

Northern Great Plains

Regional Climate Impacts

Colorado, Montana, Nebraska,
North Dakota, South Dakota

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ENVIRONMENTAL
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Fast Facts Series

Worsening wildfires contribute to poor air quality



Annual average temperature has increased by 1.6°–2.6°F since 1900 in the Northern Great Plains.



Climate change is increasing the length of the fire season and the number of **wildfires** in the Northern Great Plains.



One study suggests that in the United States, Montana has the highest per capita rate of premature deaths attributable to wildfire **smoke**.



Rising temperatures across the Northern Great Plains are expected to lead to greater **variability in precipitation**.

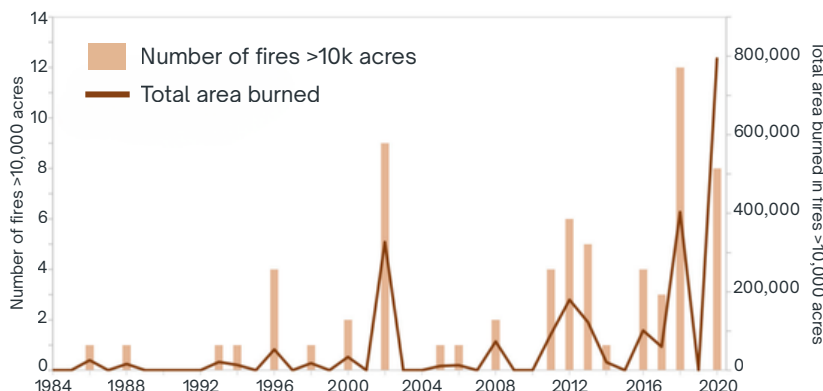


Drought is projected to increase in the region due to climate change, with more localized droughts by 2040 and more widespread regional droughts by 2070.

Climate change harms human health, leading to litigation

Climate impacts, including declining air quality, are having increasing and cascading negative effects on the physical and mental health of residents in the Northern Great Plains. These climate-related harms have been raised in litigation and are likely to be argued in future cases.

Colorado Wildfires, 1984-2020



Over the past several decades, Colorado has experienced increases in the number of very large wildfires (>10,000 acres) and the annual area burned. Figure adapted from the 2024 *Climate Change in Colorado* report.

CASE SPOTLIGHT: CLIMATE RIGHTS

Held v. State (Mont. 2024)

Summary: Sixteen youth plaintiffs filed a lawsuit alleging, among other things, that a provision in the Montana Environmental Policy Act (MEPA) that prohibited state officials from considering the impact of greenhouse gas emissions **violated their right to a “clean and healthful environment”** under the Montana Constitution. After a bench trial, a state district court agreed, finding that the MEPA provision violated that right. The Montana Supreme Court upheld the decision.

Science: The trial court heard extensive testimony related to the causes of climate change, its impacts in Montana and on the plaintiffs, and the feasibility of Montana pursuing renewable energy. It found that “[t]he **unrefuted testimony at trial established that climate change is a critical threat to public health.**” The opinion recognized the **vulnerability of youth to dangerous air quality conditions**, including the frequency of asthma in children, as well as the physical and mental health **impacts of poor air quality on the plaintiffs.**



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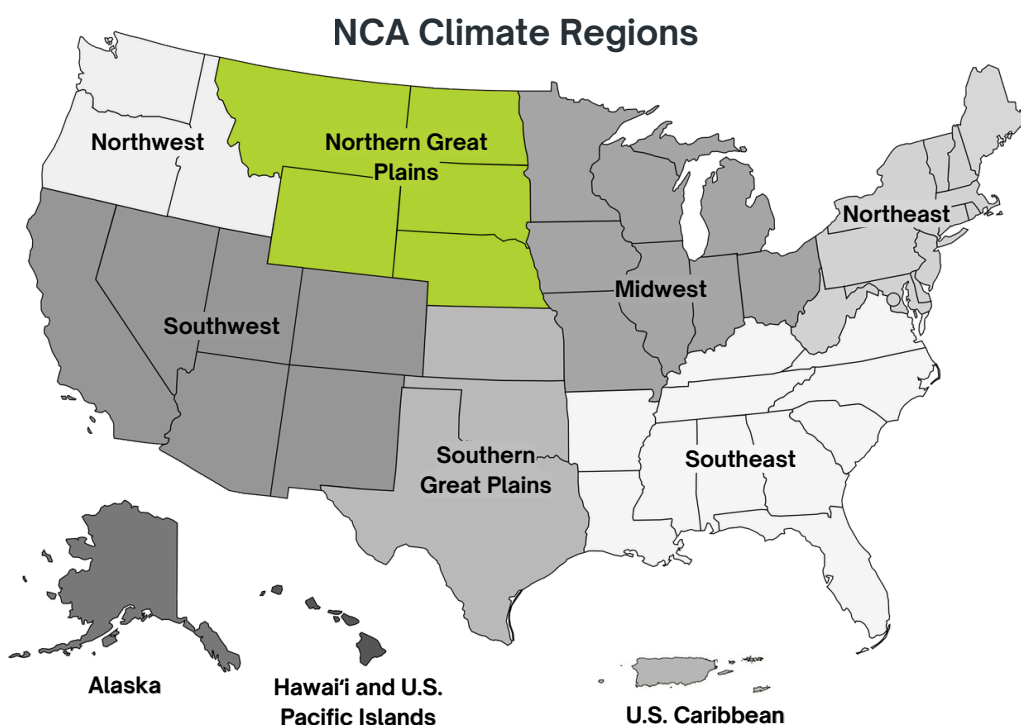
Providing judges with authoritative, objective, and trusted education on climate science and the law.

Climate change impacts all regions of the United States

The Fifth National Climate Assessment (NCA5) of 2023 divides the United States into ten regions to assess the current and future risks posed by climate change in each region. View fact sheets for other regions at cjp.eli.org and learn more about climate impacts at nca5.climate.us/regions.

Primary impacts from climate change vary regionally, typically affecting:

- Heat
- Sea-level rise and flooding
- Precipitation patterns
- Hurricanes and tropical storms
- Wildfires
- Air quality
- Sea ice and glacier melt



SO Why should judges care?

The effects of climate change are reshaping society and, with it, many aspects of the law. There are thousands of cases in courts throughout the country raising issues related to climate change that cover an extremely wide variety of topics, including, for example, insurance, permitting, and land use. As the impacts of climate change accelerate, judges can expect more cases that will draw upon scientific and technical evidence about these impacts.

SOURCES

Corrine N. Knapp et al., *Chapter 25: Northern Great Plains* in Fifth National Climate Assessment (2023), <https://nca5.climate.us>.

Becky Bolinger et al., *Climate Change in Colorado* (2024).

Held v. State, 560 P.3d 1235 (Mont. 2024).

