

# LANDING PAGE

## Introduction

I'm sure we have all noticed that the weather has been slowly changing each year. With less overall snowfall now than from your childhood, winters coming in later each year, hotter summers and lakes drying out etc. We've all noticed the slow creep of climate change during our lifetime and have all (at some point) felt powerless to stop it. Well, I am here to tell you that sentiment is further from the truth. We can all play a small part to promote change in our lifestyles that help heal our environment and largely the planet. With this Article, I will focus on the effects of climate change primarily in the midwestern USA and provide you with the Data and methods we can help promote/implement change

## Data

The Midwest has gotten warmer, with average annual temperatures increasing over the last several decades. Between 1900 and 2010, the average air temperature increased by more than 1.5°F. The rate of increase in temperature has accelerated in recent decades, particularly nighttime and winter temperatures. Projected change in summer temperatures under different warming scenarios. Summers in Illinois and Michigan might feel like current summers in Texas or Oklahoma by the end of the century. Source: USGCRP (2009)

## Data

Temperatures are projected to continue increasing across the Midwest, with the greatest increases in average temperature expected in northern areas. Southern states will also experience more hot days, with a greater number of days over 95°F and fewer days below 65°F, which could lead to greater energy demand for air conditioning. Precipitation is greatest in the eastern part of the Midwest and less towards the west. Heavy downpours are already common, but climate change is expected to intensify storms and lead to greater precipitation across the entire region during this century. Annual precipitation has already risen by as much as 20% in some areas. Projections of future precipitation indicate that heavy downpours are likely to occur primarily in winter and spring months while summers will become drier, especially in the southern portion of the region.

## IMAGES

## REFERENCES/LINKS

## EFFECTS

In the Midwest, climate change is expected to negatively affect human health in a variety of ways and exacerbate existing health challenges. Major heat waves have been occurring more frequently across this region for many decades, resulting in increased deaths during these extreme events. Heat stress is likely to increase in the future as a result of continued rises in temperatures and humidity in this region, resulting in more heat-related deaths and illnesses. Air quality is already poor in parts of the Midwest and is projected to worsen with rising temperatures. Increased exposure to allergens caused by the lengthening of the pollen season is also expected to negatively impact human health. Warmer temperatures and changes in precipitation could increase the risk of exposure to diseases carried by insects and rodents. Drinking water quality may also decline as a result of heavier rainfall events

## EFFECTS

Midwestern temperatures are expected to continue rising. Average annual air temperatures are projected to increase in the near future (2041–2070) when compared to the end of last century (1971–2000). Increases are expected in both the number of days over 95°F (top right) and the number of days over 65°F (bottom right), when air conditioning may be needed. The length of the frost free season is also projected to increase (bottom left). Source: USGCRP (2014)

### Impacts on Water Resources

Precipitation in the Midwest is expected become more intense, leading to increased flood damage, strained drainage systems, and reduced drinking water availability. Midwestern cities with impervious infrastructure may result in surface runoff entering combined storm and sewage drainage systems. When these systems are overloaded during intense rainstorms, raw sewage overflow can result, impacting clean water availability and human health. More heavy downpours may increase the likelihood of property damage, travel delays, and disruption in services. Sediment runoff and erosion may clog reservoirs and reduce storage capacity. Local governments may invest in new infrastructure to prevent contamination and protect water resources.

## IMAGES

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## EFFECTS

Expected rises summer drought frequency and evaporation rates could reduce water levels in lakes and wetlands, as well as in important commercial waterways. Disruptions in barge traffic along the Missouri and Mississippi Rivers have already occurred. Changes in the Great Lakes are less clear, but water level decline may force reductions in the weight of cargo shipments and diminish the usability of coastal infrastructure, such as docks and piers.

## How to help

### 2. Keep up the political pressure

Lobby local politicians and businesses to support efforts to cut emissions and reduce carbon pollution. #ActNow Speak Up has sections on political pressure and corporate action - and Count Us In also has some handy tips for how to do this. Pick an environmental issue you care about, decide on a specific request for change and then try to arrange a meeting with your local representative. It might seem intimidating but your voice deserves to be heard. If humanity is to succeed in tackling the climate emergency, politicians must be part of the solution. It's up to all of us to keep up with the pressure.

### 1. Spread the word

Encourage your friends, family and co-workers to reduce their carbon pollution. Join a global movement like Count Us In, which aims to inspire 1 billion people to take practical steps and challenge their leaders to act more boldly on climate. Organizers of the platform say that if 1 billion people took action, they could reduce as much as 20 per cent of global carbon emissions. Or you could sign up to the UN's #ActNow campaign on climate change and sustainability and add your voice to this critical global debate.

## IMAGES

## REFERENCES/LINKS

## How to help

Alternative methods to slow or reduce global warming have been proposed that are, collectively, known as "climate engineering" or "geoengineering." Some geoengineering proposals involve cooling Earth's surface by injecting reflective particles into the upper atmosphere to scatter and reflect sunlight back to space. Other proposals involve seeding the oceans with iron to stimulate large-scale phytoplankton blooms, thereby drawing down carbon dioxide out of the atmosphere through photosynthesis. Such methods could work, in principle, but many climate scientists oppose undertaking geoengineering until we have a much better understanding of the possible side effects. Additionally, there are unresolved legal and ethical issues surrounding geoengineering. However, some more realistic strategies to combat global warming include: