



CHANGE THE FORECAST FOR WILDLIFE
SOLUTIONS TO GLOBAL WARMING

Global Warming and SOUTH DAKOTA

The Intergovernmental Panel on Climate Change estimates average temperatures in South Dakota could rise about 6.75 degrees Fahrenheit by 2100 if global warming continues unabated. Scientific models show the state's ecosystems as among the most vulnerable in the nation to global warming. Warmer, drier conditions could significantly reduce wetlands in the Prairie Pothole Region, which provide critical habitat and breeding ground for waterfowl and shorebirds from across the country. Reductions in this habitat would reverberate not only throughout South Dakota's hunting community, but throughout the sporting industry nationwide. We can solve global warming and revitalize our economy by rebuilding America with clean energy.



Global warming effects on South Dakota wildlife

South Dakota is home to an incredible diversity of native wildlife species, including 339 birds, 90 mammals, 89 fish, 31 reptiles and 15 amphibians. Rising temperatures in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- Warmer temperatures and drier summers are expected to increase the risk of wildfires in the Black Hills National Forest, affecting ponderosa pines and the populations of many wildlife species dependant upon forest habitat, such as the mountain bluebird, bald eagle, whitetail deer, mule deer, elk, mountain lion and coyote.
- The breeding ranges of 31 songbird species—including the



sage thrasher, the scarlet tanager and five species of sparrows—could shift from South Dakota's borders due to warmer temperatures.

- Scientists project that global warming could eliminate up to 91 percent of the wetlands in the Prairie Pothole Region by the 2080s, leading to a 6-69 percent reduction in the abundance of ducks breeding in the region.

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 South Dakotans?

Global warming will bring the people of South Dakota a new set of environmental challenges in the coming century, affecting everything from agriculture to water sources to tourism brought in by something as simple as the American goldfinch.

- Warmer average summer temperatures are expected to contribute to lower stream-flows and groundwater levels, placing increased pressure on water resources for crop irrigation and other uses.
- Conditions projected under global warming would be more welcoming for mosquitoes carrying diseases such as West Nile virus, malaria, and equine encephalitis—all of which can be lethal.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2006, 740,000 people spent more than \$499 million on hunting, fishing and wildlife viewing in South Dakota. The industry in turn supported 8,940 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.



Robert Cough (NREL)

South Dakota’s solutions to global warming

South Dakota has a number of incentive programs for businesses and individuals to become more energy efficient and use more renewable energy sources, one of the first steps to addressing global warming.

- South Dakota is poised to become a leader in the wind power market in the coming decade. The state has the potential to produce more than 1.2 billion kilowatt-hours of wind energy annually, more than 125 times its current electricity needs.
- In 2004, South Dakota ranked in the top 10 states that produce corn and soybeans, two primary ingredients in biofuel, an emerging industry which converts crops into an alternative source of fuel.

Midwestern Governors Association Energy Platform and Greenhouse Gas Accord

Nine midwestern states, Wisconsin, Minnesota, Illinois, Iowa, Michigan, Kansas, Indiana, Ohio, South Dakota, and the Canadian Province of Manitoba, have signed the Midwestern Regional Greenhouse Gas Reduction Accord. The Accord will establish greenhouse gas reduction targets and a market based cap & trade mechanism to help achieve these targets. Part of the agreement by these Midwestern states is an aggressive energy security and climate program that includes major steps forward on renewable energy, energy efficiency, next generation biofuels, and carbon capture and storage.

To support the shared goal of reducing greenhouse gases, the Midwestern states launched new cooperative regional initiatives to address the following:

- CO₂ management to create a regional transportation and storage infrastructure;
- Low-carbon energy transmission infrastructure that will provide a cost-effective way to supply the Midwest with sustainable and environmentally responsible energy.

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