



# The Iowa Policy Project

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## NEWS RELEASE

# An Uncertain Future:

## *The outlook for Iowa communities and flooding as our climate changes*

IOWA CITY, Iowa (Sept. 5, 2019) — Iowa is becoming hotter and wetter because of climate change, putting a policy response in the hands of leaders who already are dealing with problems of more frequent flooding that may become more extreme events as our climate changes.

“Science is giving us warnings,” said James E. Boulter, a professor of Chemistry in the Watershed Institute for Collaborative Environmental Studies at the University of Wisconsin—Eau Claire.

“Even those who have not lived it have seen the pictures, of rooftops surrounded by floodwaters, breached levees, destroyed grain bins and impassable roads. Flooding is getting worse, and we have public policy options that can lessen the impact in the coming years.”

Boulter’s new report for the nonpartisan Iowa Policy Project — available at [www.iowapolicyproject.org](http://www.iowapolicyproject.org) — notes total statewide damage estimates from the 2019 flooding are staggering and likely to rise.

Flooding hit hard on both the east and west borders of the state, as the Mississippi River reached flood stage for 38 days and breached a levee, while the Missouri River Basin took on more runoff in three months than it typically receives in a year.

Boulter noted three principal trends in heat, rainfall and flooding:

- **Average temperatures overall** in Iowa have risen 0.4 degrees Fahrenheit per decade over the past four decades, adding up to nearly 5 percent in total increase.

“However, the largest future warm-season temperature increases are projected to occur in the Midwest. Along with higher average temperatures, climate projections indicate that the hottest summer days will become even hotter.” Boulter said.

- **This year, Iowa’s precipitation** of over 50 inches shattered its 116-year-old May to April record by over 2.5 inches. February snow accumulations were 3½ times its recent average; snow in neighboring Minnesota and Wisconsin also vastly exceeded norms, up to 40 inches above normal. Rainfall in the Upper Mississippi River Basin has risen steadily, and high-rainfall days have become more intense.

“A range of climate models predict that by 2041-2050, there will be another 30 percent increase in the frequency of two-day precipitation events whose rainfall totals set a five-year record,” Boulter said.

- **Flooding is the greatest concern** — heat and rainfall data are solid but flooding trends are harder to predict. Beyond the physical and financial damage to devastated households, businesses, municipal and transportation infrastructure are the impacts to human health and well-being.

“Among those affected, the impact is disproportionate for those most vulnerable due to socioeconomic status, existing health conditions, and access to healthcare,” Boulter said.

Boulter’s report noted the 2019 floods appear to be a repeat of other recent “100-year flood” events such as 1993, 2008 and 2011. A recent report by the Iowa State University Institute for Transportation found: “For the Cedar River Basin in Iowa, the 100-year flood ... of the 20th century is projected to be a 25-year flood in the 21st century, with associated increased frequency of flooding of agricultural land.”

“Iowans have to wonder — is this our future in a changing climate?” Boulter said.

Boulter noted one detailed analysis concluded that springtime conditions in the later third of this century may be consistent with those during the devastating 1993 floods of the Mississippi River Valley. During May and June of that year, over 17 million acres were flooded over a nine-state region (including every county in Iowa), resulting in at least \$2 billion (in 1993 dollars) in crop losses alone.

“The study makes a compelling argument that a changing climate may produce more historic-level floods in the region and that the conditions that led to the 1993 floods may become a new normal,” Boulter said, adding it should be of great concern to Iowa citizens and policy makers.

“In one way or another, a policy response is inevitable. Leadership can move to lessen impacts of climate change on flooding, or respond to disaster after the fact,” Boulter said.

Boulter’s report compares the Intergovernmental Panel on Climate Change future scenarios in which human society makes choices to mitigate its impacts on the global climate. The least ambitious response is consistent with some of the most alarming potential climate outcomes. Conversely, future climate impacts are greatly reduced in a more robust response that exceeds what the U.S. has previously committed to in the 2015 Paris Accord in emissions reductions.

The report was supported by a grant from the Environmental Defense Fund. The conclusions are those of the author and the Iowa Policy Project, which is a nonpartisan, nonprofit public policy research and analysis organization in Iowa City.

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