



AMERICAN MUSEUM OF NATURAL HISTORY

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AMERICAN MUSEUM OF NATURAL HISTORY UNVEILS UPDATED CLIMATE CHANGE CONTENT IN HALL OF PLANET EARTH

COMPREHENSIVE UPDATE OF CLIMATE CHANGE EXHIBIT FEATURES MEDIA WALL AND INTERACTIVES BASED ON LATEST SCIENTIFIC DATA

The American Museum of Natural History is re-opening its climate change exhibit in the David S. and Ruth L. Gottesman Hall of Planet Earth with comprehensive updates to a section about one of the most urgent scientific issues of our time. The new installation, which opens to the public on Saturday, July 7, is anchored by a dynamic media wall featuring large-scale imagery, animations, text and graphics, and interactive panels where visitors can engage with the evidence for climate change. Updates, which have been in planning and development since 2016, also include new content in the hall's sections on past climates as well as on convection.

"One of the greatest current threats to life on Earth is climate change, which has largely been induced by human activity," said Ellen V. Futter, President of the American Museum of Natural History. "And one of the most important responsibilities of the Museum is to present the scientific topics of our times to the public in ways that are comprehensible, accessible, and engaging. At the same time, misinformation about climate change has become widespread and the Museum's role in fostering greater knowledge and evidence-based understanding is more urgent than ever. Our deep thanks go to Sandy and Ruth Gottesman for helping us to perform this critically important educational function."

“Earth’s climate has been changing for most of its history, but today, it’s changing at an unprecedented rate that poses a great risk for biodiversity on this planet, including for humans,” said Museum Senior Vice President and Provost for Science Michael Novacek. “Coupled with an intolerable level of destruction of natural habitats, this traumatic shift in climate could lead to an extinction event that would eliminate 30 to 50 percent of all living species by the middle of the 21st century. It’s vital that we, as a world-leading research institution, provide the public with access to the latest information about this threat with the aim to inspire solutions through human ingenuity, commitment, and shared responsibility.”

Climate change was one of five major focus areas in the Gottesman Hall of Planet Earth, part of the Rose Center for Earth and Space, when the hall opened in 1999, and this large-scale update ensures that the hall remains current by reflecting scientific advances that have taken place during the last 20 years. The new section puts more emphasis on how climate change is affecting the world today as well as what might happen in the future if the current course continues.

“Earth science has progressed rapidly on many fronts in the 20 years since the initial construction of the Gottesman Hall of Planet Earth,” said Edmond Mathez, curator *emeritus* in the Museum’s Department of Earth and Planetary Sciences and one of the curators of the hall. “This is certainly true in the case of our understanding of the deep Earth. It is even more so in the case of the climate system, the understanding of which now demonstrates that climate change poses a dire threat to society and the environment.”

“Our climate is always changing, impacting all of Earth’s organisms including humans,” said Nathalie Goodkin, assistant curator in the Museum’s Department of Earth and Planetary Sciences and a co-curator of the hall updates. “As scientists, we strive to understand how this complex system works, how human activities are altering the system, and what that might mean for life on our planet.”

The Gottesman Hall of Planet Earth is one of the most popular Museum exhibition halls for teachers and school groups from pre-K through college. It also serves as a learning lab for graduate students in the Museum's Master of Arts in Teaching with a concentration in Earth science, a program in the Richard Gilder Graduate School.

"With an emphasis on representing natural phenomena with large-scale specimens, physical models, and data visualizations, and providing access to current scientific questions and explanations, the Hall of Planet Earth supports teaching and learning that is aligned to the Next Generation Science Standards currently being implemented across the country, including in New York State, particularly with its focus on climate change and humans' impact on the Earth system," said Rosamond Kinzler, the senior director of science education at the Museum.

The new climate change section features a media wall comprised of 36 high-definition 55-inch screens with "big-picture" messages about climate change. Below them, content panels and interactive stations based on data from organizations including NASA and NOAA (the National Oceanic Atmospheric Administration) explore three main themes:

- **How Climate Works**

This section explores the **carbon cycle**, which has regulated carbon dioxide levels in Earth's atmosphere for billions of years, and how human activity is changing it; the many **components of Earth's climate system**, including air, water, snow and ice, living things, and rocks and soil; **why Earth has seasons**; and **how the ocean controls climate**. Interactive stations provide opportunities for visitors to test their knowledge about the **difference between "weather" and "climate,"** examine how air and ocean currents distribute heat around the planet, and watch an **animation about the greenhouse effect**, the process by which heat-trapping gases in the atmosphere keep Earth warm.

- **Our Warming World**

Earth has warmed about 1 degree Celsius (1.8 degrees Fahrenheit) since 1901, and this section will present the evidence for this warming, as well as the **evidence that clearly points to human activity as the cause**. Interactive activities will guide visitors through specific datasets exploring average global surface air temperature over time, the differences in warming around the world – for example, the Arctic warmed by 1.6 degrees Celsius (2.9 degrees Fahrenheit) over the same period – and the different factors that can affect climate – including changes in Earth’s orbit, changes in solar energy, volcanic eruptions, greenhouse gas emissions, and aerosol pollution – showing that **human-generated greenhouse gas emissions are the main driver for warming**.

- **Consequences of Climate Change**

This section explores the ways in which climate **change is already visible** – **severe droughts, storms, and heat waves** are becoming more common, and **global sea level is rising** as the ocean warms and ice sheets melt, leading to more coastal floods – and how those impacts could progress over the next 100 years. Videos highlight the unique risks and resilience of New York City in the face of climate change. Interactive stations show visitors before and after images of areas around the world affected by climate change – including the shrinking Arctic ice cap, burned forests in California, and Houston’s flooded neighborhoods after Hurricane Harvey in 2017 – as well as possible consequences of climate change including the spread of disease, food shortages, and political conflicts.

Opposite the climate change wall, the exhibit about studying past climates has also been updated. The large interactive model ice core features new content and a new sliding viewer that will help visitors make direct connections between how scientists study past climates and present climate to inform our understanding of the climate system and models of how climate will behave in the future.

Other updates to the hall include a new hall overview film, shown on a multi-panel installation that conveys how Earth's dynamic history is written in rocks, and an updated exhibit about mantle convection, the rising and sinking regions of the mantle that transport heat from deep within the Earth to the surface and drive plate tectonics. New labels, video, and a 3-D sculptural model were added to explain the convection process earlier this year.

The Gottesman Hall of Planet Earth was originally curated by Edmond Mathez, curator *emeritus* in the Museum's Department of Earth and Planetary Sciences, Rosamond Kinzler, senior director of science education, Jim Webster, curator in the Department of Earth and Planetary Sciences, and Heather Sloan, now a professor at The City University of New York's Lehman College. With this renovation, Nathalie Goodkin, assistant curator in the Museum's Department of Earth and Planetary Sciences, joined as co-curator.

ABOUT THE HALL OF PLANET EARTH

The David S. and Ruth L. Gottesman Hall of Planet Earth, located in the Rose Center for Earth and Space, opened in 1999. It displays an outstanding collection of geological specimens from around the world to show how our planet works. The hall is organized around five major questions: How has the Earth evolved? Why are there ocean basins, continents, and mountains? How do we read rocks? What causes climate and climate change? Why is the Earth habitable?

The hall features 168 rock specimens, many of which can be touched, and 11 full-scale models of outcrops from locations around the world chosen to illustrate important aspects of Earth's dynamic story. Interactive exhibits let visitors explore geologic time, feel variations in the surface of the Earth, peer into the planet's depths, and generate earthquakes. Media and content panels communicate how scientists research this dynamic system.

Featured specimens come from nearly all corners of the globe and include pure sulfur formed in an Indonesian volcano, a fossil stromatolite from the Sahara Desert in Mauritania, and a rock from New York City's Central Park. The hall's oldest specimen is a

zircon crystal from Australia that formed about 4.3 billion years ago, only 200 million years after Earth itself.

CLIMATE CHANGE WORK AT THE MUSEUM

As part of the effort to demystify complex, science-based issues, the Museum advances the scientific and popular understanding of climate change and its effects through a combination of basic scientific research, rigorous onsite and online science education, and compelling public exhibitions that travel around the globe.

Researchers across the Museum pursue work that contributes to our understanding of the planet's climate history, how animals and plants have responded to prehistoric changes in climate and ocean pH levels, and the effects of current climate change on both natural ecosystems and human societies. Current projects include documenting high-altitude reptiles retreating up and "off" warming mountains in Madagascar, examining the effects of post-glacial climate change on various groups of animals, including Pleistocene megafauna like wholly mammoths and giant sloths, and work in the Pacific Solomon Islands that focuses on building local resilience to climate change.

The Museum communicates the complexities and profound impacts of climate change with the public in its permanent and temporary exhibitions, on which the new installation builds. Climate change has been featured as a major theme of several of the Museum's special temporary exhibitions, including a groundbreaking presentation in 1992. The Museum also originated the first major exhibition about the topic, *Climate Change: The Threat to Life and a New Energy Future*, which opened in 2008 and traveled to 13 locations worldwide.

The Museum also presents numerous public programs on this topic. Its research and exhibition work is in partnership with the vigorous and diverse educational efforts in the area of climate change, including massive open online courses on climate change for teachers ([Seminars on Science](#)) and the general public ([Coursera](#)); online resources for children ([OLogy](#)); onsite courses and public programs for children, families, and adults; and videos and science visualizations.

A full list of the Museum's **climate change resources** can be found [here](#).

AMERICAN MUSEUM OF NATURAL HISTORY (AMNH.ORG)

The American Museum of Natural History, founded in 1869, is one of the world's preeminent scientific, educational, and cultural institutions. The Museum encompasses 45 permanent exhibition halls, including those in the Rose Center for Earth and Space and the Hayden Planetarium, as well as galleries for temporary exhibitions. It is home to the Theodore Roosevelt Memorial, New York State's official memorial to its 33rd governor and the nation's 26th president, and a tribute to Roosevelt's enduring legacy of conservation. The Museum's five active research divisions and three cross-disciplinary centers support approximately 200 scientists, whose work draws on a world-class permanent collection of more than 34 million specimens and artifacts, as well as specialized collections for frozen tissue and genomic and astrophysical data, and one of the largest natural history libraries in the world. Through its Richard Gilder Graduate School, it is the only American museum authorized to grant the Ph.D. degree. Beginning in 2015, the Richard Gilder Graduate School also began granting the Master of Arts in Teaching (MAT) degree, the only such freestanding museum program. Annual visitation has grown to approximately 5 million, and the Museum's exhibitions and Space Shows are seen by millions more in venues on six continents. The Museum's website, mobile apps, and MOOCs (massive open online courses) extend its scientific research and collections, exhibitions, and educational programs to additional audiences around the globe. Visit amnh.org for more information.

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