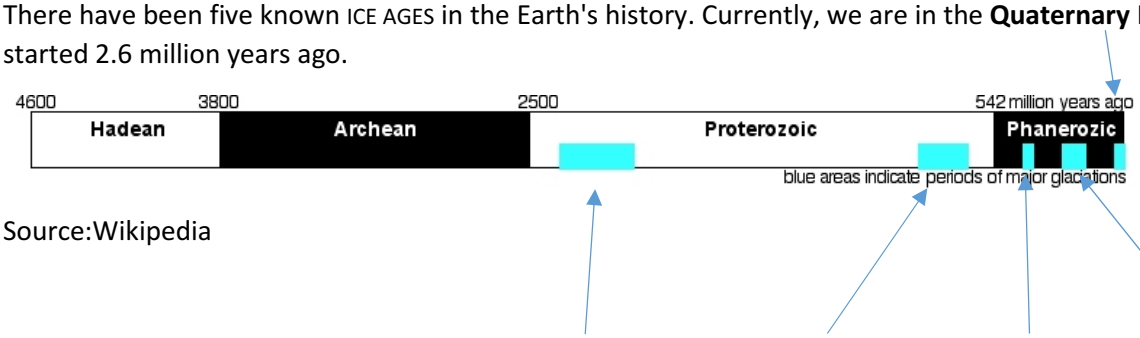
Ice Ages, Glacials and Interglacials

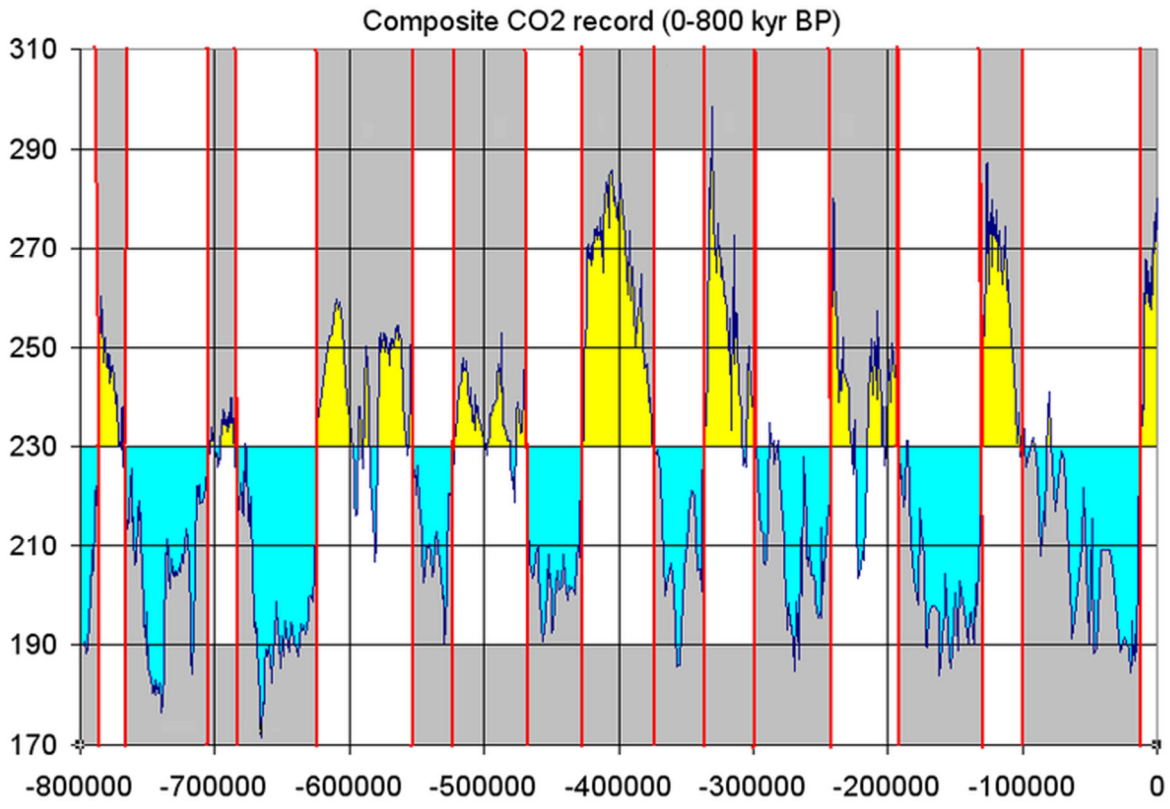
There have been five known ICE AGES in the Earth's history. Currently, we are in the **Quaternary** Ice Age, which started 2.6 million years ago.



Source:Wikipedia

The preceding ice ages where known as the Huronian (earliest), Cryogenian, Andean-Saharan and Karoo.

During ice ages, the environment fluctuates betweenphases of more severe, cold conditions, known as GLACIALS, and warmer phases known as INTERGLACIALS. The Earth is currently in an interglacial phase of the Quaternary Ice Age. This particular interglacial is termed the **Holocene**. The last glacial phase of the Quaternary, when large ice sheets spread across much of Europe and North America, ended approximately 11,700 years ago with the start of the **Holocene**. There have been around 30-50 glacial-interglacial cycles in the Quaternary. All Quaternary glacial and interglacial phases except the Holocene are grouped together and known as the **Pleistocene**.



Atmospheric carbon dioxide (ppm) against time (years Before Present).

ftp://ftp.ncdc.noaa.gov/pub/data/paleo/icecore/antarctica/epica_domec/edc-co2-2008.txt

Atmospheric carbon dioxide changes as the temperature of the Earth (and particularly the oceans) change. We can therefore use records of past atmospheric carbon dioxide levels, for example in the ice cores, to identify the timing and characteristics of past climate changes. In this graph, showing carbon dioxide data from Antarctic ice cores, the higher the amount of carbon dioxide, the warmer the temperature. Glacials are shaded in yellow and interglacials in cyan.

What happens next?

If there had been no anthropogenic impact on greenhouse gas concentrations in the atmosphere, and the natural carbon dioxide levels had got down to 240ppm, then the Earth would be cooling to a glacial phase within the next 1500 years. Otherwise, if greenhouse gas levels didn't naturally get down that far, the next glacial would be in 50,000 years.

However, with greenhouse gas levels as they currently are, without any further emissions, the next glacial won't come for around 100,000 years.

Useful links:

http://www.bbc.co.uk/science/earth/earth_timeline/quaternary_ice_age#p00gtnlg (although the terms 'ice age' and 'glacial' are not always used correctly!)

http://science.nationalgeographic.com/science/prehistoric-world/quaternary/