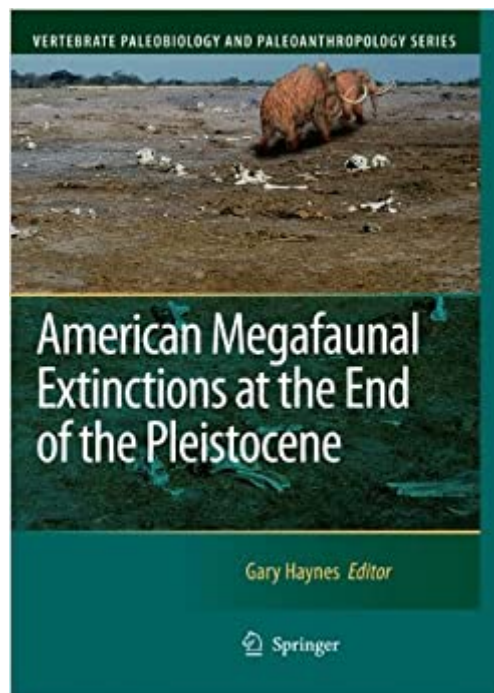


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# American Megafaunal Extinctions At The End Of The Pleistocene (Vertebrate Paleobiology And Paleoanthropology)



## Synopsis

The volume contains summaries of facts, theories, and unsolved problems pertaining to the unexplained extinction of dozens of genera of mostly large terrestrial mammals, which occurred ca. 13,000 calendar years ago in North America and about 1,000 years later in South America. Another equally mysterious wave of extinctions affected large Caribbean islands around 5,000 years ago. The coupling of these extinctions with the earliest appearance of human beings has led to the suggestion that foraging humans are to blame, although major climatic shifts were also taking place in the Americas during some of the extinctions. The last published volume with similar (but not identical) themes -- *Extinctions in Near Time* -- appeared in 1999; since then a great deal of innovative, exciting new research has been done but has not yet been compiled and summarized. Different chapters in this volume provide in-depth resums of the chronology of the extinctions in North and South America, the possible insights into animal ecology provided by studies of stable isotopes and anatomical/physiological characteristics such as growth increments in mammoth and mastodont tusks, the clues from taphonomic research about large-mammal biology, the applications of dating methods to the extinctions debate, and archeological controversies concerning human hunting of large mammals.

## Book Information

Series: Vertebrate Paleobiology and Paleoanthropology

Hardcover: 201 pages

Publisher: Springer; 2009 edition (January 29, 2009)

Language: English

ISBN-10: 1402087926

ISBN-13: 978-1402087929

Product Dimensions: 8.5 x 0.6 x 11.1 inches

Shipping Weight: 1.8 pounds

Average Customer Review: 4.0 out of 5 stars 2 customer reviews

Best Sellers Rank: #2,045,020 in Books (See Top 100 in Books) #42 in Books > Science & Math > Biological Sciences > Paleontology > Paleobiology #1754 in Books > Textbooks > Social Sciences > Archaeology #2668 in Books > Textbooks > Science & Mathematics > Environmental Studies

## Customer Reviews

From the reviews: "This excellent volume is an antidote to the rhetorical bombast. Haynes

thoroughly, fairly, and at times humorously frames the debate and puts the present studies in context. Eleven contributors present methodologically sound approaches that result in data-rich research. *Summing Up: Highly recommended. Academic and professional libraries, upper-division undergraduate and above.*" W. L. Cressler III, *Choice*, Vol. 46 (11), August, 2009." Provides a very valuable overview of the current state of the extinction literature, referencing not just publications but also numerous conference presentations. Provide the broadest (and, in many respects, the most helpful) perspective by considering North and South America in conjunction rather than in isolation. Jeffrey V. Yule, *Evolutionary Anthropology* 18:159-160, 2009. "Addresses one of the most controversial issues of the last glacial period, which affected ecosystems around the world: American megafaunal extinctions. discusses the extinction of genera across North and South America, with a single chapter focusing on the West Indies. the book appears smartly presented, a slim hardback book that is well laid out, with clear black-and-white images scattered throughout the chapters. a book designed for hardcore specialists focusing on the minutiae of extinction events specifically in the Americas." (Alexander J. E. Pryor, *Archaeological Review from Cambridge*, Vol. 25 (1))

The volume contains summaries of facts, theories, and unsolved problems pertaining to the unexplained extinction of dozens of genera of mostly large terrestrial mammals, which occurred ca. 13,000 calendar years ago in North America and about 1,000 years later in South America. Another equally mysterious wave of extinctions affected large Caribbean islands around 5,000 years ago. The coupling of these extinctions with the earliest appearance of human beings has led to the suggestion that foraging humans are to blame, although major climatic shifts were also taking place in the Americas during some of the extinctions. The last published volume with similar (but not identical) themes -- *Extinctions in Near Time*-- appeared in 1999; since then a great deal of innovative, exciting new research has been done but has not yet been compiled and summarized. Different chapters in this volume provide in-depth resums of the chronology of the extinctions in North and South America, the possible insights into animal ecology provided by studies of stable isotopes and anatomical/physiological characteristics such as growth increments in mammoth and mastodont tusks, the clues from taphonomic research about large-mammal biology, the applications of dating methods to the extinctions debate, and archeological controversies concerning human hunting of large mammals.

Hi. This book is an academic-level book, and not necessarily for beginners to the subject. The book

also consists of research papers, written by a principal author and by other authors, who worked together to present a unifying theme. I have some mixed viewpoints on this book, but overall this book is quite all right. First, the principal author is an old theorist on the peopling of the Americas in which the two continents were settled from a single migration and settled very rapidly (despite that rapid migrations never took place in human or hominid history), whereas I am a new theorist on the peopling of the Americas in which the two continents were settled slowly from multiple migrations from different origins and within different timeframes. However, this old theory was not heavily discussed (though lightly so) because this book involves a discussion on what happened to much of the megafauna of the Americas, and why they went extinct. The principal author advocates the overkill theory whereas I advocate that there was a bolide-impact-related megadisaster or some other kind of megadisaster (often referred as the overkill theory) that played a major hand in the extinctions of much of the North American (and at least some South American) megafauna. Yet, I also advocate that remaining surviving megafauna were overhunted by the surviving paleoamericans to extinction, and thanks to this book, there is compelling evidence that overkill was indeed involved in the Pleistocene-Holocene megafaunal extinctions at least to an extent, as unfortunate as it was. All of the evidence for the overkill theory was well put and discussed in this book. That is why I gave this book three stars, even though I do not advocate all that the principal author proposes. The megafaunal extinctions of North America were quite sudden and occurred more-or-less simultaneously at the end of the Pleistocene. The principal author works to contradict other scientists that advocate that gradual climatic/environmental change was the main (if not the entire) reason for the North American extinctions. I agree with the principal author that this aforementioned theory was not the case. He mentions the example that horses can eat some C3 plants as well as C4 plants and that horses are not entirely grazers for instance. He also mentions the example that one species of mammoth evolved to be small-sized and lived on Wrangel Island in the Arctic Ocean up to 2750 BCE. Hence, despite reduced habitable environments for certain animals, these animals could cope with climate/environmental changes at least to a good extent. The principal author also stresses that megafauna were mostly preferred for hunting from observations of dug-up North American killsites from that timeframe. I as a new theorist believe that humans and pretty much all megafauna coexisted for several millennia, whereas the principal author believes that once humans arrived, animal species started disappearing. Yet, I can see how the killsites can fit with the new theory in which after the megadisaster, all populations (human and animal) were heavily affected on North America. Surviving humans scammedered to find food to satisfy their whole communities, so they turned to overhunting. This in turn led to many megafaunal

populations not having the ability to rebound, again as unfortunate as it was. The book also discussed South American megafaunal extinctions, which were more compelling to be factual. South America had more open spaces in the Pleistocene than it does now, and many megafauna could thrive back then. However, as the LGM passed, the open areas shrank, and many large animals found themselves not having the living space that they once had. Now, the book presents the "Broken Zig-Zag Hypothesis" where animal populations grow and shrink with their habitations (the Zig-Zag in this case). However, humans had broke that zig-zag with their hunting of these megafauna, which played a major role in their extinctions, as mentioned in the book. Again, as a new theorist, I can see how humans coexisted with South American megafauna for several millennia too, but environmental changes led to humans turning to them a bit too much. (Many Australian megafauna very likely suffered an almost-identical fate). Yet, it is also known that several megafaunal species survived well into the Holocene period, which goes to show that the megafaunal extinctions were not sudden as with those of North America, but were a little more gradual even with the involvement of humans. Yet, I also believe that the bolide-impact had significant effect on South American megafauna as well. The book also presents how many megafauna from the West Indies also went extinct, when the first humans arrived c.6000BP, which also plays the course that island megafauna almost always do not fare well when human hunters appear, but this is the case for the whole world. One thing I wished that could have been present in this book was more detail on how many carnivorous megafauna on the American continents went extinct. The book almost entirely discussed how many different herbivorous megafauna met their unfortunate fates. Understandably, when prey is reduced, predators lose their living numbers, which was emphasized in this book. However, predators also learn to cope as well. The bolide-impact-megadisaster theory also presents a case on what happened to the North American predatory megafauna; and it is very likely that the same megadisaster explains much of the fate of the South American counterparts as well. As you can see, for a new theorist like me, I believe that some of the overkill theory is true on why most of the American megafauna went extinct, following the Pleistocene, as it was well-presented in this book. However, I do not believe that the overkill theory was the entire reason. Yet, overall I recommend the book for the detailed references to the now-extinct American megafauna. Much can be learned and grasped.

This book is fantastic. A must read for aficionados of this subject.

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