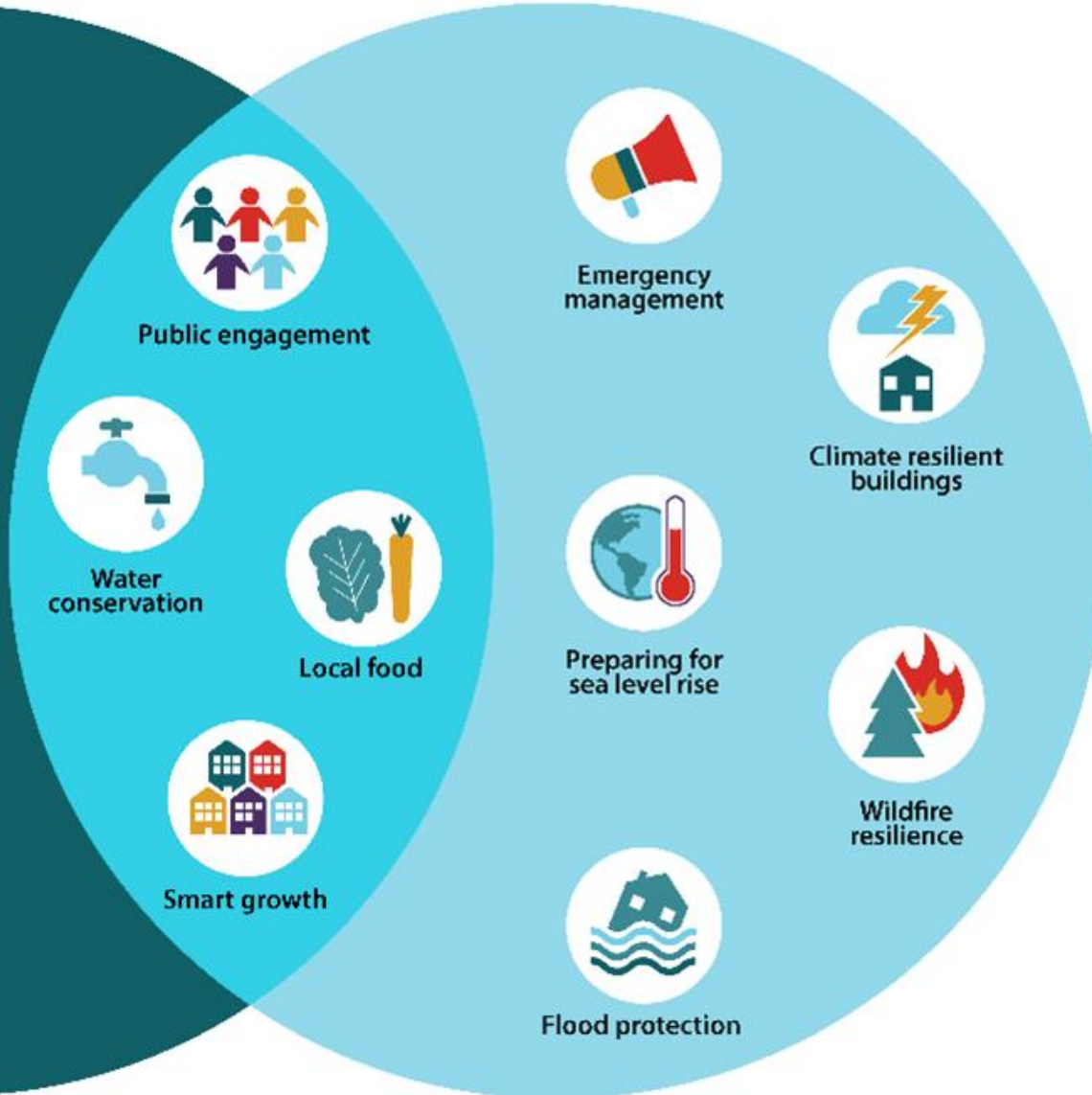


Graphics by Prof. Ed Hawkins, University of Reading

# Mitigation



# Adaptation



Responses to the threat of climate change

<https://www.meath.ie/council/council-services/environment/climate-action/what-is-climate-change>

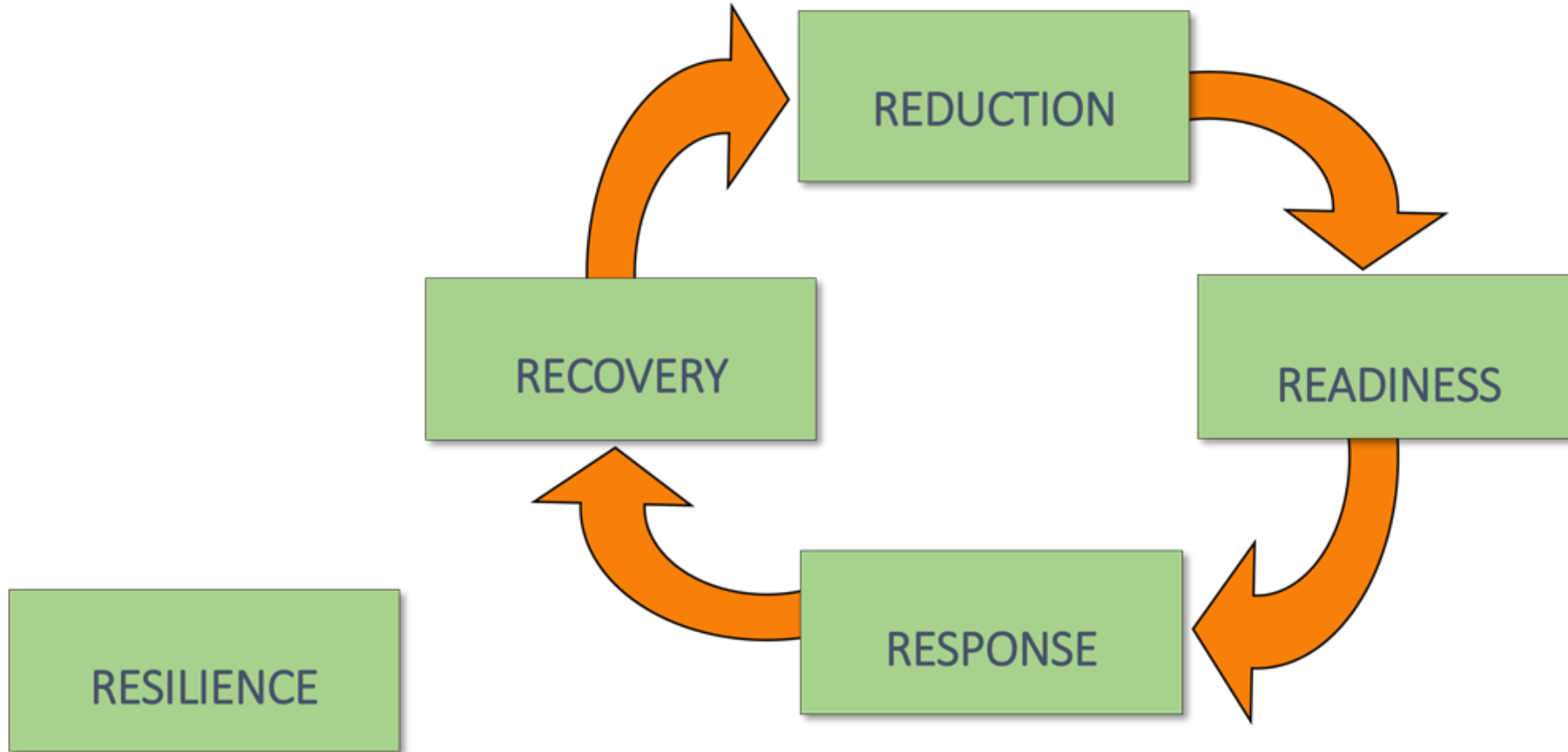
# 2022 heatwave

Maximum temperatures in  
UK countries



# 4 R's

## Emergency management



<https://triagemanagement.co.nz/business-resilience-specialist-is-what-do-we-do/emergency-preparedness/>

## Heatwave plan for England

Protecting health and reducing harm from  
severe heat and heatwaves



The Heatwave Plan for England is a guide to protect the population from heat-related harm to health.

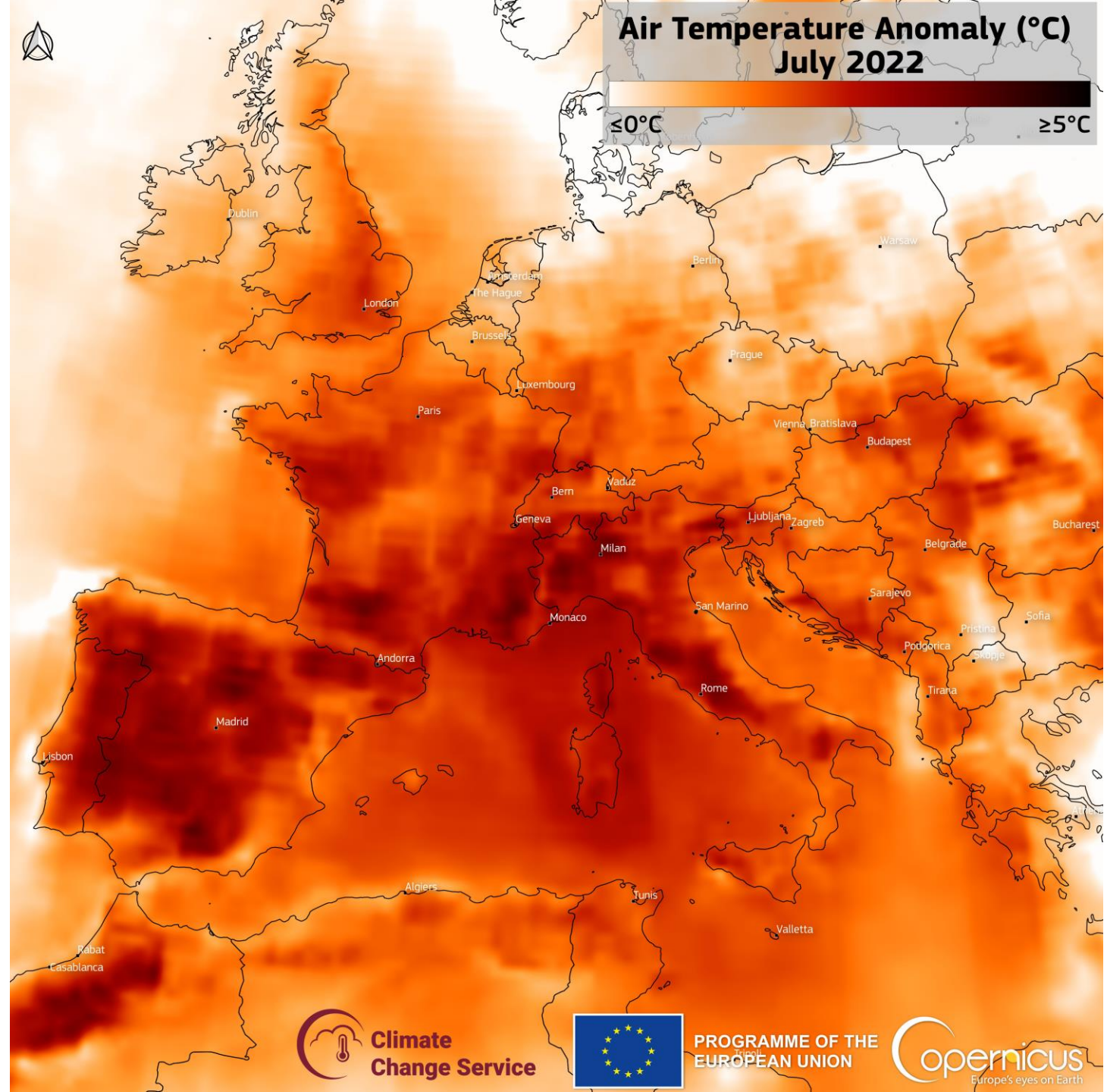
The aims of the plan are to:

- **prepare,**
- **alert and**
- **prevent** the major avoidable effects on health during periods of severe heat in England.

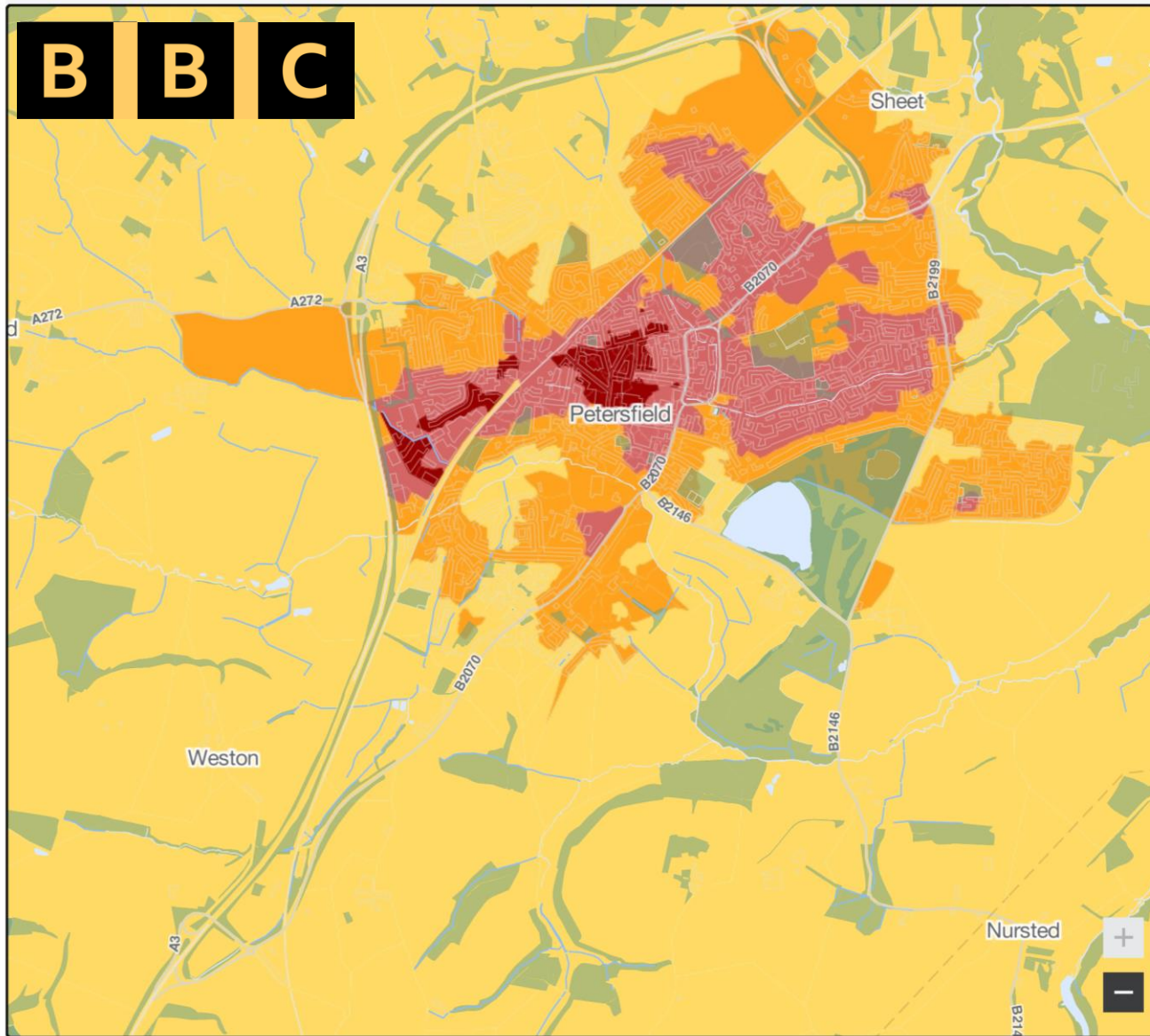


**The summer of 2022 was the hottest season on record in Europe**

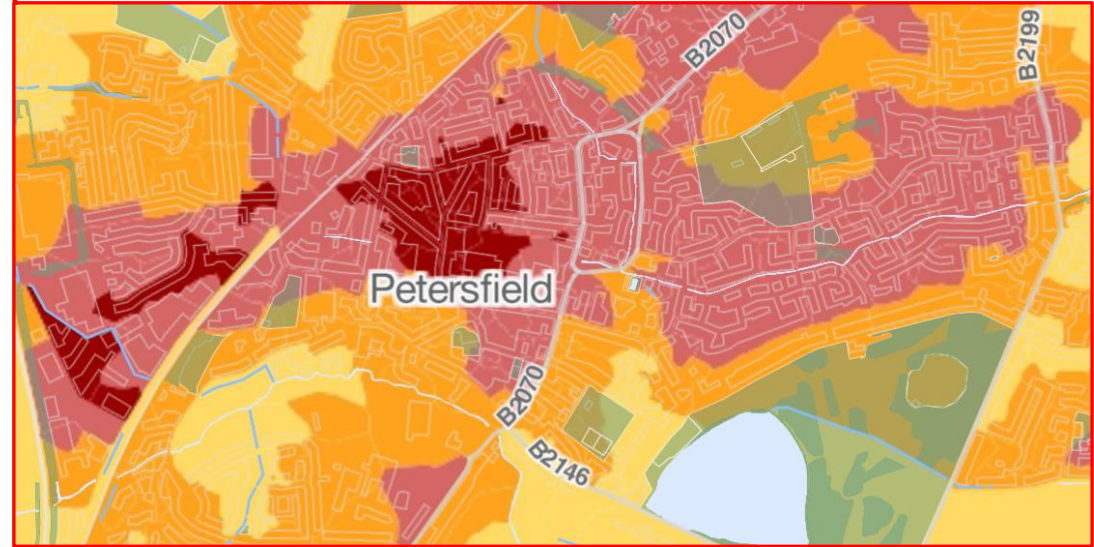
**The death toll has been estimated at nearly 62,000 (3,500 in UK)**



**B | B | C**



**Check your postcode:  
Is your area vulnerable to  
extreme heat?**



<https://www.bbc.co.uk/news/uk-62243280>

# Public health matters: heatwaves and health

**Jenny Griffiths, Trustee ACAN**

and

**Farihah Choudhury**

Senior Public Health Practitioner, Hampshire County Council

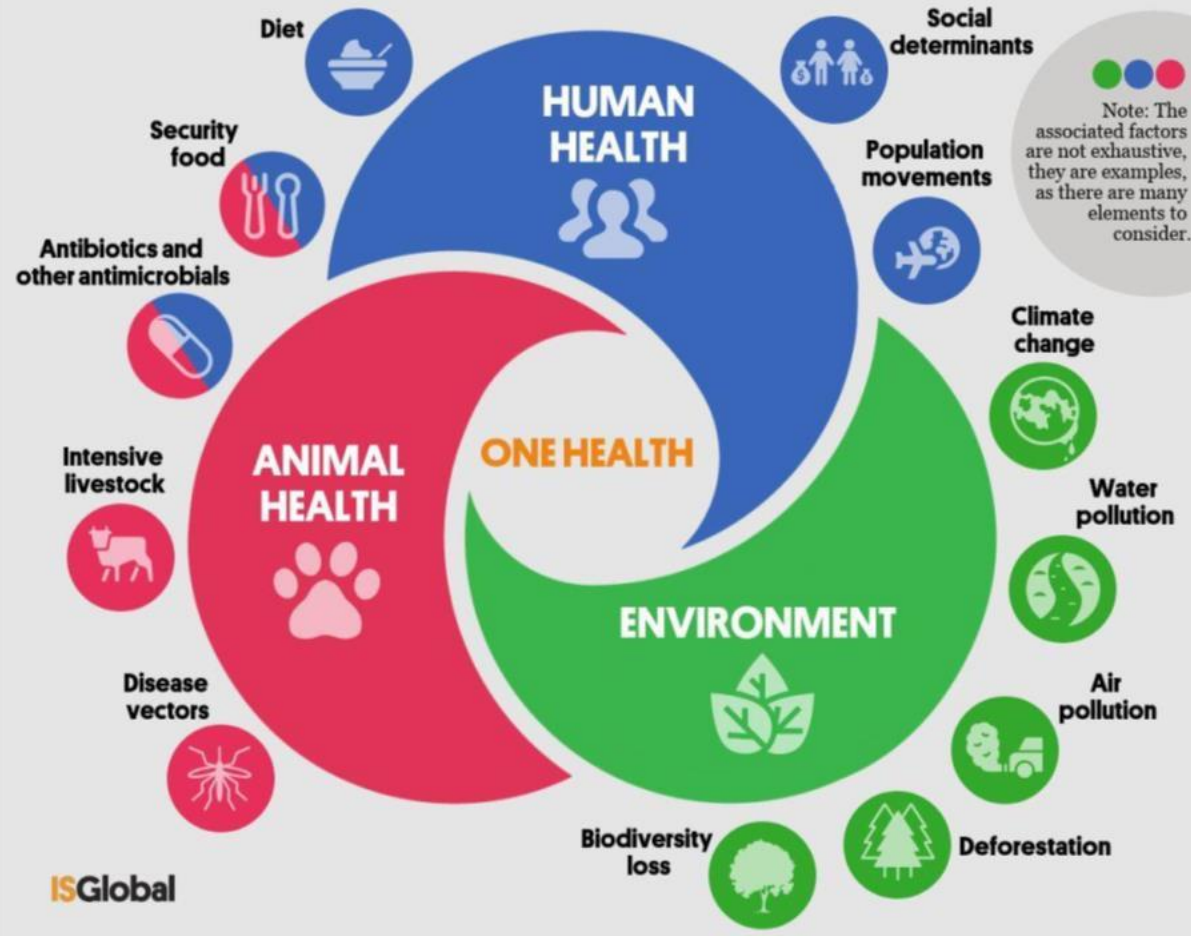


**Hampshire**  
County Council

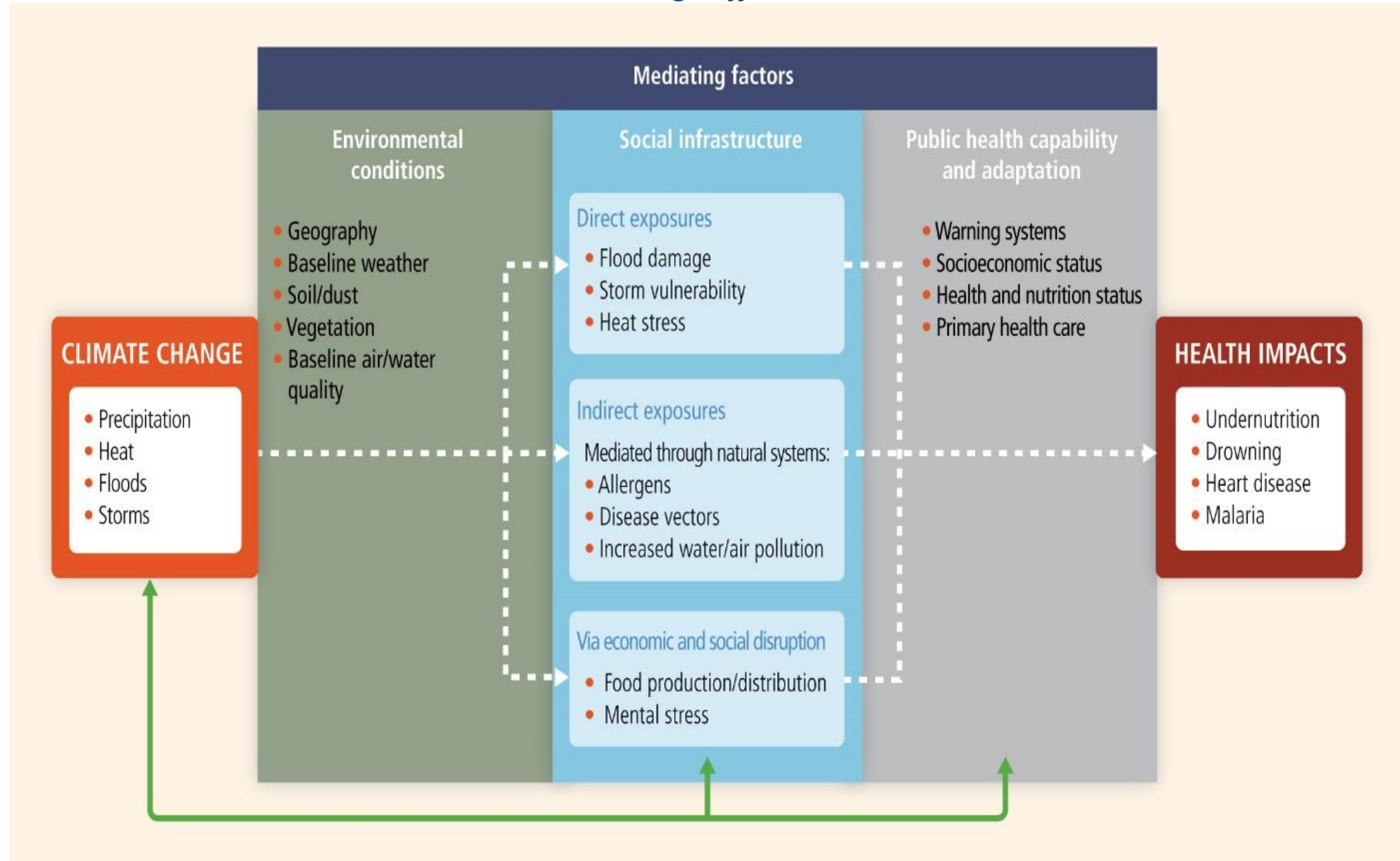


# ONE HEALTH

Human health and animal health are interdependent.  
At the same time, both depend on the environment.



*Reproduced with permission from the IPCC AR 5 Conceptual diagram showing three primary exposure pathways by which climate change affects health*



## Non-heatwave health impacts of climate change in the UK

- **Flooding** and storm damage have long-term mental health impacts for flood victims
- **Air pollution** - exposure to air pollution (over years or lifetimes) reduces life expectancy, due to cardiovascular and respiratory diseases and lung cancer.  
It is linked to dementia and cognitive decline.  
It can exacerbate existing conditions (eg asthma)
- **Crop failure** - climate change will negatively impact on food supply
- **Vector-borne diseases** will increase: transmitted by blood-feeding insects, e.g. ticks (Lyme disease) and mosquitoes (dengue, malaria – in the ?near future)

# Seasonal health effects of climate change on health



## Spring

- Earlier onset of grass pollen season
- Increased pollen abundance

## Summer

- Increased abundance of insects, including pests
- Longer season in which insects are active
- More heatwaves
- More air pollution episodes



## Autumn

- Extended season of biting insects and ticks
- Extended transmission season for Lyme disease



## Winter

- Milder winters
- Less disruption to health systems from snow and cold spells
- More air pollution episodes



# UK Health Security Agency – Heat mortality monitoring report 2022 data

## *From the website ...*

The summer of 2022 saw the highest recorded temperature in England at 40.3°C, which prompted the first ever Level 4 Heat-Health Alert (HHA) and Red National Severe Weather Warning Service (NSWWS) Extreme Heat warnings to be issued. In addition, 2022 had the highest number of days on which an HHA was issued since the alerting system was introduced in 2004. Summer 2022 was also the joint hottest on record.

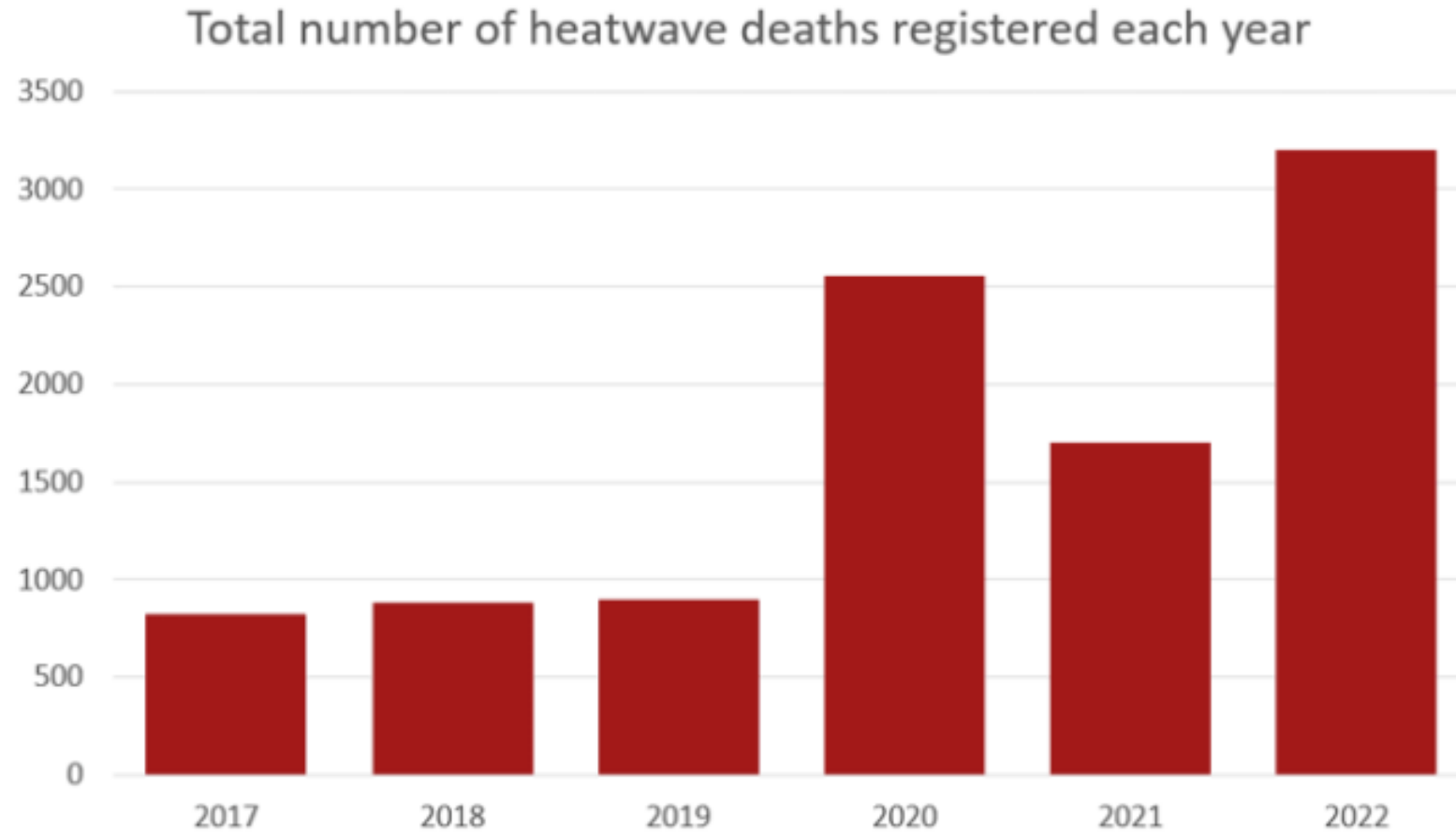
**During summer 2022, there were an estimated 2,985 (2,258 to 3,712) all-cause excess deaths associated with 5 heat episodes in the UK, the highest number in any given year.**

The death toll in Europe was c. 62,000

*It could have been worse:* Met Office user engagement research suggests that 98% of the public took some level of action to protect themselves or their families over this period.



## UK heatwave deaths data



# Direct impact of high temperatures on health

- **Outdoor workers (farmers, builders etc.), homeless people and some indoor workers are particularly at risk of heat exhaustion and heat stroke**
  - symptoms include dizziness, feeling faint, feeling sick, fast breathing or heartbeat, high temperature
  - they need to be hydrated and cooled down urgently
- Human body temperature can increase from 37C to a *deadly* 40C
- **But most deaths are due to pre-existing heart, lung and kidney disease worsened due to heat stress**

## Direct impact of high temperatures on health 2

- **Stress** overwhelms the body as it struggles to cool itself down, placing huge strain on the heart, lungs and kidneys
- Most deaths are in **older people** and those **vulnerable** due to pre-existing health conditions and social deprivation
- **Hot nights** cause sleep deprivation which also damages health due to stress on organs
- **Productivity falls** with increasing temperature impacting on income and the economy – and indirectly on health

# Beat the heat: staying safe in hot weather

- keep out of the sun at the hottest time of the day, between 11am and 3pm
- if you are going to do a physical activity (for example exercise or walking the dog), do it during times of the day when it is cooler - the morning or evening
- keep your home cool by closing windows and curtains in rooms that face the sun
- if you do go outside, cover up with suitable clothing such as an appropriate hat and sunglasses, seek shade and apply sunscreen
- drink plenty of fluids and limit your alcohol intake
- check on family, friends and neighbours who may be at higher risk of becoming unwell, and if you are at higher risk, ask them to do the same for you
- know the symptoms of heat exhaustion and heatstroke and what to do if you or someone else has them

## Further support for heatwaves

You can also get help from the **environmental health office** at your local council, if you think a hot house is affecting your health or someone else's. They can inspect a rented home for hazards to health, including excess heat.

# Resources

[Responding to climate change | Hampshire County Council \(hants.gov.uk\)](#)

[Extreme weather | Hampshire County Council \(hants.gov.uk\)](#)

[Greener NHS \(england.nhs.uk\)](#)

[Heatwave: how to cope in hot weather - NHS \(www.nhs.uk\)](#)

[Climate Action :: Hampshire Hospitals](#)

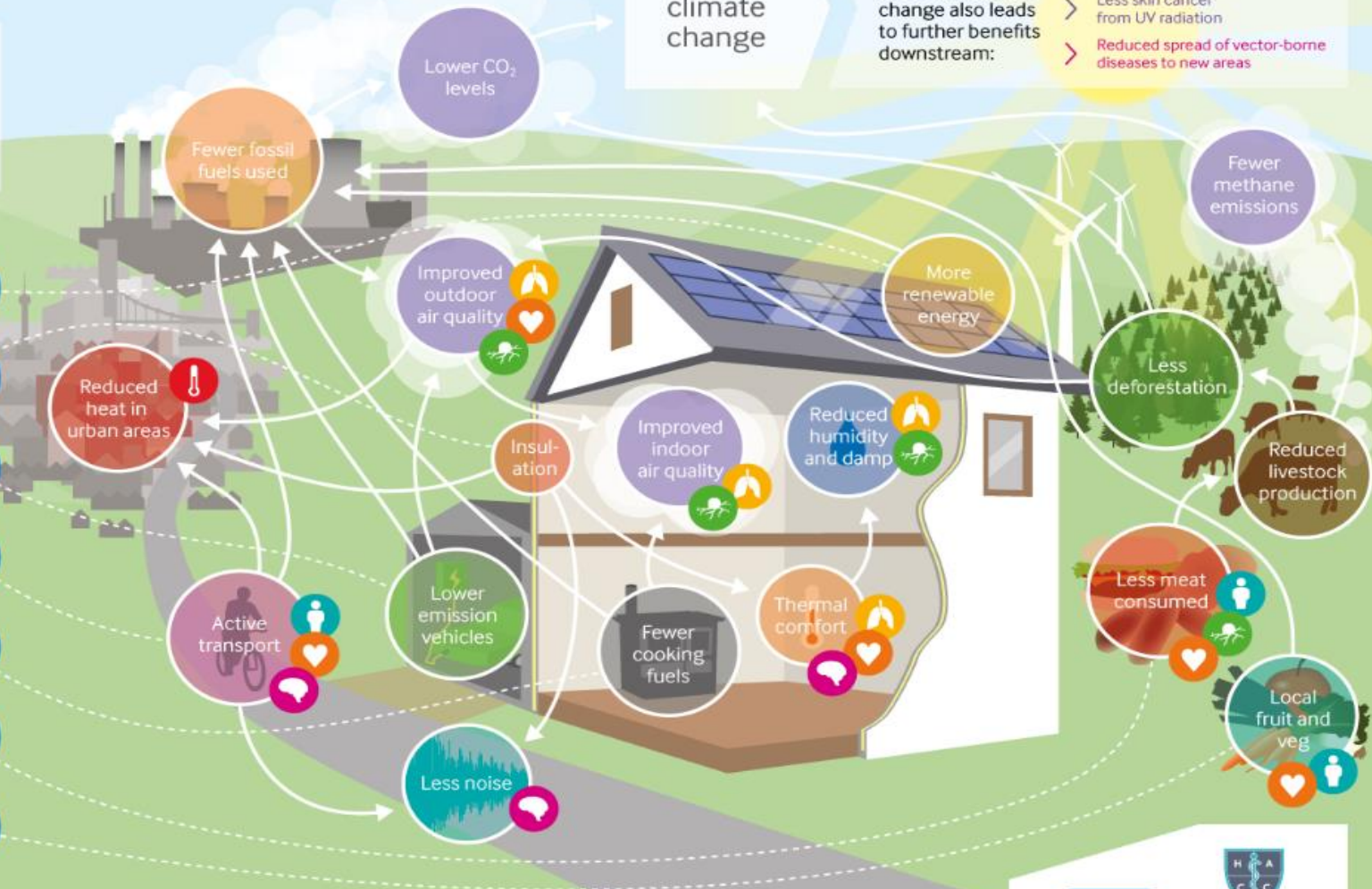
[Hot weather and health: guidance and advice - GOV.UK \(www.gov.uk\)](#)

# Health and climate: co-benefits

## Example interventions

These interventions have benefits both for health and for reducing climate change (also known as *mitigation*)

- Produce more renewable energy
- Improve insulation in homes
- Encourage use of lower emission vehicles
- Promote active transport
- Reduce solid fuels used for cooking
- Less food from animal sources
- Encourage locally produced fruit and veg



Reduced climate change

**Indirect benefits**  
 Reducing climate change also leads to further benefits downstream:

- > Fewer deaths and injuries from extreme weather events
- > Less skin cancer from UV radiation
- > Reduced spread of vector-borne diseases to new areas

Health benefits	Better mental health	Fewer deaths from extreme heat	Less cardiovascular disease	Less respiratory disease	Lower rates of cancer	Lower rates of obesity

Designed by: Will Stahl-Timmins  
 Content: Nick Watts  
 Thanks to: Soledad Cuevas, Duncan Jarvis, John Waring

# Public health matters: heatwaves and health

Questions?



# How to stop your home becoming a sauna

Peter Moss (PeCAN SuperHomes)

# Background facts

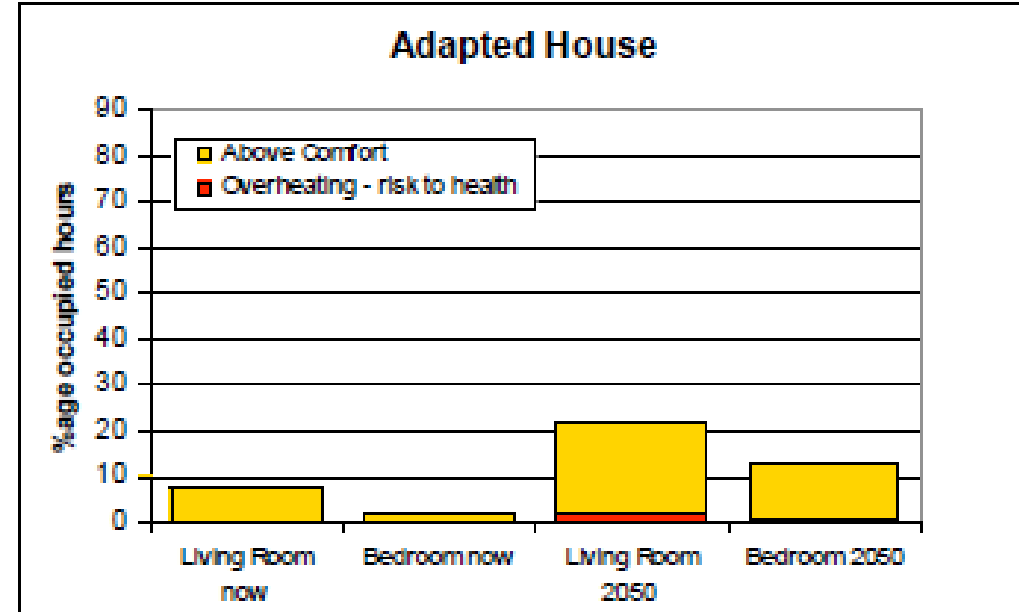
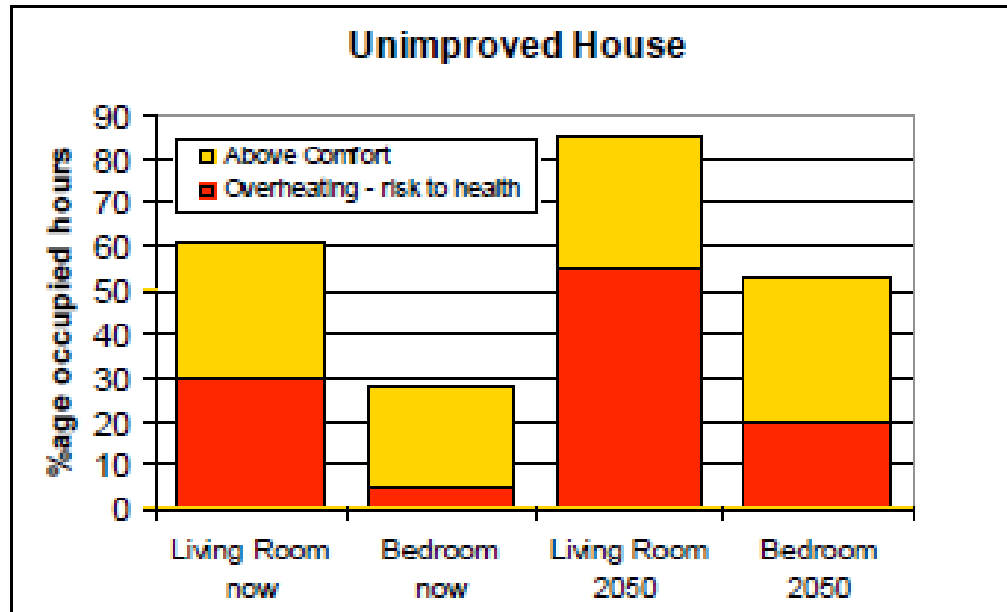
We have historically lived in a benign climate

- UK Homes were not built to stay cool
  - Many would argue that they were not built to retain heat either
  - A recent design goal being to capture the rare sunshine with large south facing windows, conservatories, bi-fold doors.
- But with potentially more extreme winters and summers and more rainfall, we need to think again.
- Good news:
  - Many of the things we do to keep heat in during the winter will also keep heat out in the summer
  - It doesn't have to cost a lot of money...
  - ... and where you do spend money, you will probably reduce your energy bills and increase the value of your home
- Bad news:
  - Building Regulations are changing but not fast enough
  - 66% of existing East Hampshire private homes have an EPC of D or below – they are poorly insulated



# How well adapted is your home?

\* NHS Heatwave Plan for England



- How well insulated is your house?
  - Loft and walls, doors, are there draughts?
  - Controlled ventilation?
- What size and quality are your windows?
  - Particularly those that are south facing

- What about the external environment?
  - Is there natural shade?
  - Is there natural cooling?
  - Is there natural breeze?

Remember: your goal is to keep heat out during the heat of the day (internal temp < 26°) and let cool air in during the night!

# What can I do - simple measures?

- Place a thermometer in your living room and bedroom
- Keep windows that are exposed to the sun closed during the day
- Close curtains and blinds that are exposed to the sun – avoid dark materials (if possible)
- Avoid cooking for long periods and turn off any non-essential electrical equipment (it will generate heat)
- Open windows at night – let as much cool air in as possible
  - Create a through breeze if you can
- Move to coolest rooms in the house (north-side), particularly for sleeping
- Buy a portable fan
- Find a cool space to go away from the home if it becomes unbearable

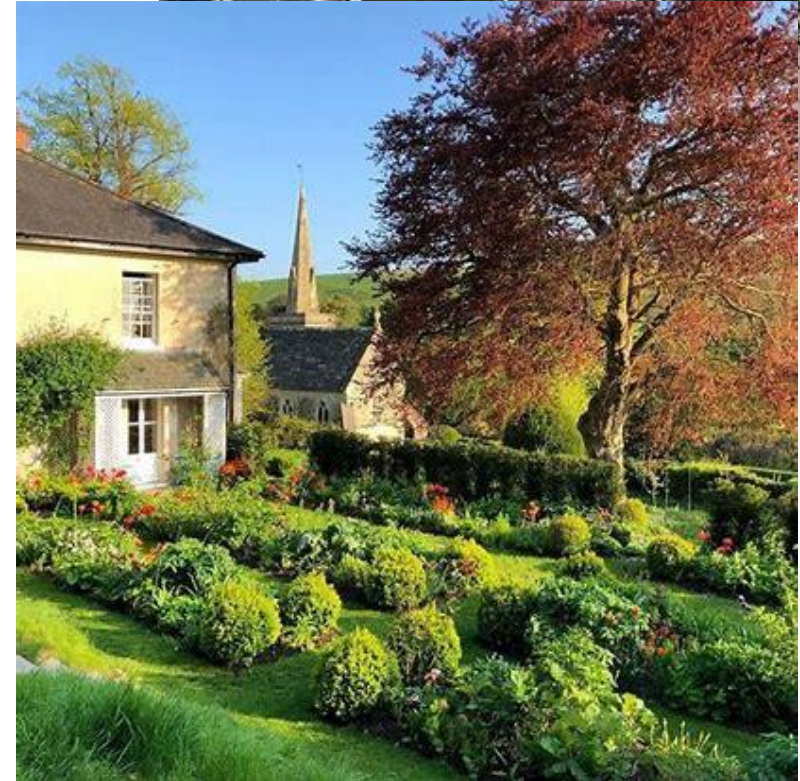


- Does water help or hinder?

## What can I do – medium-term measures?

All of the previous slide, plus...

- Use pale reflective paints on the exterior of the house
- Create external shade:
  - It's much more effective than internal shading like blinds and curtains
  - Install awnings on south (and west) facing windows
  - Install shutters (not usually well suited for UK homes)
  - Grow trees and leafy plants near windows to provide natural shade
    - They also act as natural air-conditioners
    - Deciduous trees provide shade in summer, but let the winter sun through
- Install ceiling fans
- Wood or tiles are better than carpet on the ground floor (where you spend your day)



## What can I do – longer term measures?

All of the previous slide(s), plus...

- Ensure loft installation is as good as it can be
- Ensure that your cavity walls are insulated
- Install modern double or triple glazed windows with solar control glass
- Eliminate draughts and install ventilation that you can control
  
- All of these measures will help in the winter as well
  
- You could also complete your home retrofit by de-carbonising your heating
  - For example, with a heat pump
  - 23% of East Hants carbon emissions are from housing, most of which is heating
  - We can all help to slow the rate of climate change



## Funding & Finance (petersfieldcan.org)

<b>Scheme Name</b>	<b>Eligibility</b>	<b>Measures covered</b>
Energy Company Obligation (ECO)	Low income or vulnerable household. EPC rating of D, E, F or G. Grants administered by energy companies.	“Energy efficiency measures” – includes insulation and heating.
Warmer Homes	Household income less than £31,000 per annum, or vulnerable household. EPC rating of E, F or G.	Solid and Cavity wall insulation Loft insulation Solar panels Air Source heat pumps
Boiler Upgrade Scheme (BUS)	Non-means-tested. Funding towards replacing fossil fuel heating.	Air Source Heat Pump Ground Source Heat Pump Biomass Boiler (rural, off-gas-grid)
Smart Export Guarantee (SEG)	Payment for generation of low-carbon electricity that is supplied to the grid.	Solar PV Wind Micro CHP
COSY Loan Scheme (Closed for the summer period, hopes to reopen in Winter 2023)	All East Hampshire District Council households.	Windows and doors replacement Boiler replacement Insulation Solar PV and more
Great British Insulation Scheme (previously called ECO+)	The scheme will launch by Summer 2023 and run until March 2026. Expected to be those in homes with Council Tax Bands A-D and an EPC of D or lower.	Single insulation measure

**But it changes regularly, so best to check the web-site!**

# The Built Environment

Questions?

<https://petersfieldcan.org/home-energy>



# How your garden can keep you cool

Melanie Oxley (PeCAN)

# I aim to

- explain how our gardens are important for climate change resilience
- show you how plant choice, garden management and water conservation make a difference
- encourage you to provide for wildlife in your garden

# Ecosystem services



# Alton's gardens and greenspaces



# What we shall have to contend with

- longer, hotter growing season with baked soils
- extended water shortage
- pollinators/beneficial insects out of sync with available nectar or food source
- increased humidity giving rise to new pests and diseases
- heavy rainfall

# All-important soil



# Mulches

Bark/forest

products

Dead leaves, twigs  
& prunings

Home-made

compost

Gravel and stones

Newspaper and  
cardboard



# Ground cover plants

comfreys

prostrate cotoneasters

*Vinca* species

bugle

sweet woodruff

*Epimediums*

ivy





To mow?



Or let it grow?



# Resilient borders

Herbaceous perennials

Mediterranean species, plus

Comfrey

Foxglove

Marjoram

Field scabious

Goldenrod

Yarrow

Fruit and nut bearing shrubs

Annuals in pots



# Shade and shelter



Holly, Yew  
Guelder rose  
Hawthorn  
Spindle  
Dogwood  
Mahonia  
*Cotoneasters*  
Honeysuckle  
Dogrose  
Ivy

# Ivy – year round value



# Aim for

- a greater area for perennial plants and shrubs
- much of your lawn uncut all summer apart from a mowed pathway
- a diverse range of native & non-native pollinator- friendly plants to give nectar every month of the year
- climbers, including ivy, trailing along fences and walls
- water source for wildlife – pond, bird bath, dish
- at least one native tree

# Grey water



# Harvesting water





# Water for wildlife



# Your cool, resilient garden



How your garden can keep you cool

Questions?

# Greenspace – the town's refrigerator

Andy Moffat (Petersfield Society)

# Greenspace – the town's refrigerator





Where's the shade in Alton town?!!!

← 80 High St

Alton, England

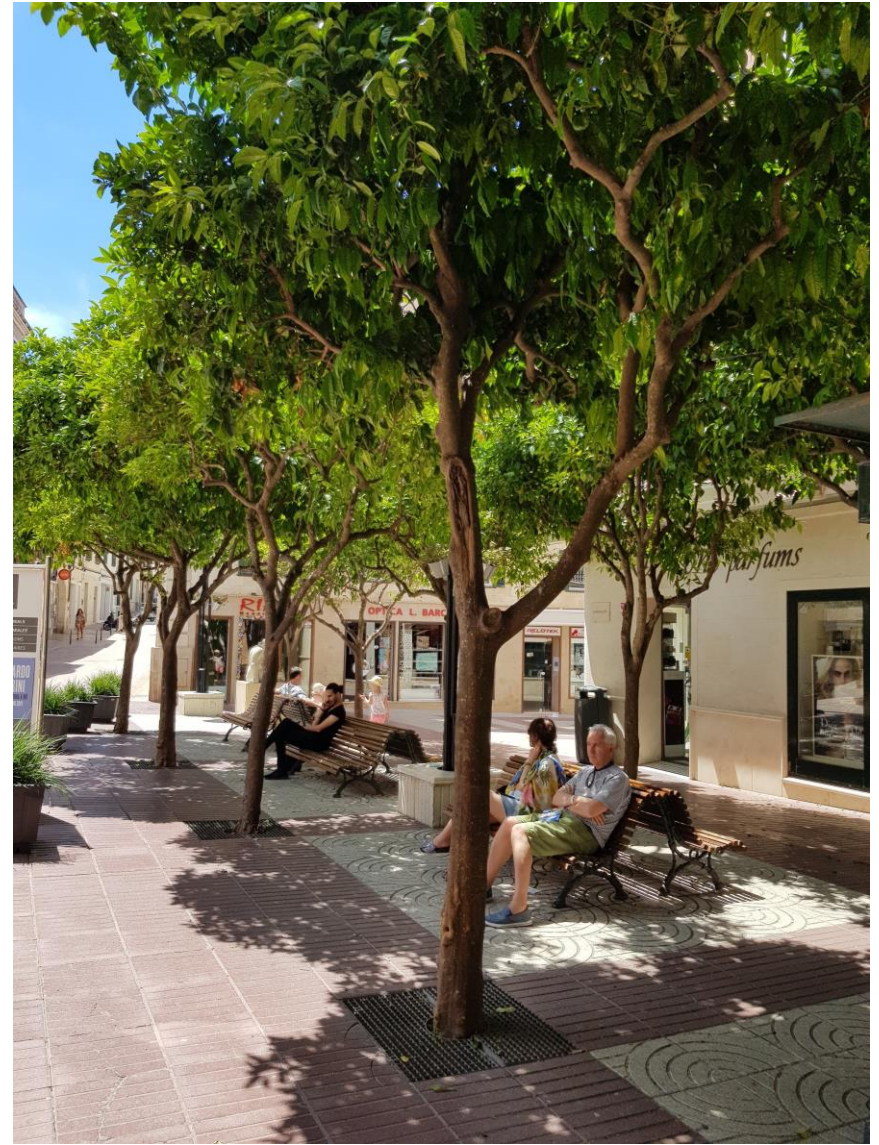


Google Street View

May 2023

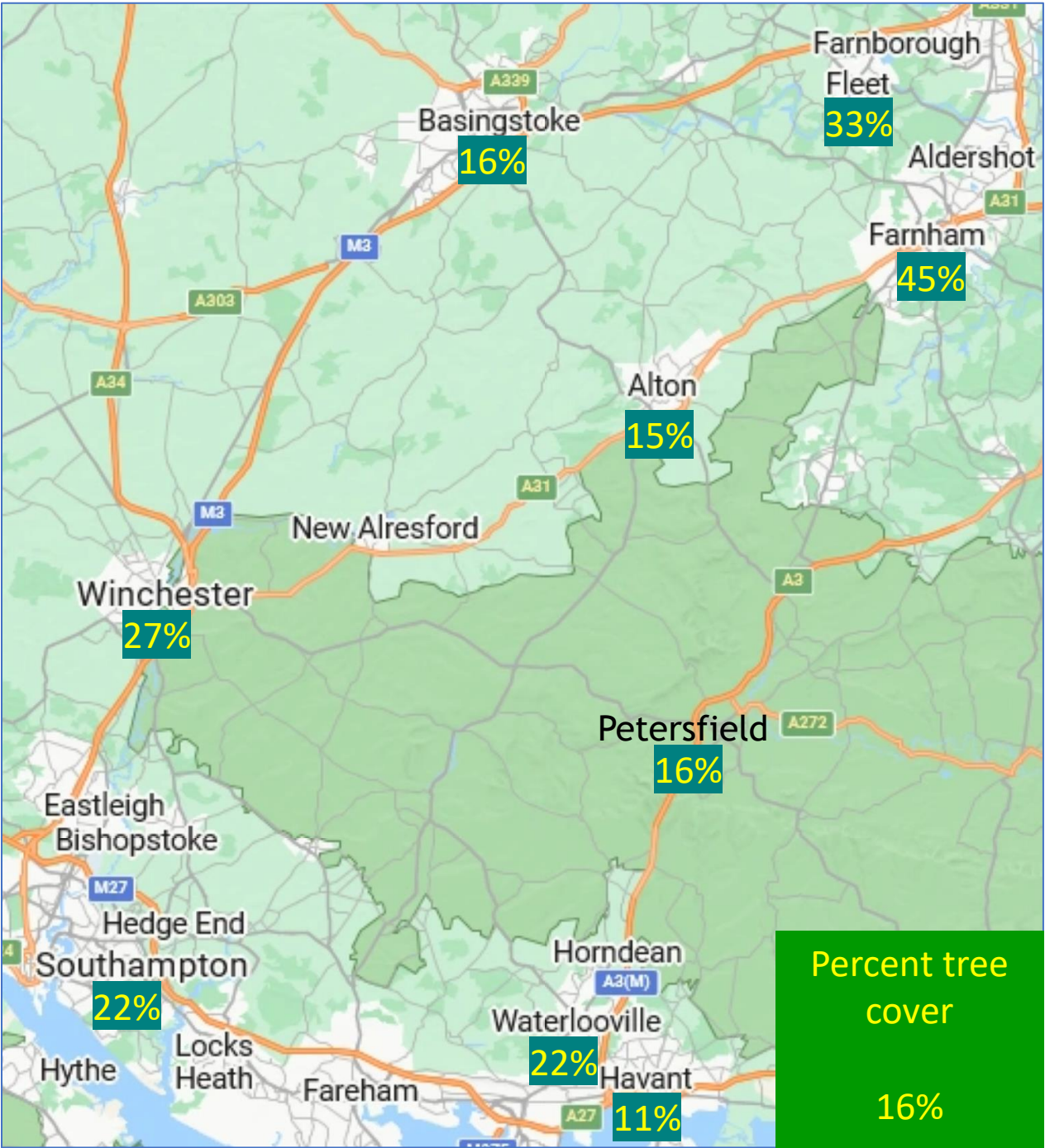
[See more dates](#)





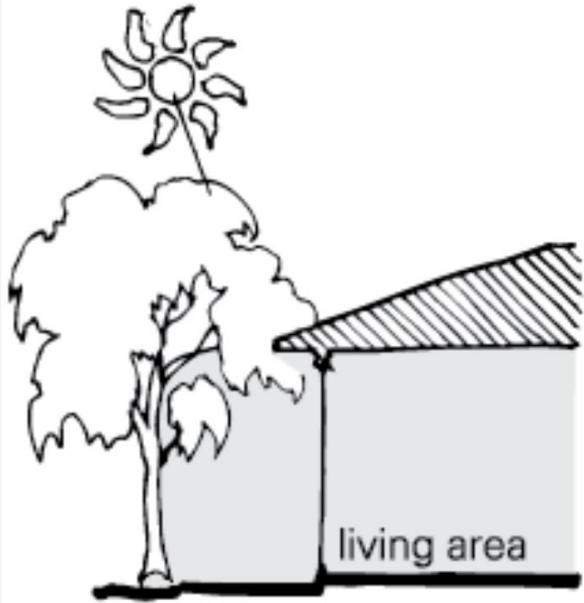


# Tree canopy cover (2016)

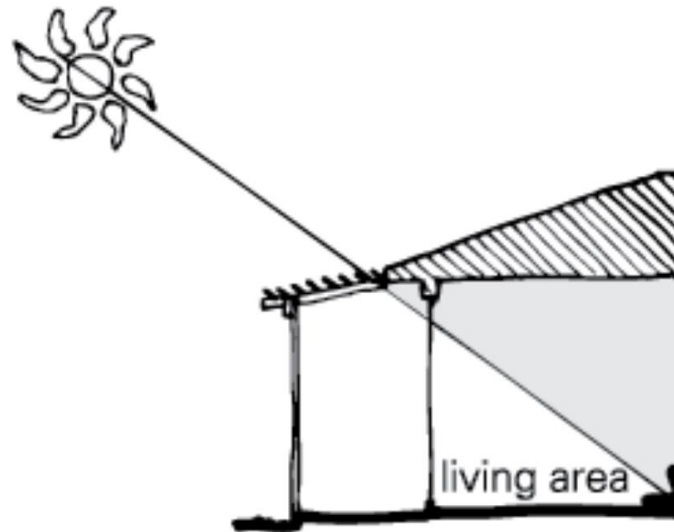
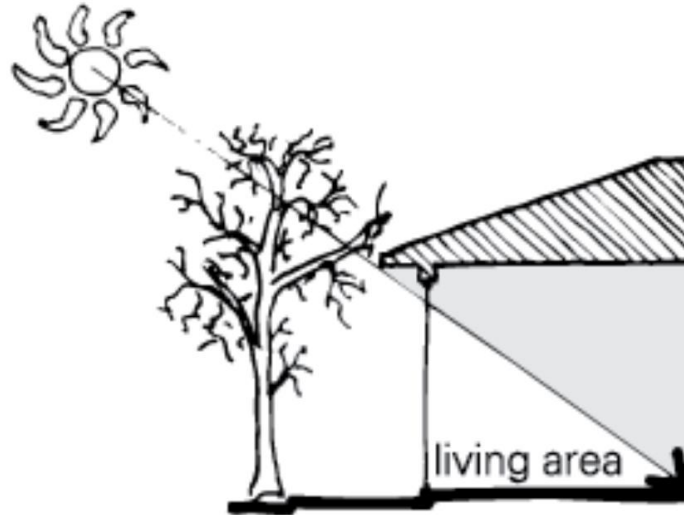


from: <https://urbantreecover.org/>  
and <http://bit.ly/canopy-cover-web-map>

**Summer**



**Winter**



**Deciduous vs evergreen:** Deciduous trees are perfectly designed by nature to offer direct solar benefits. They leaf out to provide shade in the summer, then shed their leaves to let the sun shine in during the winter.


From:

<https://www.yourhome.gov.au/passive-design/shading>



Trees should be planted on the southwestern and western sides of the house to be most effective. Trees in those locations will shade the house from the most intense sun during the hottest part of the day. Of course, trees on the south and east sides will help shade the house, too.

hants.gov.uk/transport/roadmaintenance/roadproblems/tree-planting

 Hampshire County Council Services

Search this site

Sign in Register

### Tree planting season

Please be advised that all planting requests submitted are now for the 23/24 planting season which will be October 2023 through to March 2024.

[Home](#) > [Transport and roads](#) > [Road maintenance](#) > [Report road and paving problems](#)

## Request Highway tree planting

Hampshire County Council is committed to tackling climate change and tree planting is a key part of the [Council's Climate Change Strategy](#) PDF. Trees bring profound social, economic, and environmental benefits to all. Highway tree planting is particularly beneficial. As such, we proactively survey areas with low canopy cover and/or which suffer higher pollution levels for future tree planting.

### Who can apply

Members of the public may request that Hampshire County Council plant trees on the highway outside their homes where suitable verges exist.

Members of the public may request that **Hampshire County Council** plant trees on the highway outside their homes where suitable verges exist.



# PLEASE WATER YOUR TREES!



Newly-planted trees need to be watered regularly over the summer months if they are going to become established and thrive.

**If you have a tree outside your house, or one that you pass on your daily walk, then you can help.**

Requirements vary depending on a number of factors such as species and location, but a general rule is that they should receive at least **50 litres of water per week** in May, June, July and August:

**Please water regularly during dry periods with as much as you can - Every little helps**



Watering should ideally be carried out in the early morning or evening.



It is good practice to water trees for the first three years after planting.



If the tree has a watering pipe, then half of the water should be poured down the pipe and the other half on the surface of the tree. If the tree has a watering bag, then fill that.



Where possible, water should be sustainably sourced. Harvested rainwater is ideal, but bath water, or water which has been used for the washing up, is also suitable.

More information about tree watering can be found in the **London Tree Officers Association (LTOA)** publication *Sustainable water management*, available for free download at [www.ltoa.org.uk](http://www.ltoa.org.uk)

General information about trees and tree care can be found at the **Arboricultural Association** website [www.trees.org.uk](http://www.trees.org.uk)

# Shading for playgrounds





Wildflower meadows  
are cooler than grass  
too!

Source: **Urban wildflower meadow planting for biodiversity, climate and society: An evaluation at King's College, Cambridge (2023).**

# Heatwaves and air pollution

Air pollution levels are closely linked to the weather, and hot spells often arrive hand-in-hand with poor air quality as the sun turns up the heat on a melting pot of airborne chemicals.

The 2022 heatwave led to dangerously high levels of ground-based ozone across the country. Ozone can cause shortness of breath, asthma attacks, and increase our risk of respiratory infection and disease.

Dust and small organic particles were also present in larger amounts. These can also cause irritation for people with respiratory disease.

From: <https://ncas.ac.uk/how-uks-record-heatwave-affected-air-pollution/>





# Risk of wildfire



Longmoor Ranges, 17<sup>th</sup> July this year!



Wildfire can be caused  
by carelessness

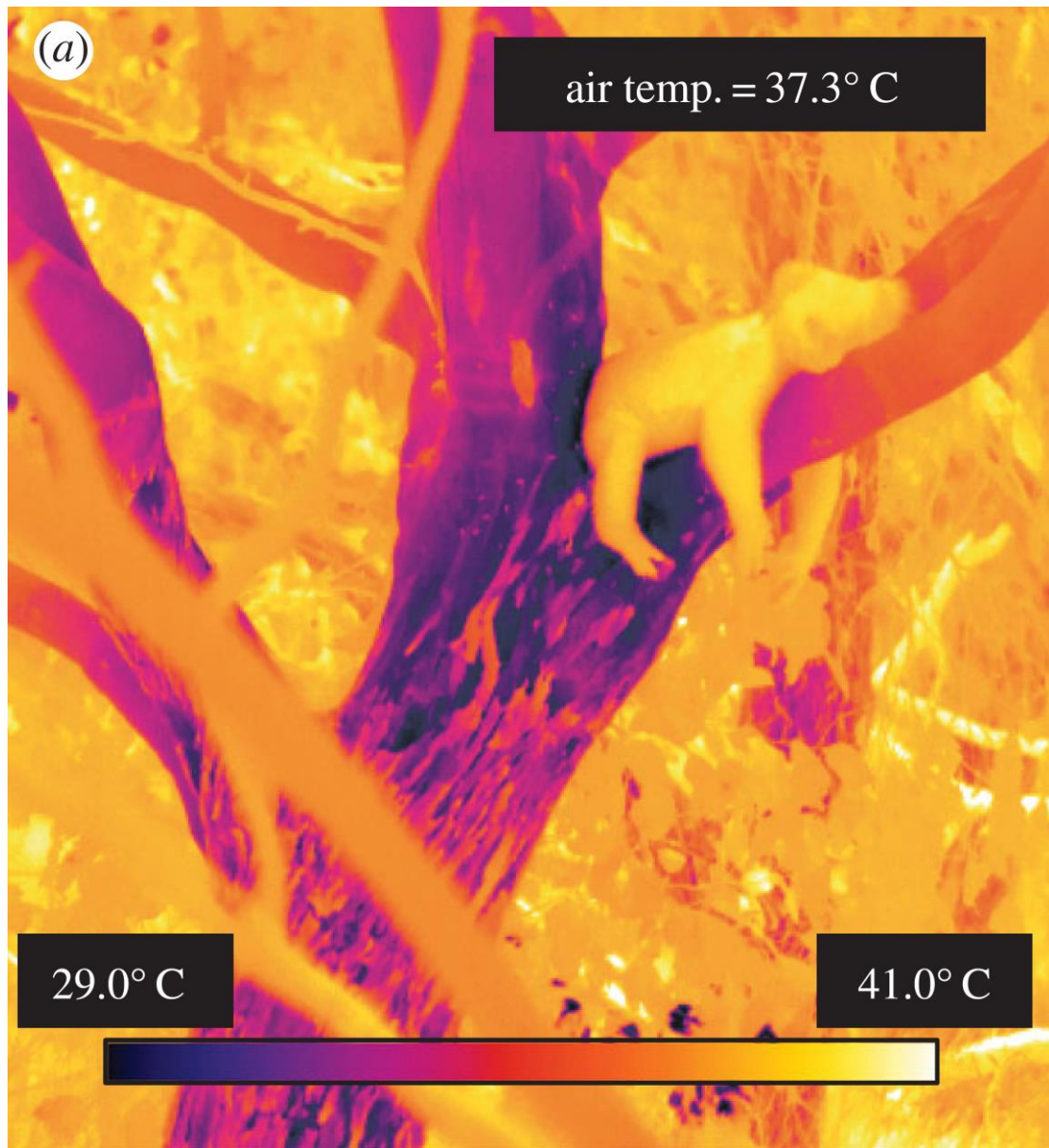


## Conclusions

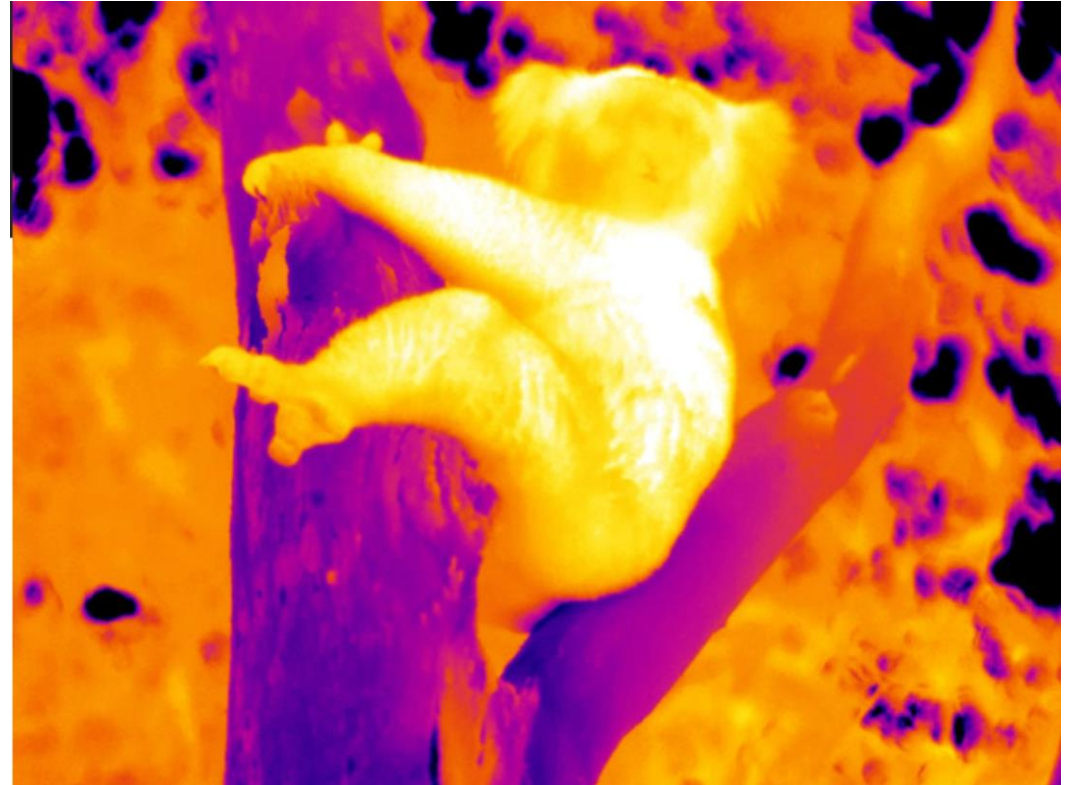
1. Alton's greenspaces are really important in helping the town keep cool during heatwaves
2. Trees provide shade and cooling, and reduce air pollution – we can't have enough in the future!
3. Residents with gardens can make a significant contribution to the 'fridge effect'
4. But we can also encourage local authorities to plant more trees, hedges and meadows in public places

## Summary - what can we do?

1. We can contact the relevant Local Authority and lobby for more trees, hedges and meadows in Alton, and the retention of those already there.
2. We can oppose unnecessary tree removal in planning proposals and insist that trees are included in new development.
3. We can volunteer to plant more trees and to care for newly planted ones – e.g. by watering them in summer months. We can join the Tree Warden movement or support in other ways.
4. We should reduce the risk, and increase our vigilance, of wildfires.



Trees become  
refrigerators for Koalas



Greenspace – the town's refrigerator

Questions?

Is Alton prepared for the next  
heatwave?

Further Q & A