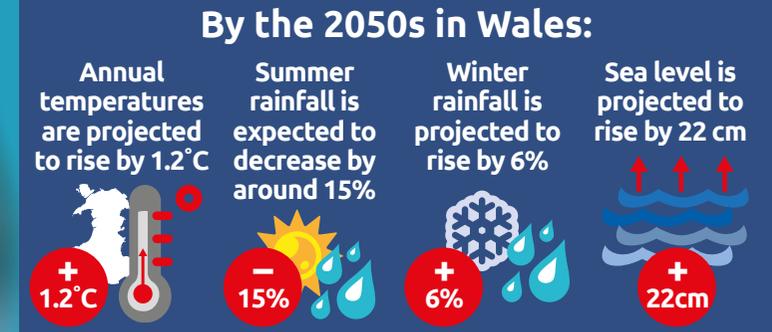# Health and wellbeing impacts of climate change

Climate change means that extreme weather, flooding and heatwave events are likely to occur more often in Wales

Climate change affects all parts of Wales. Some examples of health impacts for specific groups are shown below

By the 2050s in Wales:

Annual temperatures are projected to rise by 1.2°C	Summer rainfall is expected to decrease by around 15%	Winter rainfall is projected to rise by 6%	Sea level is projected to rise by 22 cm
+ 1.2°C	− 15%	+ 6%	+ 22cm

Climate change is happening in Wales

Children and young people

❌ **Extreme weather and flooding**
- Disruption to education, outdoor sport and play
- Displacement from their homes, friends and community
- Stress and anxiety for themselves and their families

❌ **Increased heat**
- Higher risk of heat related illness

❌ **Mental wellbeing**
- Anxiety about how climate change will impact their future

❌ **Air quality**
- More susceptible to poor air quality and wildfire smoke

✅ **Positives**
- Have a positive role in reducing carbon emissions and adaptation to climate change
- Can be positive agents of change
- Practical and creative ideas to help communities recover from disasters

People on low income

❌ **Extreme weather and flooding**
- Less resources to prepare, respond and recover from floods or other extreme weather
- Less likely to be fully insured

❌ **Air quality**
- Air pollutant concentrations are currently higher in areas of socioeconomic disadvantage

❌ **Food and nutrition**
- Potential for increase in food costs

✅ **Positives**
- Potential in the long term for reduced heating costs

Climate change affects us all

Older adults

❌ **Increased heat**
- Higher risk of heat related illness and mortality
- Social isolation may increase during heat waves

❌ **Extreme weather and flooding**
- Disruption to access to health, social care and support services
- Displacement from their home and support networks
- More vulnerable in emergency situations such as flooding
- Increase in mental distress

❌ **Air quality**
- Older adults are more susceptible to poor air quality and wildfire smoke

✅ **Positives**
- Warmer winters are projected to decrease cold related deaths

People with disabilities and long-term health conditions

❌ **Increased heat**
- Negative impacts on some conditions such as mental health problems, cardiovascular and respiratory disease, and diabetes
- Some medications can increase vulnerability to heat related illness
- Social isolation
- Sleep disturbance

❌ **Extreme weather and flooding**
- Disruption to access to health, social care and support services
- Increase in mental distress
- More vulnerable in emergency situations such as flooding

❌ **Air quality**
- Those with respiratory conditions are more susceptible to poor air quality and wildfire smoke

- Planning and preparing for climate change needs to include action across sectors to promote and protect the health and wellbeing of different population groups and places in Wales.
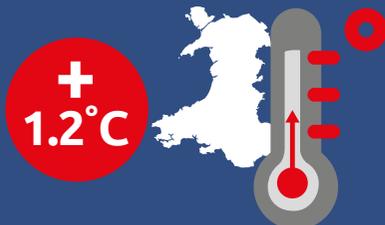
World Health Organization Collaborating Centre on Investment for Health and Well-being

GIG CYMRU / NHS WALES — Iechyd Cyhoeddus Cymru / Public Health Wales

Health and wellbeing impacts of increased heat

Climate change means that heatwave events are likely to occur more often in Wales.

By the 2050s annual temperatures are projected to rise by 1.2°C in Wales

+ 1.2°C

The 2021 Independent Assessment of UK Climate Risk says:
- Heat risk in homes and buildings is a top priority for action in the next 2 years
- More action is needed to address risks to human health, wellbeing and productivity

Cross sector action is needed

We need to plan and adapt

Schools and other educational settings:
- Heat related illness
- Loss of concentration
- Reduced ability to learn

Workplaces:
- Heat related illness
- Reduced productivity
- Decreased safety

Homes:
- Heat related illness
- Sleep disturbance
- Potential long term reduced heating costs

Hospitals and care homes:
- Thermal discomfort of patients/residents and staff
- Heat related illness of patients/residents and staff
- Sleep disturbance
- Negative impacts on conditions such as mental health problems, cardiovascular and respiratory diseases
- Failure of equipment and IT systems
- Disruption to laboratory equipment
- Damage to medicines

Factors affecting heat in buildings include:
- Building design and materials
- Type of building
- Location and positioning
- Room occupancy levels
- IT and electrical equipment generating heat
- Insulation
- Ventilation
- Outdoor shade
- Type of activities

More action is needed across sectors to plan for increased heat:
- New schools, homes, hospitals and care settings need to be designed to prevent health impacts from increased heat
- There is a need to increase incentives for retrofitting existing homes
- Well planned tree planting can provide shade to reduce exposure to heat in urban areas, care settings, homes, schools, and playgrounds

Extreme Weather Advice
- Public Health Wales Environmental Health Protection Team provide extreme weather advice for the public and organisations across Wales on how to protect health during extreme weather, heatwaves and flooding. Find out more at: Extreme Weather Events - Public Health Wales (nhs.wales)

World Health Organization Collaborating Centre on Investment for Health and Well-being

GIG CYMRU NHS WALES
Iechyd Cyhoeddus Cymru
Public Health Wales

Climate change impacts on access to healthy food

A healthy, nutritious diet is essential for:

Healthy growth and development in children

Good physical and mental health and wellbeing

Preventing obesity, cardiovascular disease and cancer

Changes to how we eat can promote health and help the planet:

Eating less meat and dairy products

Eating more fruit, vegetables and legumes

Cutting down on food waste

Food is essential for life

Our planet is essential for food

Healthy eating is already a public health priority in Wales because:

61% of adults are overweight or obese

27% of children aged 4 to 5 years are overweight or obese

25% of people eat the recommended five portions of fruit or vegetables a day

Poverty and the cost of food were already barriers to a healthy diet in Wales before 2020:

10% of households had low or very low food security and another 10% had weak food security

Families with children under 16 were less likely to have high food security

Low income families would have needed to spend **42% of their after-housing income** on food to meet the costs of healthy eating guidelines
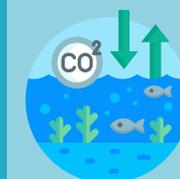
DONATION

42%

Climate change is likely to impact on access to healthy food in Wales in a number of ways:

Extreme weather can disrupt food production and supply in the UK and internationally, leading to food price spikes in the UK

Increased risk of pests, invasive species and diseases impact on crop yields and livestock health

Poorer soil quality and less water impact on crop yields

Higher water temperatures and ocean acidification impact on the availability of fish

CO²

More action is needed to develop resilient food systems to protect health in Wales in response to climate change

- More investigation and improved data are needed to plan for present and future climate risks to food systems to ensure vulnerable groups are protected and the impacts to health are minimised.

- Food security for health and wellbeing can only be achieved by a wide range of sectors including health, environment, government, civil society, farmers, trade and food producers / retailers working together.

World Health Organization Collaborating Centre on Investment for Health and Well-being

GIG CYMRU NHS WALES Iechyd Cyhoeddus Cymru Public Health Wales

Nature supports our health and wellbeing

Physical wellbeing

Keeping active in green and natural spaces like beaches, forests, parks and the countryside by walking, running, cycling, conservation work and playing

✔ **Health outcomes:**
- General physical health
- Cardiovascular health
- Healthier immune systems
- Healthier weight
- Mental wellbeing

Cut down on waste

Reduce, repair, reuse and recycle

🌍 Reuse more | Wales Recycles

Switch to active travel

Walk or cycle for your short distance journeys instead of going by car. All local authorities in Wales are producing active travel maps to help people plan car free journeys

Taking care of yourself and others

Taking care of nature

Mental wellbeing

Peaceful places; keeping active; taking notice of nature; feeling connected to nature; appreciating beauty

✔ **Health outcomes of access to green and natural spaces:**

For children and young people:
- Better emotional wellbeing
- Reduced stress and hyperactivity
- Improved resilience

For adults:
- Lower stress, depression and anxiety;
- Higher positive emotions and mental wellbeing

Reduce energy use

Save money on your bills at the same time as reducing your carbon footprint 🌍 Nest Wales

Support nature and biodiversity

Make your garden wildlife friendly

🌍 Nature on your Doorstep – Wildlife-friendly Gardening | The RSPB

Social wellbeing

Places to meet with others; shared activities and experiences

✔ **Health outcomes:**
- Reduce social isolation
- Sense of belonging
- Improved mental wellbeing

Essentials for life

Clean air   Water   Food

Volunteer for a local environmental charity

You could be food growing, fundraising, litter picking or conserving nature

🌍 I want to volunteer - WCVA

Work together

Find out how communities across Wales are tackling climate change and helping nature together

🌍 Renew Wales

In the UK, **40% of species are in decline, and 25% of mammals are at risk of extinction**

World Health Organization Collaborating Centre on Investment for Health and Well-being

GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales