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During that time, half of North America was covered by giant sheets of ice. According to the National Geographic Society, those ice sheets were more than 3 kilometers (about 2 miles) thick. Many large animals called megafauna¹ roamed the earth then. Some Ice Age animals such as the cougar and musk ox are still found in the wild today. Most Ice Age animals, however, including the saber-toothed tiger and woolly mammoth, died off.

The Basic Needs of All Animals

To survive, every animal on Earth needs food, water, and shelter. The environment, or habitat where they live, gives animals their basic needs. Sometimes, an environment changes. The temperature might get warmer or colder over time. A food source can disappear. Even the physical characteristics can change. For example, forests are destroyed. Rivers dry up. Due to these changes, some animals move to new places. Others adapt and survive. Some can't adapt and die.





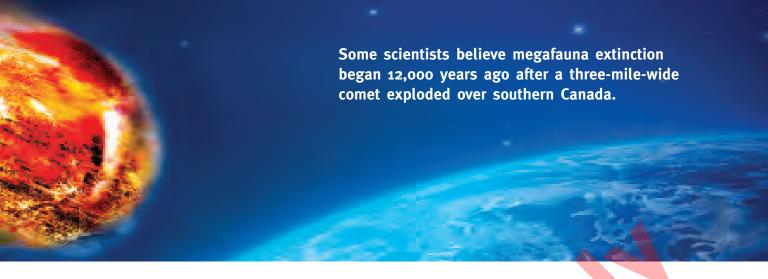
The Disappearance of Ice Age Animals

Scientists are not sure why most of the large animals on Earth died off by the end of the Great Ice Age. Here are some possible causes:

Change in the Weather

Beginning about 50,000 years ago, Earth went through periods of warming up. Then, just as quickly, it would cool down. The megafauna adapted to the cold periods. But during the warming periods, reports *Scientific American* magazine, forests replaced grasslands. With their usual food source gone, some megafauna died off.

 megafauna—large animals; from the Greek word mega, meaning "large," and the Latin word fauna, meaning "animal"



Humans

By the end of the Great
Ice Age, humans were
learning to hunt. Beth Shapiro
teaches biology at Penn State
University. She says it is
likely that people "kept the
megafauna from surviving."
In addition to killing these
large animals, humans hunted
the smaller animals that the
large animals ate.

A Natural Disaster

Richard Firestone is a scientist at the Berkeley Lab. In 2007 he and other researchers presented a new idea of what wiped out megafauna. They believe a comet² exploded over southern Canada. Huge

comet—an object in space made of ice and dust. When it passes by the sun, it grows a bright "tail." wildfires spread across most of the Northern Hemisphere as a result.

After the fires died out, plants could not grow on the land. The large animals did not have enough to eat.



Ice Age Losers and Winners

The woolly mammoth, ground sloth, and many other mammals did not survive the Ice Age. They became extinct. The chart below tells about some of these species. It tells why they died off. Then read about four Ice Age animals that are still around.

ICE AGE ANIMAL	ABOUT THE ANIMAL	CAUSES FOR EXTINCTION	
American cave lion	one of the most feared large predators; could take down much larger animals	d <mark>ec</mark> line of food source; human hunters	
giant short-faced bear	largest meat-eating land animal in North America	explosion of a comet caused wildfires and destroyed food sources	
woolly rhino	large, heavy animal with thick, shaggy hair and two horns on its nose	climate change; disease; human hunters	
woolly mammoth	huge, hairy, elephant-like mammal with tusks up to 4 meters (13 ft.) long	disease; human hunters; natural disaster	
giant ground sloth	an ancient sloth as big as today's elephant	human hunters; disappearance of natural habitat	
saber-toothed tiger	one of six species of big cats that lived in North America during the Ice Age	lost its primary food source; didn't adapt to new food source	



The upper teeth of the saber-toothed tiger were up to 18 centimeters (7 inches) long.

Cougar and Jaguar

Dr. Larisa R. G. DeSantis studies the big cats of the Great Ice Age. Six species of large cats roamed the plains and forests of North America then. Only the cougar and jaguar survived.

"They were not picky eaters," explains Dr. DeSantis. Their teeth were sharp and strong. So they were able to eat flesh *and* bones of many different prey.

The saber-toothed tiger's teeth, by comparison, "were brittle," adds Dr. DeSantis.

The upper teeth of a jaguar are about 5 cm (2 in).

"They would break easily.
Therefore, the saber-toothed tiger needed to eat mostly tender meat. They favored mastodons—huge, hairy elephants."

By the end of the Great Ice Age, though, saber-toothed tigers' food source was disappearing. They were not able to adapt. They did not change their diet. So saber-toothed tigers did not survive.