Life Sciences Communication
College of Agricultural and Life Sciences

Enhancing Climate Change Communication through Art: Closing the Gap in Beliefs

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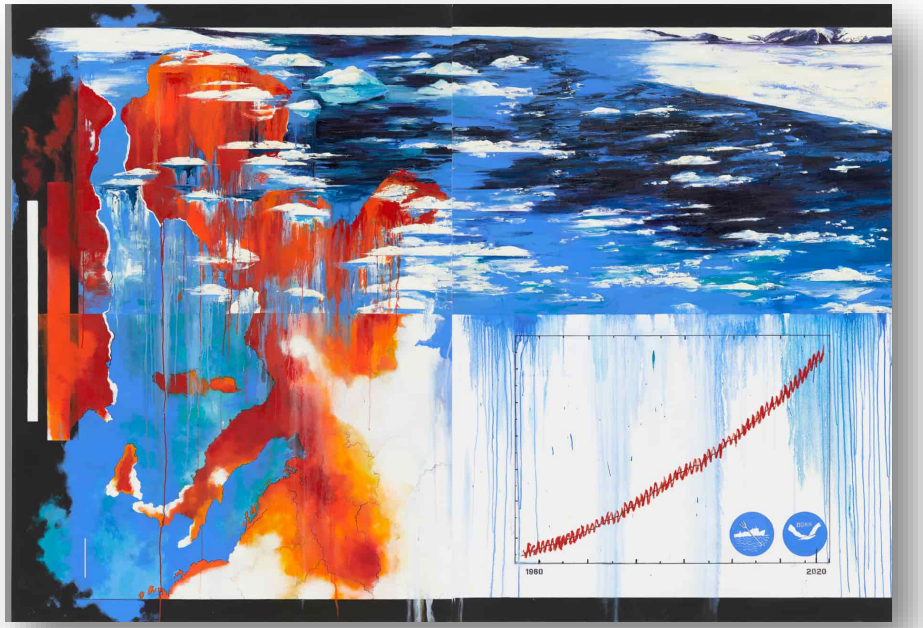
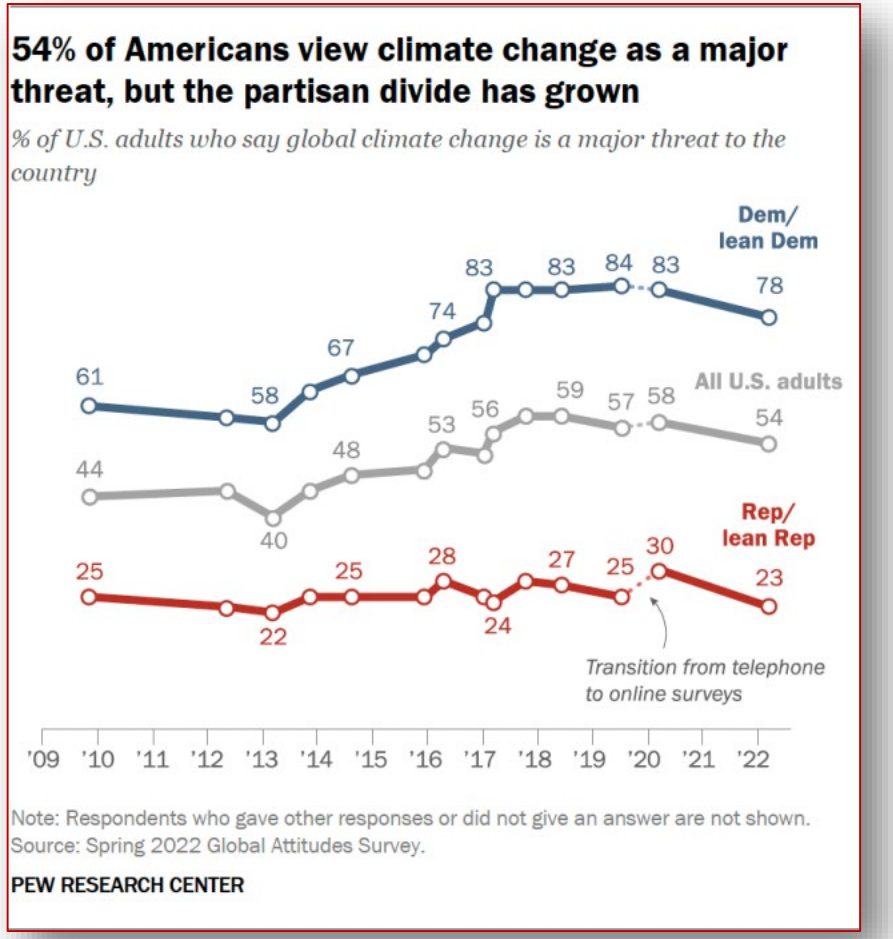
How can science marry art to engage the disengaged audiences?



Credit: Diane Burko, "Summer Heat, 2020"

- Challenges of communicating climate change to a wide audience
- Does more science literacy and data help?
- Art as an alternative visual language to tell the data story
- Our study
- What's next?

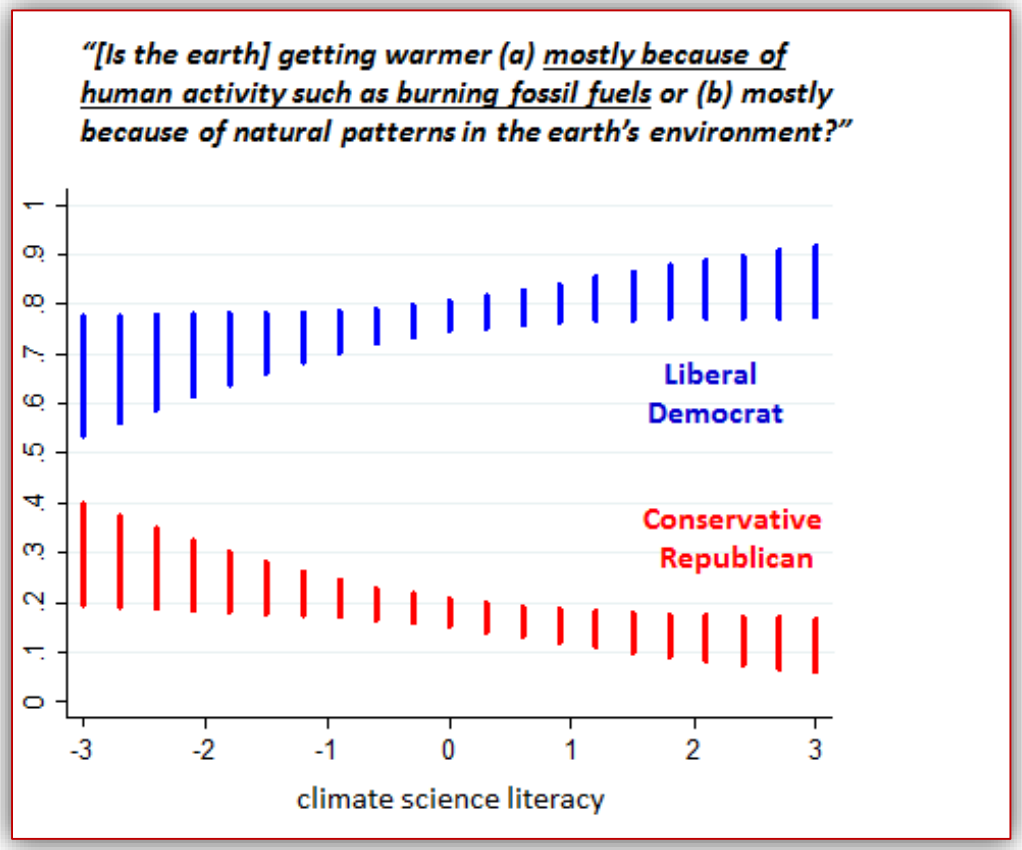
Challenges of communicating climate change to a wide audience



- Public opinion has been increasingly divided
- The changing policy landscape complicates things further
- Presence of "ideological silos" and lack of meaningful conversations
- Top-down approaches to climate comm that promise simple solutions work for some but not all

Pew Research Center (2023). What the data says about Americans' views of climate change

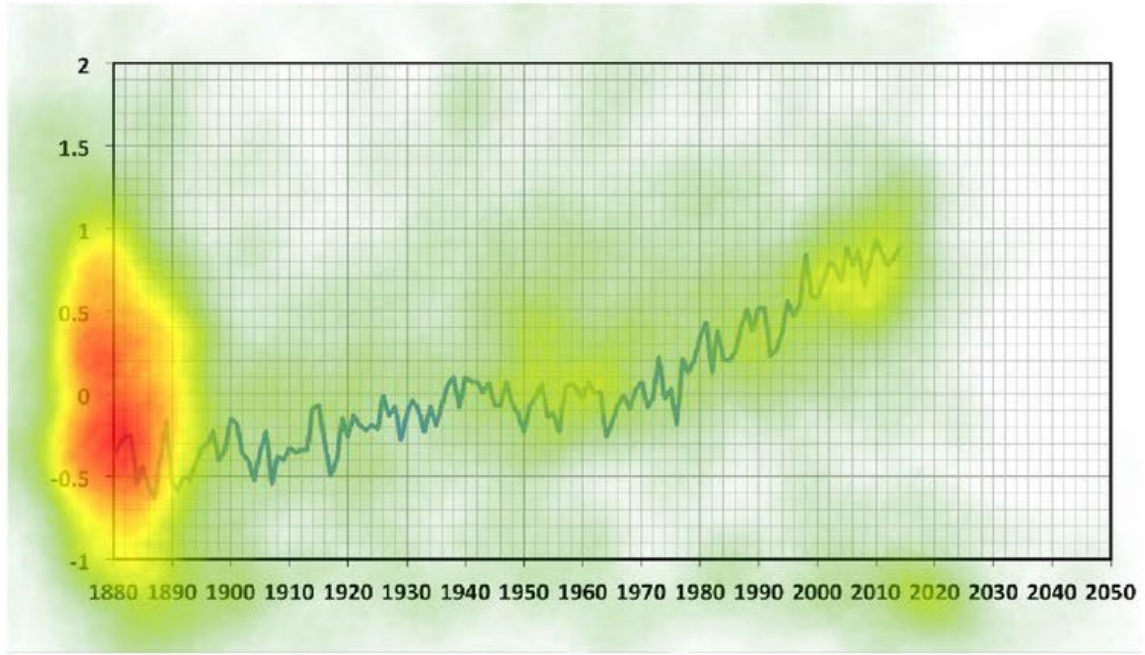
Does more science literacy and data help?



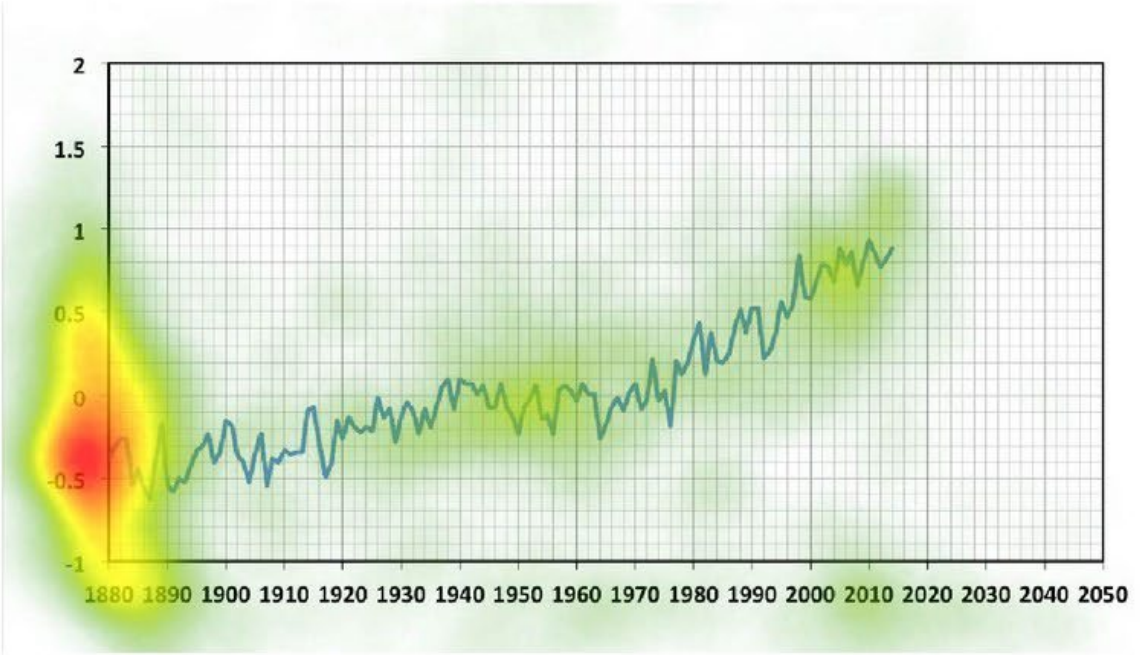
- Scientifically literate audiences are more polarized
- Providing more information may not lead to more agreement
- Overly relying on "scientific evidence" can backfire

Kahan, D. M. (2015). Climate-science communication and the measurement problem. *Political Psychology*, 36, 1-43.

Motivated reasoning can result in selective attention and processing of scientific data, potentially leading to further polarization.



Liberals



Conservatives

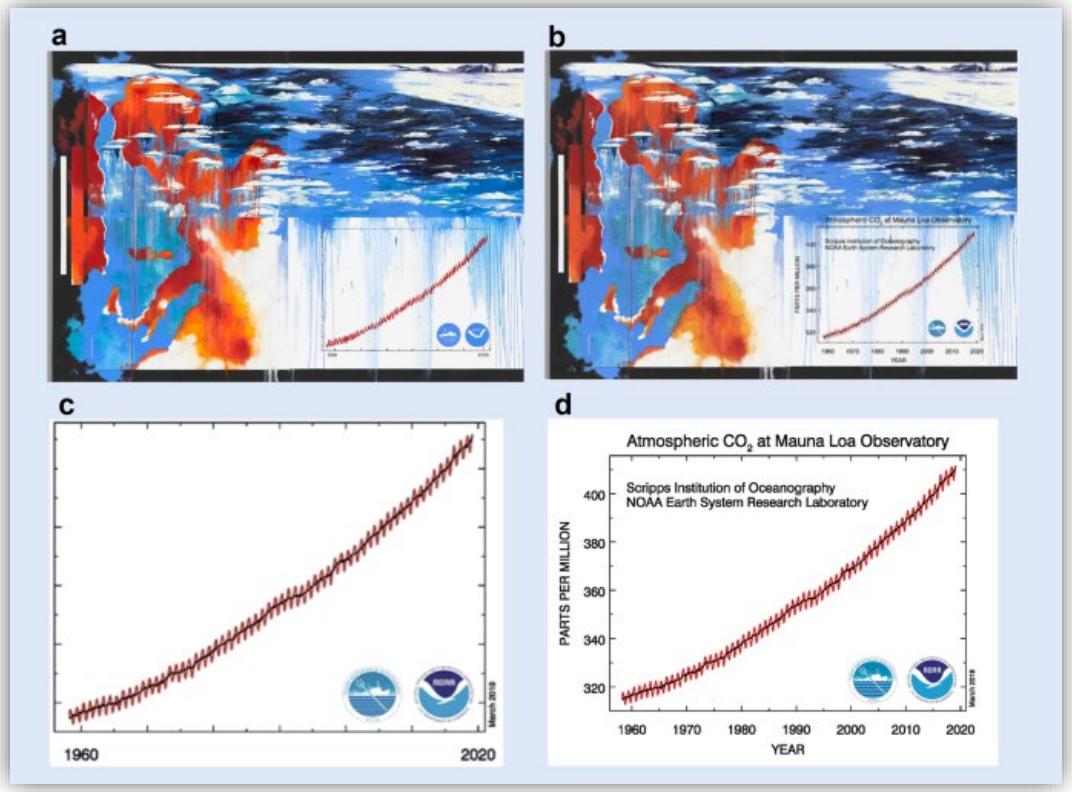
Luo, Y., & Zhao, J. (2019). Motivated attention in climate change perception and action. *Frontiers in Psychology*, 10, 1541.

Art as an alternative visual language to tell the data story

Credit: Diane Burko “Summer heat, 2020”

- As a tool for climate change communication, art can help…
  - fill in the imaginative deficit of data
  - expand the storyline
  - evokes emotions that may facilitate awareness and learning
  - encourage self-reflection and make people think

The study

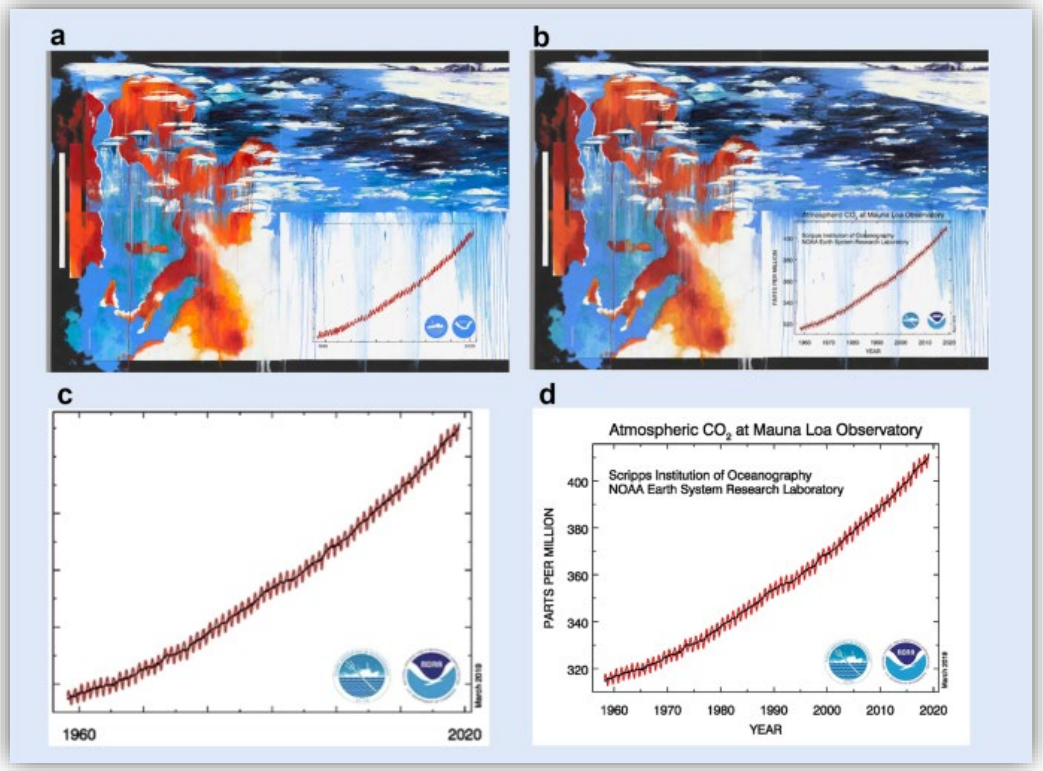


a The original piece of “Summer heat, 2020”. b The edited art piece with the detailed Keeling curve graph. c The edited, simplified Keeling graph. d The detailed Keeling curve graph.

- N = 671 U.S. adults recruited online
- Study 1 (N = 319): Participants viewed one of the stand-alone images first, reflected on what they had seen and felt, and continued to view an Instagram post containing the same image
- Study 2 (N=352): Participants viewed one of the Instagram posts only

Li, N., Villanueva, I. I., Jilk, T., Van Matre, B. R., & Brossard, D. (2023). Artistic representations of data can help bridge the US political divide over climate change. *Communications Earth & Environment*, 4(1), 195.

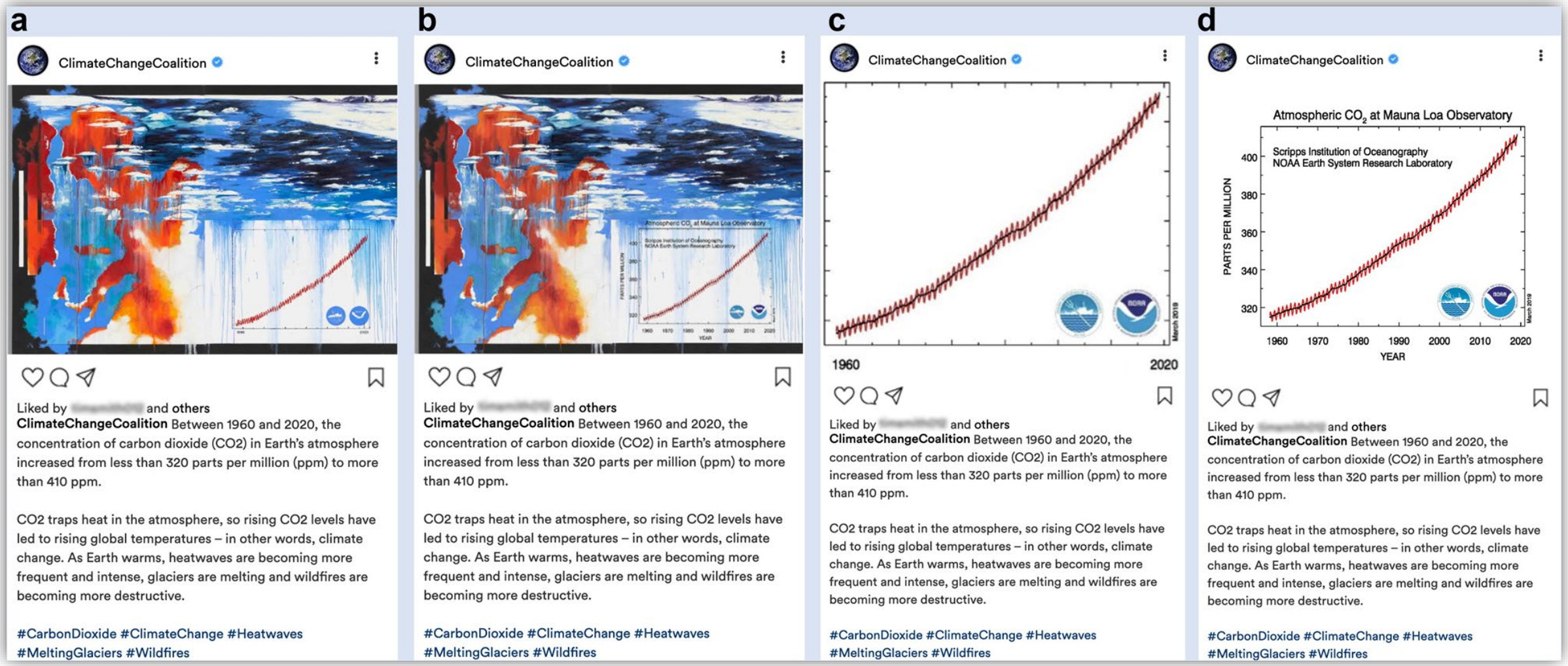
Art exposure results in higher level of positive emotions



- Exposure to art pieces evoked stronger positive emotions, i.e., “happiness”, “a sense of awe”, “inspiration”, “enthusiasm”, and “hope.”

- Exposure to detailed graphs resulted in higher negative emotions, i.e., “guilt”, “sadness”, “anger”, “anxiety”, “disappointment”, “uneasiness”, and “fear”.

Li, N., Villanueva, I. I., Jilk, T., Van Matre, B. R., & Brossard, D. (2023). Artistic representations of data can help bridge the US political divide over climate change. *Communications Earth & Environment*, 4(1), 195.



Posts containing artistic visualizations were perceived to be as memorable and credible as those containing data graphs.

Li, N., Villanueva, I. I., Jilk, T., Van Matre, B. R., & Brossard, D. (2023). Artistic representations of data can help bridge the US political divide over climate change. *Communications Earth & Environment*, 4(1), 195.

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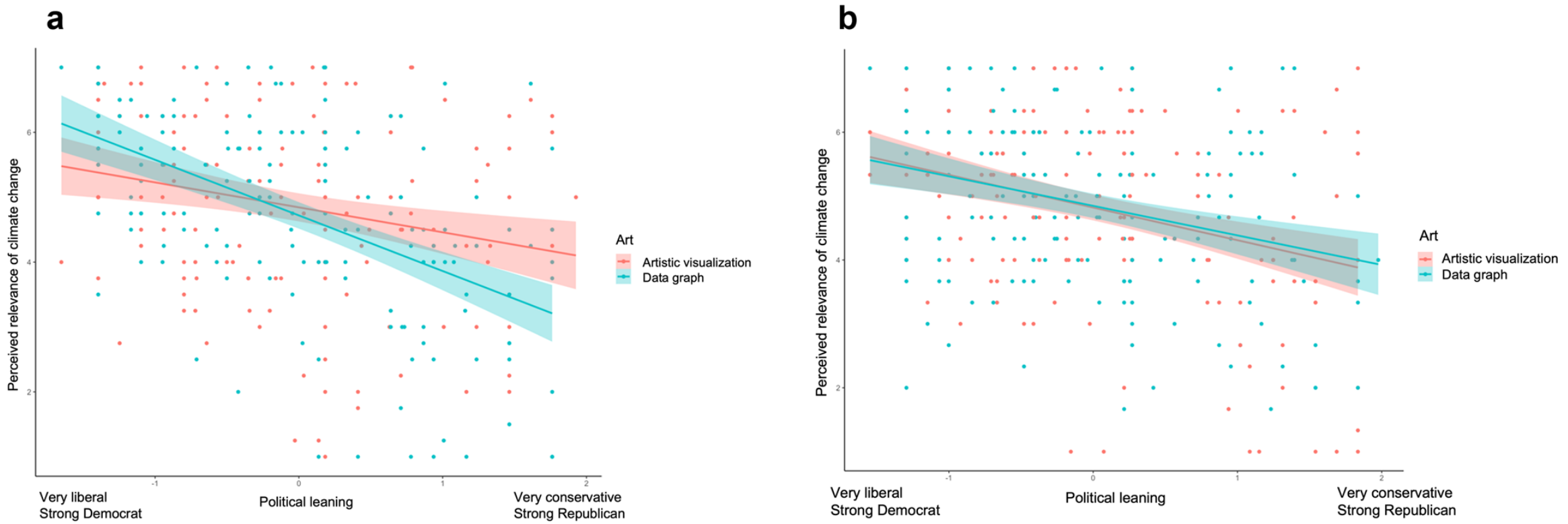
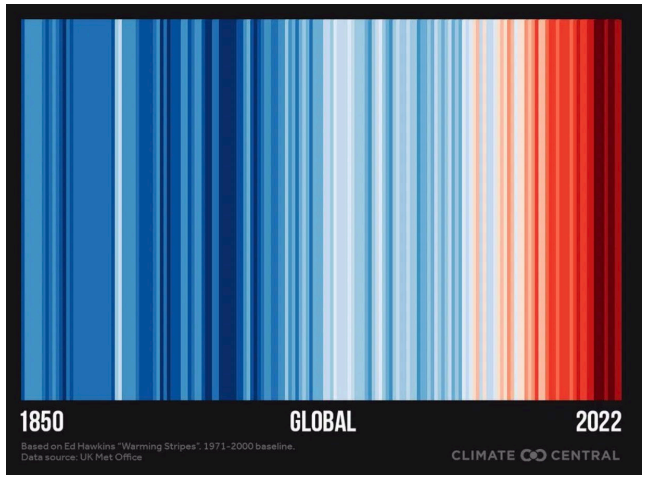
Prompting reflection on art mitigates political division on the perceived relevance of climate change

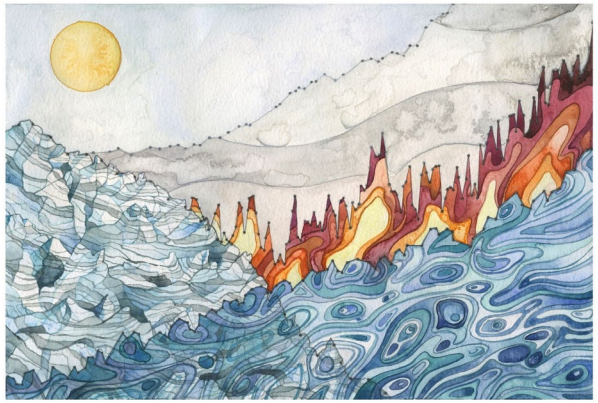


a The significant interactive effect of artistic visualization and political leaning on the perceived relevance of climate change for data with reflective primes ($N = 319$). **b** The insignificant interactive effect of artistic visualization and political leaning on the perceived relevance of climate change for data without reflective primes ($N = 352$). Colored shades represent the 95% confidence interval.

Li, N., Villanueva, I. I., Jilk, T., Van Matre, B. R., & Brossard, D. (2023). Artistic representations of data can help bridge the US political divide over climate change. *Communications Earth & Environment*, 4(1), 195.

What's next?





Credits: Edward Hawkins; Emily McNeil, Marissa Connelly et al.; Alisa Singer; Jill Pelto

- What compositional factors make science art more captivating and effective?
- What scaffolding strategies can help?
- Conduct interdisciplinary research
- Facilitate collaboration between scientists and artists
- Encourage and incentivize scientists to apply their creativity and artistic skills to public outreach

Thank you!

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