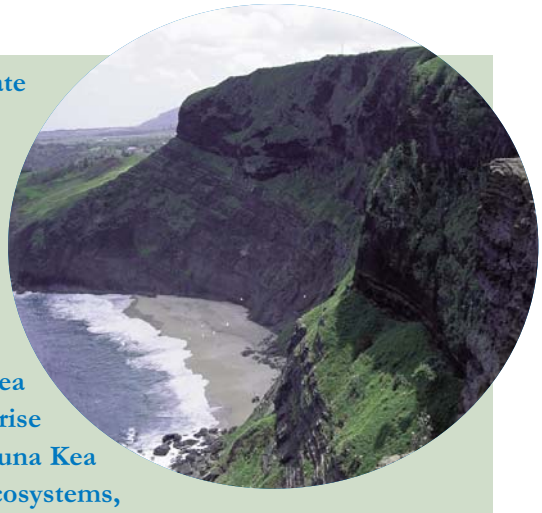
Global Warming and HAWAI'I



Hawai'i is a nature-lover's paradise, but it also has the unfortunate distinction of being the "endangered species capital of the world," thanks to an onslaught of development and invasive species that have decimated many of the state's native plants and animals. Global warming adds yet another problem to the mix of human-caused threats to wildlife on this rugged yet fragile chain of islands and atolls. The Intergovernmental Panel on Climate Change estimates average temperatures in Hawai'i could rise about 4.05 degrees Fahrenheit by 2100 if global warming continues unabated. Sea level rise along beaches could inundate coastal properties, while the rise in average temperature could displace alpine species endemic to Mauna Kea and other island summits. Given the state's abundance of delicate ecosystems, global warming could spell extinction for several species. We can solve global warming and revitalize our economy by rebuilding America with clean energy.

Global warming effects on Hawai'i wildlife

Hawai'i struggles to protect its native wildlife—which includes 317 listed threatened and endangered species—from a number of threats ranging from invasive plants and animals to habitat destruction. Rising temperatures and sea level will likely add to these challenges, changing the makeup of entire ecosystems and forcing wildlife to shift their ranges or adapt.

- Sea level rise is threatening habitat for endangered Hawaiian monk seals, threatened sea turtles and millions of nesting seabirds. Already, erosion has completely submerged Whale Skate Island, located to the northwest of the main Hawai'ian Islands.
- The 1997-98 El Niño caused widespread coral bleaching around the globe, and continued warming could threaten corals around Hawai'i. The state's coral reefs serve multiple purposes, both as nursery to many Pacific pelagic fish species and also as storm barriers for the main islands. Destruction of coral reefs could drastically reduce fish species that currently call the Hawaiian Islands home.
- As temperatures rise, suitable forest bird habitat will be lost as the mosquito-breeding zone shifts upwards. Mosquitoes spread avian malaria and pox to native forest birds. Birds occupying high-elevation forests currently free of diseases will become infected.
- The wekiu bug, endemic to the slopes of Mauna Kea, depends on snowfall to trap its food. Since 1982, Mauna Kea has experienced less snowfall, threatening this tiny insect with extinction.

Global Warming Pollution

Burning coal, gas and oil produces carbon dioxide, which is a greenhouse gas that warms the planet as it builds up in the atmosphere. Some of the carbon dioxide released today remains in the atmosphere after even 100 years, trapping more and more heat.

Since the mid-1800s, emissions of carbon dioxide have skyrocketed, causing global temperatures to rise by about 1° Fahrenheit in the last century. Earth has not experienced such a rapid change in temperature in thousands of years.

A Global Solution

The U.S. must lead the world by passing global warming legislation at home and working with other nations at the Copenhagen climate summit at the end of 2009 to sign a new climate treaty that keeps further warming below 2° Fahrenheit. With a global solution, we can avoid the worst impacts of global warming.

What's at stake for Hawai'i's people?

When Hurricane 'Iniki hit Kaua'i in 1992, it was a sober reminder of just how destructive a massive storm can be. The hurricane brought 130 mph sustained winds and ultimately caused $2.3 billion in property damage. Scientists project global warming will contribute to more intense storms in the future, causing more damage to low-lying areas and beaches. It is just one of many ways Hawai'i could be affected by global warming, as warmer average temperatures send repercussions throughout the agriculture and tourism industries, affecting the livelihoods of the state's residents.

- Taro and other crops have been damaged by erosion and saltwater infiltration in low-lying areas as a result of both sea level rise and drought.
- At Honolulu, Nawiliwili and Hilo, sea level is already rising 6-14 inches per century, and the EPA estimates it is likely to rise another 17-25 inches by 2100. Sand replenishment to protect the coasts from a 20-inch sea level rise could cost $340 million-$6 billion.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2006, more than 441,000 people spent more than $400 million on hunting, fishing and wildlife viewing in Hawai'i. The industry in turn supported 5,040 jobs in the state.* *(Jobs are an average of 2001 and 2006 data.)*

"Global warming poses an overriding challenge to our responsibility to protect wildlife for our children's future. We must advance balanced solutions that work for people, wildlife and the economy to overcome this challenge."—

Larry Schweiger
President, CEO
National Wildlife Federation

Global Warming National Policy Solution:

A federal legislative solution can drive American ingenuity, create millions of green jobs, and restore America's global leadership on global warming. Legislation should:

* Include ambitious targets to reduce America's global warming pollution as swiftly and deeply as possible. Scientists say that developed countries as a whole need to reduce their global warming pollution by at least 80% from 1990 levels by 2050 to avoid the worst impacts of global warming.

* Move America toward a 100% clean electricity future by maximizing energy efficiency, modernizing the electric power grid, expanding power generation from renewable energy resources, and investing in clean transportation infrastructure.

* Invest in natural resources. Forests, coasts, wetlands, clean air and clean water are already being impacted by global warming. Funding is needed to safeguard the natural resources that are critical to wildlife populations and human health.

* Lead a worldwide effort to finance clean energy technology, forest conservation, and adaptation to unavoidable impacts of global warming.

For more information, visit: **www.nwf.org/globalwarming.**

PowerLight (NREL)

Hawai'i's solutions to global warming

With sun and wind aplenty, Hawai'i has an impressive potential to substitute renewable energy in place of dirtier power sources that emit global warming pollution.

- In 2004, a measure was enacted requiring utilities to use clean energy for 8 percent of the state's electricity production by 2005, increasing to 10 percent by 2010, 15 percent by 2015 and 20 percent by 2020.
- Hawai'i's landmark Global Warming Solutions Act of 2007 mandates the state reduce its greenhouse gas emissions to 1990 levels by 2020.
- The City and County of Honolulu uses 20 percent biodiesel fuel for their diesel fleet vehicles. Biodiesel is made in Hawai'i by Pacific Biodiesel's facility on Maui. This alternative fuel is made from vegetable oil or soybeans, burns cleaner and can be used in heavy-duty diesel vehicles such as large trucks, boats and buses.

Following some simple guidelines, you can cut your global warming pollution, become more energy efficient and give something back to nature.

- **Plant shade trees:** The Department of Energy says planting three trees strategically around your home can reduce your annual heating and cooling costs by an average of 40 percent.
- **Become a Green Tag subscriber:** Many states now offer options for homeowners to buy electricity from clean, renewable sources such as wind, solar and biomass that produce little or no global warming pollution. Green energy can also be purchased through the National Wildlife Federation by visiting **www.nwf.org/energy**.

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