

# CLIMATE CHAMPIONS

LEARNING RESOURCE



Read Now Write Now

HOPE FOR THE FUTURE



Supported using public funding by  
ARTS COUNCIL ENGLAND

LOTTERY FUNDED

# Climate Champions Learning Resource

## **Introduction**

This resource has been compiled to help young people attending the Climate Champions 2024 creative writing project in the Liverpool City Region find out more about climate change, its causes, consequences and what we can all do. During the workshop sessions we will look at some of the information contained here.

We invite suggestions from participants and their families to add to this resource. If you do come across other reliable sources, kindly send them to [charles@readnowwritenow.org.uk](mailto:charles@readnowwritenow.org.uk) and we will look to include them.

Please note, we have not written this resource ourselves, merely taken information from other organisations, including links, which we feel will be of good use for the climate champions (and whom we have referenced accordingly).

## BBC Bitesize

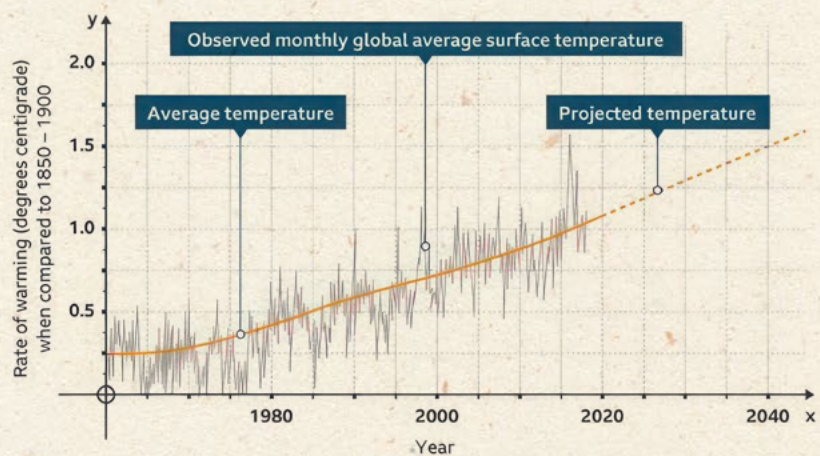
<https://www.bbc.co.uk/bitesize/topics/zvxx3j6/articles/znm2v4#zgfsn9q>

### What is climate change?

Climate change refers to changes in the Earth's average temperature over a long period of time. If you were to look at a graph of the annual global temperature change, you can clearly see that since 1880 the temperature in a very short period time, relative to millions of years has increased dramatically. Recently, the rate of this change has been speeding up.

These changes can occur naturally over time, but most scientists think that human behaviour is increasing the amount of **greenhouse gases** in the atmosphere, which is causing these more rapid changes to the climate.

A lot of people consider climate change the most important crisis facing the world today and use terms like climate emergency or climate crisis to remind us of the gravity of the situation.



# Causes of Climate Change

The major cause of climate change is the **burning of fossil fuels**. Burning fossil fuels releases carbon dioxide (and other Greenhouse gases) into the atmosphere, which traps heat radiating from Earth toward space. We call this the greenhouse effect. Too much fossil fuel has been burnt in the last 80 years and therefore too much carbon dioxide has been released into the atmosphere.

In 1750, 280 parts per million of carbon dioxide was in the atmosphere, in May 2020, scientists found that had increased to 417 parts per million.

Although the burning of fossil fuels is the main cause of climate change there are other contributing factors:

- **Deforestation:** During photosynthesis trees absorb carbon dioxide. However, cutting them down means there is more carbon dioxide released into the atmosphere as the trees are no longer there to store and remove the carbon dioxide, furthermore, burning them releases the carbon they had stored.
- **Agriculture:** Farming practices are responsible for releasing greenhouse gases into the air. In Northern Ireland, the large amounts of grazing animals (cows and sheep) are responsible for nearly 30% of all our carbon emissions.
- **Landfill:** When biodegradable waste such as food, paper and card is sent to landfill sites - it releases **methane** gas into the atmosphere.

# Consequences

## **Extreme Weather**

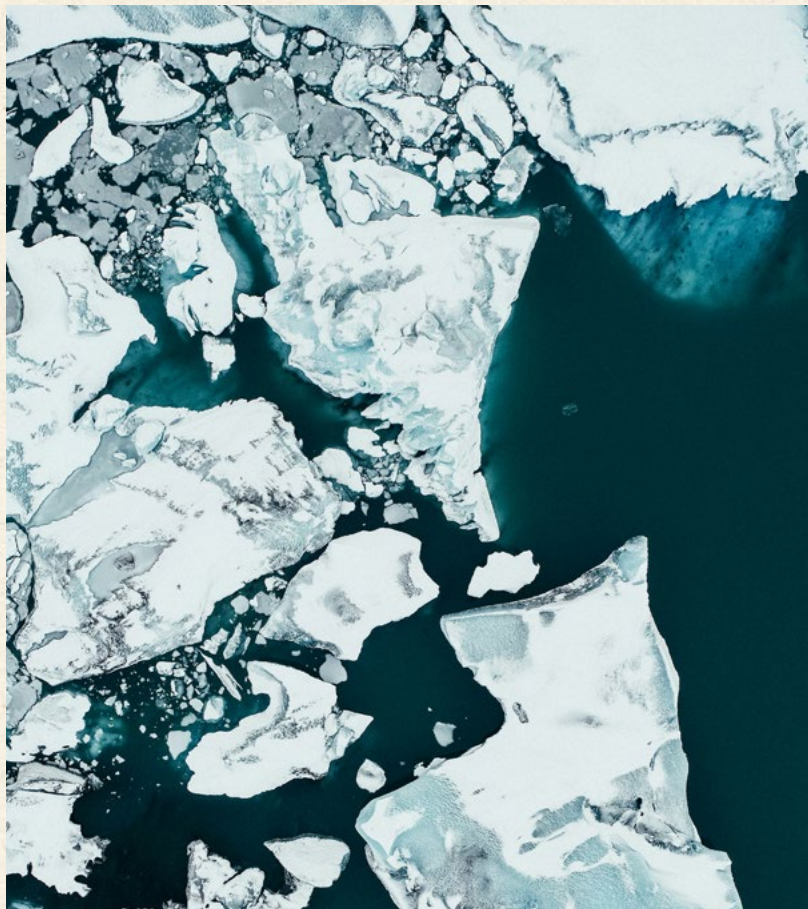
Weather patterns and seasons could change. Heavy rainfall can lead to floods and decreasing water quality while droughts and heatwaves can put pressure on water supplies. People will experience a different climate and weather to what they have become used to.

## **Shrinking Glaciers**

Across the world ice is melting which is contributing to the rising sea levels across the planet. Glaciers are found in cold, mountain areas and these will melt as global temperatures increase.

## **Melting ice caps in Antarctica and the Arctic**

These ice caps are vital for a stable world temperature as they reflect back the sun's light and keep the planet cool. If they disappear we risk the world heating up even more and at a faster rate.



### **Rising sea levels**

Sea levels are rising by around 3.2 mm per year which threatens cities and low-lying farmland around the world, potentially affecting more than 80 million people. In Bangladesh, a rise in water level of just 1m could flood over 25% of the land.

### **Extinction of plants and animals**

Due to climate change species around the world are being forced to migrate and adapt to new environments. Their ability to do that will determine whether they survive or become extinct. Animals and plants will start to die off as the climate changes.



## What Can be Done?

We can all make changes to reduce our carbon footprint and personal impact on the environment. Here are some of the ways we can do that:

- **Food consumption:** eat less meat and more food that's produced locally.
- **Fly less:** if it's the only option pick a destination close by, fly economy and choose to carbon offset.
- **Reduce car journeys:** where possible cycle, walk or use public transport to get to school.
- **Get involved:** find out about organisations that campaign for environmental change.
- **Green spaces:** protect them and if possible, plant trees or introduce plants into your household.
- **Change your buying habits:** avoid single-use items and only purchase clothes you really need.
- **Recycle your unwanted clothes:** donate to clothing banks and charity shops or sell them on.
- **Use less energy:** at home switch off lights and appliances when you're not using them.

## Hope for the Future

One of our main partners in this project has provided us with very helpful links for the climate champions to look at.

### **Climate Time Machine**

This is from the NASA website and contains interactive data on topics such as sea ice, sea levels. Carbon Dioxide, global temperature, ice sheets and ocean warming.

<https://climate.nasa.gov/interactives/climate-time-machine>

### **Global Forest Map**

This is an interactive map providing information about global forests including rates of forest change, forest extent and drivers of deforestation.

<https://www.globalforestwatch.org/map/>

### **Coastal Climate Central Maps**

These interactive maps show information on sea levels including water levels, temperature and ice sheets.

If you select "year" you will see land projected to be below annual flood level by 2050 and you can direct it to see what the Liverpool City Area will be like.

<https://coastal.climatecentral.org/>

### **Friends of the Earth**

This website contains local data for each area of the Liverpool City Region on how it is performing on topics such as energy and nature.

Go to this link <https://groups.friendsoftheearth.uk/near-you/local-authority> and type in your postcode to find information and suggestions on how to reduce emissions.

### **Kids Earth.org**

Go onto this link <https://kids.earth.org/> to look at information for young people on climate change.



## **Liverpool City Region:**

<https://www.liverpoolcityregion-ca.gov.uk/pathway-to-net-zero>

This website looks at the aims and ambitions of the Liverpool City Region and, in particular, how it aims to go net zero and what this means.

It also contains the resources from the six local authorities that make up the Liverpool City Region: Halton; Knowsley; Liverpool; St Helens; Sefton and Wirral.

## **Mersey Barrage**

The River Mersey, our greatest natural asset, can play a vital role in tackling the climate emergency and helping our transition to green energy while boosting our future prosperity and the UK's energy security.

With its huge tidal range, a tidal power scheme on the Mersey could produce enough clean, green electricity to power every home in the city region for more than a hundred years, while creating thousands of jobs.

Complementing existing strengths in offshore wind and solar energy, this predictable and proven energy source could be key to the city region's ambition to be net zero by 2040.

With the right support, we could build the world's largest tidal power scheme right here, at the heart of the Liverpool City Region.



# CLIMATE CHAMPIONS



Read Now Write Now



Supported using public funding by  
**ARTS COUNCIL  
ENGLAND**

LOTTERY FUNDED