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Perception and Communicative Power of Climate Extremes

Malte von Szombathely*, Anne Reif, Benjamin Poschlod
Benjamin Blanz, Leonard Borchert, Lukas Brunner, Jana Sillmann

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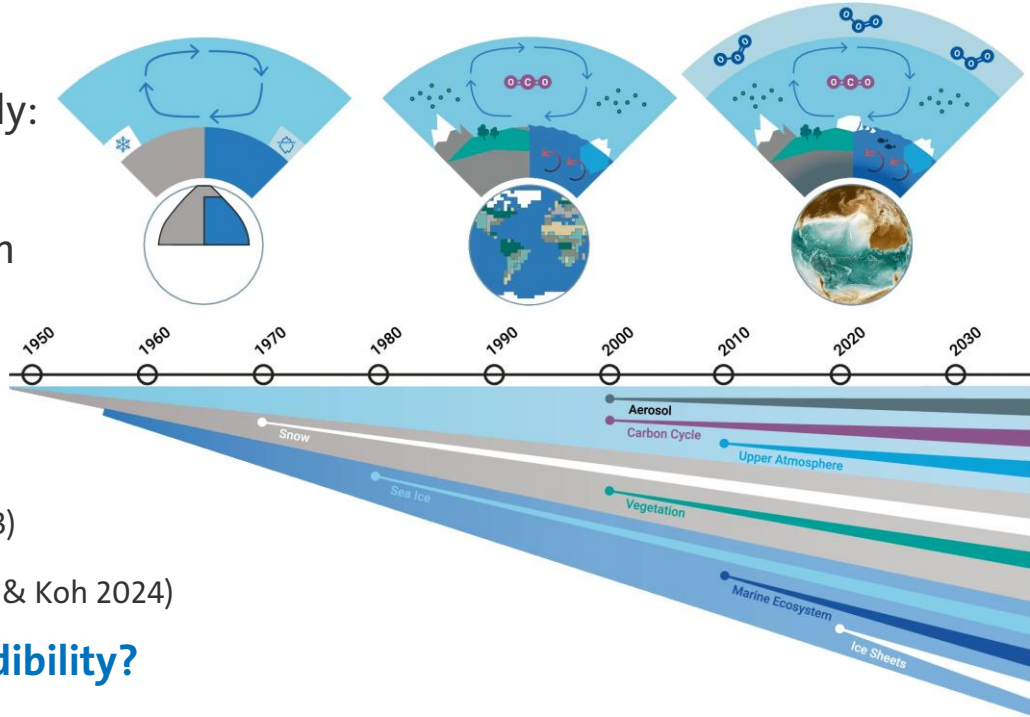
* Research Unit Sustainability and Climate Risks, malte.szombathely@uni-hamburg.de

1 Development of Scientific Models on Earth's Climate

- Earth System Models improve continuously:
  - higher spatio-temporal resolution
  - better representation of earth system processes (Giorgi 2019, Schär et al. 2020, Lucas-Picher et al. 2021, Bordoni et al. 2025)
- More accurate representations
  - e.g. of temperature (Brunner & Sippel 2023)
  - precipitation (Poschlod et al., 2021; Poschlod & Koh 2024)

→ **Less uncertainty leads to greater credibility?**



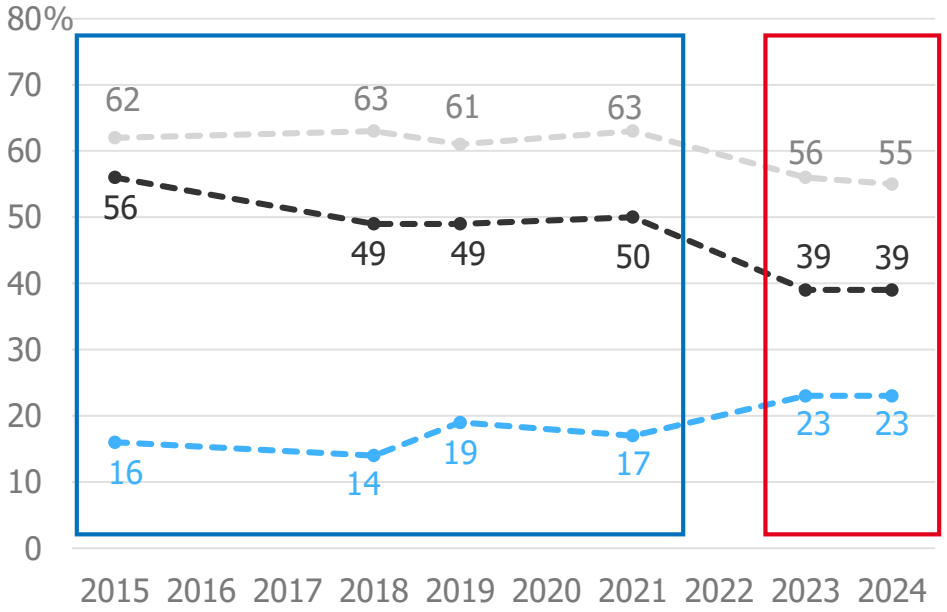
Bordoni et al. 2025

2 Climate Change Perceptions in Germany

Perception of Climate Change and Climate Action

Agree & strongly agree on the following statements:

- Human activities are the main cause of current climate change.
- Germany should play a pioneering role in international climate action.
- Scientists exaggerate the dangers of climate change.



n = 1477 (2015), 1044 (2018), 1000 (2019), 1000 (2021), 1015 (2023), 1019 (2024)
Sources: Projects „Down2Earth“ and „CLICCS“ (2024)
Scale from “1 = strongly disagree” to “5= strongly agree”, scale points 4+5 summed, in %

2 Climate Change Perceptions in Germany

- **Until 2022**: Particularly high awareness and risk perception among the German public for many years, little climate change denial (Metag et al., 2017, Klinger et al., 2022)
- **Since 2023**: Recent trend of rising uncertainty regarding the existence of anthropogenic CC, its consequences and scientific evidence (Reif et al. 2024)
- **CLICCS survey in 2024** to examine
  - how these developments further continued,
  - how German‘s public currently perceives climate sciences
  - the communicative power of weather/climate extremes.

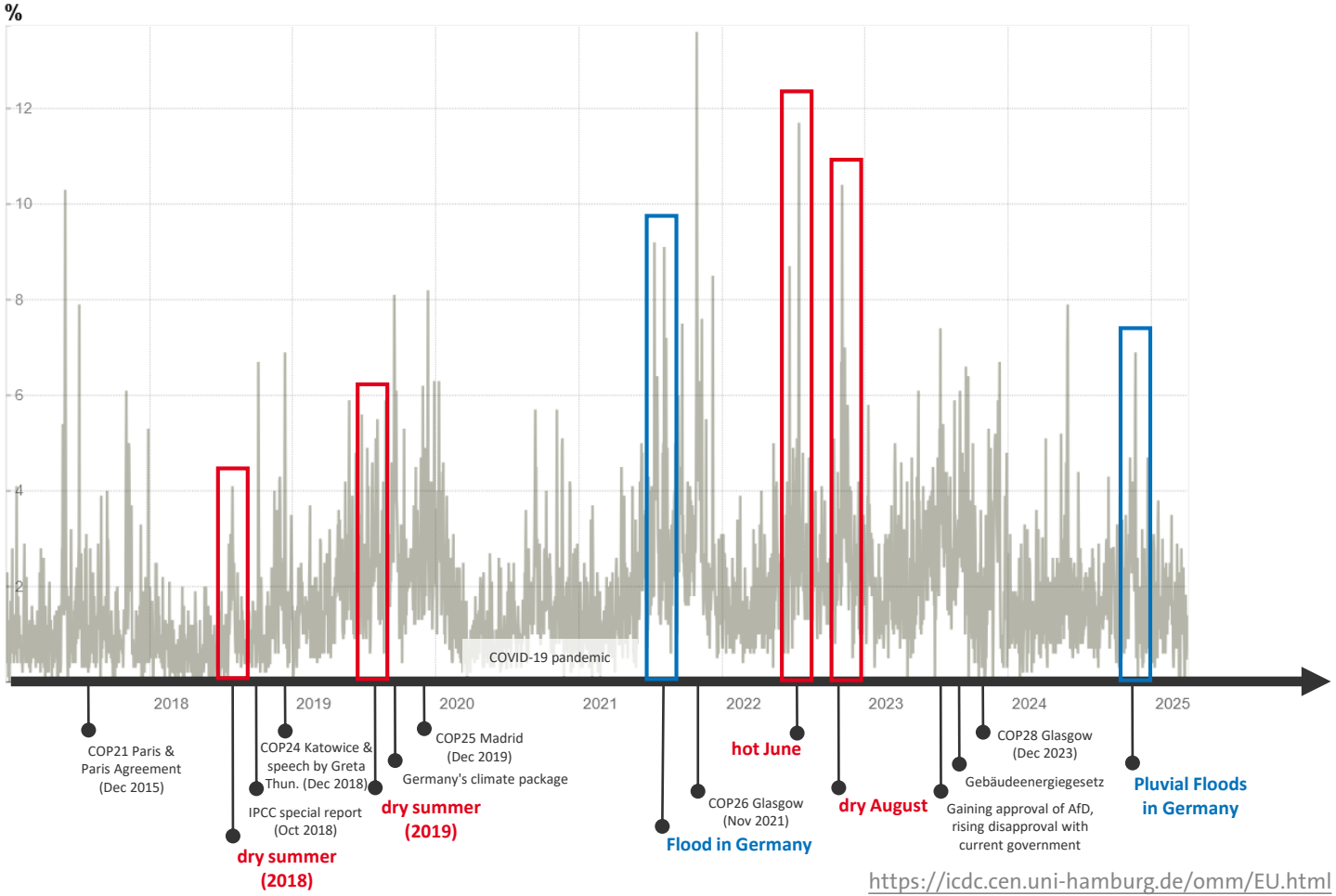
  → **Survey to explicitly address climate extremes**

3 Media attention

→ Climate change can be directly "experienced" locally during extreme events

→ Climate extremes could have particularly high "communicative power"

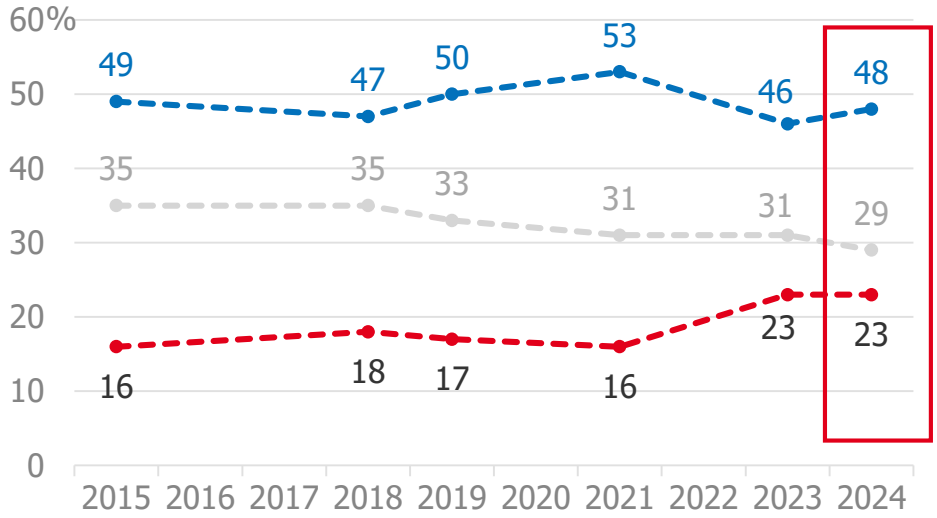
Percentage of climate change related articles online (for Germany)



https://icdc.cen.uni-hamburg.de/omm/EU.html

4 Communicative Power of Climate Extremes

"I trust the information provided by climate scientists."



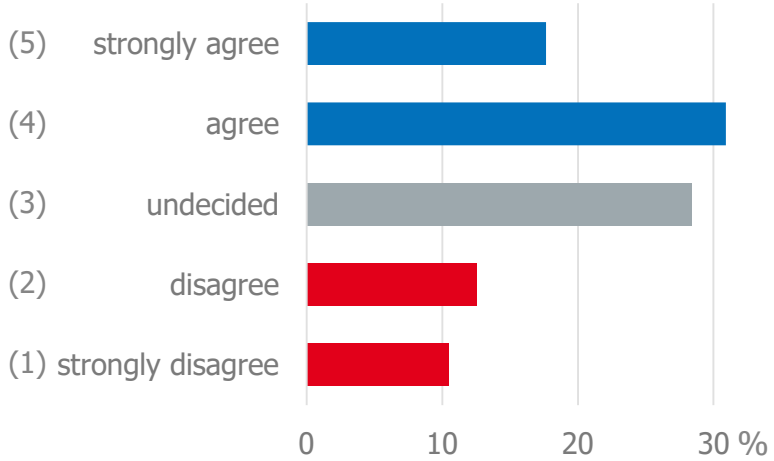
→ **All-time high for disagreement**

→ **Even stronger polarization**

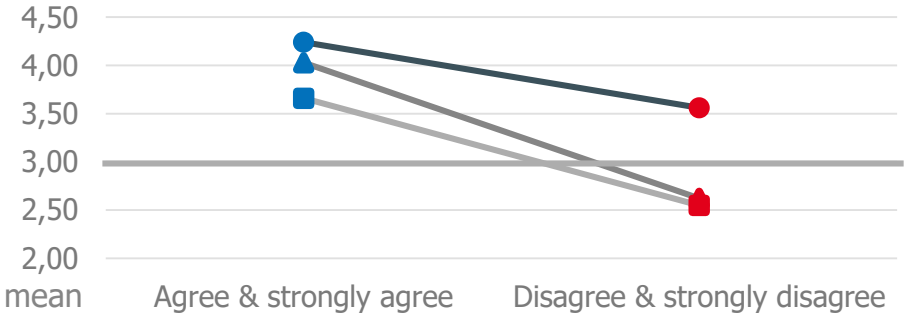
n = 1477 (2015), 1044 (2018), 1000 (2019), 1000 (2021), 1015 (2023), 1019 (2024)
Sources: Projects „Down2Earth" and „CLICCS" (2024)
Scale from "1 = strongly disagree" to "5= strongly agree", scale points 1+2 and 4+5 summed, in %

4 Communicative Power of Climate Extremes

"I trust the information provided by climate scientists." (2024)



n = 1019 (2024), Source: CLICCS (2024)
Scale from "1 = strongly disagree" to "5= strongly agree"



- Climate scientists expect **weather extremes** to increase in the coming decades.
- Media reports illustrate how **climate change** is contributing to an **increase in extreme events**.
- Research into **future extreme events** is relevant for me.

→ **Climate extremes seem to have particularly high communicative power!**

5 Conclusions

→ Climate extremes should play a crucial role in communicating climate change

- The extent to which people are
  - personally **affected/feel affected by extreme events** and
  - their **awareness of the increase in extreme events** have a strong and significant correlation with their assessment of climate research.
- Reports about weather/climate extremes
  - have the (self-reported) **power to change personal perceptions of CC**,
  - **illustrate (long term) effects of climate change**.

Thank you!

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