

PHOTO: BigStockPhoto, Inc.

TARGET GLOBAL WARMING in South Carolina

Hunters & Anglers Can Change the Forecast

South Carolina's 2,876 miles of diverse shoreline along coastal and inland waters offer exceptional opportunities for anglers and waterfowl hunters. But global warming is changing the state's ecosystems and threatening fish and wildlife. Unless action is taken now, scientists estimate that by 2100, average temperatures in the state will rise between 7 and 9 degrees Fahrenheit. As a result, significant sea level rise is predicted to erode coastal areas and increase their vulnerability to storms, flooding, and salt water intrusion. Increasing temperatures will also threaten the viability of brook trout populations in South Carolina, which are near the southern limits of their range.

"I value the time I spend on the water fishing with my grandson, and like other hunters and anglers, I see firsthand how global warming is compromising the health of fish, wildlife and wild spaces, threatening to undo decades of conservation progress. It is imperative that we work together now to change the forecast for wildlife to preserve our cherished sporting traditions for the legacy of our children and generations beyond."

— Larry Schweiger

President & CEO

NATIONAL WILDLIFE FEDERATION

South Carolina Wildlife and Habitat at Risk

Coastal Wetlands • Nearly 20 percent of wetland habitats in the lower 48 states are found in South Carolina, North Carolina, and Georgia alone. Coastal low country wetlands are a distinctive part of South Carolina's landscape, providing critical habitat for a variety of waterfowl and other species and serving important flood control functions. South Carolina's tidal flats, estuaries, marshes and beaches are particularly vulnerable to the effects of sea level rise caused by global warming. Increased flooding, erosion and salt water intrusion will increase as sea levels encroach on low-lying coastal areas. In the last century, the state's coast already has experienced a 9-inch rise in sea level, causing severe erosion on the Grand Strand and parts of the Santee Delta. Scientists project that global warming will cause an additional 1 to 3 foot increase in sea levels in the century ahead, which would dramatically alter South Carolina's coastal landscape.

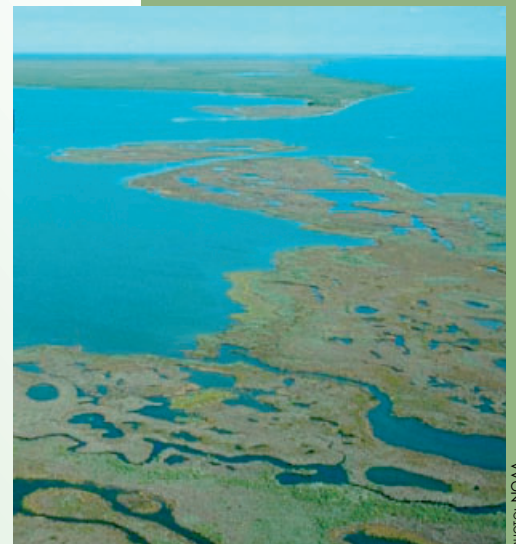


PHOTO: NOAA



PHOTO: USFWS

Waterfowl • North American ducks face substantial population declines this century from global warming as the warmer climate causes shrinking and disappearing wetlands. Furthermore, seasonal migration patterns will change as waterfowl find it unnecessary to fly as far south to find food and open water. Milder and late-arriving winters are expected to increase waterfowl hunting opportunities in the upper Midwest and Northeast, while reducing hunting opportunities in the Mid-Atlantic and South. Erosion of coastal wetlands due to sea level rise will also diminish habitat vital to wintering waterfowl.

Hunting and Angling Recreation Counts in S. Carolina

Take Action!

• **Write or call Governor Sanford**

and urge him to protect wildlife, hunting and fishing in South Carolina by taking strong action on global warming

Gov Mark Sanford
PO Box 12267
Columbia, SC 29211
(803) 734-2100
Fax: (803) 734-5167
www.sc.gov

• **For more information, contact:**

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South Carolina sportsmen need to be concerned about global warming not just because of the impacts on wildlife and habitat, but also because hunting and angling generate revenues and support jobs in the state. Loss of wildlife and habitat could also mean a loss of important tourism dollars.

Tourism & Economic Benefits	S. Carolina	United States
Hunting, angling & wildlife viewing participants	1.6 million	47 million
Annual expenditure	\$1.4 billion	\$56 billion
Jobs supported	28 thousand	1.6 million

Source: 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation; US Fish & Wildlife Service.

South Carolina's Solutions to Global Warming

South Carolina has a number of initiatives and incentive programs to address climate change, including promoting energy efficiency and the use of cleaner fuels.

- In 2007 Governor Sanford created the Climate, Energy and Commerce Advisory Committee to develop broad actions to address global warming for the state. Recommendations, to be finalized in 2008, include establishing a greenhouse gas emissions inventory and strategies to expand opportunities for renewable energy sources and energy efficiency.
- The South Carolina Energy Office offers a range of tax incentives for consumers and businesses, including a solar energy tax credit, renewable fuel tax incentives, a sales tax rebate for alternative fuel vehicles, and incentives for solar water heating systems and energy efficient mobile homes. Through ConserFund, the state also provides low-interest loans to public entities to install energy efficiency equipment to be paid back through savings.

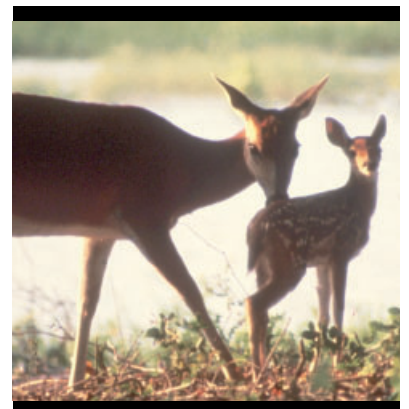


PHOTO: USFWS

Global Warming Impacts on the Nation's Fish and Wildlife

America's conservation ethic is rooted in the traditions of hunting, fishing and wildlife-associated recreation. Sportsmen and women, working closely with government, have historically been driving forces to ensure sustainability of our natural resources and wildlife. Now we face our most challenging threat; Global warming, as it will affect hunters and anglers over the long run more than any other single environmental factor.

The average annual temperature in the US is projected to rise from about 7 to 9 degrees Fahrenheit by the end of the century, altering nature's fundamental balance in ways we are only beginning to understand. This outlook translates into especially milder winter and night time temperatures, but also more intense summers and heat waves, and more frequent and severe weather events such as droughts, storms and floods. Altogether, these changes forecast an unpredictable future for America's wildlife. Hunters and anglers already are observing some of these devastating changes, which are expected to include:

- Higher freshwater temperatures and changes in stream flow patterns that reduce the abundance of trout, salmon, steelhead, and other cold water species;
- Up to a 90 percent decline in the vast Prairie Pothole wetlands of the upper Midwest and south-central Canada that will reduce the numbers of breeding waterfowl, including gadwall, blue-winged teal, northern pintails, canvasbacks, redheads and ruddy ducks;

- Up to a 59 percent decline in sagebrush habitats throughout the western US, with devastating consequences for sage grouse, mule deer and pronghorn;
- Sea level rise and warmer ocean temperatures that will degrade the Atlantic coast's coral reefs, near-shore fish nurseries, coastal wetlands and popular saltwater game fish;
- Less ice formation in the winter, which will inhibit the natural fall southern migration of waterfowl and reduce access to ice fishing opportunities;
- An increase in catastrophic fires that will dramatically alter the ecology of affected areas as soils left inert and infertile prevent future habitat regeneration.



PHOTO: John McColgan, BUM, Alaska Fire Service

What is Global Warming?



PHOTO: NASA Apollo 17

When we burn fossil fuels such as coal, gas and oil, they produce carbon dioxide and other greenhouse gases that build up in the atmosphere and retain the sun's heat. Much of the global warming emissions released today will remain in the atmosphere beyond 100 years, continuing to trap heat on Earth. The world's top scientists are confident that greenhouse gas emissions from human activities are causing most of the Earth's warming.

Since the mid-1880s, carbon dioxide emissions have increased by more than 30 percent, causing a global temperature rise of 1.3 degrees Fahrenheit in the last century. While seemingly trivial, Earth has not experienced such a rapid temperature change in hundreds of thousands of years.

Unless we implement policies to curb global warming now, temperatures could climb between 4 and 11 degrees this century, according to the 2007 report by the Intergovernmental Panel on Climate Change, which is comprised of climate scientists from around the world. Such a rapid temperature rise would fundamentally reshape the planet's climate, forever altering the landscape and water resources upon which people and wildlife so greatly depend.

Hunters and Anglers Observe Changes in Climate

A majority of sportsmen and women agree with scientists that global warming is real and threatening the wildlife and traditions they cherish. The National Wildlife Federation conducted a nationwide survey of hunters and anglers in 2006 that revealed three out of four survey participants have observed changes associated with global warming. Nearly 45 percent of respondents are very concerned that wildlife and fish populations will decrease significantly due to climate change. Hunters and anglers are unusually qualified to form these opinions because they pay more attention to wildlife behavior, nature's movements and timing, and the start and end of the seasons than any other large public group. Many survey participants have observed:

Earlier springs	Unusual drought
Earlier bloom times	Less snow
Hotter summers	More intense storms, including hurricanes
Warmer or shorter winters	Decreasing bird, fish or wildlife populations

Your Actions Will Make the Difference for Wildlife

Together, hunters, anglers and other outdoor enthusiasts can help change the forecast for wildlife. You can help make a difference.

- Restore habitat where you live. Planting trees and restoring wetlands helps capture global warming pollution and helps wildlife cope with climate stresses.
- Next time you buy a boat or a car look for one that cuts emissions and gets better fuel economy.
 - For outboard motors, a low emission, four-stroke motor pollutes only one-sixth the amount of older two-stroke engines.
 - Buying a car or truck that gets better fuel economy saves money at the pump and cuts thousands of pounds of carbon dioxide pollution each year.
 - Save money at the gas pump by keeping your tires properly inflated and your engine tuned up (boat engines too).
- The next time a lightbulb burns out, replace the bulb with a compact fluorescent. One bulb will save 500 pounds of coal. Recycling and insulating at home and at the office can also save large amounts of energy.



PHOTO: NWF



PHOTO: Ford Motor Co.



PHOTO: Mercury

PHOTO: EPA



PHOTO: USFWS

The 2 Percent Solution to Global Warming Pollution

Scientists tell us that a 2 percent annual reduction in greenhouse gas emissions for 40 years will overcome the challenge of global warming. But, our leaders must act now. It is extremely important to contact your elected officials to ask for policies that improve energy efficiency and promote cleaner, smarter energy technologies.

- To contact a member of the US House of Representatives or Senate, please call 202-224-3121 or visit www.house.gov and www.senate.gov
- Visit www.targetglobalwarming.com for more information.

For more information, contact:
**Southeastern Natural
Resource Center**
National Wildlife Federation
404-876-8733