Antarctic Dinosaurs

FIELD MUSEUM

Exhibition Details

Size: 5,500 ft2 (511 m2)

Ceiling Height: 12 ft (3.66 m)

Tour: Spring 2023 – Fall 2028

Curators:
Pete Makovicky, PhD.
Lead Curator
Field Museum

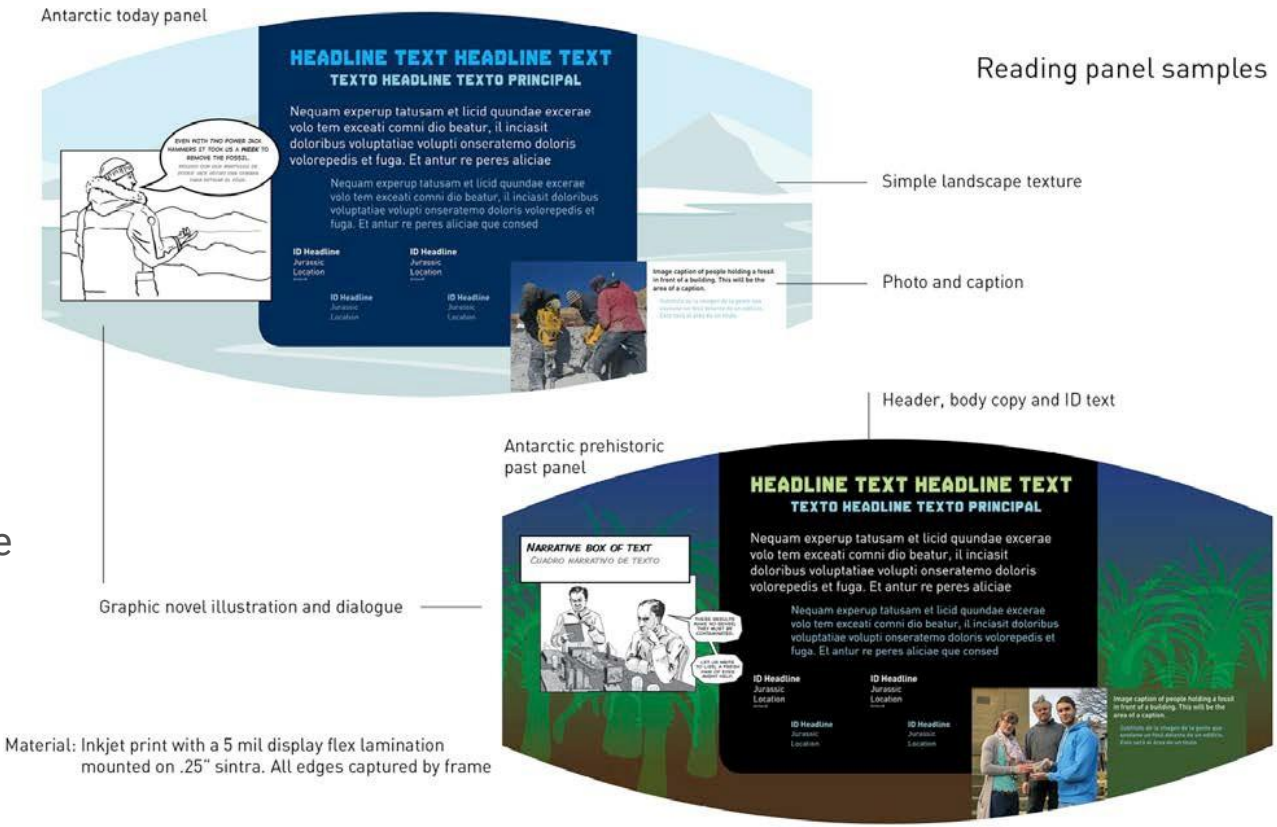
Nathan D. Smith, Ph.D.
Associate Curator
Natural History Museum of Los Angeles County

Features

- Over 60 fossils, full-scale replications, and touchable models
- 9 mechanical and digital interactives
- 7 videos and large media elements
- Custom soundscape and lighting elements
- Bilingual (English & Spanish)

Graphic Panels

- Strong hierarchy makes content accessible to multiple learner levels
- Graphic novel illustration and dialogue convey a sense of adventure
- Bilingual layout and flexible graphics system (all text is for placement only)



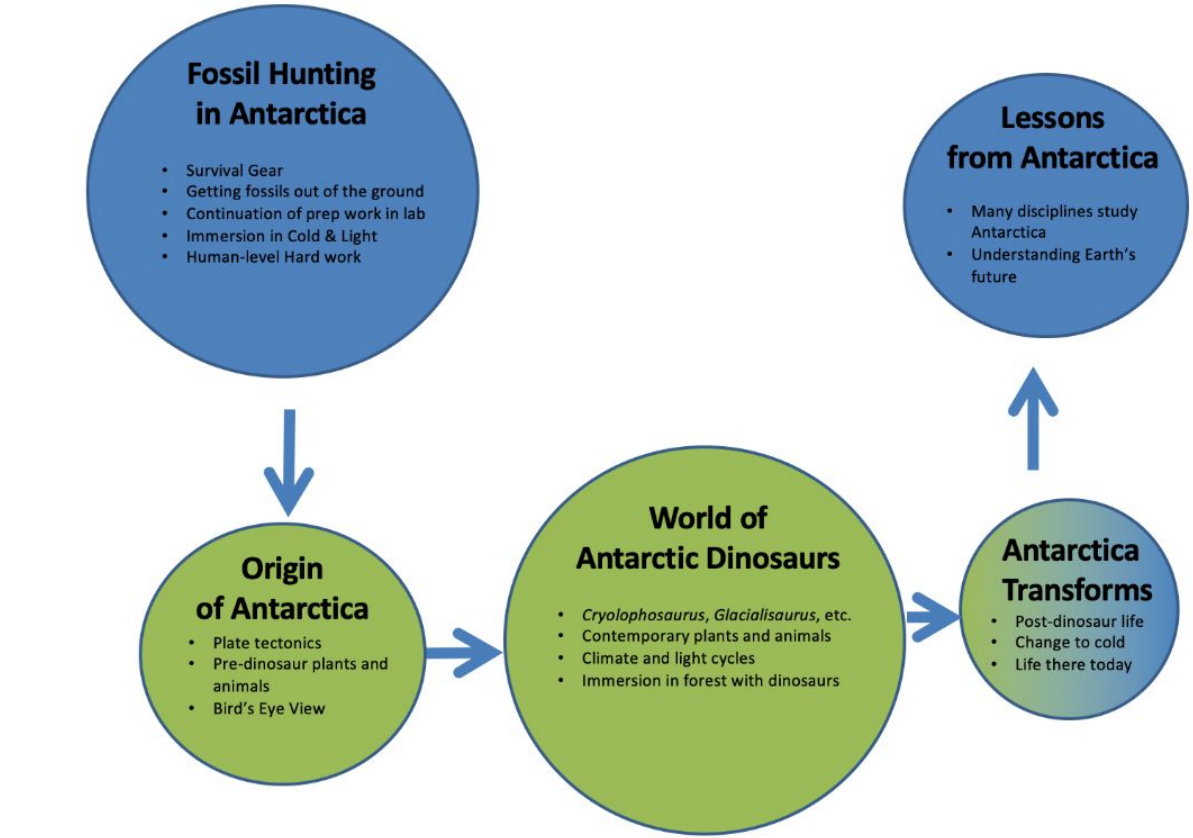
Though Antarctica today can be a forbidding land of snow and ice, 200 million years ago it was part of the supercontinent Gondwana, a wooded, verdant habitat where dinosaurs thrived. After the age of the dinosaurs, the landmass now known as Antarctica separated from South America, opening a new path for ocean currents that froze the South Pole over millions of years. As the climate changed, so did life on the continent.

Exhibition Summary

EXHIBITION SUMMARY

Antarctica is a beautiful and remote place that few people get to experience. The goal of the exhibition is to transport people to this harsh, mysterious landscape through immersive environments, images, lighting, sound, and smells. Dynamic projection mapping of the excavation site, authentic fossil finds, robust tool interactives, and graphic novel storytelling allow visitors to join our dinosaur hunters on this epic adventure.

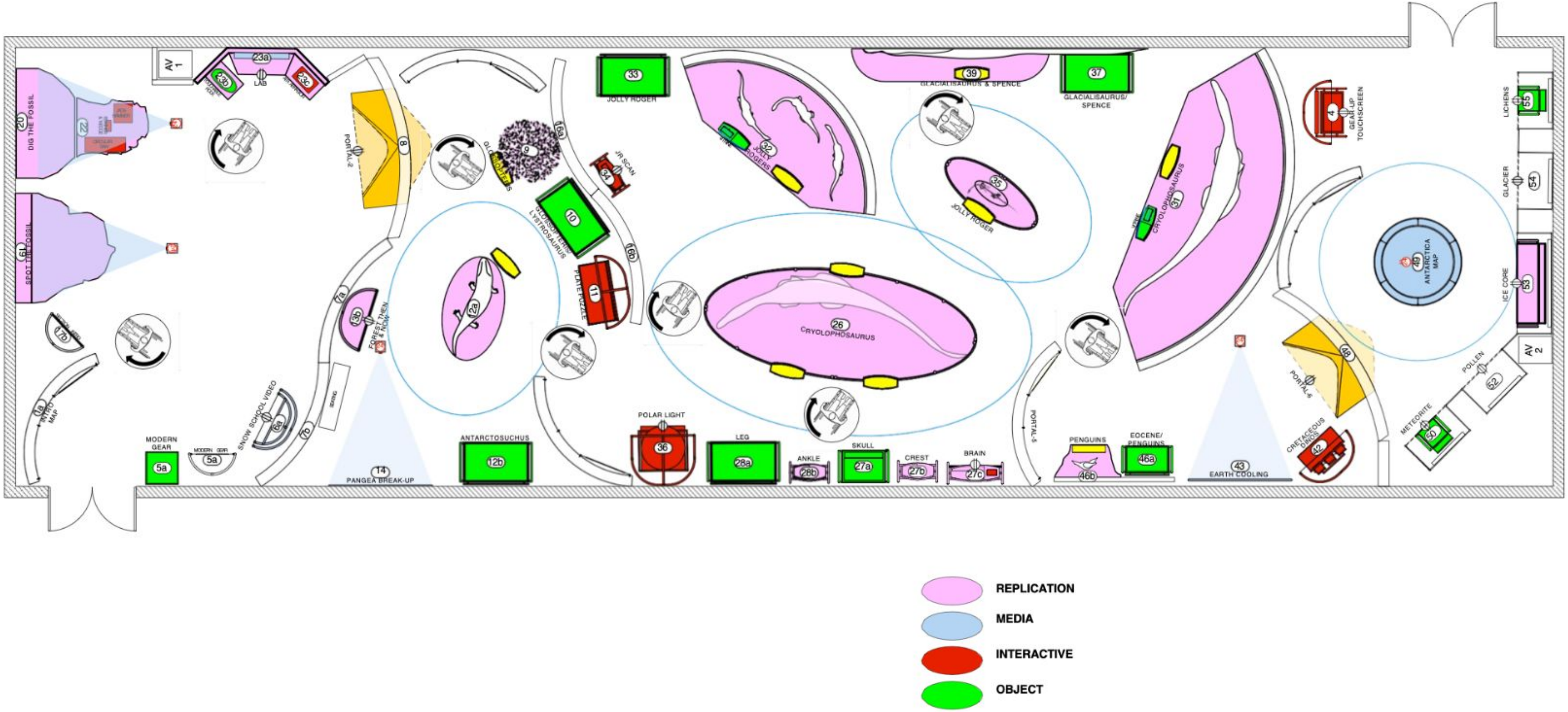
Antarctic Dinosaurs Bubble Plan



Main Messages

Main Messages

- Antarctica was once a lush land populated by dinosaurs
- Fossils from Antarctica shed new light on our planet’s ever-changing geology
- Interdisciplinary scientists from around the world study Antarctica’s landscape to understand planet's past, present, and future climate transitions


AV 1
23a
LAB
DIG THE FOSSIL
SPOT THE FOSSIL
PORTAL-2
JOLLY ROGER
JR SCAN
LYSTROSAURUS
PLATE PUZZLE
FOREST THEN & NOW
SNOW SCHOOL VIDEO
MODERN GEAR
PANGEA BREAK-UP
ANTARCTOSUCHUS
POLAR LIGHT
LEG
ANKLE
SKULL
CREST
BRAIN
CRYOLOPHOSAURUS
GLACIALISAURUS & SPENCE
GLACIALISAURUS/ SPENCE
JOLLY ROGER
PORTAL-5
PENGUINS
EOCENE/ PENGUINS
EARTH COOLING
CRETACEOUS DINOS
PORTAL-6
METEORITE
POLLEN
AV 2
ICE CORE
ANTARCTICA MAP
GLACIER
LICHENS
GEAR-UP TOUCHSCREEN
REPLICATION
MEDIA
INTERACTIVE
OBJECT

Fossil Hunting in Antarctica

Following the footsteps of paleontologists, visitors are transported to one of the most inhospitable environments on the planet: bitterly cold mountains. There they must rely on an arsenal of modern power tools to excavate fossils from rock. Experience the taxing but exhilarating work of digging for fossils that reveals that Antarctica wasn’t always a frozen, hostile landscape.


GET SET TO JOURNEY TO ANTARCTICA
PREPÁRATE PARA VIAJAR A LA ANTÁRTIDA
ANTARCTIC EXPLORATION THROUGH TIME


G-096
DIG OUT THE
EXCAVA LOS


Go on an Antarctic Expedition
Touch to begin
SUITING UP
VESTIMENTA


DRAG TOOLS INTO YOUR CRATE
Continue

Fossil Hunting in Antarctica

SECTION ELEMENTS

- Media experience: on-site, modern fossil hunting
- “Excavation” mechanical interactives
- Real fossil collecting equipment
- Touchable matrix from Antarctica
- Recreated quarry ledge

Origins of Antarctica

Journey back in time to explore the dynamic nature of Antarctica’s geology and the forces—plate tectonics—that created the southernmost continent. Examine a reconstructed forest and encounter the early plants and animals that flourished in the once-green environment.


200
MILLION YEARS AGO
Hace 200 millones de años
of years ago and covered about one-third of Earth's surface.
de años y cubría una tercera parte de la superficie terrestre.


CONNECTING THE WORLD FOSSIL BY FOSSIL
EL MUNDO FÓSIL POR FÓSIL
At the beginning of the Permian period (nearly 300 million years ago), the continents were connected in the supercontinent of Pangaea (pan-GEE-ah). Fossils like these Antarctic and South African ones helped scientists infer these connections.
Al principio del periodo Pérmico (hace unos 300 millones de años), todos los continentes estaban unidos como un supercontinente llamado Pangea. Los científicos hicieron estas conexiones gracias a fósiles como estos antárticos y sudafricanos.
Glossopteris (glos-SOP-ter-is) fossils found across the southern hemisphere provided some of the earliest evidence that the continents were connected. Impressions of their leaves on the forest floor, called leaf mats, tell us that they shed their leaves annually and resembled conifers.
Although they may not look identical, Lystrosaurus (lis-stroh-SAWR-us) fossils like these clued us into how tectonic plates once fit together. Being a synapsid, Lystrosaurus was a relative of mammals and had only two tusk-like teeth.
When scientists discovered this Antarctic Thrinaxodon (thrin-AX-uh-don) fossil, they noted how similar it looked to fossils found in South Africa. Although it may not look obvious, the features of these fossils confirmed that Thrinaxodon, a synapsid like Lystrosaurus, was another example of an animal found in what are today two far-apart continents.
South African Glossopteris leaf mat
South African Lystrosaurus skull
South African Thrinaxodon skull

HOW DID SCIENTISTS PUT PANGAEA TOGETHER?

¿CÓMO ARMARON PANGEA LOS CIENTÍFICOS?

Scientists discovered fossils of the same species across the southern continents. They pieced together this fossil evidence like a puzzle, and in doing so, pieced together the world.

Los científicos descubrieron fósiles de las mismas especies en todos los continentes del sur. Al armar el rompecabezas con la evidencia fósil, también unieron el mundo.

Each of these creatures lived in Antarctica and at least one other southern continent sometime between the Permian (298 million years ago) and the Middle Triassic (247 million years ago).

Cada una de estas criaturas vivieron en la Antártida y al menos en otro de los continentes del sur, en algún momento entre el Pérmico (hace 298 millones de años) y el Triásico medio (hace 247 millones de años).

Glossopteris (glos-SOP-ter-is)
A woody, seed-bearing tree that was deciduous (shed its leaves annually)

Glossopteris
Árbol leñoso caducifolio (perdía el follaje durante cierta parte del año) que producía semillas

Lystrosaurus (lis-stroh-SAWR-us)
A plant-eating synapsid (a class including mammals and mammalian relatives)

Lystrosaurus
Sinápsido (clase que incluye a los mamíferos y otros animales relacionados) que era herbívoro

Procolophon (pro-KOH-loh-fown)
An early, plant-eating parareptile that grew to be up to 11 to 12 inches (28 to 30 cm) long

Procolophon
Un pararreptil herbívoro temprano que llegó a crecer entre 11 y 12 pulgadas (28 y 30 centímetros) de largo

Thrinaxodon (thrin-AX-uh-don)
A carnivorous synapsid that was closely related to mammals

Thrinaxodon
Sinápsido carnívoro cercano a los mamíferos

Cynognathus (SIE-nog-NAY-thus)
A synapsid with a larger skull compared to *Thrinaxodon*

Cynognathus
Sinápsido con un cráneo más grande que el *Thrinaxodon*

Prolacerta (pro-la-SER-tah)
A reptile closely related to dinosaurs and crocodiles

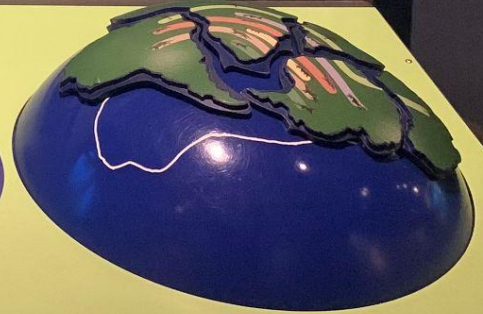
Prolacerta
Un reptil relacionado con dinosaurios y cocodrilos

1. Find the species discovered on the southern continents with their pictures

Encuentra las especies descubiertas en los continentes del sur usando las imágenes

2. Connect the continent pieces using the species color bands

Conecta las piezas de los continentes siguiendo los colores de cada especie



3. Complete the puzzle by assembling Pangaea on the globe

Termina el rompecabezas armando Pangea sobre el globo

Origins of Antarctica

SECTION ELEMENTS

- Plate tectonics interactive
- Pre-dinosaur fossils matching Antarctica and other continents
- Fleshed out recreation of *Antarctosuchus*
- Reconstructed ancient forest

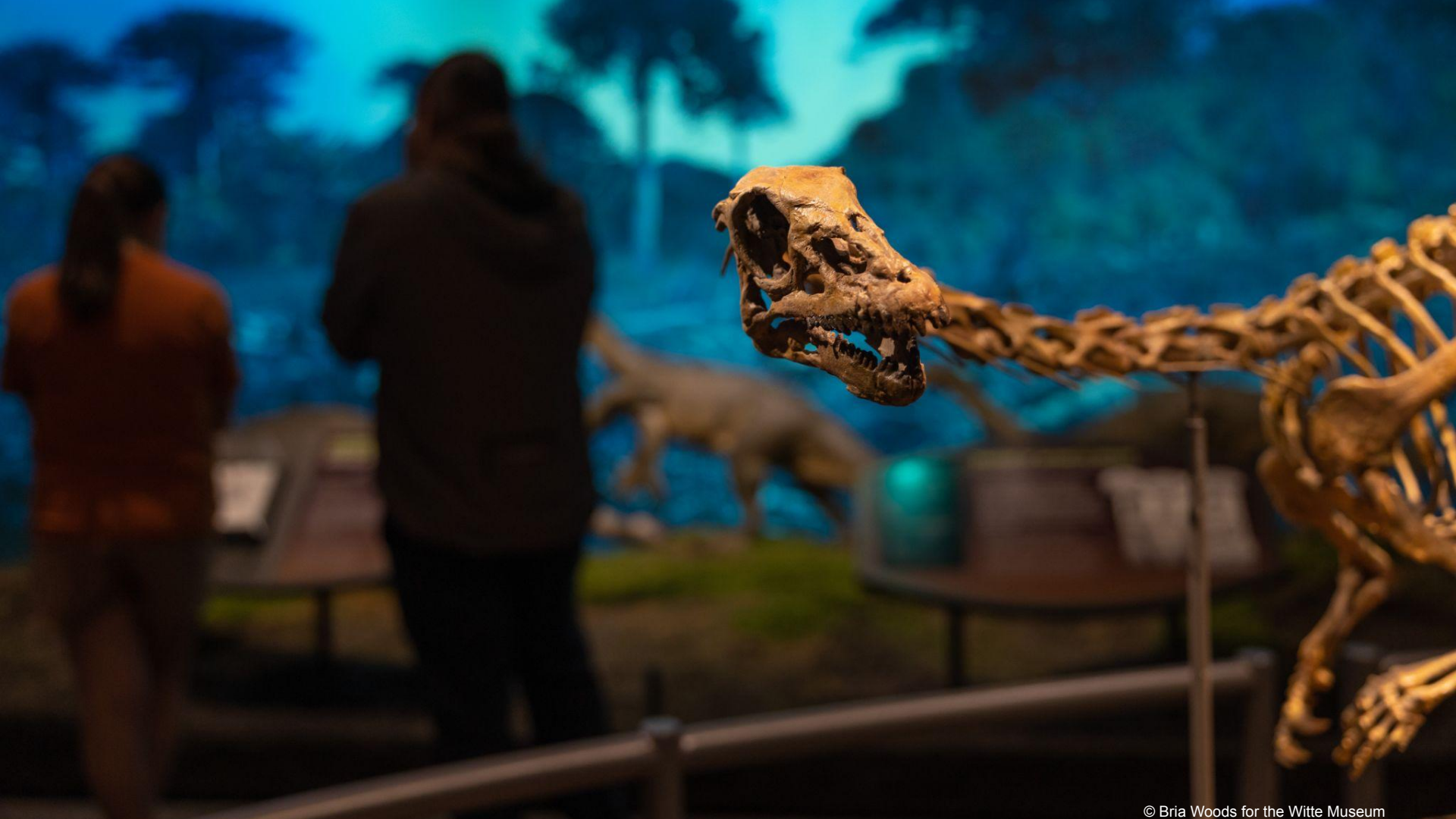
World of Antarctic Dinosaurs

Explore Early Jurassic Antarctica, a lush landscape teeming with dinosaurs that experienced the same polar darkness and auroras we can still observe today. Encounter rare fossils, large-scale replications, touchable casts, and interactive 3D models that bring Antarctica's unique dinosaur species to life. Marvel at Cryolophosaurus, the largest and most complete Early Jurassic theropod in the world and come face to face with a new-to-science sauropodomorph.

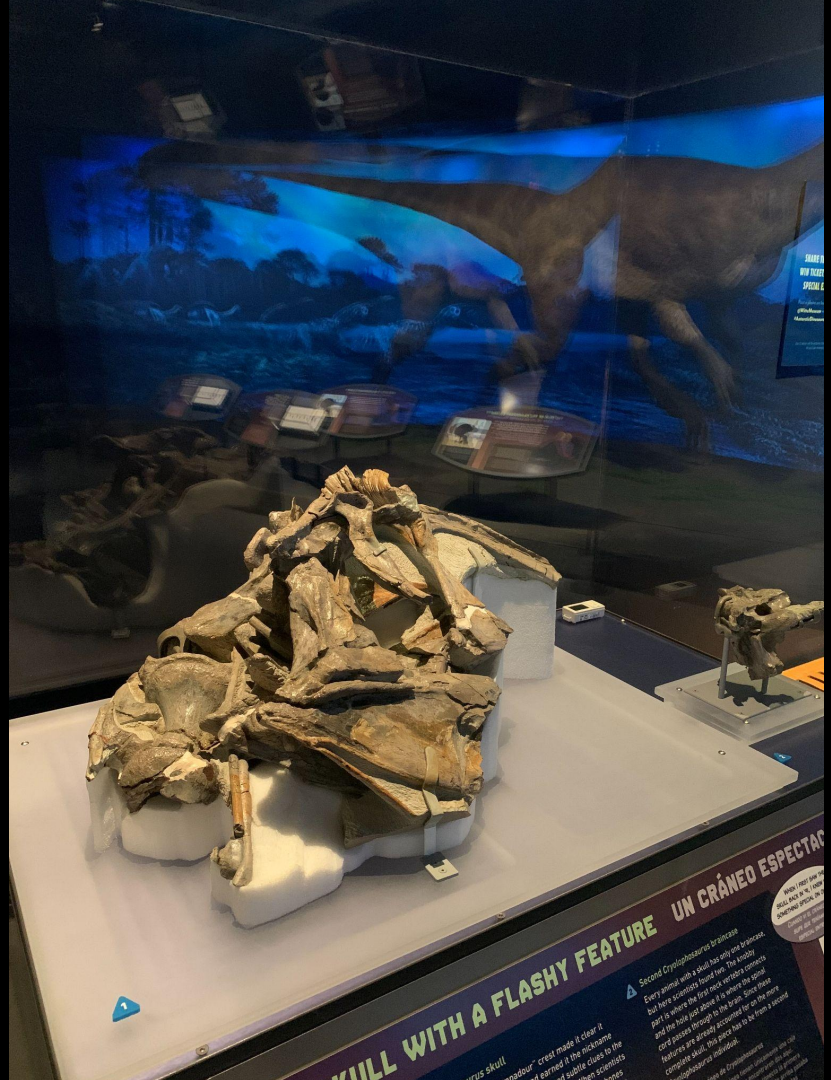

A WORLD OF ANTARCTIC DINOSAURS
UN MUNDO DE DINOSAURIOS ANTÁRTICOS
The team's hard work on Mt. Kirkpatrick reveals a lost world of Antarctic dinosaurs. As you step back millions of years, the temperature rises dramatically. Ice is nowhere to be found, and plants surround you. As the southern lights shimmer in the darkened sky, you sense the movement of large creatures in the valley.
El intenso trabajo del equipo en Monte Kirkpatrick reveló un mundo perdido de dinosaurios antárticos. Si regresas millones de años, la temperatura sube dramáticamente. No hay hielo en ninguna parte y estás rodeado de plantas. Gracias a la luz de las auroras australes puedes percibir el movimiento de grandes criaturas en el valle.


GRAZERS OF ANTARCTIC GREENS
RAMONEADORES DE PASTOS ANTÁRTICOS


THE ANCESTORS OF GIANTS · ANCESTROS DE GIGANTES



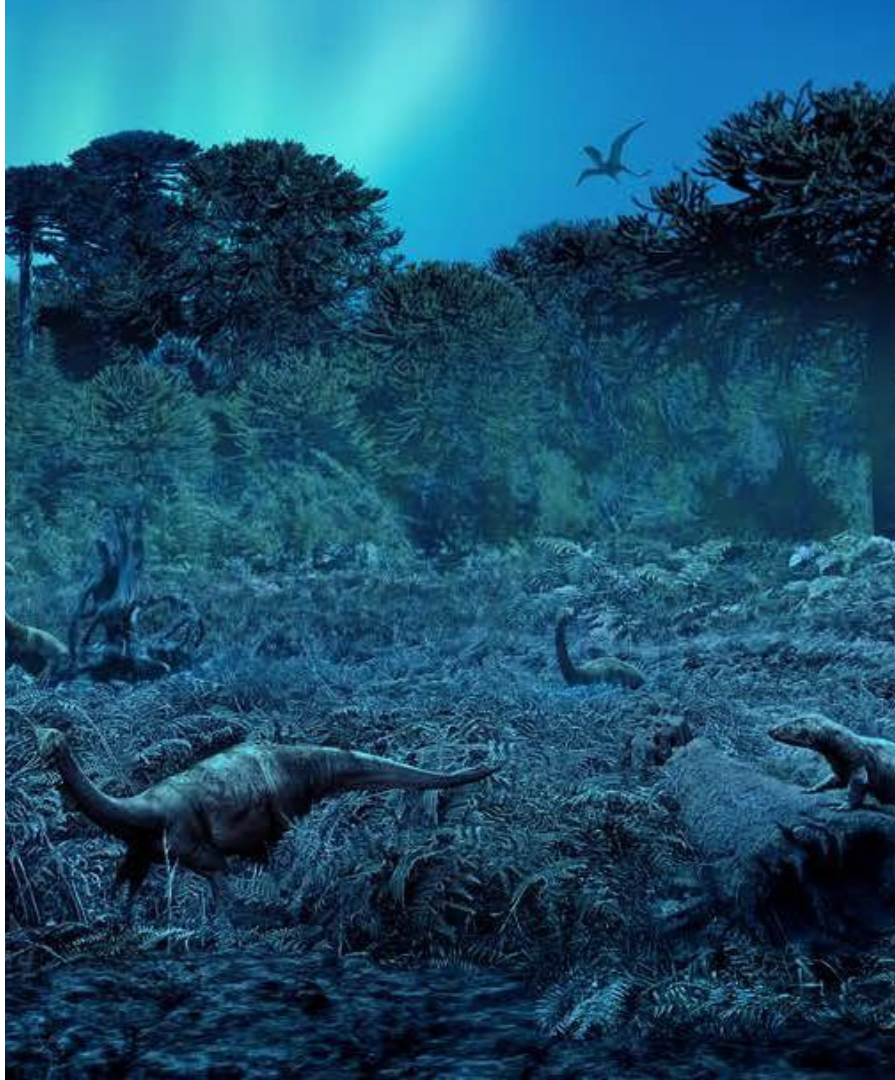

THE LEG THAT KICKED OFF THE DISCOVERY
LA PIERNA QUE PUSO EN MOVIMIENTO EL DESCUBRIMIENTO
...OR NO SURPRISES.
OH MAN, THIS COULD BE A VALUE FIND!
HEY! YOU'D WANNA SEE THIS!


UN CRÁNEO ESPECTAC
KULL WITH A FLASHY FEATURE

World of Antarctic Dinosaurs

SECTION ELEMENTS

- Recreation of many dinosaurs from *Cryolophosaurus* Quarry
- Real and cast skeletons
    - *Cryolophosaurus*
    - *Glacialisaurus*
    - “Jolly Roger:” the nearly complete skeleton of a juvenile sauropodomorph
- Touchable casts of bones
- Stations focused on anatomical details



Antarctica Transforms

How did Antarctica become the polar environment it is today? Shifting from the warm Mesozoic Era through the cooling of the continent, investigate the atmospheric mechanisms behind the dramatic transformation to a polar environment. View rare evidence of species from the late and post-dinosaur periods and examine the fauna and flora that call Antarctica home today.

Antarctica Transforms

SECTION ELEMENTS

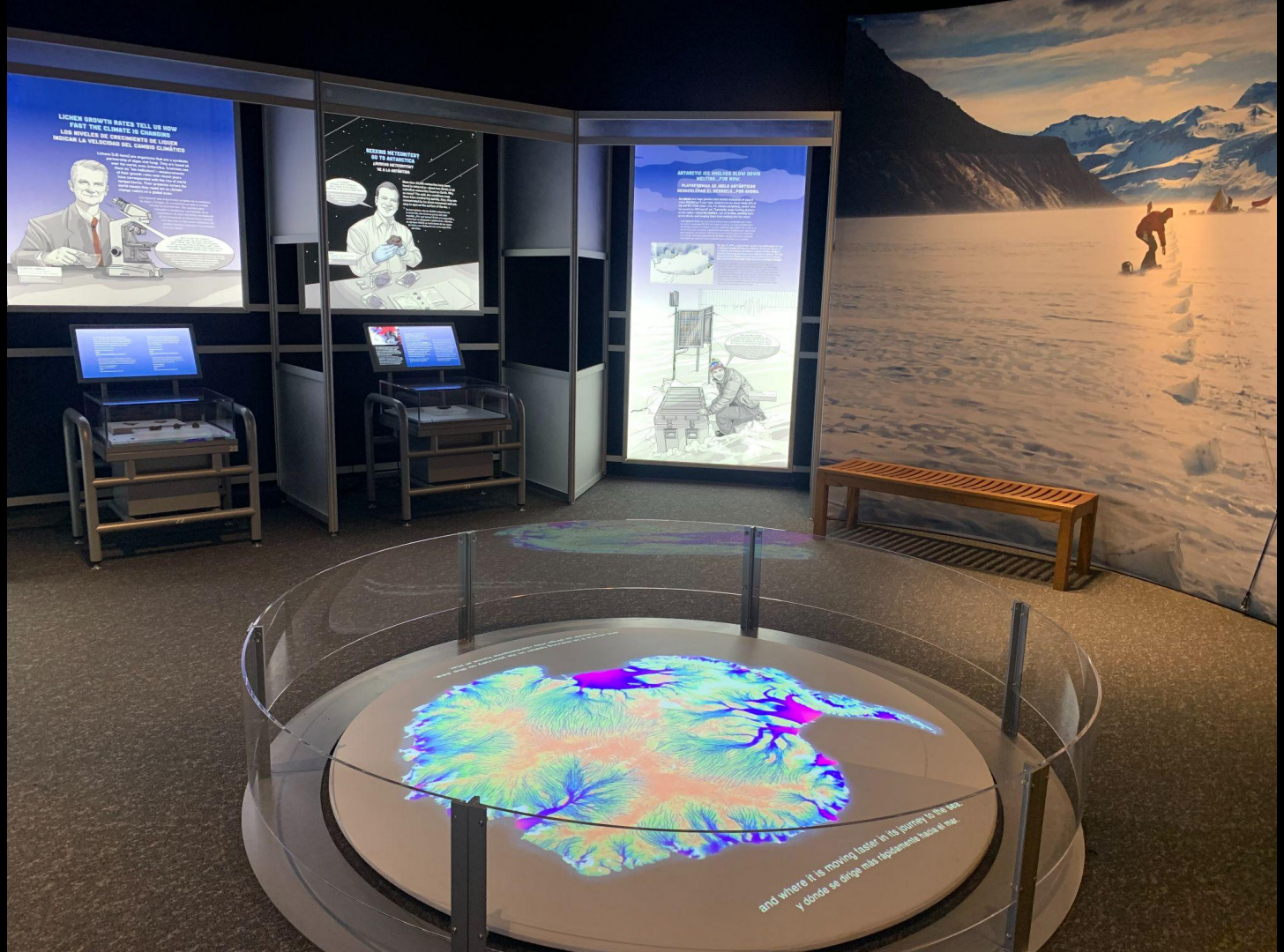
- “Cooling of Antarctica” interactive
- Cretaceous dinosaur fossils
- Replicated penguin


© Bria Woods for the Witte Museum

Lessons from Antarctica

The research currently happening in Antarctica extends well beyond the excavation of dinosaurs. Together with the study of diverse scientific disciplines in the region, the examination of dinosaurs allows for a greater understanding of our planet's past, present, and future climate transitions.


ANTARCTICA: DATA-COLLECTING DESTINATION FOR THE WORLD
LA ANTÁRTIDA: DESTINO MUNDIAL PARA LA RECOLECCIÓN DE DATOS
Year-round research stations: 40
Countries that have signed the 1959 Antarctic Treaty: 53
Population of U.S. scientists in peak summer: 1,293
Average number of researchers and staff worldwide in peak summer: 4,400
Scientists studying climate change, lichens, and even space go to Antarctica for their research. Despite having different specialties, they are there for the same purpose: to piece together the continent's past and observe the present conditions. By doing both, we can better understand the future of not just Antarctica, but the world.
Los científicos que estudian el cambio climático, líquenes e incluso el espacio hacen investigación en la Antártida. Aunque tienen diferentes especialidades, están allí con el mismo propósito: entender el continente en el pasado y observar las condiciones actuales. Esto nos ayuda a comprender el futuro de la Antártida y de todo el mundo.
YOU'VE SEEN A LOT OF DINOSAURS, BUT THERE ARE TONS OF OTHER THINGS SCIENTISTS LOOK AT IN ANTARCTICA.
THE POSSIBILITIES ARE ENDLESS.
THORSTEN LUMBSCH
LEIGH STEARNS


LICHEN GROWTH RATES TELL US HOW FAST THE CLIMATE IS CHANGING
LOS NIVELES DE CRECIMIENTO DE LIQUEN INDICAN LA VELOCIDAD DEL CAMBIO CLIMÁTICO
and where it is moving faster in its journey to the sea.
y dónde se dirige más rápidamente hacia el mar.


LICHEN GROWTH RATES TELL US HOW FAST THE CLIMATE IS CHANGING
LOS NIVELES DE CRECIMIENTO DE LIQUEN INDICAN LA VELOCIDAD DEL CAMBIO CLIMÁTICO
ANTARCTIC ICE SHELVES KEEP THE SEA LEVEL FROM RISING...FOR NOW.
LAS BARRERAS DE HIELO DE LA ANTÁRTIDA EVITAN QUE SUBA EL NIVEL DEL MAR... POR AHORA.
Ice shelves are glaciers that extend over the ocean and act as barriers to melting ice that would enter the water and raise the sea level. Ice sheets are glaciers that cover an area of land greater than 19,500 square miles (50,000 km²). Antarctica's ice sheet contains 61% of the world's fresh water. If it melted, the sea level would rise by 200 feet (61 m).
Las barreras de hielo son glaciares que flotan sobre el océano y funcionan como diques que impiden que el hielo derretido llegue al mar, elevando su nivel. Las capas de hielo a casquetes son glaciares que cubren un área de tierra mayor a 19,500 millas cuadradas (50,000 kilómetros cuadrados). El casquete antártico contiene 61% del agua potable mundial. Si se derritiera, el nivel del mar subiría 200 pies (61 metros).
On July 12, 2017, a piece of the Larsen C ice shelf about the size of Delaware broke off from the Antarctic Peninsula. Events on the peninsula often signal what is to come for the rest of the continent. These trends suggest that Antarctica is warming faster than scientists previously thought. Experts caution, however, that this is a natural process—it's possible the ice shelf could recover and re-form.
El 12 de julio de 2017, una parte de la barrera de hielo Larsen C del tamaño del estado de Colima (en México) se separó de la Península Antártica. Los sucesos en la península suelen ser señal de lo que pasará en el resto del continente. Este proceso sugiere que la Antártida está sufriendo un calentamiento más rápido de lo pensado. No obstante, los expertos mencionan que este es un proceso natural y que es posible que la barrera se recupere, reconstruirse a formar.
LEIGH STEARNS
Glaciólogo de la Universidad de Kansas (Glaciologist, University of Kansas)
HOW? HOW WE'RE CHANGING IN THIS GIFS RECEIVER TO MEASURE THE FLOW OF THE ICE IN THIS GLACIER. THE DATA FROM THIS AND OTHER THINGS LIKE RADAR AND ICE CORES WILL HELP US KEEP TRACK OF THE ICE. AND WHAT MAKES IT CHANGE.

Lessons from Antarctica

SECTION ELEMENTS

- Multi-layered map of Antarctica
- Ice core technology
- Meteorites from Antarctica
- Participatory/Reflection experience

Antarctic Dinosaurs

This exhibition was organized by the Field Museum.

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