

Table 1:

Visual Depictions of Climate Change: How Can Art Show Human Impact?

Amanda Miller (Art) and Gillian Backus (Biology, NVCC)



London, England: A 16 foot high sculpture of a polar bear, afloat on a small iceberg on the River Thames, passes in front of Tower Bridge (L) and City Hall (R) on January 26, 2009 in London, England. The sculpture was launched to provide a warning to members of parliament of the dangers of climate change and to launch Eden, a new natural history television channel. (Photo by Oli Scarff/Getty Images)

2:20–3:20

Break-out Rooms with
Table Topics



Visual Art: Breakout Room Agenda

Introductions and Icebreaker – 2:20-2:30

Visualizing Data – Graphs – 2:30-2:40

Photography – Evaluating Compelling Images – 2:40-2:50

Public Art and Participation/Social Practice – 2:50-3:00

Note-taking in the shared file 3:05-3:20

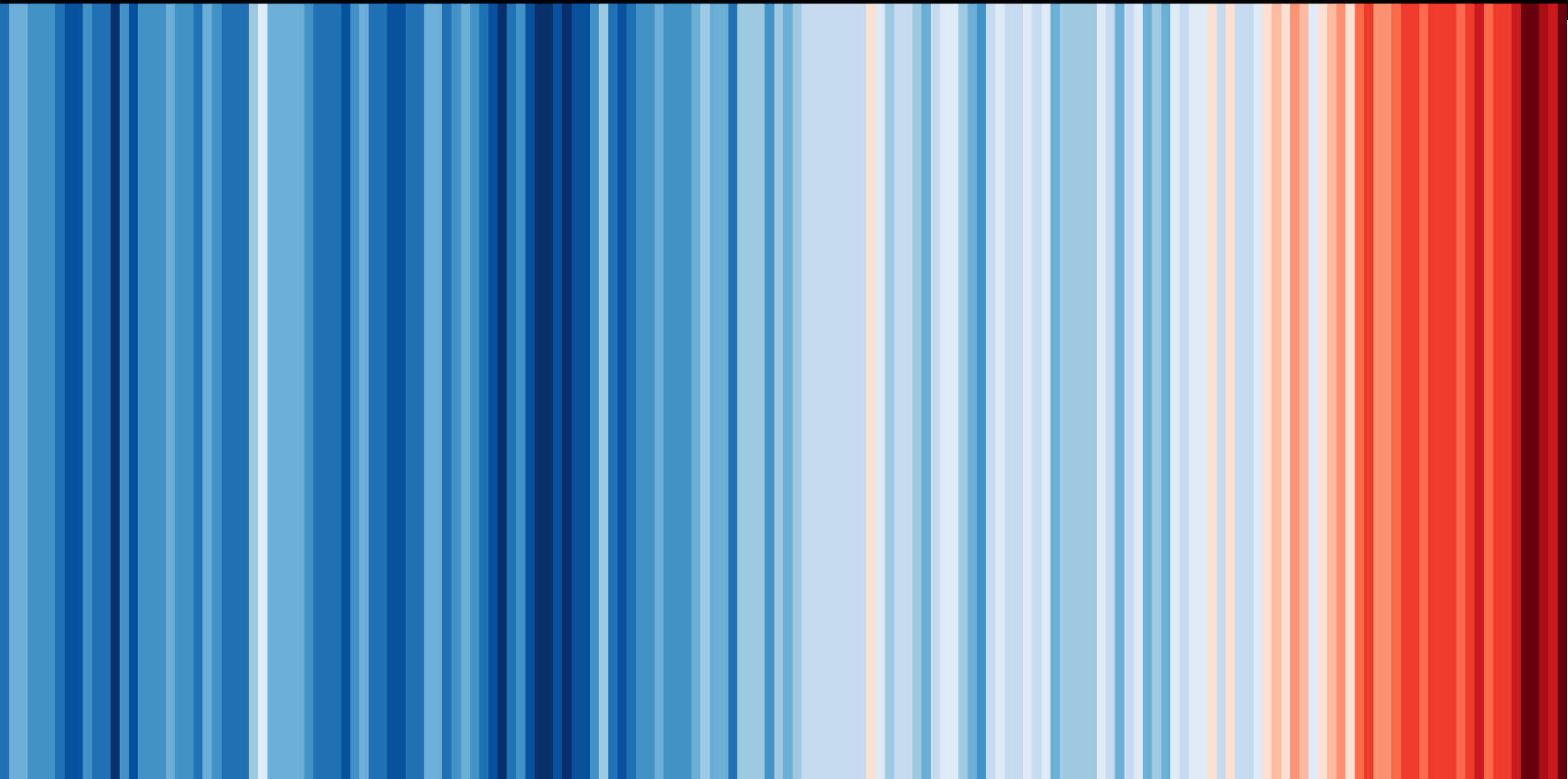


Man in hazmat suit picking through ash and rubble after the 2018 Malibu Woolsey wildfire. Climatechangevisuals.org

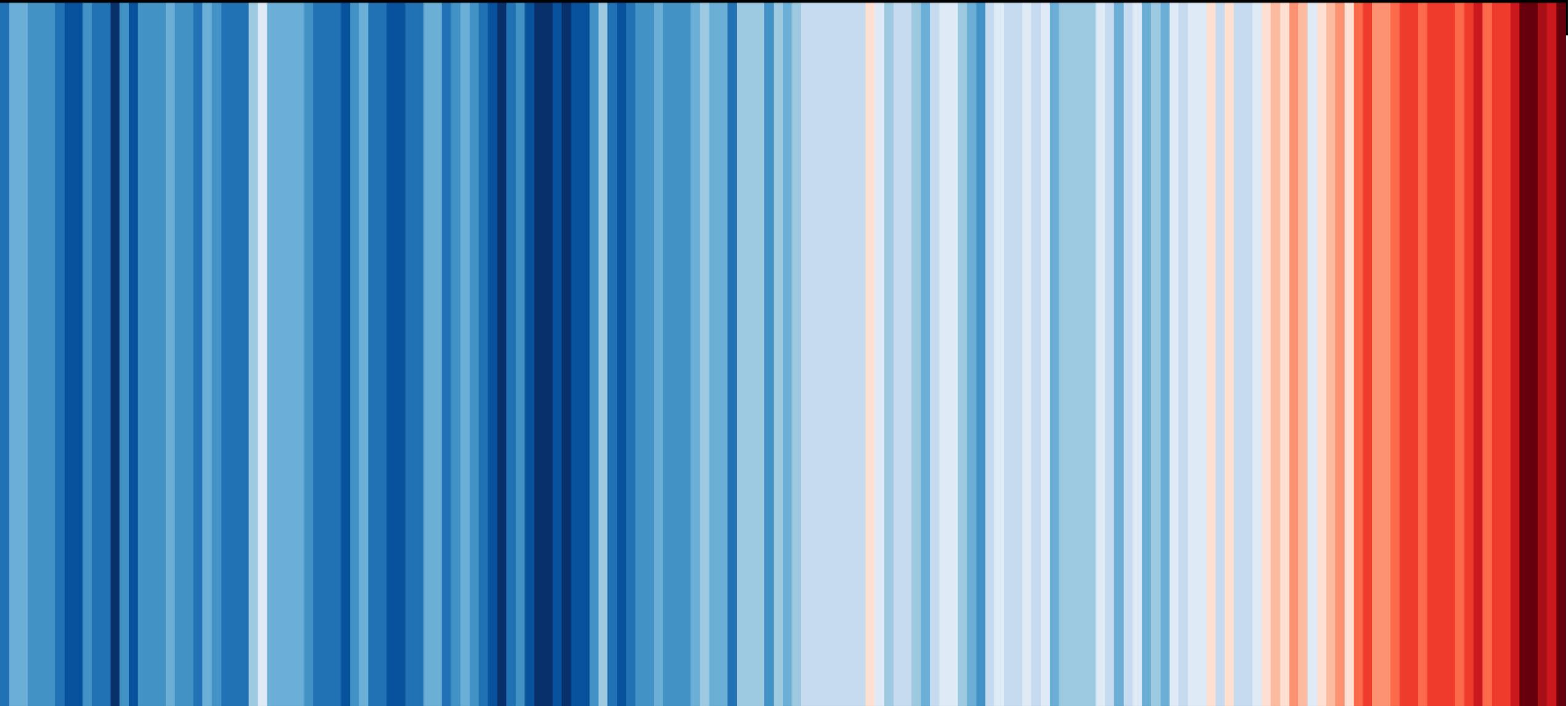
What makes climate change imagery impactful?

- Informative?
- Evidence-based?
- Emotionally compelling?
- Cliché?
- Apocalyptic?
- Truthful?
- Local?
- Global?
- User-centered?
- Participatory?

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Global temperature change (1850-2019)



1860

1890

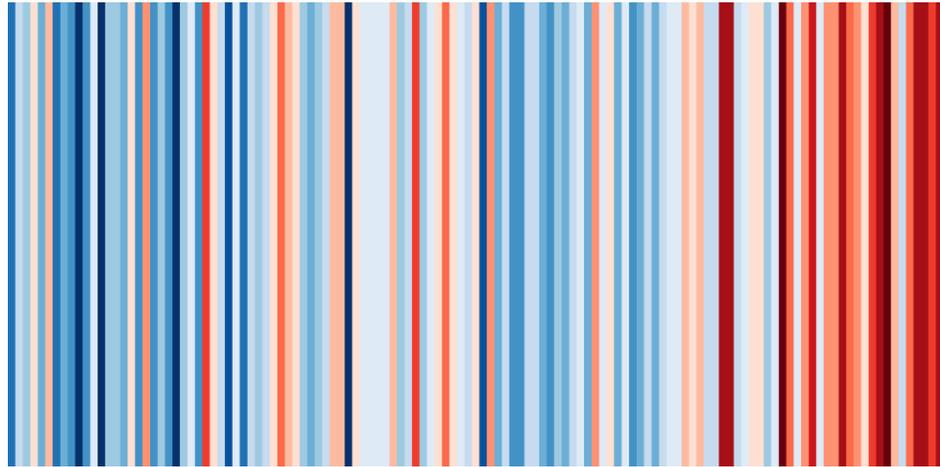
1920

1950

1980

2010

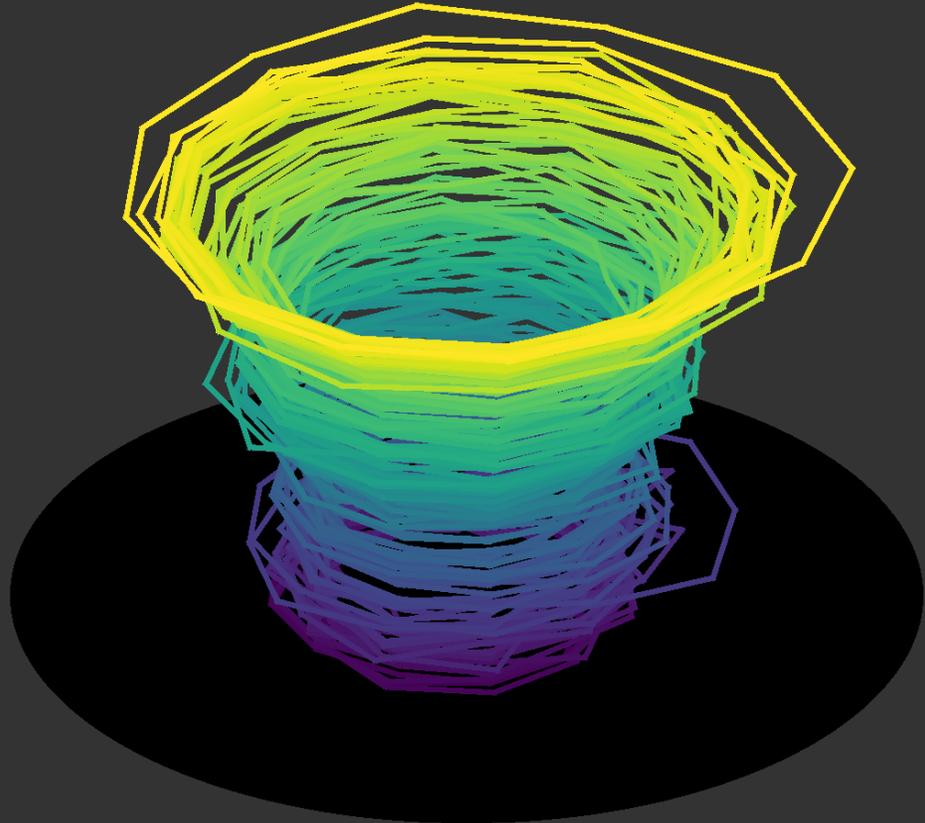
Edward Hawkins:



Maryland, 1850-2019

“I wanted to communicate temperature changes in a way that was simple and intuitive, removing all the distractions of standard climate graphics so that the long-term trends and variations in temperature are crystal clear...Our visual system will do the interpretation of the stripes without us even thinking about it.”

Global temperatures since 1850: an artistic representation



@ed_hawkins

Explore: Visualizing Data

<https://www.climate-lab-book.ac.uk/spirals/>

<https://www.climate-lab-book.ac.uk/warming-stripes/>

<https://showyourstripes.info>



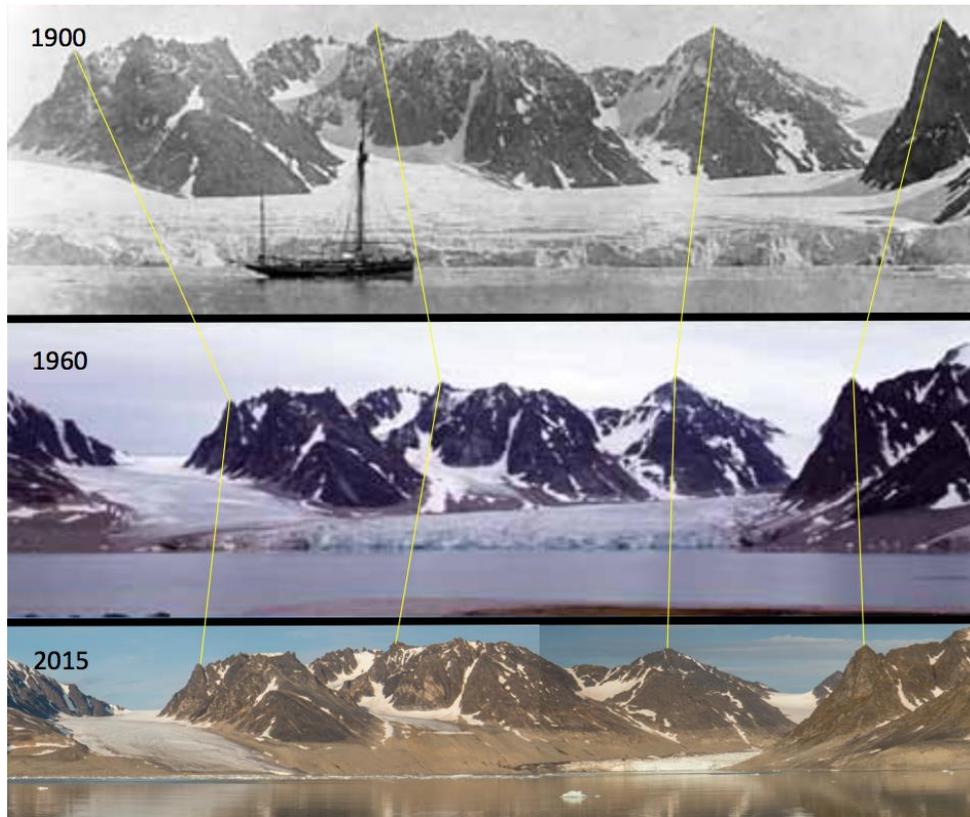
Deforestation in Tasmania.
Global Warming.

How can visual art communicate about climate change?

How can images and graphics help a
general audience to:

- o understand
- o feel concern
- o and take action

Longterm trends vs. Compelling Imagery



*Image: Agrant141 via
Wikimedia Commons*

Retreating glacier on Svalbard. (Creative Commons license:
[https://commons.wikimedia.org/wiki/File:
Glacier_decrease_on_Svalbard_in_the_years_1900-1960-2015.jpg](https://commons.wikimedia.org/wiki/File:Glacier_decrease_on_Svalbard_in_the_years_1900-1960-2015.jpg)).

Climate Denial



Image source: Cspan2

On 26 February 2015, Senator James Inhofe (R±Oklahoma) famously brought a snowball to

the floor of the United States Senate in an apparent attempt to disprove global warming and to

question the fact that 2014 had been the hottest year on record at the time. (The three years since then, 2015, 2016, and 2017, have all been hotter than 2014.)

<https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2006004>



Does climate change have an image problem?

According to **Climate Visuals**, the images that define climate change shape the way it is understood and acted upon.

But polar bears, melting ice and arrays of smoke stacks don't convey the urgent human stories at the heart of the issue.

<https://climatevisuals.org/>

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7 core principles for climate change communication



Show real people



Tell new stories



Show climate change causes at scale



Show emotionally powerful impacts



Understand your audience



Show local (but serious) impacts



Be careful with protest imagery

<https://climatevisuals.org/evidence-behind-climate-visuals>

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A moose wades in waters at Denali National Park & Preserve, Alaska.

Our research confirmed that imagery containing people or animals to be more powerful

Moose inhabiting Denali National Park and Preserve face many natural and human related factors that potentially affect behavior, distribution and population. These factors include weather, predation by wolves and bears, and human development.

Creative Commons

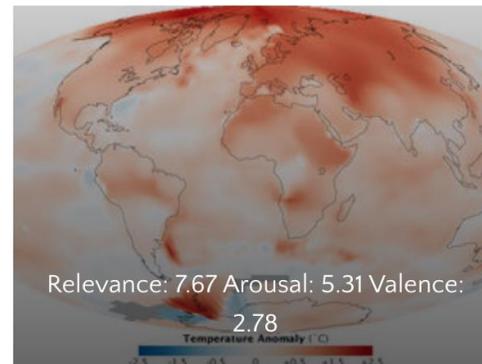
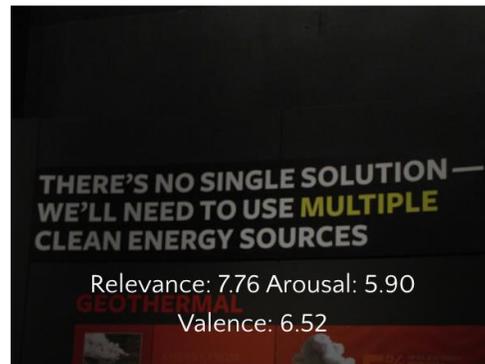
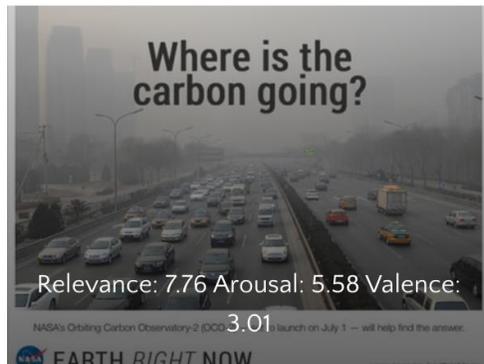
Affective Climate Images Database

**Images ranked from most to least relevant to
climate change**

<https://affectiveclimateimages.weebly.com/>

Northern Michigan University's Cognitive Affective
Behavioral Integrative Neuroscience (CABIN) Lab.

Affective Climate Images Database



Images ranked by:

- Relevance
- Arousal
- Valence

*The entire image database is available for download.

<https://affectiveclimateimages.weebly.com/>



Artwork is subject to copyright.
Please follow the links below for
full images:

<https://oceanic.global/courtney-mattison/>

Website: Courtneymattison.com

Changing Culture with Culture

"To address climate change, we need to change culture. Art will play a significant role. Art's influence is subjective and emotional, a complement to the objectivity of science. Art is a powerful tool that affirms cultural beliefs, values and our understanding of humanity's relationships in societies and the natural world."

Earthday.org

<https://www.earthday.org/how-can-art-help-save-the-world/>

Can arts-based interventions impact behavior? Does participation foster an emotional connection?

Xavier Cortada's "Underwater HOA"

Yard signs are numbered sign from 0 to 17 feet (the municipality's land elevation range) to show how many feet of melted glacial water must rise before a particular property is underwater. The backdrops of the signs are watercolor paintings that Cortada made in Antarctica while a fellow with the National Science Foundation Antarctic Artist & Writers Program in 2006. The paintings were created using water from the very glaciers that threaten to melt and drown Miami.

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How many feet stand
between your home
and the invading sea?

Home = our planet.
Home = our communities.
Home = where we live, work, play.

Everyone is welcome to
participate.

underwaterhoa.org



In collaboration with acclaimed
environmental artist,
Xavier Cortada



"Underwater HOA: Underwater Marker 8,"
2018. (Photo: Guido H. Inguanzo, Jr.)

Artwork is subject to copyright.

<https://www.fcvedfund.org/underwaterhoa/>

<https://www.cortada.com/2018/underwaterHOA/about>



Artist Eve Mosher

<https://highwaterline.org/>

HighWaterLine: Visualizing Climate Change

HighWaterLine was the original public artwork on the New York city waterfront that created an immediate visual and local understanding of the effects of climate change. In 2007, artist Eve Mosher marked the 10-feet above sea level line by drawing a blue chalk line and installing illuminated beacons in parks. The line marks the extent of increased flooding brought on by stronger and more frequent storms as a result of climate change.



Artist Eve Mosher

<https://highwaterline.org/>

HighWaterLine: Visualizing Climate Change

This social practice art project has been implemented in other cities, including: Bristol, Miami, and Philadelphia. A Creative Commons License **HighWaterLine Action Guide** encourages other communities to implement this project, with the goal of implementing HighWaterLine on a global scale.



Photo by UN Climate Change
[CC BY-NC-SA 2.0](https://creativecommons.org/licenses/by-nc-sa/2.0/) license.

Pollution Pods by artist Micahel Pinsky

**An immersive installation by artist
Michael Pinsky made up of five geodesic
domes, emulating polluted
environments in cities globally.**

Michael Pinsky's unique installation takes you on a fascinating journey through the pollution and air quality of cities across the world.



Photo by UN Climate Change
[CC BY-NC-SA 2.0](https://creativecommons.org/licenses/by-nc-sa/2.0/) license.

<https://capefarewell.com/pollution-pods/overview.html>

Pollution Pods by artist Micahel Pinsky

Step inside a series of climatically controlled pods and compare five contrasting global environments where the air quality, ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide levels of five cities is recreated. Starting with the truly clean air of Tautra in Norway, audiences continue through the astonishing smog and pollution of London, New Delhi, Beijing and Sao Paolo.

3:05–3:20

STEAMed Planet Shared Document – March 5, 2021

Tell us about some of the highlights/most exciting ideas that came out of your discussion and how they may impact what you do in the future.

3:20–3:40

Large Group Report-Outs

3:50–4:00

Closing Remarks



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Journal Articles for Further Research

Burke, Miriam, et al. "Participatory Arts and Affective Engagement with Climate Change: The Missing Link in Achieving Climate Compatible Behaviour Change?" *Global Environmental Change*, vol. 49, Mar. 2018, pp. 95–105. *EBSCOhost*, doi:10.1016/j.gloenvcha.2018.02.007.

Lesen, Amy E et al. "Science Communication Through Art: Objectives, Challenges, and Outcomes." *Trends in ecology & evolution* vol. 31,9 (2016): 657-660.
doi:10.1016/j.tree.2016.06.004

Lewandowsky, Stephan, and Lorraine Whitmarsh. "Climate Communication for Biologists: When a Picture Can Tell a Thousand Words." *PLoS Biology*, vol. 16, no. 10, Oct. 2018, pp. 1–6. *EBSCOhost*, doi:10.1371/journal.pbio.2006004.

McInerny, Greg J., et al. "Information Visualisation for Science and Policy: Engaging Users and Avoiding Bias." *Trends in Ecology & Evolution*, vol. 29, no. 3, Mar. 2014, pp. 148–157. *EBSCOhost*, doi:10.1016/j.tree.2014.01.003.

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Doll, Shauna, and Tarah Wright. "Climate Change Art: Examining How the Artistic Community Expresses the Climate Crisis." *International Journal of Social, Political & Community Agendas in the Arts*, vol. 14, no. 2, Apr. 2019, pp. 13–29. *EBSCOhost*, doi:10.18848/2326-9960/CGP/v14i02/13-29.