



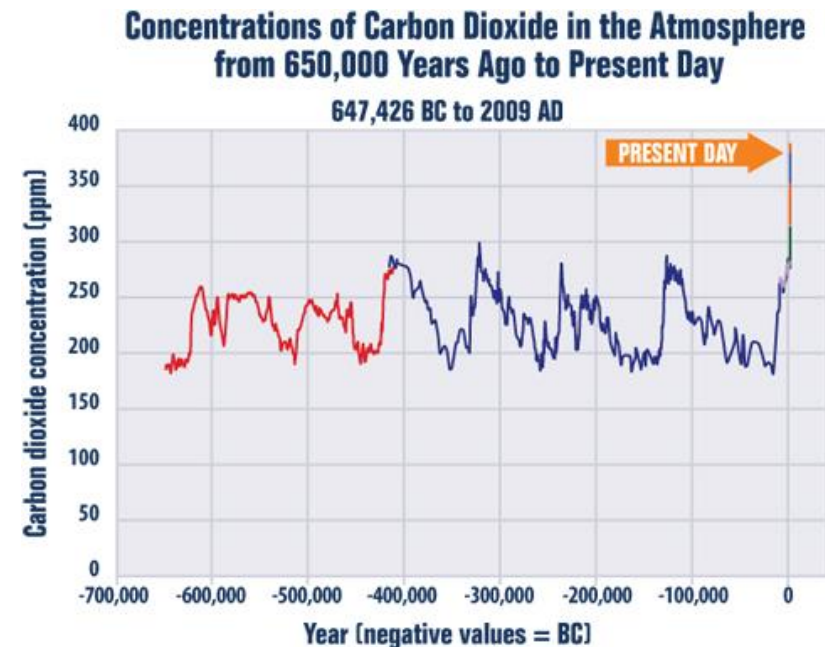
# Climate Change and Air Quality



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October 8, 2015

U.S. Environmental Protection Agency





## Some definitions...

**Weather:** A specific event or condition that happens over a period of hours or days

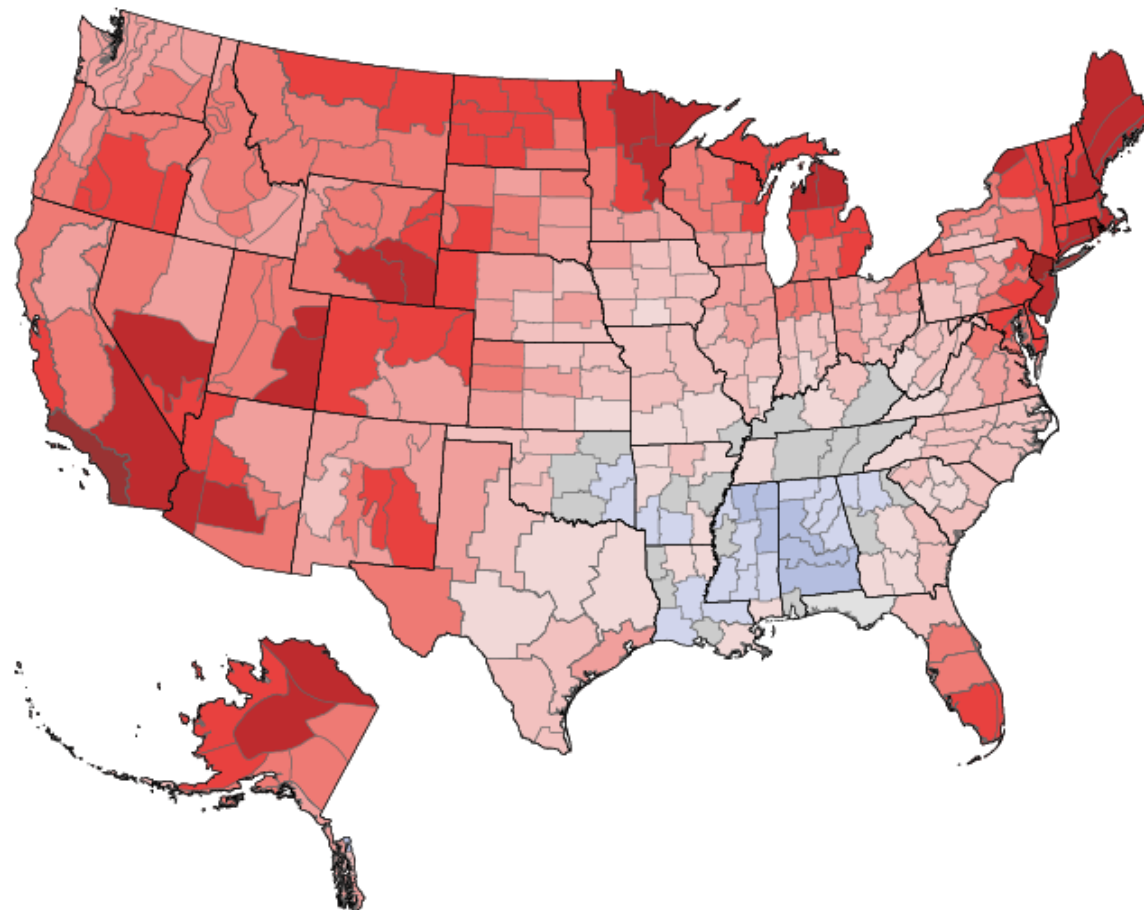
**Climate:** Average weather conditions in a place *over many years*

**Climate change:** Any substantial **change** in temperature or precipitation lasting ***for an extended period*** (***decades or longer***).

- **Did you know?** *Global warming only represents one aspect of climate change*



## Rate of Temperature Change in the United States, 1901–2014



Rate of temperature change (°F per century):



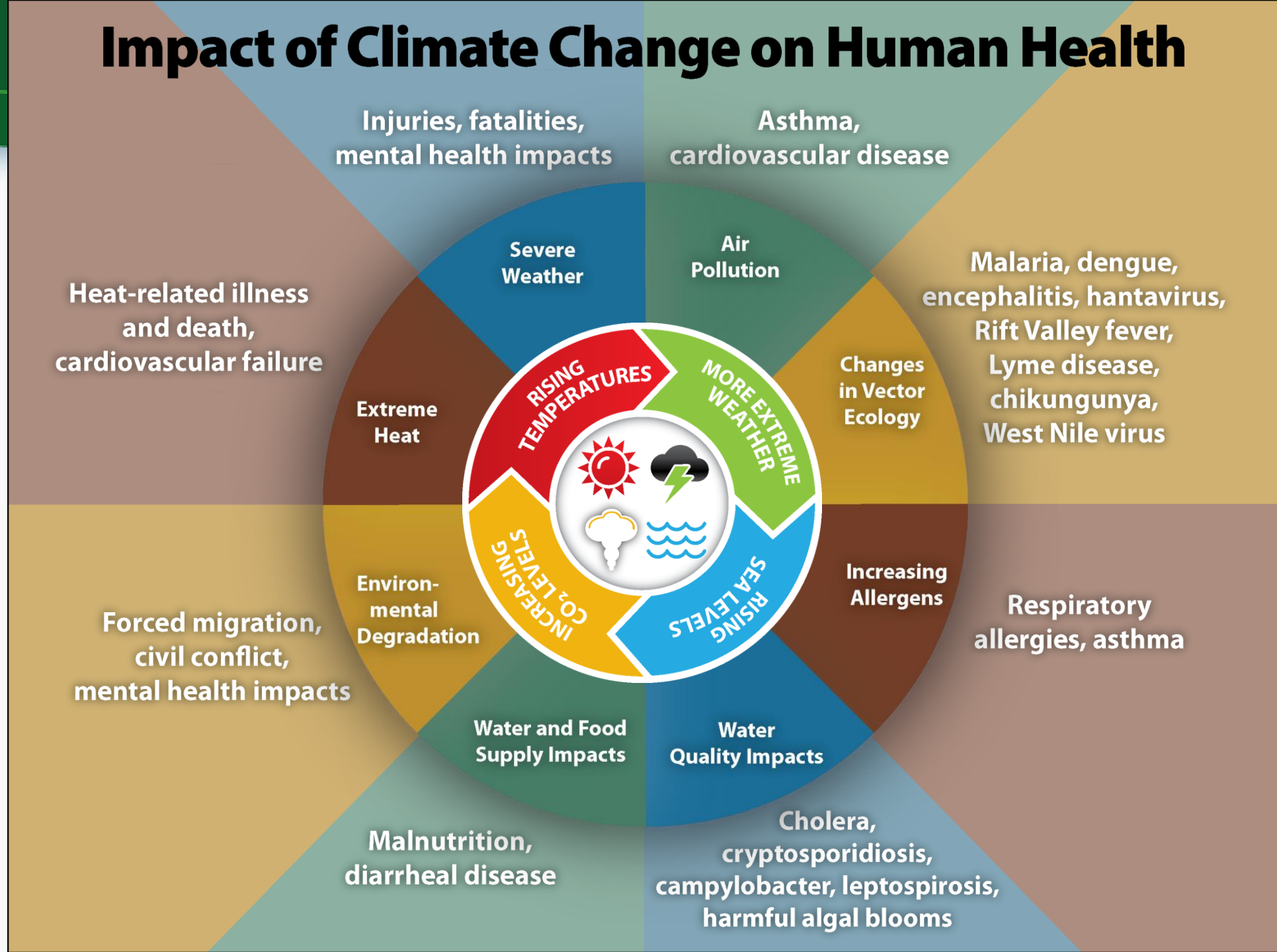
Gray interval: -0.1 to 0.1°F

\*Alaska data start in 1925.

Data source: NOAA (National Oceanic and Atmospheric Administration). 2015. National Centers for Environmental Information. Accessed April 2015. [www.ncei.noaa.gov](http://www.ncei.noaa.gov).

For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at [www.epa.gov/climatechange/indicators](http://www.epa.gov/climatechange/indicators).

# Impact of Climate Change on Human Health





Contact info:

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Resources:

[www.epa.gov/climatechange](http://www.epa.gov/climatechange)

A Student's Guide to Climate Change:

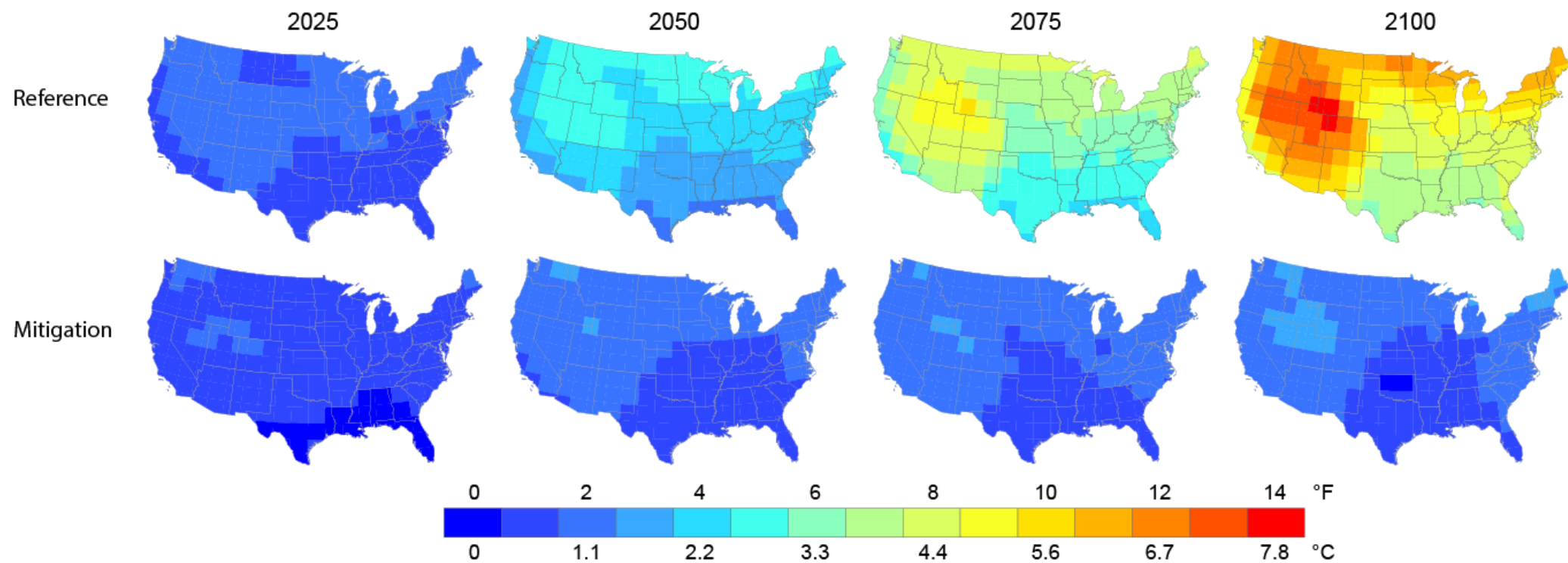
<http://www3.epa.gov/climatechange/kids/>

NASA Climate Kids: <http://climatekids.nasa.gov/>



## Figure 2. Distribution of Temperature Change with and without Global GHG Mitigation

*Change in annual mean surface air temperature relative to present-day (1980-2009 average) for IGSM-CAM under the Reference and Mitigation scenarios (CS 3°C).*

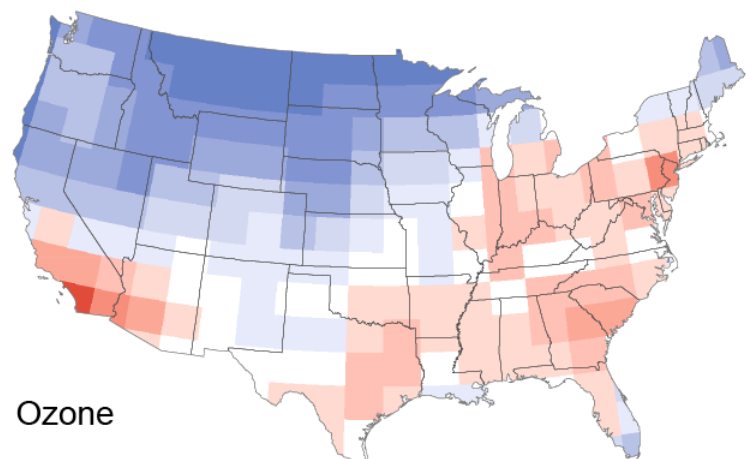


For more information, visit EPA's "Climate Change in the United States: Benefits of Global Action" at [www.epa.gov/cira](http://www.epa.gov/cira).

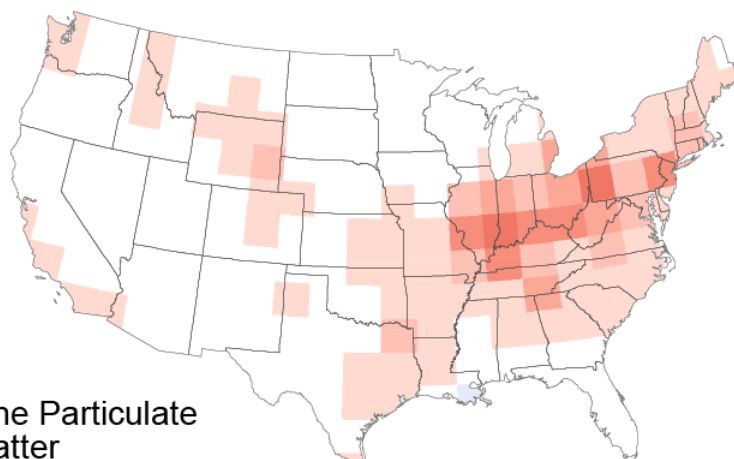


### Figure 1. Projected Impacts of Unmitigated Climate Change on Air Pollution in the U.S.

Estimated change in annual-average ground-level hourly ozone ( $O_3$ , ppb) and fine particulate matter ( $PM_{2.5}$ ,  $\mu g m^{-3}$ ) from 2000 to 2100 under the Reference scenario.

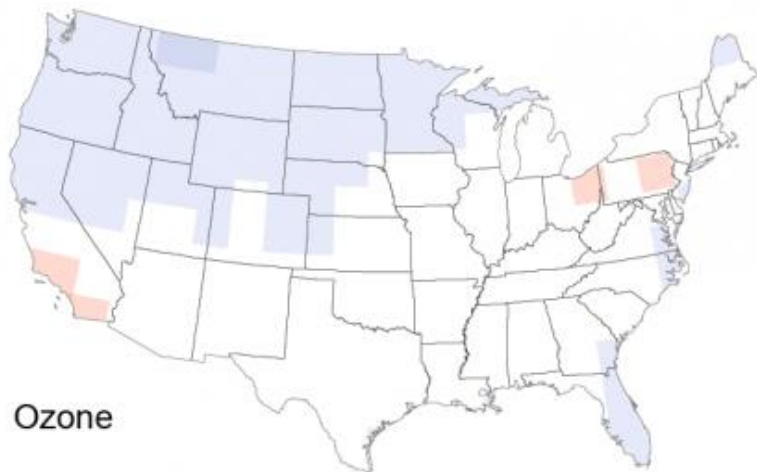


Ozone



Fine Particulate Matter

### Figure 2. Projected Impacts on Air Pollution in the U.S. with Global GHG Mitigation



Ozone



Fine Particulate Matter

