

End of an Era: New Ruling Decides the Boundaries of Earth's History

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After decades of debate and four years of investigation an international body of earth scientists has formally agreed to move the boundary dates for the prehistoric Quaternary age by 800,000 years, reports the *Journal of Quaternary Science*.

The decision has been made by the International Commission on Stratigraphy (ICS), the authority for geological science which has acted to end decades of controversy by formally declaring when the Quaternary Period, which covers both the ice age and moment early man first started to use tools, began.

In the 18th Century the earth's history was split into four epochs, Primary, Secondary, Tertiary, and Quaternary. Although the first two have been renamed Palaeozoic and Mesozoic respectively, the second two have remained in use by scientists for more than 150 years. There has been a protracted debate over the position and status of Quaternary in the geological time scale and the intervals of time it represents.

"It has long been agreed that the boundary of the Quaternary Period should be placed at the first sign of global climate cooling," said Professor Philip Gibbard. "What we have achieved is the definition of the boundary of the Quaternary to an internationally recognised and fixed point that represents a natural event, the beginning of the ice ages on a global scale."

Controversy over when exactly the Quaternary Period began has raged

for decades, with attempts in 1948 and 1983 to define the era. In 1983 the boundary was fixed at 1.8 million years, a decision which sparked argument within the earth science community as this point was not a 'natural boundary' and had no particular geological significance.

Up to now it has been widely felt within the scientific community that the boundary should be located earlier, at a time of greater change in the earth-climate system.

"For practical reasons such boundaries should ideally be made as easy as possible to identify all around the world. The new boundary of 2.6 million years is just that," concluded Gibbard, "hence we are delighted at finally achieving our goal of removing the boundary to this earlier point."

"The decision is a very important one for the scientific community working in the field," said Journal Editor Professor Chris Caseldine. "It provides us with a point in geological time when we effectively did move into a climatic era recognisably similar to the geological present."

More information: Gibbard.P, Head.M Formal ratification of the Quaternary System/Period and the Pleistocene series/Eoch with a base at 2.58 Ma, *Journal of Quaternary Science*, Wiley-Blackwell, 2009; [DOI: 10.1002/jqs.1338](https://doi.org/10.1002/jqs.1338)

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