

Global Warming and the Caribbean

Caribbean Endemic Bird Festival 2007: Birds in a Changing Climate

What is Global Warming?

Every time we drive a car, use electricity from coal-fired power plants, or cool or heat our homes with oil or natural gas, we release carbon dioxide (CO₂) and other heat-trapping gases to the atmosphere. These gases act like a blanket, trapping heat and warming the Earth's surface. The more of these gases we release, the thicker the blanket becomes.

Since the mid-1800s, our emissions of carbon dioxide have skyrocketed. There is more CO₂ in the atmosphere now than there has been in the last 650,000 years. The burning of fossil fuel alone accounts for about 75% of the increase in CO₂. Deforestation—the cutting and burning of forests that trap carbon—accounts for another 20%.

This heat-trapping blanket has warmed the Earth about 1°F during the past century. The last two decades are the warmest on record. Earth has not experienced such a rapid change in temperature in thousands of years. Unless we reduce the pollution that causes global warming, the world's top scientists predict that temperatures could climb between 2.0° to 11.5°F this century.



How Will Global Warming Affect Us?

The heat-trapping gases blanketing the Earth are already causing changes in our climate and ecosystems:

- Glaciers and Antarctic ice sheets are melting, our oceans are warming and snow cover is decreasing worldwide.
- Globally sea level has risen 10-20 cm (4-8 inches) over the past century, putting coastal areas and millions of people at risk from erosion, flooding during storms, and permanent submersion of low-lying areas and islands.
- Winters are milder, spring is earlier and the frequency and severity of extreme weather events (storms, droughts) has increased.
- Human health is being affected as some diseases that thrive in warmer climates are spreading, and there are increased deaths

The earth's climate is warming. Human activities such as burning fossil fuels and clearing forests are causing the warming by adding more heat-trapping gases, primarily carbon dioxide (CO₂), to the atmosphere.

and injuries from heat waves, floods, storms, fires and droughts.

- Plant and animal ranges are shifting, in response to climate change. Some birds are migrating and nesting earlier while others have stopped migrating altogether.



Climate change will affect almost every aspect of human society and the natural world. While there may be some benefits of warming, for example, longer growing seasons in temperate regions, overall, the impacts will be negative and severe. Should temperatures rise 3-5°F or so, 20-30% of plants and animals could become extinct and coasts and island inhabited by hundreds of millions of people could be flooded. Hardest hit will be the tropics and subtropics, where many of the world's poorest people live. At the high end of the warming predictions, the world could face abrupt, catastrophic and irreversible consequences.

Effects of Global Warming in the Caribbean

Small islands have characteristics that make them especially vulnerable to the effects of global warming, sea level rise, and extreme events. Our beautiful beaches, coral reefs, mangroves, fisheries, bird life, and livelihoods focused on the coast are all threatened by climate change.

- **Hurricanes and storms are predicted to become more frequent and intense.** Together with rising sea level, this will worsen flooding, storm surge, and erosion of beaches, threatening vital infrastructure, settlements and facilities that support the livelihood of island communities.
- **Marine and coastal ecosystems are at risk.** Warming ocean waters threaten **corals** by causing them to “bleach”

as they expel the symbiotic algae that nourish and give them color. This could lead to widespread coral reef mortality, damaging regional fisheries and tourism. Coastal mangroves and wetlands, which protect vulnerable coastlines from storm surge and flooding, are threatened by sea level rise.

- **Caribbean forests will also suffer from climate change,** especially hurricane damage and increased drought.
- **Summer drought is expected to**

- increase, causing water shortages in many islands. Salinization of coastal aquifers will be widespread.
- Widespread development for tourism has already diminished habitat for fish, birds and other wildlife. **Global warming could push some of the most endangered species to extinction.**

What Can YOU Do to Help Reduce Global Warming?

Adapting to climate change is essential because we are already committed to a certain amount of warming from the greenhouse gases that are already in the atmosphere. However, we can avoid the worst impacts of global warming if we act now to slow it. Here are some ways that you can cut your global warming pollution, become more energy efficient, save money, and give something back to nature.

Replace a regular incandescent light bulb with a compact fluorescent light bulb (cfl) CFLs use 60% less energy than a regular bulb. This simple switch will save about 300 pounds of carbon dioxide a year.

Use less air conditioning: move your thermostat up 2° Almost half of the energy we use in our homes goes to cooling and heating. You could save about 2,000 pounds of CO₂ a year with this simple adjustment.

Turn off electronic devices you're not using Simply turning off your television, DVD player, stereo, and computer when you're not using them will save you thousands of pounds of CO₂ a year.



Reduce, reuse and recycle at home and at work You can save 2,400 pounds of CO₂ a year by recycling half of the waste your household generates

Plant a tree A single tree will absorb one ton of CO₂ over its lifetime. Shade provided by trees can also reduce your air conditioning bill by 10 to 15%.

Check your tires weekly to make sure they're properly inflated Keeping your tires properly inflated can improve gas mileage by more than 3%. Every gallon of gasoline saved keeps 20 pounds of CO₂ out of the atmosphere.

Drive less Walk, bike, carpool or take mass transit more often. You'll save one pound of CO₂ for every mile you don't drive.

When it is time for a new car, choose a more fuel-efficient vehicle You can save 3,000 pounds of CO₂ every year if your new car gets only 3 miles per gallon more than your current one. You can get up to 60 miles per gallon with a hybrid!

Choose energy efficient appliances when making new purchases Look for the [Energy Star](#) label on new appliances to choose the most efficient models. If each household in the U.S. replaced its existing appliances with the most efficient models available, we'd eliminate 175 million tons of CO₂ emissions every year.

Encourage your school or business to reduce emissions You can extend your positive influence on global warming well beyond your home by actively encouraging others to take action. Download toolkits for schools and businesses to take action outside of your home (www.climatecrisis.net).

Protect mangroves, wetlands and forests Forests and wetlands play a critical role in global warming: they store carbon. Thus, conservation of these threatened habitats will reduce atmospheric CO₂ as well as protect our birds and other species.



The capacity of many species and ecosystems to adapt is expected to be exceeded in this century as global warming and its associated disturbances (including floods, drought, wildfire, insects, and ocean acidification) increase interactions with other stresses, such as pollution and resource exploitation.

Intergovernmental Panel on Climate Change. 2007. Working Group II Report: Impacts, Adaptation and Vulnerability - Summary for Policymakers



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