



# CHANGE THE FORECAST FOR WILDLIFE

SOLUTIONS TO GLOBAL WARMING

## Global Warming and ARIZONA

The Intergovernmental Panel on Climate Change estimates average temperatures in Arizona could rise about 6.75 degrees Fahrenheit by 2100 if global warming continues unabated. The warmer climate is expected to cause more extreme fluctuations in precipitation levels across the region, contributing to heavier rainfall and flooding events in winter as well as more severe drought conditions and wildfires in summer. Global warming could also bring less snowpack in the mountains, reducing summer flows in many Arizona streams.



### Global warming effects on Arizona wildlife

Arizona is home to an incredible diversity of native wildlife species, including 435 birds, 138 mammals, 28 fish, 102 reptiles and 25 amphibians. Rising temperatures in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- Higher average stream temperatures and declines in riparian vegetation due to global warming could contribute to a significant reduction in viable habitat for many of Arizona's already-threatened fish species, including native Apache trout.
- Scientists have found Mexican jays are breeding and laying eggs 10 days earlier than they did in 1971 due to warmer temperatures.
- The endangered southwestern willow flycatcher, which breeds in dense riparian areas along rivers and wetlands, has seen its numbers plummet during the last 100 years due to many factors leading to the loss of these fragile habitats. Global warming is projected to contribute to hotter, drier conditions in the region, which could cause the species to disappear.



- Logging and other destructive activities have already pushed the habitat of the Mount Graham red squirrel to higher elevations. Its remaining forest habitat faces an additional threat from global warming. Higher average temperatures have contributed to more severe outbreaks of spruce bark beetles throughout the region, making forests such as those on Mount Graham more susceptible to fires.

### What is Global Warming?

When coal, gas and oil are burned, they produce carbon dioxide that builds up in the atmosphere and traps the sun's heat. Much of this greenhouse gas 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, and subsequently global temperatures have risen by about 1 degree Fahrenheit in the last century. Earth has not experienced such a rapid change in temperature in thousands of years.

Unless we reduce the pollution that causes global warming, temperatures could climb between 2-10 degrees Fahrenheit this century. Such a rapid rise in temperature would fundamentally reshape the planet's climate, forever changing the landscape and water resources people and wildlife depend upon.



## What's at stake for Arizonians?

The recent drought and intense wildfire seasons in Arizona are consistent with what climate scientists expect will occur more and more as global warming continues. These destructive weather events are just one way the warmer climate will touch the lives of Arizonians, as global warming resonates through the tourism, agriculture, wildlife recreation and timber industries.

- Arizona currently is experiencing a decade-long drought that has shown no signs of stopping and has already depleted water reservoirs. A longer drying trend could lead to severe water shortages for the state.
- Global warming's effect on crop production could include a 70-percent reduction in wheat yields and 11-percent reduction in cotton yields as temperatures rise beyond the tolerance level of the crops. To compensate, farmers would have to increase the number of farmed acres requiring irrigation, further stressing the water supply.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2001, more than 1.7 million people spent nearly \$1.6 billion on hunting, fishing and wildlife viewing in Arizona, which in turn created 31,654 jobs in the state.

**“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:

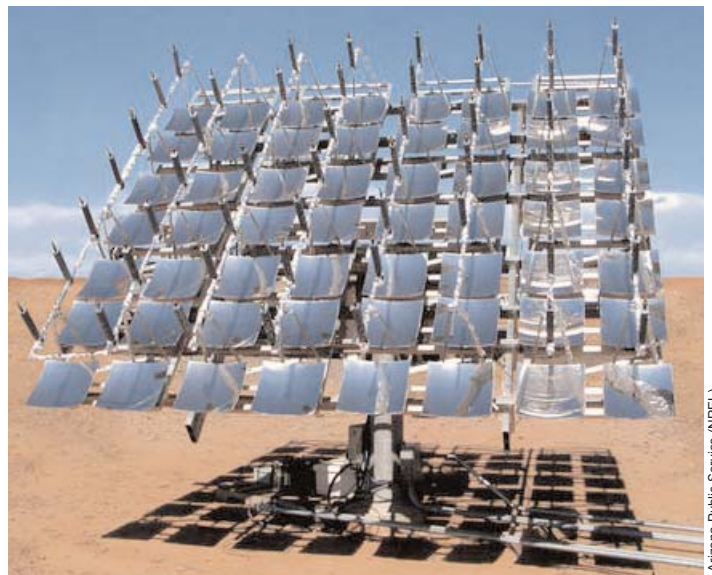
#### **2% POLLUTION REDUCTION PER-YEAR**

A federal legislative solution can drive American ingenuity, create a new generation of American jobs, and meet our moral responsibility to confront global warming.

#### **A GLOBAL WARMING BILL SHOULD:**

- \* Reduce U.S. global warming pollution 2% per year, or 20% per decade, and on the order of 80% by the middle of this century. Scientists say the United States must cut our pollution at least this much to avoid the most catastrophic impacts of global warming.
- \* Encourage innovation and prevent facilities from being built that lock us into many years using old, inefficient technology.
- \* Provide funding to protect wildlife and their habitat. Global warming is already adding new wildlife management burdens. Funding is needed to help continue the long tradition of fish and wildlife associated recreation.

For more information, visit: [www.nwf.org/globalwarming](http://www.nwf.org/globalwarming).



Arizona Public Service (NREL)

## Arizona's solutions to global warming

Arizona has the potential to be a leader on developing solutions to global warming.

- The state's solar energy credit provides individuals and commercial businesses with tax credits for installing solar panels.
- Arizona leads the nation in solar power generation potential and could additionally meet more than 16 percent of its electricity needs from other renewable sources including wind, geothermal and biomass.

### **The Western Climate Initiative**

The Western Climate Initiative is a collaboration between Arizona, California, New Mexico, Oregon, Washington, Utah, Montana, British Columbia and Manitoba to develop regional strategies to address climate change. WCI is identifying, evaluating and implementing collective and cooperative ways to reduce greenhouse gases in the region. The partners set an overall regional goal to reduce greenhouse gas emissions 15% below 2005 levels by 2020. By August 2008 the Partners will also complete the design of a market-based mechanism to help achieve that reduction goal.

**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).



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