

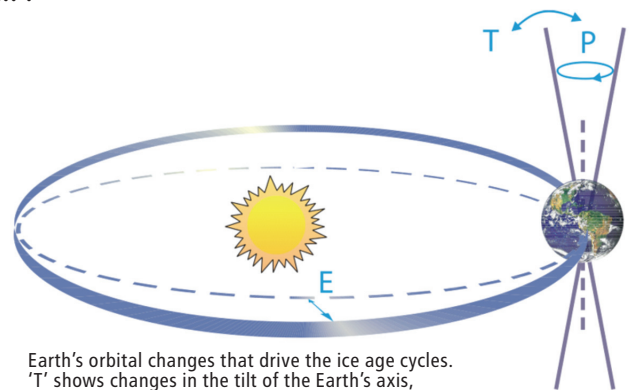
Is climate change part of a natural cycle?

Yes – But

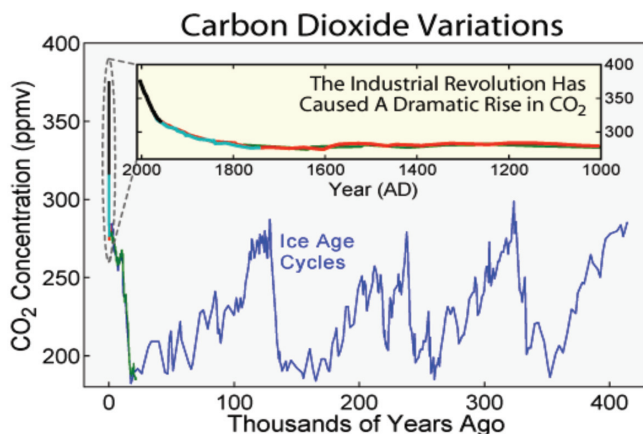
... 'variations in the Earth's climate have been driven by many forces: atmospheric and oceanic circulations, sun activity, geological activity and land mass distributions. And a wobbly Earth...'

Did you know that the world wobbles and tilts as it 'circles' the Sun?

The orbit of Earth around the Sun is not circular. Instead it is elliptical. Our distance from the Sun has varied over many thousands of years, giving variation to the elliptical path. The Earth also wobbles. This means the amount of solar radiation varies in how it is distributed on the Earth's surface influencing the climate. This is the Milankovitch Cycle, which repeats about 100,000 years and determines the cycles of ice ages.



Earth's orbital changes that drive the ice age cycles. 'T' shows changes in the tilt of the Earth's axis, 'E' shows changes in the Earth's orbit and 'P' denotes precession, or changes in the direction of the axis tilt at a given point of the orbit.



Carbon dioxide (CO₂)

Atmospheric CO₂ levels have fluctuated over time as part of this cycle. Levels of CO₂ are low when the Earth is in an ice age, and high in what is called an inter-glacial period, like today.

However, since around 1750 – the start of the industrial revolution, the concentrations of CO₂ in the atmosphere have greatly increased due to the burning of fossil fuels and land use change. These activities have occurred at a point when CO₂ was already high.

The Greenhouse Effect

The amount of CO₂, methane, nitrous oxide and other gases in the atmosphere determines the energy balance of the Earth.

As levels of these gases increase, they trap more heat and the world warms up.

