

No 'echo chambers' in Reddit climate debate

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Climate change debates on Reddit don't happen in polarized "echo chambers", new research suggests.

The study found evidence suggestive of more "deliberative debate".

University of Exeter researchers examined the topics, [information sources](#) and the existence of different communities in Reddit [climate](#) discussions.

They found little evidence of echo chambers—contrasting with previous research on Twitter which found discussions of climate change often occur within polarizing echo chambers.

However, the study did find evidence of polarization, with the most common topic in climate-related posts and comments being "incivil debate" (containing name-calling and unfriendly language).

"We also found evidence suggestive of more 'deliberative debate', with lots of discussion about important aspects of the climate crisis and many topics suggestive of debate that is not uncivil," said lead author Kathie Treen, from the University of Exeter.

"It was encouraging to see a lack of echo chambers, aside from a single pro-Trump community which has since been banned by Reddit."

"Even though there's polarization in terms of opinion, the two sides are debating in the same place."

The researchers used three methods to analyze climate discussions on Reddit:

- Topic modeling (data on words commonly found together, which can reveal the subjects being discussed). This showed wide-ranging discussions on subjects including the causes and impacts of climate change, politics, economics and science. But "incivil debate" was dominant in more posts and comments than any other subject, and climate skepticism/denial was a close second.
- Community detection (which people engage with each other?). A

"reply network" based on who replies to whom was used to detect communities of individuals. Mapping the interactions between these communities revealed what Treen called a "hairball" of interconnected communities. Rather than [echo chambers](#) whose members only spoke to each other, the different communities were "highly connected" (measured by the level of interaction between the different communities).

- Analysis of sources (which sources did users cite?). The sources cited suggest an overall leaning that is somewhat left-wing politically and environmentalist in its climate perspective. Wikipedia was the most shared source, followed by YouTube and Twitter. The only traditional "expert-generated" sources in the top 10 were the Guardian and Nasa. The IPCC—the authoritative assessment of climate change information—was 35th.

Treen explained that "whilst most research on social media climate debate has focused on Twitter, Reddit has a different platform architecture, for example community moderation and theme-based rather than follower-based information flows".

She added that "the findings of our paper suggest that platform architecture plays a key role in shaping climate debate online."

The study used data from 1 April to 30 June 2017—an [important period](#) in climate politics, as the US announced its withdrawal from the Paris Agreement on 1 June that year.

The researchers analyzed 18,558 posts and 267,147 comments from 93,850 users related to the issue of climate change.

The paper is published in the journal *Environmental Communication*.

More information: Kathie Treen et al, Discussion of Climate Change on Reddit: Polarized Discourse or Deliberative Debate?, *Environmental Communication* (2022). [DOI: 10.1080/17524032.2022.2050776](https://doi.org/10.1080/17524032.2022.2050776)

Hywel T.P. Williams et al, Network analysis reveals open forums and echo chambers in social media discussions of climate change, *Global Environmental Change* (2015). [DOI: 10.1016/j.gloenvcha.2015.03.006](https://doi.org/10.1016/j.gloenvcha.2015.03.006)

Provided by University of Exeter

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