



Climate Change and Wildfire in the Great Lakes Region

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Actual changes in wildfire risk are difficult to predict in the Great Lakes region because of the varied ecosystems, local conditions and forest management practices. The expected changes in climate on a broad scale will affect all forest types and are likely to increase the risk of summer wildfires throughout the region.

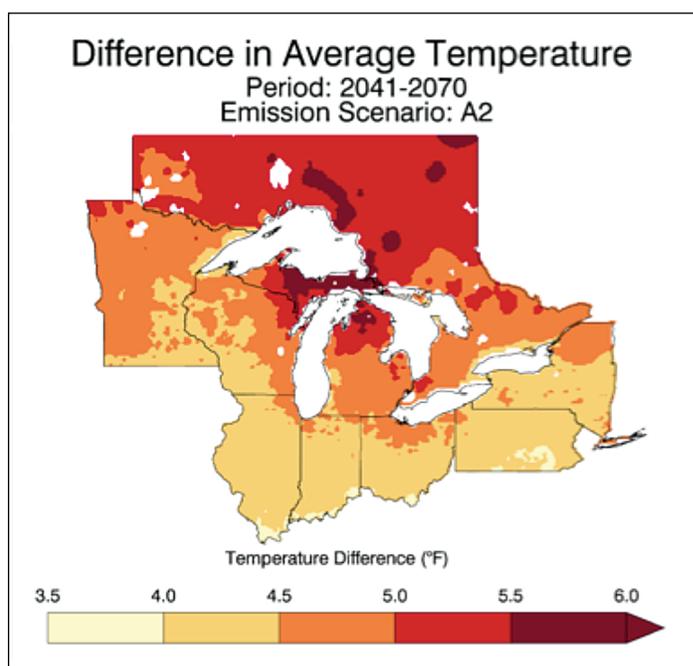
Scientists predict that, by 2050, average air temperatures will increase by 1.8 to 5.4 degrees F (1 to 3 degrees C) (GLISA, 2014). With warmer temperatures and increasing atmospheric CO₂, forest productivity will likely increase (GLISA, 2014).

Warmer temperatures will also increase evapotranspiration (Roulet et al., 1992) and contribute to increased lightning activity (Price and Rind, 1994). At the same time, forests in the Great Lakes region are projected to experience increased disturbances from insect outbreaks and drought, leading to increases in tree mortality and accumulation of fuel (USGCRP, 2014).

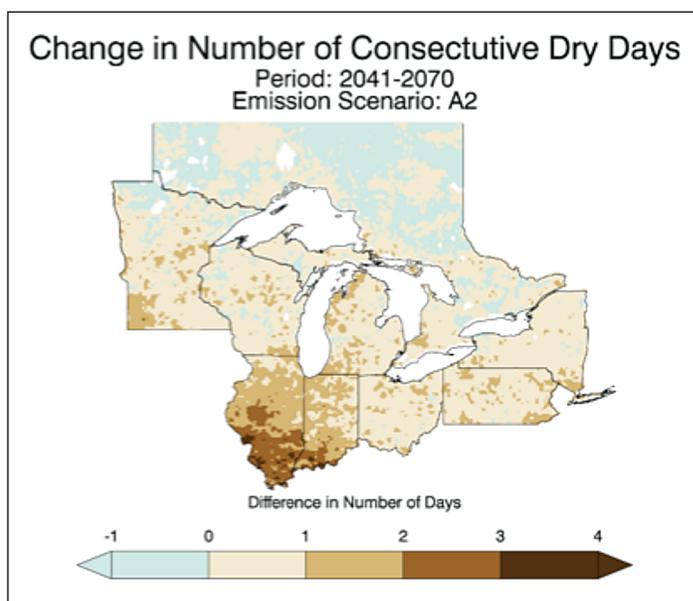
Precipitation will increase during wet seasons but may remain nearly stable or decrease during the summer (GLISA, 2014). Precipitation increases in the fall and spring will contribute to vegetation growth, but vegetation may dry out and die during hotter, prolonged summer days without rain, providing the setting for more severe wildfires (Sommers et al., 2011). Drier conditions are associated with increased incidence of wildfire (Cardille and Ventura, 2001).

Combine these environmental changes with increasing human presence in northern forests and the fact that fire occurrence and size in the Great Lakes region are strongly influenced by human settlement and activity (Cardille et al., 2001), and wildfire will clearly continue to be a significant threat — if not a more significant threat — in the future under a changing climate.

For information on how to protect your property and home from wildfire, visit <http://firewise.org/>.



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Lake States Fire Science Consortium
<http://lakestatesfiresci.net>.

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