

Emotion and Climate Change Maps

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Maps offer a means by which to communicate the science, impacts, and mitigation strategies of climate change. Through their inherent spatial nature, maps are congruent to the geographic nature of climate change (Tversky et al. 2002). Moreover, maps can lead to emotional responses (for review: Griffin and McQuoid, 2012). Research on the emotional framing of environmental issues, such as climate change, has helped psychologists to better understand the connection between action towards mitigation and adaptation and why some people dismiss the issue and fail to take action. Previous research has revealed that certain types of emotional framing, such as fear appeals, lead to inaction on large, multi-scale issues such as climate change (e.g. Moser and Dilling 2011). Calls for other types of emotional appeals have been made, namely the use of hope in the future (Swim and Bloodhart 2015). However, despite the connection between knowledge and emotion, and the need to both understand and have an emotional connection to the issue (Kollmuss and Agyeman 2002), no research has specifically connected emotional responses towards climate change maps to the emotional research on climate change framing.

The research-in-progress is an experiment to investigate the emotional responses of map readers to maps of climate change. Using Amazon Mechanical Turk, and a between-subjects experimental design, participants will view two versions of the same map. The two maps come from two reports on climate change. The first report was authored by climate scientists and was a collaborative effort by the U.S. Global Change Research program. Its aim was to illustrate the science of climate change to policymakers in the United States. The second report is contrived as an addendum to the first report but is written by the conservative think-tank, the CATO Institute. Under the guise of being an addendum, the second report has a nearly identical cover, book and page layout, and uses several of the same maps and other figures, but presents a very different picture of climate change and largely refutes the science presented in the first report. Using the figure captions and associated framing of the maps in the text of the two documents, we created news stories for each of the maps which represent the framing and information conveyed in each of the reports. Using emotion recognition software and webcams, Amazon “workers” will read the news stories while being recorded on webcam. We will analyze participants’ faces to identify seven different emotions that they express while reading, and also collect written responses to measure their emotional reactions towards the maps they viewed.

This study will advance the study of emotions and maps in several ways. First, facial emotion recognition software has, to our knowledge, not yet been used for analyzing emotional responses to maps. Second, it will provide insights into how different frames surrounding maps influence emotional responses.