

Extra-terrestrial impact did in mammoths: scientists

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A thin layer of carbon and debris laid down 12,900 years ago supports the theory that the extinction of mammoths and other large mammals was caused by an "extra-terrestrial" event, researchers reported Tuesday.

The cause of the sudden disappearance of 35 kinds of mammal — including mastodons, ground sloths, horses and camels — from North America is a matter of continuing controversy, with human overhunting being the main alternative theory to sudden cooling.



The skeleton of a 15,000-year-old mammoth. The giant animals might have become extinct after an object from space hit the Earth's atmosphere, changing the climate, researchers suggested.

(Francois Mori/Associated Press)

The 26 authors of Tuesday's paper, published in the Proceedings of the National Academy of Sciences, come down on the side of sudden cooling, based on studies of 10 North American sites from the Clovis Period, an era when humans hunted mastodons. It ended suddenly about the same time the carbon appeared.

They suggest that "multiple ET airbursts along with surface impacts" — possibly by an asteroid, comet or meteorite — and the massive wildfires that followed laid down a three-centimetre carbon-rich "black layer" with elements of soot, charcoal and glass-like carbon over the Clovis sites.

The base of the layer coincides with the beginning of the Younger Dryas cooling period, a 1,000-year ice age that began about the same time that Clovis culture ended.

The researchers said there were Clovis tools and "megafauna" bones under the layer, but none in or on top of it.

"We don't have a smoking gun for our theory, but we sure have a lot of shell casings," Brown University planetary geologist Peter Schultz said in a statement. "Taken together, the markers found in the samples offer intriguing evidence that North America had a major impact event about 12,900 years ago."

He was one of the researchers, led by Richard Firestone of Lawrence Berkeley National Laboratory in Berkeley, Calif.

The Clovis culture had spears capable of piercing a mammoth and might have lived by following herds of the giant animals. The Clovis population declined as the animals disappeared, to be replaced by Folsom culture, which arose as the continent warmed after the Younger Dryas period.