

## Climate Change : Country Profile

### 3. Climate Profile United States - Impacts of Climate Change

**A vast and geographically diverse country, the United States will see many of the environmental changes anticipated in the most recent Intergovernmental Panel on Climate Change (IPCC) report.**



#### Wildfire

Local residents keep watch on a brush fire in Henderson, Nevada. (Photo: Reuters)

Scientists have found some changes are already occurring.

#### Hurricanes and Storms

Perhaps most dramatic is the increasing severity of hurricanes and tropical storms striking the Atlantic Coast. Scientists have observed an upswing in the number of category 4 and 5 hurricanes since the mid-20th century, which the IPCC says is likely the result of warming ocean waters.

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As the biggest hurricanes of the last decade – Mitch, Ivan, Rita, and Katrina – have reminded, the southeastern United States, particularly Florida and the Gulf Coast, is vulnerable to deadly and costly storms. Hurricane Katrina alone killed over 1,800 people, displaced 500,000, and caused an estimated 150 billion dollars in damages.

#### Sea Level Rise

Rising sea levels and stronger storms will prompt more frequent flooding and accelerate erosion along the thousands of miles of U.S. coastline. The U.S. Environment Protection Agency (EPA) says that a two-foot rise in sea levels – a possibility according to the IPCC – would eliminate coastal land equivalent to the size of the state of Massachusetts by the end of the century. Marine ecosystems, such as estuaries and marshes, would also be threatened by rising sea levels.

#### Wildfires

Authorities in California and other arid Western states say warming temperatures could increase the risk of large wildfires by over 50 percent by the end of the century. Earlier snow-melts, dried out vegetation and stronger winds intensify the fire danger in the dry summer and autumn months. Each year, wildfires cause hundreds of

millions of dollars in damages and state expenses. Experts anticipate warming temperatures will also negatively affect the health and productivity of forests.

### **Drought**

Agriculture in some parts of the northern United States could benefit from a warmer climate and higher carbon dioxide levels that increase plant growth. Stanford University climate expert Stephen Schneider, however, told Congress that "even small amounts of warming would negatively affect more people and systems than would be benefited."

The drought of 2002, for example, led to sharp harvest reductions in the United States. Research from the International Rice Research Institute and the U.S. Department of Agriculture indicates that a one-degree Celsius rise in temperature above the optimum during the growing season leads to a ten-percent decline in grain yields. Corn, which accounts for 70 percent of the U.S. grain harvest, is particularly vulnerable to heat.

### **Heatwaves and Smog**

Climate change may not affect water and food supply in the United States as much as in the developing world, however heat waves and extreme cold spells are killers in North America, too, particularly for the elderly, young, homeless, and people with heart and respiratory conditions. Climate change could also contribute to the degradation of air quality and boost the levels of ground-level smog and particle pollution. Heat waves also put pressure on power grids by increasing demand for energy-intensive air conditioning and refrigeration. The common result of an overtaxed grid is electricity blackouts.

### **Permafrost**

Climate change will also force native people in the northern state of Alaska to cope with changes to traditional lifestyles, such as retreating sea ice and melting permafrost affects fishing, trapping, food gathering and other aspects of daily life in the arctic north.

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