

CLIMATE CHANGE:

The Threat to Life and A New Energy Future





Visitors choose for themselves which of the many lifestyle changes they could make to help reduce their CO₂ footprint.



A buoy shows how scientists gather data on ocean acidification.

OVERVIEW

Climate Change: The Threat to Life and A New Energy Future addresses one of the most complex and urgent scientific and social issues of the 21st century. The exhibition explains the science of climate change to visitors of all ages and explores the implications of unchecked climate change for future generations. While *Climate Change* makes clear that there is no single solution, it allows visitors to see how individual, collective, communal, and governmental actions can make a meaningful impact in reducing global warming.

HIGHLIGHTS

- Landmark objects, including a model of the **Newcomen steam engine**, invented 300 years ago to pump water from coal mines, a **filament lightbulb** from the 1900s, and a 1977 **Tandy TR-80 personal computer**, chart our technological progress and its link to CO₂ emissions
- **Dazzling dioramas**, a green architecture **wall of living plants**, and a **10-foot rain wall** immerse visitors in an array of changing environments
- Four **18-inch translucent globes** project NASA and NOAA information, like the movement of clouds and ocean currents, for visitors to interact with
- Visitors examine evidence for themselves, including **sediment cores**, **tree rings**, and **historic weather records**
- **Interactive stations** throughout the exhibit encourage visitors to experiment with concepts such as **how the sun heats the Earth unevenly** and **how the albedo at the poles depends on whether the surface is ice or water**

THE CO₂ CHALLENGE

This graph demonstrates how much we need to lower annual CO₂ emissions in the future. Many experts think that we can avoid the worst effects of climate change by reducing future emissions from the red "business as usual" line to the green "target emissions" line.

Though there's no single approach that will dramatically reduce emissions, we can meet this challenge through a combination of actions, represented here as colored wedges. Many of these solutions are discussed in the room around you.



Colorful graphics help explain the complicated nuances of this controversial issue.



Visitors are encouraged to look at the data, from ice cores to tree rings, and draw their own conclusions.



A rain wall brings the storm inside in "Changing Atmosphere".



Interactive globes display real data gathered by NASA and NOAA.

PRESS QUOTES

"A family-friendly take on global warming"

– NY Post

"Well-conceived, involving, and informational"

– Treehugger.com

"The exhibit ends with a hopeful eye toward the future"

– USAToday.com

"Underscores how useful a museum exhibit can be in communicating complex issues"

– Hartford Courant

"Neither sugar-coated or toxic, but seasoned just right"

– Audubon Magazine Blog

"The visually relatable and comprehensible displays interweave a multi-faceted story into a single theme that children and adults will be able to incorporate into their daily thinking about the issue"

– writertotheworld.com

EXHIBITION SECTIONS

- 1 Introduction
- 2 Climate Change Today
- 3 Making a Difference
- 4 Changing Atmosphere
- 5 Changing Ice
- 6 Changing Ocean
- 7 Changing Land
- 8 Cleaning Up Our Energy Future



1. INTRODUCTION

Burning fossil fuels has shaped our world, but with a cost we haven't understood—until now. In this section, visitors are introduced to the link between technological progress and the corresponding rise in atmospheric CO₂ content.

2. CLIMATE CHANGE TODAY

Greenhouse gases trap heat; higher concentrations mean a warmer Earth. A model of one metric ton of coal rises from the floor, representing the amount of coal needed to power an average American home for two months, emitting about 2.5 metric tons of CO₂.

3. MAKING A DIFFERENCE

Interactive stations demonstrate to visitors that making relatively small changes in their lives—such as switching to energy-efficient light bulbs, driving less, and planting trees and shrubs—can bring about massive savings in CO₂ emissions. A running tally shows the total impact of all visitors' choices on our collective carbon footprint.

5. CHANGING ICE

Melting polar ice will have a global impact, as this section demonstrates. Rising water levels are projected onto a model of a flooded lower Manhattan to show the effects of sea-level rise. A large diorama of a polar bear foraging in a garbage dump illustrates how polar bears are being forced to invade human-populated areas in response to their dwindling habitat.

6. CHANGING OCEAN

Visitors confront a large model of dead coral set against a backdrop of a healthy reef, highlighting the danger of the warming of the oceans. The ocean helps regulate the Earth's climate, and its inhabitants are threatened when the balance is upset. A 12-foot-tall Atlas buoy and a robotic Ocean Glider show how scientists collect information about the ocean.

7. CHANGING LAND

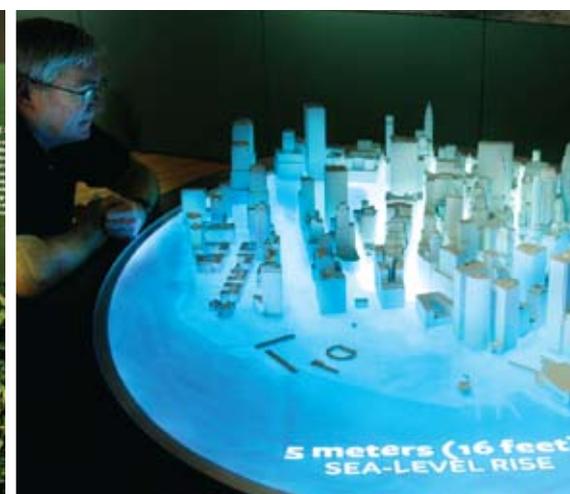
Visitors explore the long-term consequences of severe droughts, intense rains, and increased frequency of wildfires brought on by climate change in this section. Arresting dioramas show various species endangered by climate change. Guests examine hands-on real tree cross-sections to uncover the record of climate change revealed in the tree rings.



Landmark inventions—a steam engine, early light bulbs, a 1977 computer—track the rise of technology.



A lush wall of living plants asks visitors to “green the world.”



A model of Manhattan dramatizes the effects of rising sea levels.



A 60-foot panoramic illustration of technological advances over time is intersected with a red LED line showing the corresponding rise in CO₂ levels.



Detailed dioramas bring endangered habitats to life.

4. CHANGING ATMOSPHERE

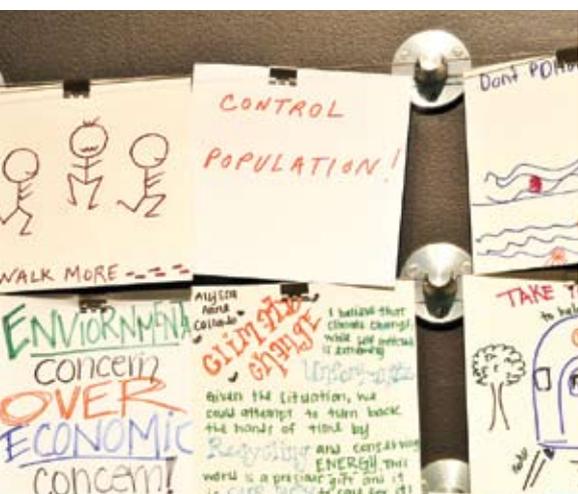
A warming atmosphere causes changes to weather patterns worldwide, illustrated by dramatic images of Hurricane Katrina and the European heat wave of 2003. Here, visitors examine data such as ice core samples and historic weather records to see the growing evidence that global warming can sustain and intensify periods of extreme weather, including storms, flooding, and drought.

8. CLEANING UP OUR ENERGY FUTURE

The glistening mirrors of a solar collector, the metallic spheres of a pebble-bed nuclear reactor, and a giant 15-foot segment of a wind turbine blade give visitors a vivid display of some of the leading examples of alternative energy sources. This section also makes clear that even in the realm of alternative energy, there is no one solution, but rather that a carefully crafted combination of approaches is required.



An interactive allows visitors to examine the role sunlight plays in determining air and water temperature.



Drawings and messages shared by visitors are clipped to a 12-foot wall for others to see.



The final gallery features a number of the alternative energy sources available, illustrated by models of some of the technologies.

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AMERICAN MUSEUM OF NATURAL HISTORY



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or visit our website at amnh.org/traveling

Size: 7000 sq ft

Climate Change is organized by the American Museum of Natural History, New York (www.amnh.org), in collaboration with the Abu Dhabi Authority for Culture & Heritage, United Arab Emirates; The Cleveland Museum of Natural History; The Field Museum, Chicago; Instituto Sangari, São Paulo, Brazil; Junta de Castilla y León, Spain; Korea Green Foundation, Seoul; Natural History Museum of Denmark, Copenhagen; Papalote Museo del Niño, Mexico City, Mexico; and Saint Louis Science Center.

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