

## Article

# Climate change insights, natural and rural environments, UK: November 2022

Latest climate change-related analysis using a range of UK official statistics.

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## Correction

### 18 November 2022 12:00

We have corrected an error in Section 5 under the sub-heading Sea levels. The previous version read, "In the event of a 2-degree warming scenario, sea levels around the UK are projected to rise by approximately 11 centimetres per year by 2030, 19 centimetres by 2050 and 36 centimetres by 2100, according to UK climate projections from the Met Office (via their geospatial Climate Data Portal)." It should read, "In the event of a 2-degree warming scenario, sea levels around the UK are projected to rise by approximately 11 centimetres by 2030, 19 centimetres by 2050 and 36 centimetres by 2100, according to calculated averages from UK data provided by UK climate projections from the Met Office (via their geospatial Climate Data Portal)." This same error was amended in the final main point.

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# 1 . Main points

- The 21st century so far has been warmer overall than any period of equivalent length in the previous three centuries; all seasons are warmer than at any time since records began in 1659.
- Land use and agriculture accounted for around 12% of all UK greenhouse gas emissions on a territorial basis in 2020.
- Forest land is a major carbon sink, removing more carbon from the atmosphere in 2020 than any other land type.
- Renewable energy was 39% of total UK electricity generated in 2020.
- More than 8 in 10 (85%) of adults think the way people use the environment has an impact on climate change.
- The Met Office projects sea levels to rise by approximately 11 centimetres by 2030, 19 centimetres by 2050 and 36 centimetres by 2100.

This is the third edition of Climate change insights, bringing together UK official statistics. Editions are themed: this edition focuses on natural and rural environments.

# 2 . Current state of the climate in the UK

## Long-term trends

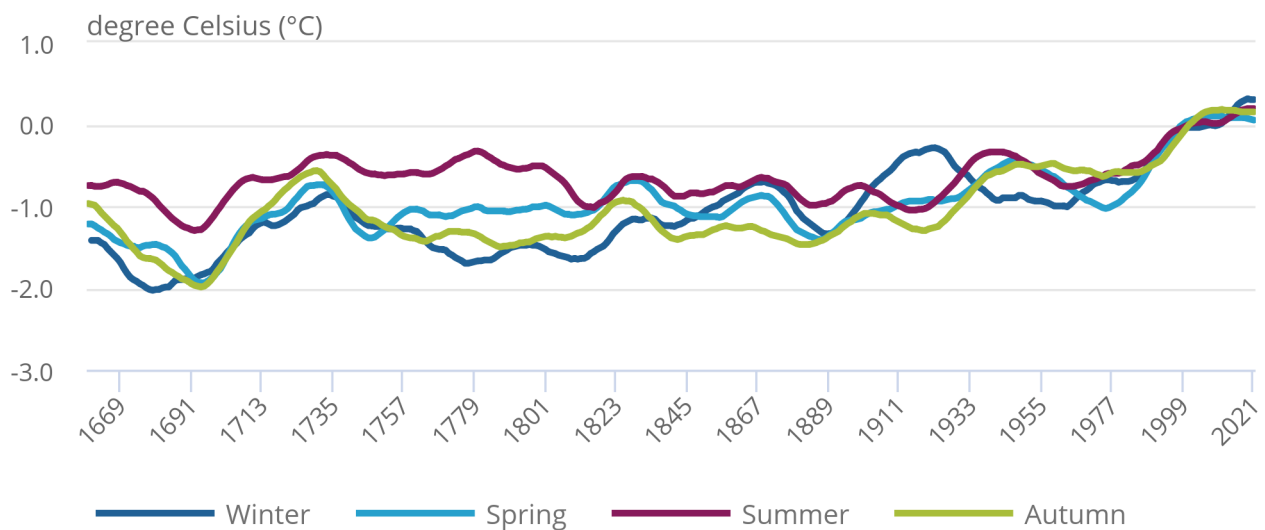
The latest Met Office [State of the Climate UK](#) publication shows that the 21st century so far has been warmer overall than any period of equivalent length in the previous three centuries and that, despite some fluctuations, all seasons are warmer than at any time since records began in 1659 (Figure 1).

**Figure 1: Seasonal temperatures show clear long-term increases in all four seasons.**

UK, 1659 to 2021

Figure 1: Seasonal temperatures show clear long-term increases in all four seasons.

UK, 1659 to 2021



Source: Met Office

Notes:

1. Seasonal Central England Temperature (CET) series (degree celsius) expressed as anomalies relative to 1991–2020 average, showing a smoothed trend for each series using a weighted kernel filter (see [Appendix B](#) for more details).

## Growing degree days

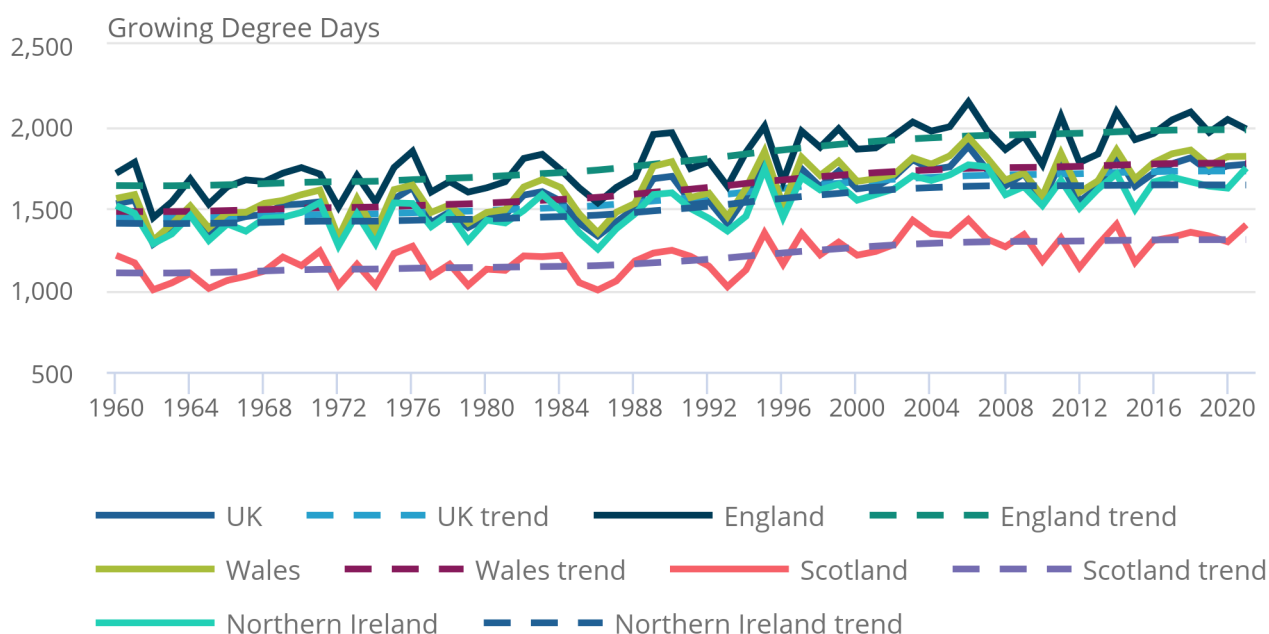
The Met Office calculates "growing degree days", a weather-based measurement used to estimate the growth and development of plants and insects during the growing season (see [Glossary](#)). According to the latest [State of the Climate UK](#), growing degree days have increased in all parts of the UK (Figure 2). The last 10 years have seen 2% more growing degree days per year on average compared with the most recent 30-year average (1991 to 2020), and 17% more when compared with the previous 30-year average (1961 to 1990).

**Figure 2: Growing degree days have increased in all parts of the UK between 1960 and 2021**

UK, England, Wales, Scotland, and Northern Ireland, 1960 to 2021

### Figure 2: Growing degree days have increased in all parts of the UK between 1960 and 2021

UK, England, Wales, Scotland, and Northern Ireland, 1960 to 2021



Source: Met Office – State of the Climate in the UK 2021

#### Notes:

1. Day-by-day sum of number of degrees by which the mean temperature is more than 5.5 degrees celsius.
2. Data are derived from temperature only and do not account for other factors such as solar gain, day length, wind and rain, which all affect the actual responses of plant growth.

## Recent weather

The Met Office report that 2022 so far has been both warmer and drier than average. Seasonal assessments of autumn (September and October 2022), summer (June to August 2022), spring (March to May 2022) and winter (December 2021 to February 2022) show the following differences compared with the 1991 to 2020 seasonal averages for UK temperature and rainfall:

- [autumn \(so far\) \(PDF, 587KB\)](#) was 0.5 degrees Celsius above average with 11% more rainfall
- [summer \(PDF, 563KB\)](#) was 1.1 degrees Celsius above average with 38% less rainfall
- [spring \(PDF, 594KB\)](#) was 0.8 degrees Celsius above average with 24% less rainfall
- [winter \(PDF, 602KB\)](#) was 1.1 degrees Celsius above average with 7% less rainfall

### **3 . Emissions and drivers**

## Territorial-based emissions

More than 400 million tonnes of carbon dioxide (CO<sub>2</sub>) equivalent greenhouse gases (GHG) were emitted into the atmosphere in the UK in 2020.

The latest Department for Business, Energy and Industrial Strategy (BEIS) [Greenhouse Gas Inventory](#) shows that agriculture accounted for 11% of total UK net GHG emissions, on a territorial basis, while land use, land use change and forestry (subsequently called land use) accounted for a further 1%.

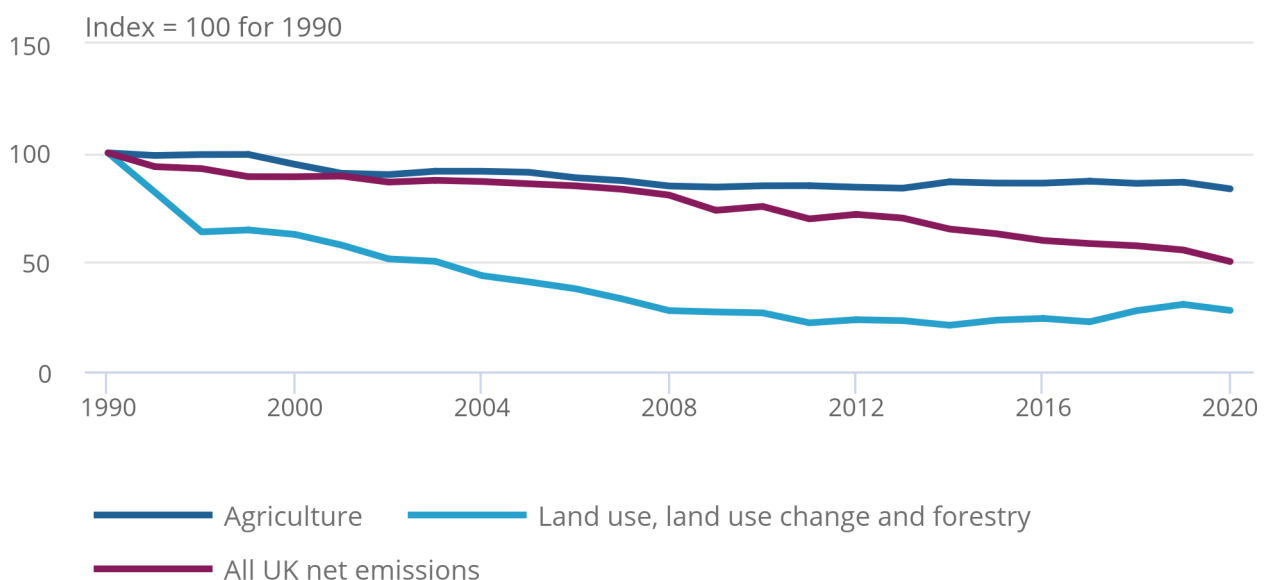
By 2020, total net GHG emissions had dropped by around 50% since 1990, the baseline year for emissions as agreed under the [Kyoto Protocol](#), precursor to the [Paris Agreement](#). Agricultural emissions fell by 16% and land use emissions by 70% over the same period (Figure 3).

**Figure 3: UK greenhouse gas emissions from land use and agriculture have fallen since 1990, despite some recent increases.**

UK, 1990 to 2020.

Figure 3: UK greenhouse gas emissions from land use and agriculture have fallen since 1990, despite some recent increases.

UK, 1990 to 2020.



Source: Department for Business, Energy and Industrial Strategy – National Atmospheric Emissions Inventory

### Notes:

1. Estimates use global warming potentials from the IPCC's Fourth Assessment Report (AR4).
2. Values do not include international aviation and shipping. Estimates for total UK net emissions include the full basket of seven Kyoto greenhouse gases.
3. Estimates of net emissions from land use, land-use change and forestry (LULUCF) and agriculture include three of these seven gases - carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

The most recent [BEIS statistics on each UK country's GHG emissions](#) showed that England accounted for 59% of UK net GHG emissions (on a territorial basis) from land use and agricultural sources, while Scotland accounted for 19%, Northern Ireland for 16% and Wales for 10% in 2020 (totals add up to over 100% because of unallocated net reductions from harvested wood products).

There is considerable variation across the UK, with differences in climate, urban extent, topography and soil type. For example, land considered more difficult to farm because of climate and soil conditions is classed as a less favoured area (LFA) and predominantly used for sheep and beef cattle grazing. LFAs accounted for 86% of farmed land in Scotland ([Arable farmer-led group: climate change evidence, 2021](#)), 80% in Wales ([Agriculture in Wales, 2019 \(PDF, 1.93MB\)](#)), 69% in Northern Ireland ([Statistical review of Northern Ireland agriculture, 2021](#)) and 17% in England ([Numbers of commercial holdings and key land areas and livestock types by less favoured areas at June each year: England \(ODS, 332KB\)](#)).

Combined (agriculture and land use) net emissions were highest for Scotland, but adjusting for population size and area Northern Ireland was highest. London had lowest net emissions from these sources (Figure 4).

#### **Figure 4: Combined land use and agricultural greenhouse gas emissions by UK region and local authority**

**Total net emissions, net emissions per head, and net emissions per square kilometre, 2020**

##### **Notes:**

1. Data on emissions per head and per square kilometre have been calculated using population and area statistics included in the original dataset
2. Land use, land-use change and forestry (LULUCF) includes emissions and removals of CO<sub>2</sub> from changes in the carbon stock in forestland, cropland, grassland, wetlands, settlements and harvested wood products, and of other greenhouse gases from drainage (excluding croplands and intensive grasslands) and rewetting of soils, nitrogen mineralisation associated with loss and gain of soil organic matter, and fires. Because the impact of biomass harvest on carbon stocks in ecosystems is included in this sector, any emissions of CO<sub>2</sub> from burning biomass (regardless of the country of origin) are excluded from other sectors to avoid double counting them.
3. Agriculture includes emissions of greenhouse gases from livestock, agricultural soils (excluding carbon stock changes which are included in the LULUCF sector) and agricultural machinery.

##### **Download the data**

[.xlsx](#)



## Land cover and habitat extent

A [2021 Natural England carbon emissions and habitat review](#) showed that habitats' capacity to sequester and emit carbon varies.

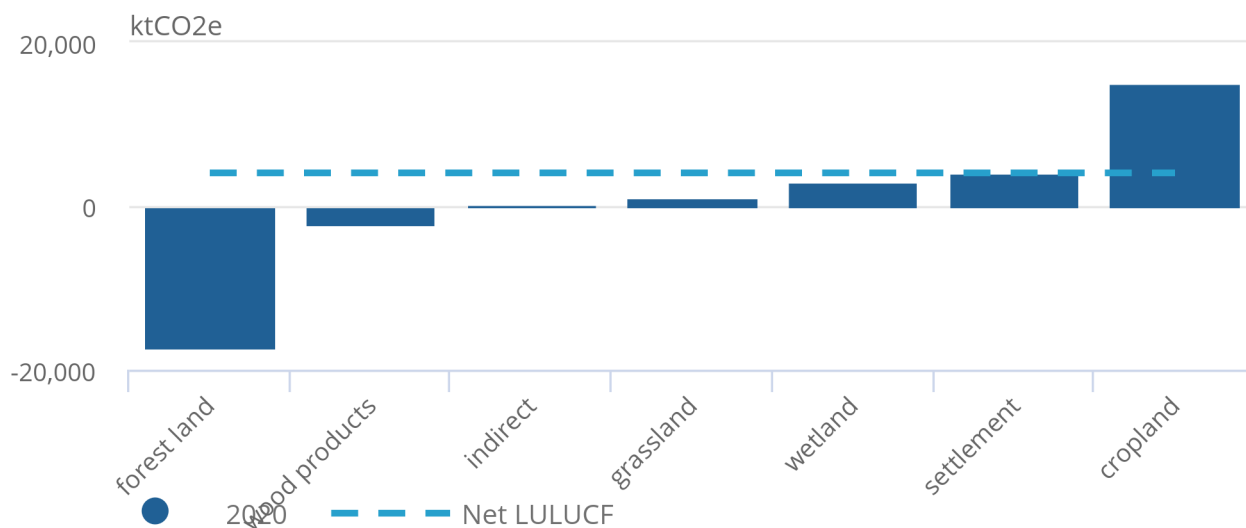
BEIS provide emissions for seven separate land use, land use change and forestry categories. In 2020, forest land and harvested wood products were overall carbon sinks, removing more carbon from the atmosphere than was emitted (Figure 5).

**Figure 5: Forest land is a large carbon sink, removing more carbon from the atmosphere in 2020 than any other land use type**

2020

Figure 5: Forest land is a large carbon sink, removing more carbon from the atmosphere in 2020 than any other land use type

2020



Source: Department for Business, Energy and Industrial Strategy – Devolved administration greenhouse gas inventories 2020

### Notes:

1. Estimates using global warming potentials from the IPCC's Fourth Assessment Report (AR4).
2. Estimates of net emissions from land use, land-use change and forestry (LULUCF) includes three of the seven Kyoto Greenhouse gases - carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

Across the UK, grassland was the only land use type that was both a net emitter (for example, Scotland and North East England) and a net remover (for example, Northern Ireland and West Midlands).

As the largest net remover of carbon, woodland is an important habitat for sequestering carbon dioxide. Forest Research estimates that [the UK had around 3.24 million hectares of woodland in March 2022](#), accounting for 13% of the UK: 19% of Scotland, 15% of Wales, 10% of England and 9% of Northern Ireland.

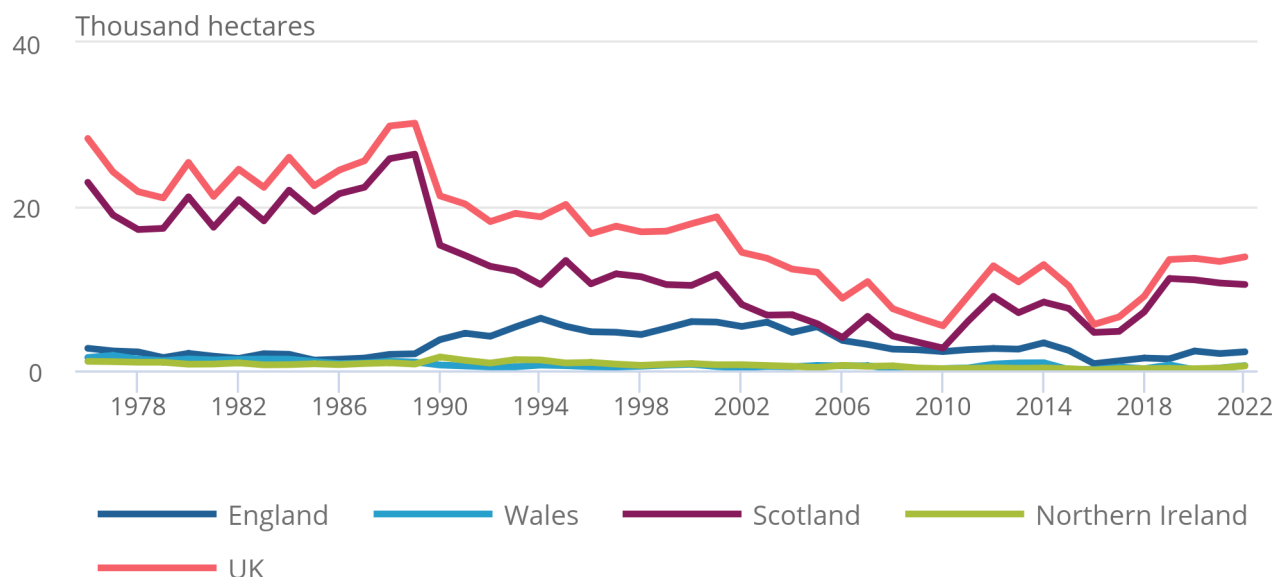
UK woodland has increased by 8% over the last 20 years, and in all four nations: by 50% in Northern Ireland, 11% in Scotland, 5% in England and 3% in Wales. Rates of woodland planting have decreased since the 1970s despite recent fluctuations (Figure 6). Scotland accounted for 76% of total new UK woodland planted in 2022.

**Figure 6: The area of new woodland planted annually has fluctuated, with Scotland consistently planting more woodland than any other UK nation**

UK, England, Wales, Scotland and Northern Ireland, 1976 to 2022

Figure 6: The area of new woodland planted annually has fluctuated, with Scotland consistently planting more woodland than any other UK nation

UK, England, Wales, Scotland and Northern Ireland, 1976 to 2022



Source: Forest Research – Forestry Statistics

Notes:

1. Data sourced from national forestry organisations – Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service.

Habitat and soil conditions affect emission and sequestration rates. For example, peatlands, when pristine, act as the largest carbon store of any habitat and can sequester carbon indefinitely, but when in poor condition act as significant sources of carbon emissions.

Three habitat types provide the greatest potential store and sequestration of carbon in the UK: mountains, moorland and heathland (comprising peatland soils within blanket bog, raised bog and fens); woodland (including trees and scrub); and coastal margins (including marine and coastal habitats such as saltmarsh). These habitats accounted for a combined 27% of Great Britain in 2021, according to the [latest data on land cover from the Centre for Ecology and Hydrology](#) (CEH). This represents a 1% increase since 1990 despite a 22% loss in mountains, moorland and heathland (Figure 7).

**Figure 7: Extents of mountains, moorlands and heathland have reduced while urban areas and woodland have increased**

Great Britain, 1990 to 2021

Notes:

1. Raster data were used from UK Centre for Ecology and Hydrology - Great Britain land cover maps for 1990 and 2021.
2. Digital Object Identifier (DOI) for LCM1990 Raster data for Great Britain. Rowland, C. S., Marston, C. G., Morton, R. D., and O'Neil, A. W. (2020). Land Cover Map 1990 (25 metre raster, Great Britain) v2 [Dataset]. NERC Environmental Information Data Centre.
3. Digital Object Identifier (DOI) for LCM2021 Raster data for Great Britain. Morton, R. D., Marston, C. G., O'Neil, A. W., and Rowland, C. S. (2022). Land Cover Map 2021 (25 metre rasterised land parcels, Great Britain) [Dataset]. NERC Environmental Information Data Centre.

**Download the data**

[.xlsx](#)

## **4 . Moving towards net zero (actions and behaviours)**

## Renewable energy

Renewable energy sources accounted for 39% of total electricity generated in Quarter 2 (Apr to June) 2022. This is up from 6% in 2010 (Figure 8).

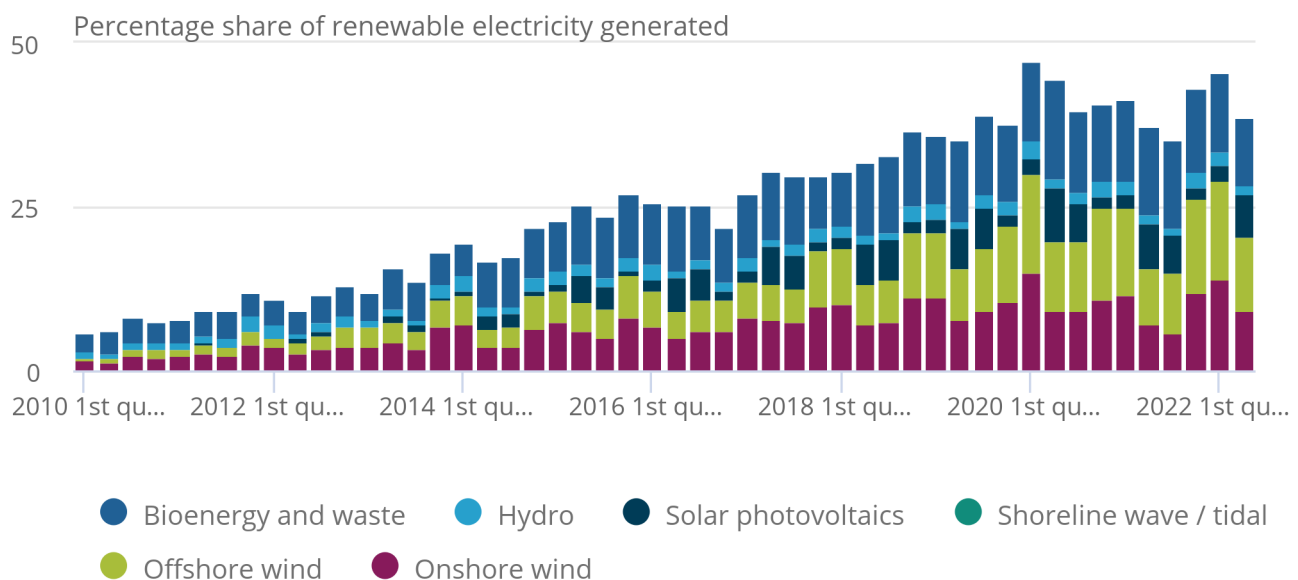
The Department for Business, Energy and Industrial Strategy (BEIS) also provide [quarterly UK renewables](#) trends statistics for electricity generated from renewable sources, including onshore and offshore wind, wave and tidal, solar, hydro, and bioenergy and waste. The share of energy from renewable sources in Quarter 1 (Jan to Mar) 2022 was 45%; since the first statistics in 2010, this is the second-highest share (highest was Quarter 1 2020).

**Figure 8: Renewable energy generation as a share of total UK electricity generated has increased by 33 percentage points since 2010, despite some recent fluctuations**

UK, Quarter 1 (Jan to Mar) 2010 to Quarter 2 (Apr to Jun) 2022

Figure 8: Renewable energy generation as a share of total UK electricity generated has increased by 33 percentage points since 2010, despite some recent fluctuations

UK, Quarter 1 (Jan to Mar) 2010 to Quarter 2 (Apr to Jun) 2022



Source: Department for Business, Energy and Industrial Strategy – Energy Trends

### Notes:

1. Time periods used in this workbook refer to calendar months and calendar quarters, that is, Quarter 1 represents January to March, Quarter 2 April to June, Quarter 3 July to September and Quarter 4 October to December, and calendar years, that is, January to December.

## Attitudes

According to the latest Department for Environment, Food and Rural Affairs (Defra) [farm practices survey](#) for England (26 May 2022), nearly two-thirds (64%) of farmers consider greenhouse gas (GHG) emissions to be "fairly or very important" when making decisions about their land, crops and livestock. The majority (58%) of respondents have taken action to reduce emissions from their land, with 82% recycling waste materials, 78% improving energy efficiency and 63% improving nitrogen fertiliser application accuracy. Comparable surveys are not available for UK nations.

The latest estimates from the ONS's Opinions and Lifestyle Survey (26 October to 6 November 2022) show that around two-thirds of adults were worried (very or somewhat) about the environment (62%) or climate change (64%). This appeared to be highest among adults aged 70 years and over compared with other age groups for both the environment (71%) and climate change (73%).

When asked about the way people use the environment, 85% of adults thought this had an impact (high or moderate) on climate change. Around 6 in 10 (61%) adults reported reducing the amount of waste they use, making this the most common action taken to tackle climate change over the last 12 months (Figure 9).

More men than women reported taking no action to help tackle climate change - around one-fifth of men (21%) reported taking no action compared with around 1 in 10 (13%) women.

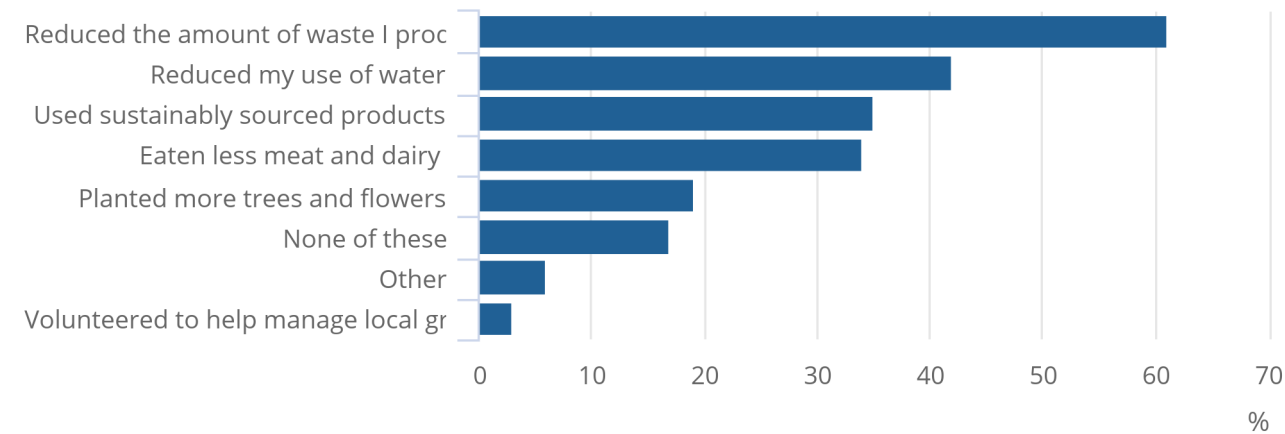
Of adults who reported making no changes, the most common reason why was feeling that their changes would have no effect, with around 4 in 10 (41%) of adults who made no changes reporting this.

**Figure 9:Around 6 in 10 (61%) adults had reduced the amount of waste they produceto help tackle climate change, in the last 12 months**

Among all adults, Great Britain, 26 October to 6 November 2022

Figure 9: Around 6 in 10 (61%) adults had reduced the amount of waste they produce to help tackle climate change, in the last 12 months

Among all adults, Great Britain, 26 October to 6 November 2022



Source: Office for National Statistics - Opinions and Lifestyle Survey (20 October to 6 November 2022)

Notes:

- 1.Question: “What actions, if any, have you taken in the last 12 months to help tackle climate change”.
- 2. Base: all adults.
- 3. Respondents were allowed to select more than one action so totals may add up to more than 100%.
- 4. Confidence intervals for the estimates shown in this chart are available within the dataset published with this release.

5 . Impacts and signs of adaptation

## Wildlife

Warming temperatures mean timings for spring and summer life cycle events have advanced significantly. The British Trust for Ornithology's [Bird Trends](#) report identifies 38 species in Great Britain that are showing clear signs of early breeding adapting to the earlier arrival of spring. This accounts for around a third (31%) of all species surveyed that are laying, on average, between three and 21 days earlier than in the mid 1960s.

The UK Research and Innovation (UKRI)-funded Living With Environmental Change (LWEC) research partnership, in its [Climate change impact on biodiversity report cards](#), presents strong evidence that climate change is also an important factor determining the geographical distribution of species.

There has been a big increase in the number of invasive non-native species, such as the grey squirrel, signal crayfish and Japanese knotweed) in Great Britain's freshwater, marine and terrestrial environments between 1960 and 2020, according to the Joint Nature Conservation Committee (JNCC) [Invasive Species Indicator](#). Over 3,248 non-native species were registered in Great Britain in 2020 and around 9% of these (303 species) were having a negative ecological or human impact, according to the [2020 non-native species report card](#) (PDF, 638KB) from the Non-native Species Secretariat (NNSS).

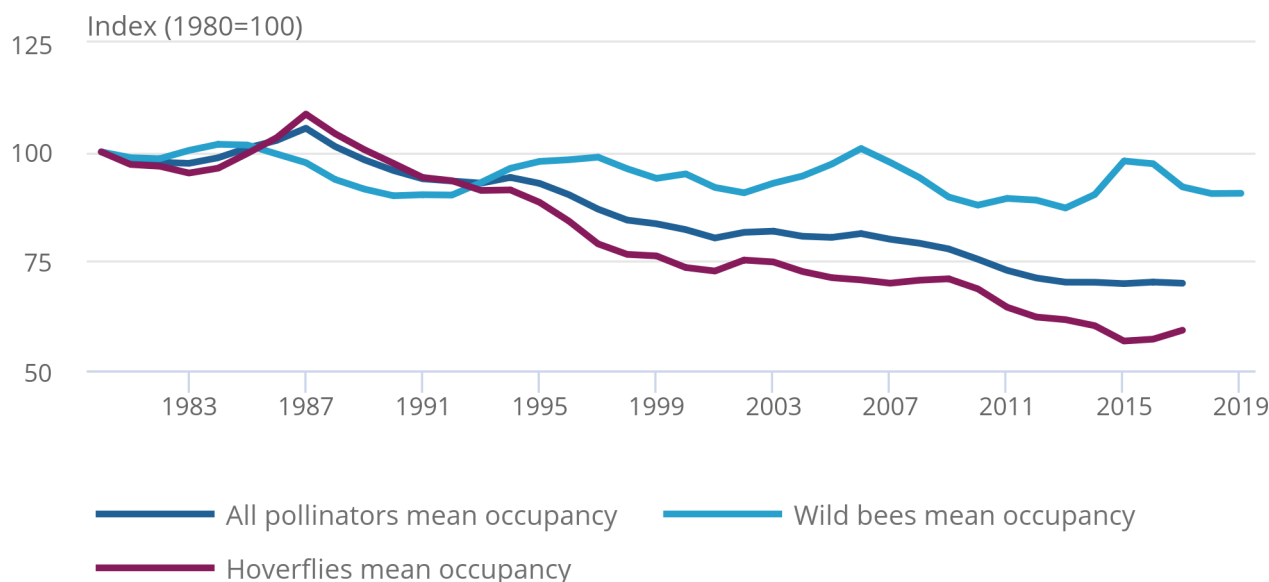
In contrast, between 1980 and 2017, pollinators (377 species including bees and hoverflies) had declined by 30% in their distribution across the UK. Hoverflies showed a 41% reduction over the same period, but wild bees showed less of a decline (9% by 2019), according to the JNCC's [pollinator insects indicator](#) (Figure 10).

**Figure 10: Pollinator species have become less widespread since 1987**

UK, 1980 to 2017 (all pollinators, hoverflies) and 2019 (wild bees)

## Figure 10: Pollinator species have become less widespread since 1987

UK, 1980 to 2017 (all pollinators, hoverflies) and 2019 (wild bees)



Source: Joint Nature Conservation – UK Biodiversity Indicators

### Notes:

1. The indicator is based on 377 species (148 species of bee and 229 species of hoverfly), and measures change in the number of 1 kilometre grid squares across the UK in which they were recorded in any given year: this is referred to as the “occupancy index”.
2. The headline indicator for “all pollinators” and the index for hoverflies have not been updated since the 2020 publication so data are only available up to 2017, but the indicator for wild bees has been extended by one additional year (to 2019).
3. Confidence intervals for the estimates shown in this chart are available within the [Joint Nature Conservation Committee dataset](#).



## Sea levels

Rising sea levels are associated with the loss of coastal habitats (including saltmarsh), which are important for storing and sequestering carbon as well as providing sea defences and as habitats for a range of wildlife.

The Met Office outlines three [causes of sea-level rise](#) because of greenhouse gas emissions and subsequent global warming: expansion of the ocean as it warms; addition of water from loss of land-based ice (including glaciers and ice sheets); and changes in land water storage.

The latest [State of the Climate UK 2021](#) shows that sea levels around the UK have risen by approximately 16.5 centimetres over the last 100 years or so, excluding the effects of natural vertical land movement.

Sea-level rise is predicted to increase with higher emissions scenarios. In the event of a 2-degree warming scenario, sea levels around the UK are projected to rise by approximately 11 centimetres by 2030, 19 centimetres by 2050 and 36 centimetres by 2100, according to calculated averages from UK data provided by [UK climate projections](#) from the Met Office (via their geospatial [Climate Data Portal](#)).

The UK's more southerly, easterly and far north coasts are likely to experience more extreme sea-level changes. [UK tide gauge records](#) already show substantial year-to-year changes in sea levels with notable differences depending on location around the UK. Parts of England are likely to experience the greatest sea-level rises, with an average rise of 22 centimetres by 2050, compared with an average of 14 centimetres in Northern Ireland, 17 centimetres in Scotland and 20 centimetres in Wales.

## Green and blue infrastructure

Increasing the extent of green and blue space in urban areas is important to adapt to rising temperatures associated with climate change, as these spaces can help cool urban environments.

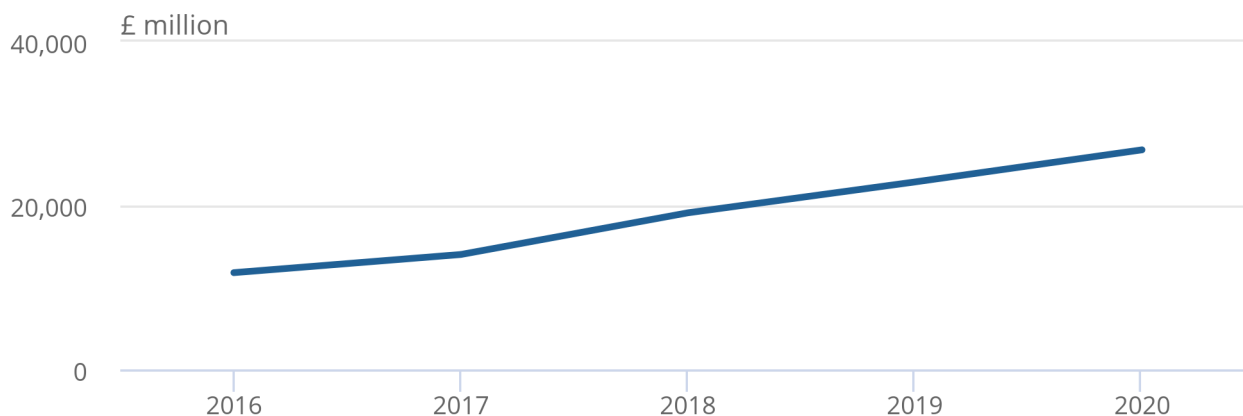
The [ONS's natural capital accounts](#) estimate the total annual value of the cooling benefit from green and blue space in UK urban environments to be £433 million in 2020, mostly because of cost savings from air conditioning and improved labour productivity. The total asset value for urban cooling has been increasing since estimates began in 2016 and reached £26,795 million in 2020 (Figure 11).

**Figure 11: The value of UK urban blue and green spaces for cooling is increasing**

UK, 2016 to 2020

Figure 11: The value of UK urban blue and green spaces for cooling is increasing

UK, 2016 to 2020



Source: Office for National Statistics – Natural Capital Accounts

Notes:

1. Sourced from [Scoping UK Urban Natural Capital Accounts - Extension to develop temperature regulation estimates - NR0172 by Eftec and others \(2018\)](#).

Sustainable and efficient abstraction and use of water can alleviate the growing pressure on water resources from the changing climate and weather patterns in the UK. In England, 85% of surface- and 73% of [ground-water bodies achieved sustainable abstraction criteria](#) in 2019. Comparable data are not available from elsewhere in the UK.

Reducing the amount of water that we consume and waste in the household could significantly improve water availability for people and the environment. Water usage in England and Wales is lower, on average, in households with a water meter (134 litres per person per day), compared with those without (174 litres), according to [Water UK](#).

All UK nations also show reductions in water leakage and, compared with the earliest year data are available for each of the four countries, by 2021 to 2022, total leakage per day had reduced by:

- 58% in [Scotland](#) since 2006 to 2007
- 10% in [Wales](#) since 2016 to 2017
- 9% (by 2020 to 2021) in [England](#) since 2002 to 2003
- 7% in [Northern Ireland \(PDF, 10.53MB\)](#) since [2006 to 2007 \(PDF, 4.07MB\)](#)

## 6 . Climate change insights data

[Public opinions and social trends, Great Britain: Climate change and the environment](#)

Dataset | Released 11 November 2022

Indicators from the Opinions and Lifestyle Survey (OPN) about people in Great Britain's worries about, attitudes towards and actions taken regarding the environment and climate change.

## 7 . Glossary

### Adaptation

Adaptation is actions to adjust to climate change, and the extreme weather that it makes increasingly likely. This includes making homes more resilient to extreme heat and cold weather and adapting our landscapes to better cope with flooding or drought events, for example.

### Greenhouse gases

The seven greenhouse gases included in the atmospheric emissions accounts are those covered by the Kyoto Protocol:

- carbon dioxide (CO<sub>2</sub>)
- methane (CH<sub>4</sub>)
- nitrous oxide (N<sub>2</sub>O)
- hydro-fluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulphur hexafluoride (SF<sub>6</sub>)
- nitrogen trifluoride (NF<sub>3</sub>)

These gases contribute to global warming and climate change. The potential of each gas to cause global warming is assessed in relation to a given weight of CO<sub>2</sub>, so greenhouse gas emissions are measured as carbon dioxide equivalent (CO<sub>2</sub>e).

### Degree days

A degree day is an integration of temperature over time and is commonly used to relate temperatures to particular impacts. The Met Office calculate heating, cooling and growing degree days for relating temperature to the requirement for heating or cooling of buildings to maintain comfortable temperatures or the conditions suitable for plant growth respectively.

## Global warming potential

Global warming potential (GWP) is measured in terms of carbon dioxide equivalents (kilogrammes CO<sub>2</sub>e), which takes account of the relative impact of the different gases involved.

## Growing degree days

The day-by-day sum of the mean number of degrees by which the air temperature is more than a value of 5.5 degrees Celsius, the temperature deemed as providing suitable conditions for plant growth.

## Kyoto Protocol

The Kyoto Protocol was adopted on 11 December 1997. Because of a complex ratification process, it entered into force on 16 February 2005. Currently, there are 192 Parties to the Kyoto Protocol. In short, the Kyoto Protocol operationalised the [United Nations Framework Convention on Climate Change](#) by committing industrialised countries and economies in transition to limit and reduce greenhouse gases emissions in accordance with agreed individual targets. The Convention itself only asks those countries to adopt policies and measures on mitigation and to report periodically.

## Mitigation

Mitigation is the reduction of emissions of greenhouse gases which lead to global warming. This includes reducing energy consumption and changing to low emission energy sources.

## Natural vertical land movement

This includes all processes that impact upon the elevation at given locations, from tectonic movements, subsidence, ground water extraction and glacial adjustments, causing land to move up or down.

## Net zero

Net zero is the UK government's target for at least a 100% reduction of net greenhouse gas emissions (compared with 1990 levels) in the UK by 2050. This can be achieved by a combination of emission reduction and emission removal.

## Non-native species

Species that have reached Great Britain by accidental human transport, deliberate human introduction, or which arrived by natural dispersal from a non-native population in Europe.

## Pollinators

Species that transfer pollen from one flower to another to fertilise plants so that they can reproduce, such as bees, birds, butterflies and moths.

## Territorial emissions

Emission estimates compiled on a territory basis, produced within the UK's geographical borders only; by tourists, businesses and foreign transport operations but exclude emissions of UK residents aboard.

## 8 . Data sources and quality

More quality and methodology information on the strengths, limitations, appropriate uses, and how the data were created can be found on the original source publication sites using the following links:

- [Attitudes and Impact](#) – Office for National Statistics: Opinions and Lifestyle Survey
- [Greenhouse Gas Inventory](#) – Department for Business, Energy and Industrial Strategy
- [Local Authority Greenhouse Gas Emissions](#) – Department for Business, Energy and Industrial Strategy
- [Farm Practices Survey](#) – Department for Environment, Food and Rural Affairs
- [Forestry Facts and Figures](#) – Forest Research
- [Met Office](#) – State of the UK Climate 2021
- [Energy Trends: UK renewables](#) – Department for Business, Energy and Industrial Strategy
- [UK Natural Capital Accounts](#) – Office for National Statistics
- [Bird Trends](#) – British Trust for Ornithology
- [UK Biodiversity Indicators](#) – Joint Nature Conservation Committee
- [Outcome Indicator Framework for the 25 Year Environment Plan](#) – Department for Environment, Food and Rural Affairs

## 9 . Future developments

We are publishing these insights alongside quarterly estimates of gross domestic product (GDP).

Along with a section on the UK climate, each edition has a theme: this edition focuses on natural and rural environments. The previous edition focused on families and households. Themes are being considered for future editions include:

- economy, business and transport
- health and the health sector

These articles complement the [UK Climate Change Statistics Portal](#), which brings together statistics and data from across government and arms-length bodies.

Alongside Insights in August 2022, we also updated the UK's [Measures of National Well-being](#) dashboard. This provides a rounded overview of the quality of life of those in the UK through 10 subject areas, including the environment, personal well-being, health, the economy and personal finance, among others. We are [reviewing the indicators](#) used within the dashboard, and how to communicate them, engaging with expert users and the public to ensure it continues to provide appropriate metrics to reflect life in the UK. A consultation is running until 25 November 2022.

We are continuing to review this publication, engaging with users and the public to ensure that it provided useful climate change insights. Please share any feedback or suggestions for future publications with us at [climate.change@ons.gov.uk](mailto:climate.change@ons.gov.uk).

## 10 . Related links

### [UK natural capital accounts: 2022](#)

Bulletin | Released 10 November 2022

Estimates of the financial and societal value of natural resources to people in the UK.

### [UK Climate Change Statistics Portal](#)

For data, statistics and insights on climate change.

### [UK Environmental Accounts: 2022](#)

Bulletin | Released 1 November 2022

Measuring the contribution of the environment to the economy, the impact of economic activity on the environment, and society's response to environmental issues. Satellite accounts to the main UK National Accounts.

### [Urban green spaces raise nearby house prices by an average of £2,500 \(Latest release\)](#)

Article | Released on 14 October 2019

Urban properties close to public parks, gardens and playing fields are more expensive, analysis reveals.

### [Worries about climate change, Great Britain: September to October 2022](#)

Article | Released on 28 October 2022

People's worries about climate change, using data from the Opinions and Lifestyle Survey collected between 14 September and 9 October 2022.

## 11 . Cite this article

Office for National Statistics (ONS), released 11 November 2022, ONS website, article, [Climate change insights, natural and rural environments, UK: November 2022](#)