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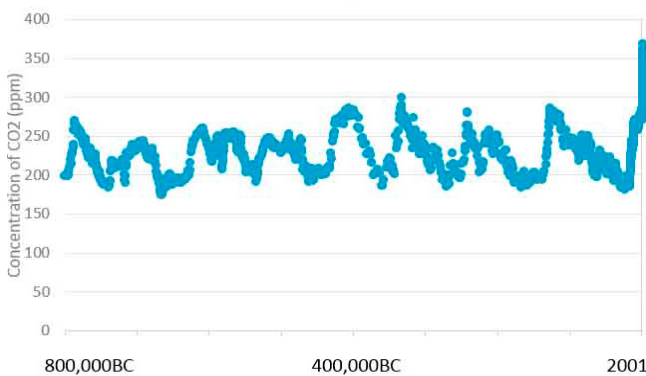
Climate change

What is climate change?

Greenhouse gases enhance the natural greenhouse effect by trapping more heat in the Earth's atmosphere than would be the case without human activity, leading to changes in our climate.

Greenhouse gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), and synthetic gases, such as chlorofluorocarbons (CFCs) and hydrofluorocarbons (HFCs).

Changes in carbon dioxide concentration



Source: Bereiter et al. 2015, Revision of the EPICA Dome C CO₂ record from 800 to 600 kyr before present, Geophysical Research Letters, doi: 10.1002/2014GL061957

Carbon dioxide levels are higher than at any time over the last 800,000 years, and still increasing.

The world is warming

Globally, temperatures are 1.1°C above pre-industrial levels and 2015-2019 is the warmest 5-year period observed.

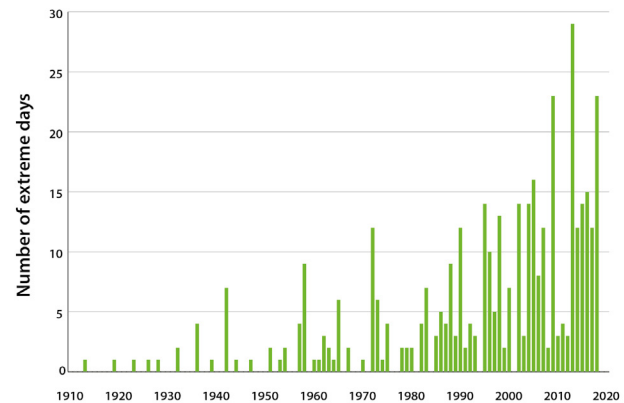
In Australia, 2019 was the warmest and driest year on record.

Climate change is driving extreme weather events

RAIN: A greater proportion of annual rainfall is coming from heavy rain days, there is increased time between rain events and rainfall over southern Australia has declined.

HEAT: There has been an increase in extreme heat events, more days each year are in the top 1% of temperatures experienced.

Frequency of extreme weather



Source: BoM

Significant impacts are expected

Impacts are expected on human health due to heat exposure and changing spread of disease.

The natural environment will be affected through changed distribution of species, loss of biodiversity and altered water and nutrient cycles.

Greater frequency of natural disasters will threaten human lives and lead to significant economic costs. Successful implementation of the Paris Agreement will minimise these impacts.

See our our latest report, *Prospering in a low emissions world and our Paris Agreement fact sheet.*