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## It's Getting Hot in Here, Now I'm a Climate Change Believer

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A series of studies demonstrates why people use trends in local weather and temperature, rather than statistically relevant global climate patterns, to construct their beliefs about climate change.

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The city of Chicago, along with the rest of the Midwest, suffered an unusually cold winter this year. Climate change skeptics have used this fact as fodder to argue that global warming and broader climate change are not occurring. Warmer days and hotter-than-usual summers also affect beliefs and concern for global warming but in the opposite direction, towards increased belief and concern. This is known as the **local warming effect**.

While many studies have **demonstrated** the occurrence

of this effect, [Zaval et al.](#) use a series of studies to determine the underlying psychological mechanism regarding why and how the local warming effect occurs. Their results show strong evidence supporting the presence of an availability heuristic—warmer than usual temperatures today make past warm weather events more salient and lead to increased beliefs and concern for global warming.

In their studies, the authors test three mechanisms that they believe result in the local warming effect: framing, an information deficit on climate science, and the availability heuristic that makes information of today's temperature the foundation of judgment regarding global warming. In the first study examining framing effects, the authors asked survey participants whether the day's temperature was warmer or cooler than usual and then asked about their beliefs and concerns for either global warming or climate change. The results showed no significant difference in belief or concern between the control and treatment groups, suggesting that difference of terms does not explain the whole picture of the local warming effect.

In their second study, the authors tested whether the local warming effect is due to limited information and misunderstanding regarding climate science. Participants were asked the same temperature question as in the first study, and the treatment group was given a text highlighting the differences between local weather fluctuations and long-term global climate change. The results again showed no significant difference in belief or concern for global warming between the two groups, indicating that more information does not eliminate the local warming effect.

Finally, the authors use a series of three studies to explore the use of available information about today's temperature in shaping individuals' beliefs and concerns about global warming. In the first study, the authors found that using heat-related words to prime participants prior to the survey significantly increased their beliefs in and concerns of global warming, supporting the hypothesis that immediate temperature

perception creates the local warming effect. In the second study, the authors found that the immediacy of the temperature perception is key to producing the local warming effect. Asking participants about yesterday's temperature deviation instead of today's temperature effectively eliminates the local warming effect. Finally, the authors determined that thinking about today's unusually hot temperatures increases the availability and salience of past warm weather events, which ultimately leads to overestimating the frequency of unusually warm days over the course of the year.

The author's final results suggest that individuals are constructing their beliefs about global warming each time the question is raised, rather than retrieving a response from memory. Thus, temperature variations heavily influence people's beliefs on

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global climate change, making overall public opinion very transient. These results have strong implications for public policy and decision-making, because increased local weather variation—thought to be a result of global climate change—will cause further confusion within public opinion and create fluctuations in the salience of climate change. While 67 percent of Americans believe the earth is getting warmer, only **34 percent believe climate change should be a top priority for the White House and Congress**. The long time horizons of climate change effects as well as inconsistent public information regarding direct climate effects lead to low salience and public concern and, consequently, halting progress in US climate change policy.

The results also suggest ways to exploit the mechanism for the local warming effect to promote heightened awareness and concern for climate change, at least for those individuals without strongly established views. For example, votes and campaigns regarding climate policy

can be strategically placed on warmer days to elicit support. Regardless of how these results are used, it is clear that achieving good climate policy will require overcoming the quick judgment that tells us, “cold today means no global warming and hot today definitely means global warming.”

*Article Source: Lisa Zaval, Elizabeth A. Keenan, Eric J. Johnson and Elke U. Weber, “**How warm days increase belief in global warming**,” Nature Climate Change, February 2014*

*Feature Photo: cc/(**Massmo Relsig**)*