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The climate challenge

Last Modified February 29, 2024



Climate change is one of the biggest global challenges that human society has faced and is being annually researched and reported on by the worlds leading climate scientists.

The IPCC is the world's leading scientific authority on climate change and are formed by a membership of over 100 scientists. They produce multiple scientific papers a year. Their reports, highlight the urgency for climate action and it's benefits for society.

[View their 2023 presentation and report.](#)

Top 2023 new stories on climate change

- [Warming trends in Asia](#)
- [Heatwaves in Europe](#)
- [Rapid sea-ice reduction](#)

[Read the WWF climate good news stories.](#)

Climate change: Simply explained

Take a look at the drop down boxes below to learn more about the science of climate change. You can also play the [NASA Kids climate games](#) to learn more about climate change as a family, or take part in the [met-office DIY activities](#). The council is developing a climate training course for residents and organisations in Blackpool.

Climate change explained

Climate change quite simply refers to changes in Earth's long-term weather patterns.

Our climate has always fluctuated, mainly due to minor variations in the planet's [orbit](#). Yet from the mid-20th century, human activity has led to a significant increase in carbon dioxide (CO2) and other gas emissions into the atmosphere. This has been rapidly changing our climate, such as temperature, wind and [precipitation](#), and is influencing weather systems and patterns such as the [jet streams](#) as well as ocean currents.

The most notable impact of climate change is global warming – the gradual increase in the overall temperature of the Earth's atmosphere. While this alteration may be gradual, and may even sound appealing to sun-seekers, the phenomenon of climate change leads to catastrophic consequences.

These include rising sea levels and extreme weather events that lead to large-scale fire and floods. This in turn impacts on ecosystems and habitats as well as human settlements.

Causes of climate change

Climate change is connected to the carbon cycle. The carbon cycle is the process which regulates the greenhouse effect and makes life

on earth habitable.

We need the greenhouse effect in order to survive on Earth. Without it, the planet would be around 30°C cooler and uninhabitable for humans. Yet by increasing the level of greenhouse gases released from activities like agriculture and the burning of fossil fuels, we are enhancing the effect and making our planet much warmer than it would otherwise be ([source: WMO](#)).

Scientists have discovered that human practices, particularly over the past two centuries, has led to human induced climate change.

It is also worth noting here that "overconsumption" is recognised by scientists as a major contributor to climate change - moving away from oil and gas isn't enough; we also must reduce our consumption of the planet's resources, because this also feeds into and exacerbates climate effects. It also affects our planet's ability to try to cool itself, as it does try to regulate itself, in turn affecting our planet's ability to regulate itself.

Human induced climate change

Human induced climate change has been brought about by human activities which exploit the earth's resources and affect the carbon cycle. Human activity affects the carbon cycle by increasing the number of greenhouse gases (particularly carbon) in the atmosphere.

This significant increase in emissions in the earth's atmosphere increases the blanket of gases covering the earth. This increase means that heat gets trapped around the earth's surface causing climate change.

You can learn more about the activities that have caused human induced climate change at [Causes and Impacts](#).

How climate change impacts society

Climate change can negatively impact society in a multitude of ways, namely due to the impact extreme weather has on food growth, buildings and infrastructure and human health. Some of these negative impacts caused by climate change have already been felt with rain and heat patterns affecting crop growth in global key food growing regions. These impacts are predicted to increase as the planet warms.

However, through taking positive solutions to climate change, additional benefits can be created for society. These benefits could include: efficient homes and reduced energy bills, cleaner air, the creation of green jobs, improved public health, protection of wildlife and increased green spaces. (Sources: [Imperial College London](#); [CDP](#))

You can read a 2019 report from Imperial College London on potential [UK specific co-benefits of addressing climate change](#)

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