Extreme heat and cold in a changing climate:

Impacts on human health in the EU & UK

A grim future

The area of the red and blue circles represents fatalities from extreme heat and extreme cold respectively.

Projected annual deaths due to extreme heat in 2100 without adaptation

3 °C rise: 90,000

2 °C rise: 49,000

1.5 °C rise: 29,000

Projected annual deaths due to extreme cold in 2100 without adaptation

With unmitigated climate change human exposure to severe heatwaves could be around 30 times greater than present at higher latitudes, while it could be 40-50 times greater in countries in southern Europe.

Present day
2,700 annual deaths

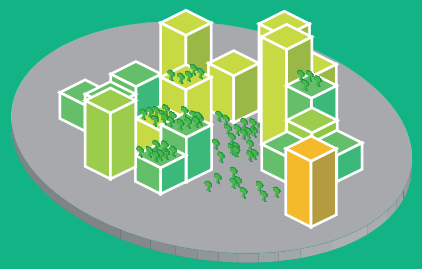
Heat (or cold) waves are instances of more than 3 consecutive days with EXTREME warm (or cold) temperature above a daily threshold

Adaptation options

Stay cool

Stay hydrated

Stay informed



Sustainable Green Cities:
- green roofs
- parks
- shaded areas

A north - south divide

The rise in exposure to and fatalities from extreme heat is most pronounced in southern European countries and the highest number of fatalities occur in France, Italy and Spain.

Urban heat island

During hot spells, temperatures can be several degrees higher in cities compared to surrounding rural areas.

Vulnerable people

Sensitivity or susceptibility to harm and lack of capacity to cope and adapt, like elderly.

Proportion of population aged over 65 years

The share of people older than 65 will increase from 19% now to 30% by end of this century.

For more information, including assumptions of the modelling framework used, see: JRC PESETA IV project https://ec.europa.eu/jrc/en/peseta-iv

European Commission