

Title:

Societal attention to heat waves can indicate public health impacts

Authors:

Ekaterina Bogdanovich^{1*}, Lars Guenther², Markus Reichstein¹, Dorothea Frank¹, Georg Ruhrmann³, Alexander Brenning³, Jasper Denissen¹, René Orth¹

Affiliations:

¹Max Planck Institute for Biogeochemistry, Jena, Germany

²University of Hamburg, Germany

³Friedrich Schiller University Jena, Germany

*Corresponding author. E-mail: ebogdan@bgc-jena.mpg.de

Abstract

Both the frequency and intensity of hot temperature extremes are expected to increase in the coming decades, challenging various socio-economic sectors including public health. Thereby the societal attention data could help to predict heat wave impacts, particularly as it is available in real-time across the globe. In our research, we jointly analyze societal attention and health impacts of heat waves in Germany at weekly time scales. We find piece-wise linear relationships of Google attention and health impacts to temperature from which we can determine temperature thresholds above which attention and public health are affected by heat. Further we find that Google attention to heat waves can be a useful indicator of impacts on public health. We conclude that heat waves can and should be defined from a societal perspective rather than meteorological data alone, and that a better joint understanding of both societal attention and health impacts offers the potential to better manage future heat waves.