

UC SANTA BARBARA

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HUMANS HUNTED MAMMALS TO EXTINCTION IN NORTH AMERICA

Woolly mammoths, giant armadillos and three species of camels were among more than 30 mammals that were hunted to extinction by North American humans 13,000 to 12,000 years ago, according to the most realistic, sophisticated computer model to date. The news is reported in the June 8 issue of the journal *Science*.

John Alroy, a researcher with the National Center for Ecological Analysis and Synthesis (NCEAS) at the University of California, Santa Barbara, performed the modeling and is the single author of the paper. NCEAS houses the best ecosystem computer modeling capacity available, according to Alroy.

"This was a big event in North America," said Alroy. "And, although humans were responsible for the extinctions, it wasn't clear to them because it happened over a 1,000 year period. It took so long that they didn't realize it until it was too late."

"More than half of the large mammal biota of the Americas disappeared in a cataclysmic extinction wave at the very end of the Pleistocene," begins Alroy in the *Science* article.

Some of the mammals that became extinct are:

woolly mammoths

Columbian mammoths

American mastodons

three types of ground sloths

glyptodonts

giant armadillos

several species of horses

four species of pronghorn antelopes

three species of camels

giant deer

several species of oxen

giant bison

Earlier computer simulations were too simple to grasp the total picture of extinctions, according to Alroy. He said the current model is a conservative one that is quite robust to criticism.

But why did some species of large mammals become extinct and others not? Moose, Canadian elk and bison survived. "These had a broader distribution," explained Alroy. They were able to move into what is now Canada as the glaciers melted. "These animals may also have developed more ways to avoid humans since they co-evolved with humans here, in Europe and Asia," he said.

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