
A Comparison of Holocene with Pleistocene Interglacial Periods Similarities and Differences

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ABSTRACT

The Dome C ice core records indicate there have been eight cycles of ice ages and nine interglacial periods over the past 800,000 years, is approximately the second half of the Pleistocene. They appear to be occurring over approximately 100,000 years cycles due to the three Milankovitch cycles: (1) eccentricity measuring how elliptical the earth's orbital path is; (2) tilt of rotational axis; and (3) axial precession/wobble. It is thought that anthropogenic activities have caused the Holocene, the current interglacial period, to be different from the others. Is that so? If it is true in what way is the Holocene different from past interglacial periods?

There is ice core record data with respect to concentration of greenhouse gases and other ion records, and by compiling the distribution of results we can compare the interglacial periods with each other. In addition to comparison to the full intervals, there are data regarding temperature, gas and ion concentrations, and rate of change throughout previous interglacial periods that can be used as a comparison with the Holocene.

Methane concentrations vary throughout each interglacial period and in a manner that differs from each other with peaks either near the start or middle of an interglacial period; only the Holocene has a peak concentration towards end of period, as a result of anthropogenic influences.