

## Climate Change and Indiana

As a Midwestern state along the shores of Lake Michigan, Indiana is particularly vulnerable to climate change and adverse impacts to its agricultural lands, beaches, forests, industrial activities, and cities.

The Midwest has experienced an average air temperature increase of more than 1.5 degrees Fahrenheit between 1900 and 2010, and a precipitation level 30 percent higher than the 1901-1960 average. Indiana should also anticipate higher water temperatures in Lake Michigan, which, coupled with increased precipitation, will result in the increased production of toxic algae.

Midwesterners will experience increased frequency and intensity of extreme weather events due to climate change, including heat waves, floods, and lake-effect snow. In 2011, 11 of the 14 U.S. weather-related disasters with damages of more than \$1 billion occurred in the Midwest.

Greater evaporation in the summer is also likely to result in water deficits. Longer and more extreme heat waves will impact human health through reduced air quality and increases in insect and waterborne diseases, and require increased use of electricity for cooling, further increasing carbon pollution.

While the longer growing season provides the potential for increased crop yields, increases in heat waves, floods, droughts, insects, and weeds will present growing challenges to managing crops, livestock, and forests. In 2008, for example –

- 82 of Indiana's 92 counties were declared as presidential disaster areas due to extreme weather, such as severe storms, and flooding;
- 17,000 families suffered damage to their residence, and housing became a significant challenge for the state; and
- The total cost of damages from natural disasters reached nearly \$2 billion including crop losses and public infrastructure damages that each exceeded \$300 million.