

The Climate Change Crisis

Science tells us that global warming will affect almost every aspect of life on Earth. Those who cannot adapt quickly enough, from the poorest human communities to the more specialized animals and plants, are likely to feel the worst effects.

Understanding the Threat – The Human Component

There is no debate about the basic facts: increased greenhouse gas emissions from human sources – driving cars, flying in airplanes, heating buildings and cutting and burning trees to clear land – are changing Earth's climate. This is the verdict reached by objective scientific assessments, including those conducted by 2,000 scientists who participated in the Nobel Prize-winning Intergovernmental Panel on Climate Change (IPCC), and the National Academy of Sciences.

The very air we breathe has changed over the past century and a half. Ice cores drilled in Antarctica and direct monitoring of the atmosphere in recent decades show atmospheric concentrations of carbon dioxide (CO₂) have steadily increased since the beginning of the Industrial Age. At the same time, annual mean global temperatures are rising measurably. Detailed analyses of

millions of data points across the world demonstrate conclusively that the warming is distinct from the planet's variations between ice ages.

Avoiding the Point of No Return

The effects of global warming can already be seen in extreme weather events. Other signs include the retreat of alpine glaciers, a decline in Northern Hemisphere snow cover and an increase in annual ice melt from the Greenland ice sheet. The oceans, which are warming and expanding, have already absorbed about a third of the CO₂ produced by humans. The resulting acidity threatens to dissolve corals and the shells of oysters, mussels and the microscopic zooplankton that forms the base of the marine foodchain.

Scientists predict that global warming will increase significantly in the next century even at current levels of carbon emissions. Many scientists believe we have less than 10 years to reverse the path of higher emissions before we



cross a "tipping point" of more drastic climatic consequences and radical changes to the planet we know today.

Plants and animals will experience rapid change in the lands and waters they need to survive. People, too, will need resilient natural ecosystems to provide life-giving services, from food and fuel to clean water and pollination.



how you can help

The hour for us to respond to climate change is now. Our future, and that of our grandchildren, depends on our leadership. We can all play a role in fighting climate change, and there are many ways to help.

- Voice your opinion to community and national leaders about the threat of climate change and the need to reduce emissions and protect the health of ecosystems on which we all depend.
- Learn how you and your family can take steps to reduce your carbon emissions through the choices you make in your home, travel, food and purchases. Visit the Carbon Footprint Calculator at www.nature.org to measure your personal impact.
- Offset all or part of your emissions by participating in the Conservancy's Voluntary Carbon Offset Program, funding carbon storage and forest restoration projects.
- Reduce energy use in your home by using compact fluorescent bulbs, turning down your heat and recycling.
- Plant native trees – they absorb carbon dioxide and increase biodiversity.
- Support the Campaign for a Sustainable Planet and the Conservancy's climate and conservation work. Your contribution is an investment in people, places and the future of our planet.

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CAMPAIGN *for a* SUSTAINABLE PLANET

Why Should We Care About Climate Change?

How will climate change hit home? In all the intricate processes that shape our natural world.

We will feel climate change in the rain and wind that make our weather...

In the storm-driven waves that crash upon our coasts and rising seas that encroach on our land...

In the loss of vibrant corals and rich fisheries that depend on them...

In the spread of insects and parasites that carry disease, and of fire in drought-stricken lands...

In the heavy rains that flood our farmland soil and in the prolonged heat that dries it to dust...

In the lack of melting snow to feed our sources of drinking water...

In the timing of the seasons that affect when trees bud and birds nest, and determine where we grow our food.

A great change has begun, but it's not too late to act. The time is now.

The Nature Conservancy 
Protecting nature. Preserving life.™

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09/08

Climate Change

MEETING THE GLOBAL WARMING CHALLENGE

CAMPAIGN *for a*
SUSTAINABLE
PLANET

The Threat Becomes Real

Cyclone-driven waves devastate a Southeast Asian nation. Drought in Africa deepens famine and fuels conflict over resources. Powerful hurricanes, record rainfall, widespread flooding and deadly heat waves occur with alarming frequency. The harbingers of global warming are all around us. Time is short, scientists say, but with concerted action there is still hope.



An Urgent Global Challenge

Solutions are at hand. If we act now, together we can curb the most serious threats of climate change and set the stage for a healthier future for all life on Earth.

The Nature Conservancy Takes Action

The Nature Conservancy's mission of preserving the diversity of life on Earth is challenged by climate change at every level. Mobilizing to respond to global warming is now one of the Conservancy's highest organizational priorities. The Conservancy is working on multiple fronts to mitigate the causes of future climate change and to help people and nature prepare for the disruptions that past emissions have made inevitable.

Climate and Tropical Forests

Deforestation, including illegal logging and burning of forests to clear land for agriculture, accounts for 20 percent of annual global greenhouse gas emissions –

more than is emitted from all the trains, planes and automobiles in the world. A cornerstone of the Conservancy's climate change strategy is to counteract market forces that promote deforestation by creating incentives to value standing trees and the carbon stored in forests. Progress in this area will address a significant part of the climate problem by avoiding emissions while helping to protect tropical forests that sustain the livelihoods of 1.6 billion people worldwide and shelter more than 70 percent of Earth's known species of plants and animals.

The Conservancy is laying the groundwork for future climate treaties, policies and market mechanisms that would recognize credits for avoided deforestation as a valid method of reducing emissions. As a lead partner

in the Noel Kempff Mercado Climate Action Project in Bolivia, the Conservancy pioneered the first forest emissions reduction project verified by a third party based on international standards and worked with partners to develop 12 similar projects in Brazil, Belize, China, Paraguay and the U.S. Using our on-the-ground expertise, the Conservancy is piloting new, much larger-scale projects in Brazil and Indonesia to provide practical examples for policy makers of how the carbon stored in tropical forests can be measured and valued by carbon markets.

Capturing Carbon through Reforestation

Trees are a critical part of the climate solution in more ways than one. As they grow, healthy trees breathe in carbon while producing oxygen, and store significant amounts of CO₂ over their life spans. By replanting trees in deforested areas, we can help to absorb carbon emissions in the atmosphere and regulate local climate, while at the same time reconnecting fragmented forests and providing corridors for species to move in response to land use, temperature and climate changes.

Based on our long history of successful forest restoration and management projects, the Conservancy is applying and testing the most rigorous and practical methods to restore forests and calculate the carbon benefits of planting trees and other sustainable land use practices. Lessons learned will be used

to develop carbon measurement approaches included in future climate policies. Our goal is to use contributions for offsets and the sale of carbon credits to begin restoring one million acres of forest by 2015, with a focus on two pilot locations, the Lower Mississippi Valley of the U.S., and the Atlantic Forest of South America. Together, these projects could remove 150 million tons of CO₂ from the atmosphere while restoring critical watersheds, soils and wildlife habitat.

Building Resilience in People and Nature

Studies show that plants and animals are already responding to climate change: butterflies and birds have subtly shifted their ranges. For Pacific salmon and Alaskan caribou, climate change has added further environmental stress and loss of habitat. In the forests of Central America, the extinction of amphibians has been linked to a climate-induced fungus outbreak.

Human communities are not immune. Low-lying coastal areas are experiencing sea level rise, salt water intrusion and storm surge. Elsewhere, droughts persist, and heavy rains spur erosion and flooding. Even if we stopped greenhouse gas emissions today, the effects of climate change will intensify over the next century and we will have to learn how to cope. Leading economists point out that the short-term expense of efforts to deal with climate change will pale in comparison to the costs of doing nothing.

Often strategies that bolster the resilience of nature can help people, as well. For example, coastal wetlands and mangroves, if conserved on a large enough scale, can act as a buffer to protect human settlements against storm surge and damage, while fortifying economically important fisheries. The Nature Conservancy is developing nature-based strategies to



help people and wildlife cope with climate disruptions. With a global network of conservation sites available as a living laboratory, The Nature Conservancy is committed to compiling state-of-the-art climate science to help communities, conservation practitioners and policymakers understand and prepare for the impacts. We will work to apply the tools and methods that will foster resilience across all of Earth's habitat types, from ridge tops to coral reefs and fresh water to forests.

Climate Change Policy

Solving the climate crisis will require leaders at all levels of government to enact policies that address both the causes and effects of the problem. The Conservancy is advocating for U.S. climate policies that will create market-based incentives to reduce greenhouse gases from all sources,

including deforestation, at a level stringent enough to protect biodiversity. A firm U.S. commitment on climate change can inspire other major emitting countries to act.

Internationally, the Conservancy is participating in the development of an agreement to succeed the Kyoto Protocol. We have committed \$5 million to the World Bank's Forest Carbon Partnership Facility, an effort to demonstrate how a global system of financial incentives can reduce the amount of greenhouse gases emitted from the destruction of tropical forests. The Conservancy will also seek public policies that invest significant resources in the conservation and management of climate-resilient forests, rivers, oceans, wetlands and grasslands, all of which sustain life for vulnerable people, plants and animals.

