



**CHANGE THE FORECAST FOR WILDLIFE**  
SOLUTIONS TO GLOBAL WARMING

## Global Warming and NORTH DAKOTA

The Intergovernmental Panel on Climate Change estimates average temperatures in North Dakota could rise about 6.75 degrees Fahrenheit by 2100 if global warming continues unabated. Warmer temperatures are expected to lead to earlier snowmelt, increased evaporation and lower streamflows for lakes and rivers. This would threaten groundwater quality and recharge rates, which are especially important for wetlands, grasslands and other complex ecosystems that serve as important habitat for wildlife species in the state. Global warming also poses a serious threat to the Prairie Pothole Region, known as “North America’s duck factory.” North Dakota, the top duck-producing state in the nation, lies in the heart of this region. We can solve global warming and revitalize our economy by rebuilding America with clean energy.



### Global warming effects on North Dakota wildlife

North Dakota is home to an incredible diversity of native wildlife species, including 318 birds, 85 mammals, 15 reptiles, 87 fish and 12 amphibians. Rising temperatures will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- Higher stream temperatures and lower summer streamflows could significantly reduce viable habitat for cold-water fish such as rainbow trout.
- Grassland bird species such as the greater prairie chicken are declining throughout the Great Plains due to loss of habitat. A drier, hotter climate resulting from global warming will likely alter their grassland habitat even more, adding stress to already declining populations.
- By the 2080s, warmer weather could reduce up to 91 percent of the wetlands in the Prairie Pothole Region, an area in the northern Great Plains that stretches through parts of North Dakota. This could lead to a 9-69 percent decline in the number of ducks breeding in the region, affecting waterfowl populations across the country.



### 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 North Dakotans?

The changes from global warming threaten not only to degrade the natural forest and aquatic ecosystems of North Dakota but also the health and economy of the state.

- Conditions projected under global warming could increase the lifespan of mosquitoes carrying diseases like West Nile virus and malaria, both of which can be lethal.
- Future global warming conditions could affect the state's \$3 billion annual production agriculture industry in more ways than one. Higher temperatures and reduced soil moisture may force farmers to rely more on irrigation; crop yields could fluctuate between more productive and less productive harvests and farmed acreage could decrease up to 28 percent.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2006, 379,000 sportsmen and women spent more than \$246 million hunting and fishing in North Dakota. The industry in turn supported more than 5000 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](http://www.nwf.org/globalwarming).



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## North Dakota's solutions to global warming

Considering North Dakota's tremendous wind and solar energy potential, the state has the opportunity to be a leader in developing innovative solutions to global warming.

- North Dakota ranks first in the nation in its potential to produce wind energy, with the prospect of producing more than 100 percent of its own needs and supplying up to one-third of the entire nation's electricity demand.
- North Dakota passed a resolution in 2001 creating an advisory panel on the potential for agricultural carbon storage.

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

- **Convert to compact fluorescent bulbs:** If every household in America replaced its next burned out light bulb with a compact fluorescent, we would prevent more than 13 billion pounds of carbon dioxide from being emitted.
- **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](http://www.nwf.org/energy).
- **Act locally:** Contact your mayor and ask that (s)he sign the U.S. Mayors Climate Protection Agreement, committing your city or town to meet or beat the global warming pollution reductions outlined in the Kyoto Protocol.

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