

# What is Climate Change?



Thanks to the Psalm 24 Group for  
this information booklet



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Climate is the average weather in a place over many years. Climate change is a shift in those average conditions and we are now in a period of rapid climate change, which has been caused by humans.

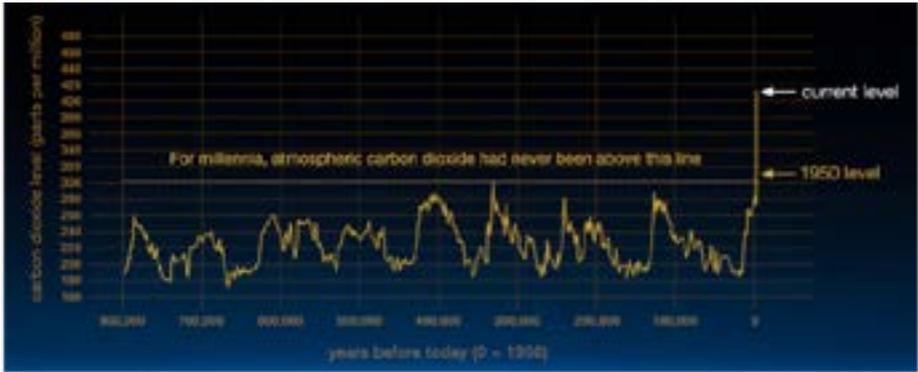
Global temperatures are rising. The global temperature in 2020 was 1.2°C above pre-industrial temperatures. This might not sound much, but the effects on weather and climate systems are huge.



Graph showing that historic global temperatures fluctuate but that there has been a huge temperature rise in industrial times

Source: Climate.gov, <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>

The temperature rise is caused by the ‘greenhouse effect’, where increased levels of ‘greenhouse gases’, mainly carbon dioxide CO<sub>2</sub>, act like an insulating blanket around the earth, leading to a gradual increase in temperature over the years. The raised levels of greenhouse gases are caused by us humans, particularly since the industrial revolution. Hence this climate change is termed ‘Anthropogenic’ (caused by humans)

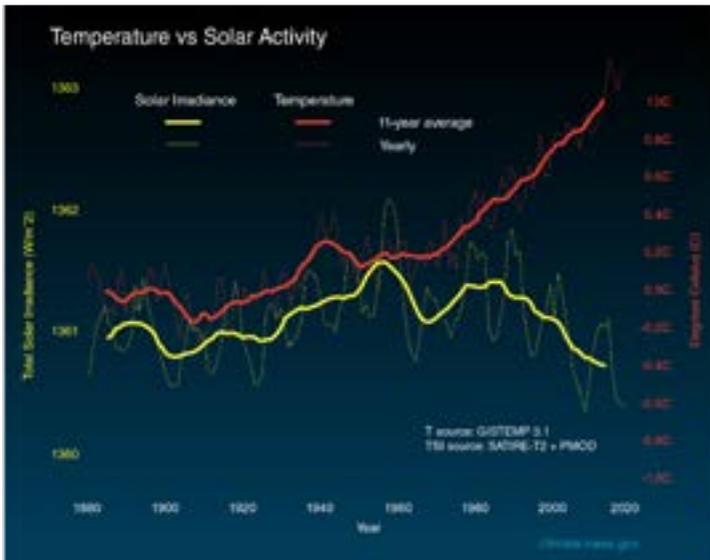


Graph showing the rise in CO2 levels.

Source: NASA, <https://climate.nasa.gov/evidence/>

Could global temperature rises be caused by something other than human activity? (such as solar flares)

In a word, no. There is overwhelming world-wide scientific consensus that climate change is caused by the increased levels of CO2 in the atmosphere, created by human actions (mainly burning fossil fuels)



Source: NASA, <https://climate.nasa.gov/causes/>

# What are the effects of increased global temperatures?

- Polar ice caps are melting. Not only is this very bad news for polar bears, but this will further increase temperatures as the sea is darker than the reflective ice and will absorb more heat from the sun, causing accelerated global warming. The melting of permafrost will release large amounts of methane, another greenhouse gas, which will again accelerate temperature rises.
- Sea levels are rising due to the melting of ice and warming of oceans. Coastal communities and island nations are threatened by water levels and increased storm damage.
- Higher surface temperatures of the sea give extra energy to storms, hurricanes etc meaning they are more frequent and more destructive.
- Droughts and heatwaves. Global temperature is an average – some areas will be getting significantly hotter, making droughts and wildfires more frequent and more severe.
- Water and food shortages. The impact on weather patterns will lead to crop failures and water shortages, and this is likely to lead to great numbers of climate refugees.



# What else is wrong?

**Biodiversity loss.** The government have declared a climate and ecological emergency. This is because the natural (created) world is suffering a rapid and catastrophic loss of biodiversity (all the different species of plants, animals, fungi and micro-organisms).

For instance, studies show a 75% reduction in the number of flying insects in Europe in the last 30 years\*. If insects don't sound important, please consider that they include the pollinators of most of our food crops and that many birds feed their babies on insects so that no insects means no birds, and indeed a catastrophic collapse of ecosystems.

Climate change is driving a lot of the problems faced by wildlife. But there are some other issues too:

- Plastic pollution. This is causing harm to life throughout the planet, especially in the oceans.
- Insecticides and other chemical pollutants are causing harm, notably to pollinating insects.
- Habitat loss such as cutting down ancient and rain forests, loss of peat bogs, loss of meadows, draining ponds and wetlands.

[\\*https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185809](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185809)

**Climate injustice.** The poorest people of the earth are already suffering the most from climate change. They may live in regions most badly affected by floods, crop failure, water shortage, excessive heat, storms and sea level rises. They will not be able to build infrastructure to help mitigate the worst effects and may become climate refugees.

# What can we do?

1. Stand up, raise your voice, and demand urgent, meaningful, and concrete climate action” (WWF). Do something! Write to your MP/MSP and pray urgently for change.
2. Move your money. If you have savings or a pension, your bank may well be using your money to invest in fossil fuels. You can make a significant impact by moving to a financial institution which will invest ethically, such as Triodos Bank, The Ecological Building Society, your local Credit Union.
3. Eat more plants. Agricultural meat and dairy production are significant contributors to climate change and habitat loss, even more so when intensively farmed and transported. Try meat free Monday or perhaps Vegan Tuesday? Support good local producers.
4. Drive less, fly much less. Get on the train, the bus or your bike, get an electric car if you can, share lifts.
5. Plant a tree. If you have a garden, plant a tree. Trees are amazing God-given, carbon-absorbing miracles. If you don't have space for a tree, plant something for wildlife – even one sunflower will feed bees and birds and bring you joy.



