

# Scientist: Humans not responsible for mammoth extinction

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LONDON, England (Reuters) -- Climate shifts were probably responsible for the extinction of the mammoth and other species more than 10,000 years ago, not over-hunting by humans, according to new research published on Wednesday.

Radiocarbon dating of 600 bones of bison, moose and humans that survived the mass extinction and remains of the mammoth and wild horse which did not, suggests humans were not responsible.

"That is what this new data points out," said Dr Dale Guthrie of the University of Alaska in Fairbanks.

"It is not that people weren't hunting these creatures. But climate would have reduced the numbers considerably," he added in an interview.

Various theories have been put forward to explain the disappearance of the mammoth and the wild horse, *Equus ferus*, which coincided with the arrival of humans from central Asia in North America more than 12,000 years ago.

One hypothesis suggested a virulent disease was responsible for the extinctions. Another theory was that by killing grazing animals, humans triggered changes in vegetation that resulted in the mass deaths.

The Blitzkrieg, or overkill theory, said human hunters devastated most large mammal species and drove some to extinction.

"But contrary to that theory, my dates show numbers of bison and wapiti (elk) were expanding both before and during human colonization," Guthrie explained.

His radiocarbon research, reported in the journal *Nature*, shows there was a 1,000-year difference between the demise of the wild horse and the woolly mammoth which Guthrie said is inconsistent with other theories.

Instead, he suggests climate shifts transformed the dry, arid and cold region. The wetter, warmer summers led to changes in vegetation to which mammoths and wild horses could not adapt.

"The new patterns of dates indicate a radical ecological sorting during a uniquely forage-rich transitional period, affecting all large mammals, including humans," Guthrie added.



The woolly mammoth probably died out as a result of climate change, new research shows.