

ΦAUREA
EXHIBITIONS



ICE
AGE

THE EXHIBITION

Mammoths, saber-toothed tigers, hairy rhinos, gigantic birds and more make Ice Age an exciting and educational exhibition about the plants and animals of Earth's last Ice Age.

Ice Age features 10 life-sized animatronic models of mammals with scientifically accurate movements, coloring, sounds, and fur.

This exhibition provides a unique and exciting walk through the ice age era for families and visitors of all ages.

The theme of Ice Age centers around the effects of glaciation during Earth's last Ice Age.

Sub themes include the Mega fauna, man and the Mega fauna, the coexistence of Cro magnons and Neanderthals, the extinction of the Mega fauna, and more!





CURATOR & ADVISORS

Ice Age is curated by Adrian Giacchino, Director of the Felix de Azara Foundation. The Felix de Azara Foundation of Natural History is a non-governmental, non-profit organization with the aim of contributing to the conservation of nature and cultural heritage, the development of science, and the sustainable use of natural resources.

Since it was founded in 2000, the Foundation has contributed more than fifty research and conservation projects, participated as an editor or sponsor for more than two hundred books and documentaries on science and nature, promoted the creation of nature reserves, worked in the rescue and management of wildlife, promoted research and dissemination of science information for private universities, assisted in the preparation of various environmental laws, organized conferences, courses and nearly one hundred lectures.

Within a decade of its conception, the Foundation became synonymous with prestige, quality and excellence as a landmark institution for the development and dissemination of science and conservation of natural and cultural resources in Argentina.



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GALLERIES

INTRODUCTION

The Ice Age introduction gallery begins the exploration of the last cold period in a series of global climate changes that occurred about 10 thousand years ago. It delves into the conditions of the earth at the time and the “mega mammals” that adapted to the extremely cold climate.

MEGAFUNA

In biology, the term Megafauna (from the ancient Greek word “megas” meaning “large” and the Latin word “fauna” meaning “animal”) is used to refer to large animals, both current (elephants, giraffes, hippos, rhinos, moose, etc.) and extinct.

The gallery regarding the Megafauna explores the Pleistocene period and the mammals that are considered to be the first of the last Ice Age as well as their sub categories organized based on their position in the food chain.

GIANT BIRDS

After the extinction of the massive dinosaurs, Earth’s mammals remained small. The food chain’s major predators were often groups of animals such as reptiles, including crocodiles, large snakes, and monitor lizards, as well as fierce flightless birds such as Phorusrhacidae.

The Giant Birds gallery discusses Phorusrhacidae, a large, carnivorous, flightless bird, in great detail, along with its significance to the Ice Age.



GALLERIES



THE ICE AGE AND HUMAN EVOLUTION

The climate during Earth's last Ice Age was unstable: habitats were constantly changing, forcing humans to learn to adapt to their surroundings.

The Human Evolution gallery discusses how this climate change affected the development of our earliest ancestors over the course of hundreds of thousands of years into the modern humans we know today.

THE GREAT AMERICAN BIOTIC INTERCHANGE

In this gallery, the events regarding the Great American Faunistic Exchange are discussed. When the volcanic isthmus of Panama rose from the sea floor and created a land bridge between North and South America about 2.5 to 3 million years ago, horses, saber-toothed cats, bears, tapirs, peccaries, foxes, and other mammals were able to migrate into South America from the Northern Hemisphere.

Conversely, glyptodonts, armadillos, opossums, and other South American animals were able to migrate North. Learn about this great faunal interchange in this fascinating gallery.

THE EXTINCTION OF THE MEGAFUNA

Several theories exist to explain the wave of extinctions of the Megafauna that occurred over the span of one million years.

This gallery details the different waves that occurred by the species, region, and time period of the extinction.

THE COEXISTENCE OF MAN AND MEGAFUNA

Recent research has confirmed that humans and megafauna coexisted around the world about 13,000 years ago. This gallery illustrates that coexistence and the research that accompanies it.

MAN AND THE EXTINCTION OF OTHER SPECIES

In the Man and The Extinction of Other Species gallery, hunting and environmental disturbance by man and its effects on the number of megafauna are compared to the mass extinctions that occurred before the appearance of man.

CONTENT

- 10 full-sized, paleontologist-approved animatronic prehistoric animals with full motion and scientifically accurate coloring, fur, and sounds
- Comprehensive copy panels
- Animated video footage and audio/video equipment
- Surround sound system
- Scenery and backdrops
- LED Curtains
- Sky and star effects
- Exhibit lighting and trusses
- Artificial plant life
- Rustic barricades
- Hands-on fossil excavation sites



GLYPTODON

Glyptodons looked similar to modern day armadillos, but on a much larger scale. These medium to large-sized mammals ranged from 110 to 4,430 pounds in weight. Hard shells formed by over 1,000 osteoderms, or thick, bony plates made of scale-like skin, protected their bodies. Separate shields covered Glyptodons' heads and tails. Rings of armor covered the short tail while the head had a helmet-like protection over the skull. The skeletons of Glyptodons were designed to be very strong and sturdy to support their massive shells. Features such as fused vertebrae, short, stout limbs and wide shoulders provided a strong foundation for supporting the heavy body armor. Glyptodons also had large, strong jaws used for chewing tough plants and flora.



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GLOSSOTHERIUM

Glossotherium was one of the largest sloths of the time, weighing more than 2,000 pounds and measuring about 13 feet. Glossotherium fossils have been found primarily in South and Central America, although due to the Great American Fauna Interchange that occurred when the volcanic isthmus of Panama rose from the sea floor and created a land bridge between North and South America, some fossils have been found in North America as well. The first fossils of this species were discovered by Charles Darwin and studied by the English paleontologist Richard Owen.



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HIPPIDION

Hippidion, the American horse, was more robust with shorter and wider extremities than today's domestic horses. Its skull had wide, hollow and convex nasal bones and its weight was often close to 800 pounds. Hippidions came to the plains of Peru with the Great American Fauna Interchange that occurred when the volcanic isthmus of Panama rose from the sea floor and created a land bridge between North and South America. Although, they were extinct several thousand years before Europeans introduced the domestic species to the area, the first collected fossil of Hippidion was an upper molar discovered by Charles Darwin near Bahia Blanca, Argentina. In 1845, the English paleontologist Richard Owen first included it to the species *Equus caballus*, but later decided that the animal was a better fit for the species *Equus curvirostris*.



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MAMMOTH

Mammoth fossils have been found in North America, Eurasia, and Africa. Up until their extinction 3,700 years ago, Mammoths existed on Earth for about 4.8 million years. Mammoth fossils found in cold areas, such as modern Russia and Canada, had ears one fifth the size of today's Asian elephants' ears. These mammoths' small ear size was an adaptation developed to reduce body heat loss in cold climates. Mammoth fossils found in warmer climates, however, had larger ears like modern elephants, and to cool the blood as it circulated through the extremities. Researchers believe that *Przewalski's mammoth*, an ancestor of modern mammoths, was hunted by Neanderthals for their meat 3.8 million years ago. The Mammoth is the only animal showcased in this exhibition that did not live in South America at any time during its existence.



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MASTODON

Mastodons were similar in appearance to Mammoths and modern elephants, although they are not closely related. At the shoulder, Mastodons stood between 7 and 9 feet tall and weighed close to 8,000 pounds. Their tusks were long and almost straight (unlike the curved tusks of the Mammoth) and continued to grow throughout the animal's lifetime. Although many of the existing Mastodon fossils have been found in North America, evidence also suggests that the Great American Fauna Interchange that occurred when the volcanic isthmus of Panama rose from the sea floor and created a land bridge between North and South America is the reason for finding some Mastodon fossils in South America.



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MEGATHERE

Megatheres are best described as large, elephant-sized sloths weighing up to 13,000 pounds and measuring up to 20 feet in length. According to fossilized footprints, Megatheres were able to stand on their hind legs, in spite of their size. Megatheres' back legs were much stronger than their front legs, but were the same length. Each of the four legs also ended with strong claws protruding from the foot. The tail of the Megatheres was very strong and was used to form a tripod when standing on its hind legs to eat from trees. The first collected fossils of the Megatheres were discovered by Fray Manuel Taines in the gullies of the Luján River in Argentina in 1782 and studied by the French naturalist George Cuvier in 1796.



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SABER-TOOTHED CAT

The saber-toothed cat weighed approximately 800 pounds and resembled the modern lion, but with different bodily proportions. The saber-toothed cat's upper canine teeth protruded more than 6 inches from its mouth and its jaw opened to a width of 120 degrees. According to studies performed on the animal's head (which were in the throat), it is probable that the saber-toothed cat could roar like a lion. In 1842, Peter Lund discovered fossils in a cavern in Brazil, which he believed belonged to the saber-toothed cat, or *Smilodon*. Two years later, Dr. Francisco Javier Mulita (the first Argentinian paleontologist) found an almost complete *Smilodon* skeleton near Luján, Argentina. Mulita's findings were published in the *Clarín* newspaper in October of 1845. Not knowing that Lund had previously named the animal, Mulita referred to it as *Mylodon barroensis*.



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TOXODON

The Toxodon was a large, three-toed mammal whose size and shape resembled today's rhinoceros. With a weight of approximately 3,000 pounds and measuring nearly 8 feet, including a large 2-foot long skull, Toxodon was a gigantic herbivore. The Toxodon also had wide jaws and beaver teeth for grinding leaves and plants. The first Toxodon fossils were discovered by Charles Darwin and studied by the English paleontologist Richard Owen.



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MACRAUCHENIA

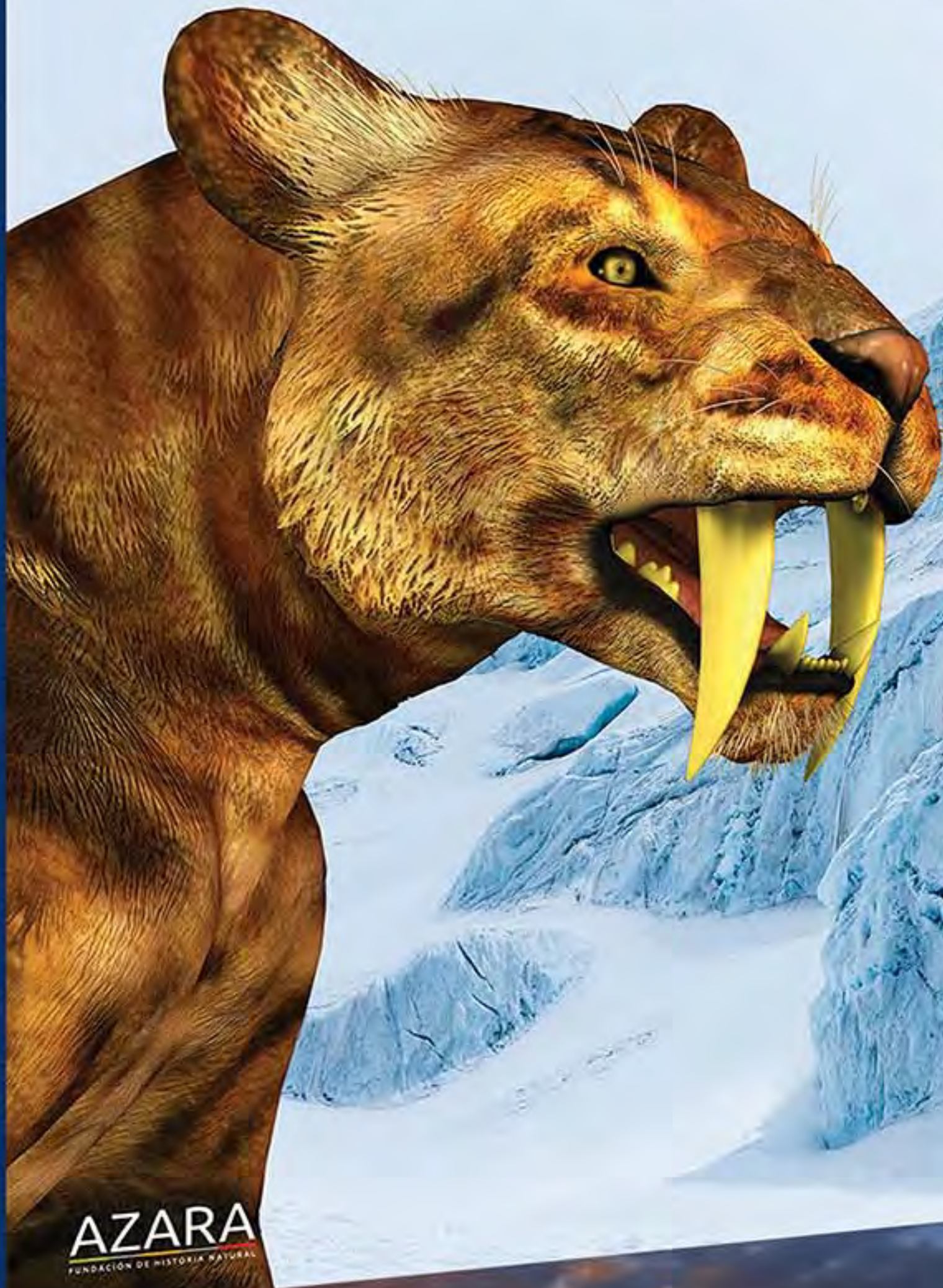
The Macrauchenia ("Big Baka") weighed approximately 2,000 pounds and was about 10 feet long. Paleontologists believe that the mammal had thin legs, a long neck and an elongated snout used for grinding and pulling food. Their feet had three hoof-like digits and leg characteristics that indicate the animal was a fast runner with the ability to quickly change direction. The first fossils of the herbivorous Macrauchenia were discovered by Charles Darwin near Punta Arenas, Chile and studied by the English paleontologist Richard Owen.



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INFORMATIVE CONTENT

Editable panels



LA ERA DE HIELO Y LA EVOLUCION HUMANA

El clima de la Era de Hielo era inestable: los hábitats cambiaban constantemente, lo que implicaba que la capacidad de adaptación de los humanos sufría un desafío continuo de milenio a milenio. El estrés provocado por las condiciones climáticas de la Era del Hielo fue un factor que actuó en la evolución humana.

Nuestros más antiguos antepasados evolucionaron en un clima tropical. Hace unos 400.000 años, un largo período interglacial elevó las temperaturas. En esa época, los Homo erectus prosperaban en el norte de Europa. Unos 50.000 años después, una nueva etapa glacial afectó al continente, y los Homo erectus no pudieron adaptarse a la crudeza del clima. Es probable que algunos de ellos se desplazaran al sur hacia regiones más templadas.

Existen evidencias de asentamientos en Europa y partes de Asia Oriental de hace unos 250.000 años. Entre los 230.000 y los 30.000 años antes del presente, el continente europeo estuvo poblado por los neandertales. Estos demostraron tener una gran capacidad de adaptación a los cambios climáticos, desplazándose a las áreas más templadas cuando el frío era más intenso. Hace unos 50.000 años, cuando el planeta se encontraba en la plenitud del último período glacial, los humanos modernos (Homo sapiens sapiens) dominaban todos los entornos. Incluso las zonas más frías, gracias a sus adaptaciones culturales que les permitieron amortiguar el estrés generado por el ambiente físico.

THE ICE AGE AND HUMAN EVOLUTION

The climate during Earth's last Ice Age was unstable; habitats were constantly changing, forcing humans to learn to adapt to their surroundings. The skills of adaptation demanded by the extreme climatic conditions of the Ice Age were a major factor in the way that humans evolved into the present form.

Our earliest ancestors lived in a warm tropical climate. Approximately 400,000 years ago, an interglacial period occurred between ice ages, allowing temperatures to rise and provide a comfortable climate for Homo erectus to thrive in what is today's northern Europe. Some 50,000 years later, a new, colder stage of climate change occurred and Homo erectus could not adapt to the new climate's harsh conditions. It is likely that some Homo erectus migrated south to warmer regions at this time. There is evidence of settlement by Homo erectus in Europe and parts of East Asia dating back to about 250,000 years ago. Later, about 230,000 years ago, the European continent was inhabited by the species Neanderthal. Neanderthals evolved from Homo erectus and demonstrated a greater capacity to adapt to climate change, moving to warmer areas when the cold was most intense.

As recently as 50,000 years ago, during the height of the last Ice Age, modern humans (Homo sapiens sapiens) were finally able to dominate a wide range of Earth's environments. Homo sapiens sapiens were even able to live in Earth's coldest areas due to cultural adaptations that allowed them to acclimate and survive in harsh climates.

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LA ERA DEL HIELO

Hace alrededor de 10.000 años finaliza lo que comúnmente se conoce como "Edad del Hielo" o "Era del Hielo". Ese fue el último período frío de una serie de cambios climáticos que se sucedieron a escala global.

Durante ese período la nieve y los glaciares cubrían gran parte de la superficie de la Tierra, especialmente en el Hemisferio Norte, cuyas temperaturas promedio eran extremadamente bajas. Hoy en día, capas de hielo remanentes de esas glaciaciones prehistóricas subsisten en las áreas polares, como Groenlandia y la Antártida. A lo largo de la Era del Hielo, evolucionaron mamíferos de gran tamaño o "megamamíferos" especialmente adaptados a esas condiciones climáticas.

Es el caso de los colosales mamuts lanudos, los rinocerontes peludos, los osos de las cavernas o los increíbles tigres "dientes de sable", a quienes te invitamos a conocer en esta exhibición.

EL HOMBRE Y LA EXTINCION DE ESPECIES

La caza y la perturbación ambiental por parte de nuestra especie ha llevado a una serie de extinciones de megafauna en el pasado, y ha creado un serio riesgo de extinciones adicionales en el futuro cercano.

En la historia geológica de la Tierra, ya antes de la aparición del hombre habían ocurrido varias extinciones en masa que habían implicado pérdidas de megafauna. La más conocida es la extinción del límite Cretácico-Terciario en la que la mayoría de los dinosaurios y muchos otros reptiles gigantes fueron eliminados.

Las extinciones en masa anteriores al ser humano fueron más globales y no tan selectivas, es decir que además de la megafauna se vieron afectadas muchas especies de otros grupos, incluyendo plantas, invertebrados marinos y plancton.

THE ICE AGE

About 10,000 years ago, the period in history commonly known as the Ice Age ended. The Ice Age was Earth's last cold period in a series of global climate changes. During this cold period, snow and glaciers covered much of the Earth's surface, especially in the Northern Hemisphere, which had extremely low average temperatures.

Today, all that is left of the last great ice age are Earth's polar areas, such as Greenland and Antarctica.

During this time period, large mammals or "mega mammals" evolved and adapted to the extremely cold climate. A few of those "mega mammals" include the colossal woolly mammoth, woolly rhinoceros, cave bear, and the incredible saber-toothed cat.

We welcome you and will introduce you to each of these creatures and more in this exhibition of the Ice Age.

MAN AND THE EXTINCTION OF OTHER SPECIES

Hunting and environmental disturbance by man has led to a number of megafauna extinctions in the past and has created a serious risk of further extinctions in the near future.

In the geological history of the Earth, even before the appearance of man, there have been several mass extinctions of megafauna. The best known extinction event is that of the Cretaceous-Tertiary boundary in which most of the living dinosaurs and many other giant reptiles were eliminated.

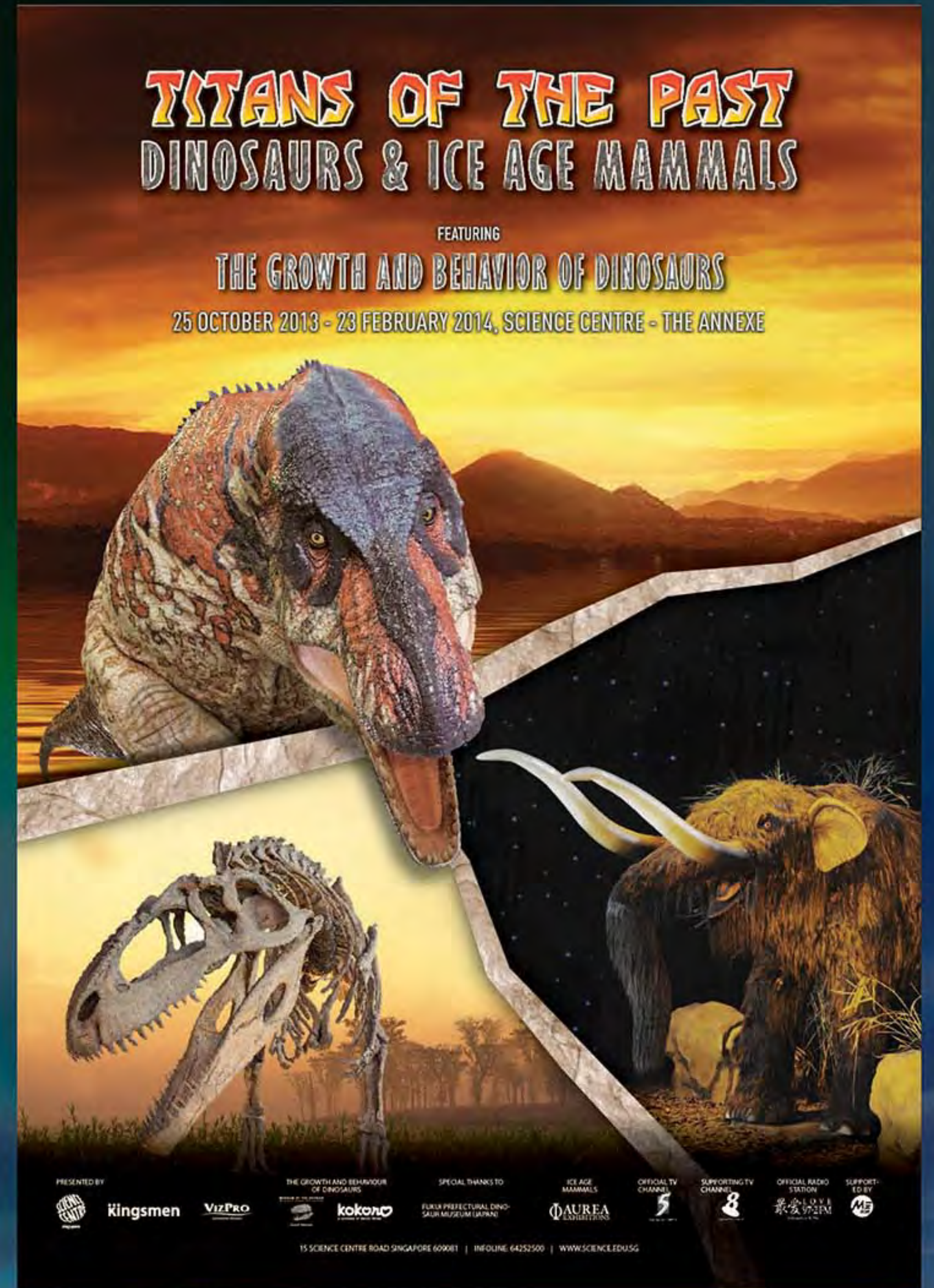
Mass extinctions of megafauna before the widespread arrival of human beings were more global and less selective than the damages caused by man. The extinction of the majority of megafauna species can be attributed to many other natural causes throughout the course of Earth's ever-changing climate.



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INFORMATIVE CONTENT

Led Lightboxes (2 x 2,40 mts.) & Scenic backgrounds (3 x 6 mts.)



ARTWORK ASSETS

Editable artwork



Singapore Science Center, **SINGAPORE** / National Science Museum, **THAILAND** / Athens at Hellenic Cosmos, **GREECE** / Shopping Malls, **SAUDI ARABIA** / Bucharest Shopping Mall, **ROMANIA**



GENERAL INFORMATION

Space required: 3,000 – 6,000 square ft.

Display Period: 3 – 12 months

Shipping requirements: Two (2) 40' shipping containers.

Included production materials: mammals, trusses, backdrops, lighting, consoles, controllers, stage.

Included media materials:

Sample press release, high resolution artwork, curator and scientific support, activity guides, and training guides.





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