

Weird weather in the UK

On 16th October 2017 many people in the UK noticed something very strange. In Bristol, the sun was red and over London the sky turned an orange colour.

The cause of this unusual event was a hurricane in the Atlantic called Hurricane Ophelia. The storm dragged sand from the Sahara and sucked in debris from forest fires in Portugal. It was this dust in the **atmosphere** that changed the direction of the sun's light, turning day into dusk across much of the UK.



Element	Instrument	Unit	What it tells us
Temperature	Thermometer	°C	How hot or cold a place is
Precipitation	Rain gauge	mm	The amount of rain or snow that has fallen
Wind direction	Wind vane	N, E, S, W	The direction the wind is coming from
Wind speed	Anemometer	Km/h or knots	How fast the wind is blowing
Cloud cover	Satellite	oktas	How much of the sky is covered in cloud

Weather and climate in the UK

Why is our weather so changeable?

In March 2018, after a fairly average winter, all eyes were looking towards the East. Nicknamed the '**Beast from the East**', bitterly cold weather swept across much of Europe and the UK from Siberia. Heavy snow fell across parts of the UK causing deaths and serious disruption to transport services. Snow fell as far south as Spain and Italy. The UK experiences very changeable weather. One day can be cold and wet whereas the next day can be warm and sunny. The main reason is to do with air masses.

Urban microclimates	Causes
Higher temperatures	Dark tarmac surfaces absorb heat from the sun
Variable and gusty winds	High-rise buildings funnel the wind down narrow streets
Fewer winter frosts and snow	Night-time temperatures are higher
Higher chance of thunder storms	Higher temperatures
Increased chance of fog and smog	Smoke + pollutants from industry and vehicles

Rain

To find out where rain comes from you need to understand the **water cycle**. Water is always on the move. It is constantly being recycled between the atmosphere. The land and the oceans. Plants are important too. They absorb water through their roots and release it through their leaves. Clouds are made of tiny water droplets in the air. When air cools it condenses, turning water vapour into water droplets.

Extreme weather in the UK

The sizzling summer of 2018. The UK experienced one of the driest and hottest summers on record. The Cumbrian floods of 2015. In December 2015, record-breaking amounts of rain fell on the Cambrian Fells in the north-west England.

Recording the weather

The weather describes the conditions of the atmosphere at a particular time. It includes elements such as temperature, wind direction and wind speed. The term 'climate' is used to describe the average weather conditions over a long period of time, usually 30 years.

You can find out the weather forecast by looking on the **Met office** or **BBC Weather** online. Weather forecasts are often given on the radio, television or in newspapers. The met office is based in Exeter. They collect information from the 6000 weather stations across the UK.

A warm ocean current called the North Atlantic Drift helps to keep the weather mild (not too hot or cold)



High areas like the Lake District and Wales have a lot of rain



The southern and eastern parts of the country are further away so get less rainfall

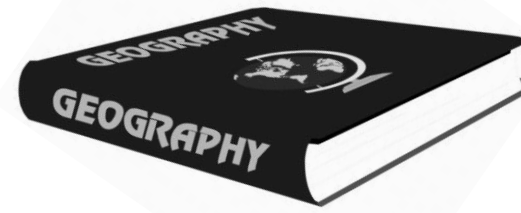


The west of the UK is wetter because the wind brings rainfall in from the Atlantic Ocean



The prevailing (most common) winds in the UK come from the south-west

Atmosphere - the layer of air around the Earth
Weather - the day-to-day condition of the atmosphere (e.g. temperature, wind, rainfall)
Climate - the average weather conditions over a long period of time, usually 30 years.
Precipitation - water falling from the atmosphere to Earth's surface (e.g. rain, snow)
Air mass - a large body of air that travels from one area to another
Prevailing wind - the most common wind direction
Ocean current - a flow of warm or cold water in the ocean
Sea surface temperatures - the water temperature of the surface of the ocean
Reservoir - a large lake where water is stored
Water cycle - the cycle of water between the oceans, atmosphere and land
Surface runoff - water flowing over the ground (e.g. rivers)
Evaporation - water changing from a liquid to a gas (water vapour)
Groundwater - water held underground in soil or in rock
Transpiration - water released from plant leaves into the atmosphere



Condensation - water changing from a gas to a liquid (water droplets)
Relief rainfall - warm moist air forced to rise over mountains, cools and condenses to form cloud and rain
Microclimate - weather and climate conditions in a small area such as a city or forest
Smog - a combination of smoke (pollution) and fog
Pollution - harmful substances entering the environment
Choropleth map - a map that uses different colours or shading to show the distribution of information
Urban heat island - concentration of high temperature recorded in a city
Isotherm - a line on a map joining points with the same temperature
Isoline - a line on a map joining points of equal value
Isohyet - a type of isoline joining points having the same amount of rainfall
Dredge - to clear the bottom of an area of water by scooping out mud, rocks and rubbish