

Testimony for January 12, 2021 hearing on Climate Impacts

To: House Climate and Energy Finance and Policy committee

The Union of Concerned Scientists' [2019 extreme heat report](#) analyzed the increasing frequency of the heat index (heat and humidity), or “feels like” temperature, in three global climate scenarios.

Our analysis includes three scenarios associated with different levels of global heat-trapping emissions and future warming:

1. A “no action” scenario, in which heat-trapping emissions continue to rise throughout the 21st century and global average temperatures warm by nearly 8°F (4.3°C) above pre-industrial levels by the year 2100. This scenario is consistent with our current and historical emissions growth.
2. A “slow action” scenario, in which heat-trapping emissions start to decline at midcentury. This scenario projects a most likely warming of 4.3°F (2.4°C) globally by the year 2100.
3. A “rapid action” scenario, in which future global average warming is limited to 3.6°F (2°C) above pre-industrial temperatures, as prescribed by the 2015 Paris Agreement. Results for this scenario are presented alongside late-century results for other emissions scenarios, as this warming threshold could be reached during a range of years in the second half of the century

For Minnesota specifically, there have historically been 8 days per year on average with a heat index above 90°F. **With no action to steeply reduce emissions, this would increase to 34 days per year on average by midcentury and 60 days by century's end.** The state has historically had 1 days per year on average with a heat index above 100°F, but this would increase to 12 days per year on average by midcentury and 29 by the century's end. And instead of having an average of zero days per year with a heat index above 105°F, Minnesota would see such extreme heat events 5 days per year on average by midcentury and 18 days a year by the century's end.

Extreme heat is among the deadliest natural disasters, especially for vulnerable communities like children, the elderly, and those with preexisting health issues. In addition, socioeconomic implications lead to disproportionate impacts from extreme heat.

Outdoor workers already at elevated risk of heat stress—including construction workers, farmworkers, landscapers, military personnel, police officers, postal workers, road crews, and others—would face greater challenges. In rural Minnesota, the prevalence of outdoor labor and lower access to and usage of air-conditioning in rural settings may elevate these risks for some rural populations. In addition to impacting health, heat extremes affect the economy of rural areas, as both crop and livestock production decline with extreme temperatures.

People and neighborhoods with low income or experiencing poverty also face greater risks, especially with the costs of air conditioning, higher energy burdens, and being more likely to lack access to cooling. Residents who are not white, have low or fixed incomes, are homeless, and those in other historically disenfranchised groups are particularly at risk of heat-related illness and injury for a multitude of reasons, including lack of access to air-conditioning or transportation to cooling centers and residence in the hottest parts of cities.

Even with rapid, aggressive action to reduce emissions, it's going to get hotter in the Midwest and everywhere else. But perhaps the most important finding from this new analysis is that curbing emissions can *reduce the number of days* of extreme heat. **With rapid action to curb global emissions, Minnesota would face 29 days per year with a heat index above 90°F, instead of 60.** Rapid action to steeply curb emissions in line with the Paris Climate Agreement would essentially mean one month of extreme heat instead of two. Instead of 29 days per year with a heat index above 100°F, Minnesotans would only face 7 in a rapid action scenario – cutting out roughly three weeks of extreme heat.

We have precious little time to substantially reduce emissions in order to limit future warming. UCS recommends states taking action to reach net-zero emissions by midcentury, as well as taking action to protect people from the extreme heat we can't avoid. This includes heat adaptation and emergency response planning, cooling assistance, and preventing utility shut-offs during extreme heat episodes.

Meghan Hassett
Midwest Clean Energy Advocate
Union of Concerned Scientists