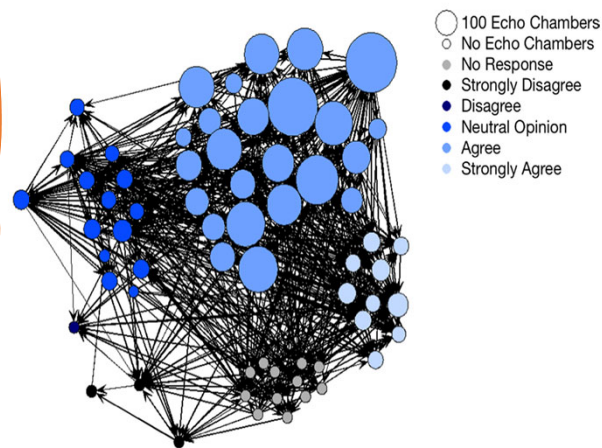


On Echo Chambers and Collective Action on Climate

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Source: Fisher, Dana R., Joseph Waggle, and Lorien Jasny. 2015. "Not a Snowball's Chance for Science." *Contexts*. Fall: 44-49.

How Elite Policy Networks Influence Climate Politics?

- Analyzes how state, market, and civil society actors negotiate their positions to address (or block efforts to address) climate change in the US.
- Assesses how they have evolved over time, focusing on political polarization, scientific information diffusion, influence and collaboration among policy elites working on climate

Environmental Research Communications

LETTER

Echo chambers in climate science

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Abstract
 To date, echo chambers in American climate politics have been found to focus on the climate-related policy instrument that is under review. In this paper, we explore how echo chambers change over time, integrating data collected on the federal climate policy network after the first 100 days of the Trump Administration had passed with data collected during two periods during the Obama Administration. We employ Exponential Random Graph (ERG) models to test for the similarity and differences over time in the top policy actors working on the issue during each time period. We then compare the newer findings from 2017 to previous work on data from 2010 and 2016. We find that echo chambers continue to play a significant role in the network of information exchange among policy elites and in the adoption of new information sources over time. In contrast to previous findings, however, where echo chambers centered on specific policy instruments—a binding international commitment to emission reductions or the Obama Administration's Clean Power Plan—opinion regarding whether or not climate change is caused by humans (i.e. anthropogenic) has become the central organizing force behind echo chambers in the US climate policy network. These results provide new empirical evidence that ideological polarization drives the selection of expert information in the debate around climate politics. Moreover, our results show how misinformation diffuses among political elites working on the issue of climate change.

Climate Change
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The polycentricity of climate policy blockage

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Abstract

This paper builds on recent research on polycentric governance and the Ecology of Games to understand climate politics in the USA. Complementing previous work from 2005 to 2009, we map out the ideological networks of political actors engaged in the climate policy network using data from the US Congress as an arena of symbolic interaction. Our analysis identifies polycentric sites of ideological congruence and conflict in the discourse network on climate change. Political actors from different levels and including several actor types formed multiple centers that became bipolarized between the 112th and 114th sessions of the US Congress. This process took place in tandem with the increased participation of subnational actors in the polycentric system. By the 114th session of the Congress—during which the 2016 election took place—subnational policy actors, along with a diversity of other actors, contributed to an extremely polarized discussion of one of the central policies in the Obama Administration's Climate Action Plan: the Clean Power Plan. This finding is remarkable as the concept of polycentricity tends to be normatively associated with policy innovation, rather than stagnation. Our longitudinal analysis demonstrates, using Discourse Network Analysis, how increased multi-level participation can be associated with policy blockage of progressive climate policies rather than enabling policy innovation.

PLOS ONE

RESEARCH ARTICLE

Same old story with a different ending: Homophily and preferential selection of information within the US climate policy network

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Abstract

The passage of the Inflation Reduction Act has been perceived as a substantial shift away from the history of more contentious climate politics in the US. We apply social network methods to interrogate an updated dataset that assesses the degree to which recent policy outcomes are a shift away from earlier policies and positions. We empirically test for homophily, a building block of polarization, analyzing four waves of survey data collected over 12 years from the community of political elites engaged in the issue of climate politics. Using Exponential Random Graph (ERG) modeling, we provide clear evidence that the stances of the top policy actors working on climate change have not shifted substantially. Instead, we document how the policy was successful due to its ability to combine the Administration's desire to support clean energy along with fossil fuel interests' aims of expanding extraction and profiting from a transition away from fossil fuels.

OPEN ACCESS

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climate change

An empirical examination of echo chambers in US climate policy networks

Lorien Jasny^{1,2}, Joseph Waggle³ and Dana R. Fisher^{1*}

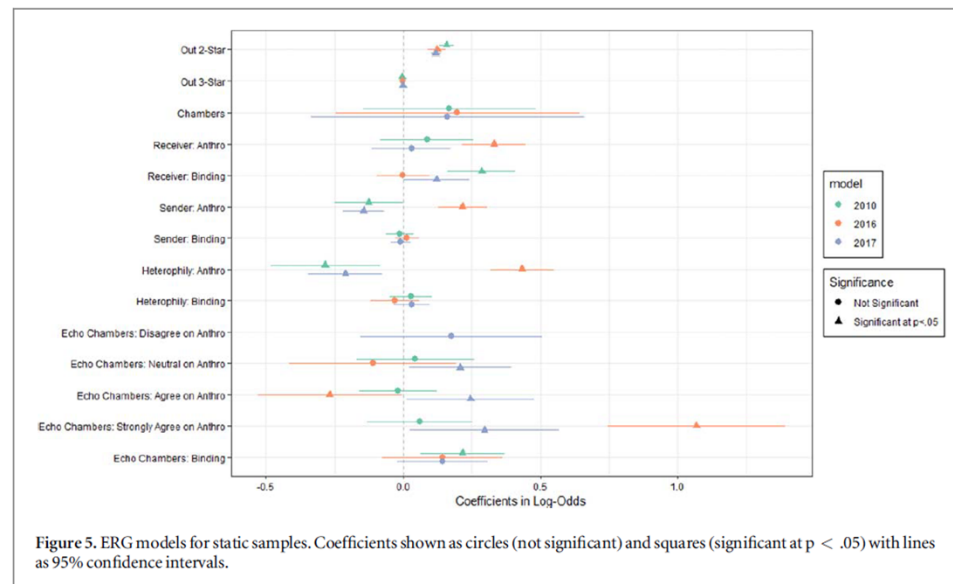
Diverse methods have been applied to understand why science continues to be debated within the climate policy domain. A number of studies have presented the notion of the 'echo chamber' to model and explain information flows across an array of social settings, finding disproportionate connections among ideologically similar political communicators. This paper builds on these findings to provide a more formal operationalization of the components of echo chambers. We thus empirically test their utility using survey data collected from the community of political elites engaged in the contentious issue of climate politics in the United States. Our survey period coincides with the most active and contentious period in the history of US climate policy, where legislation regulating carbon dioxide emissions had passed through the House of Representatives and was being considered in the Senate. We use exponential random graph (ERG) modelling to demonstrate that both the homogeneity of information (the echo) and multi-path information transmission (the chamber) play significant roles in policy communication. We demonstrate that the intersection of these components creates echo chambers in the climate policy network. These results lead to some important conclusions about climate politics, as well as the relationship between science communication and policymaking at the elite level more generally.

Environmental politics continue to be highly contentious, and nowhere has this debate become more deeply entrenched than in the issue of climate change. Despite a well-documented scientific consensus on the causes and drivers of global climate change, legislation has yet to be passed in the United States at the federal level to address these issues. As scientists continue to warn decision makers about the need to act¹, the political debate remains polarized. Furthermore, this political polarization often manifests among political elites as debates over the veracity and legitimacy of established scientific consensus². In January 2015, while debating the Keystone XL oil pipeline in the United States Senate, for example, an amendment was offered to get the 'sense of the Senate' about whether humans contribute significantly to climate change. The vote was split 50–49, with 49 Senators refusing to affirm that climate

operationalization of the components of echo chambers and then testing empirically for their presence against competing network mechanisms within the US climate policy network. We conceive of the echo chamber as being comprised of two distinct processes. First, information is an 'echo' when it repeats what one already believes. Called 'confirmation bias' in the psychology literature, information is perceived to be more credible when it matches the recipient's world view^{3,4}, or when individuals hear the same information from different sources, even if that information ultimately came from one original source^{5,6}. Furthermore, having repeated messages has been found to intensify viewpoints further and push some to extreme opinions^{7–9}. Although this process of influence homophily in information transmission involves some element of time, in this first examination of the echo chamber, we

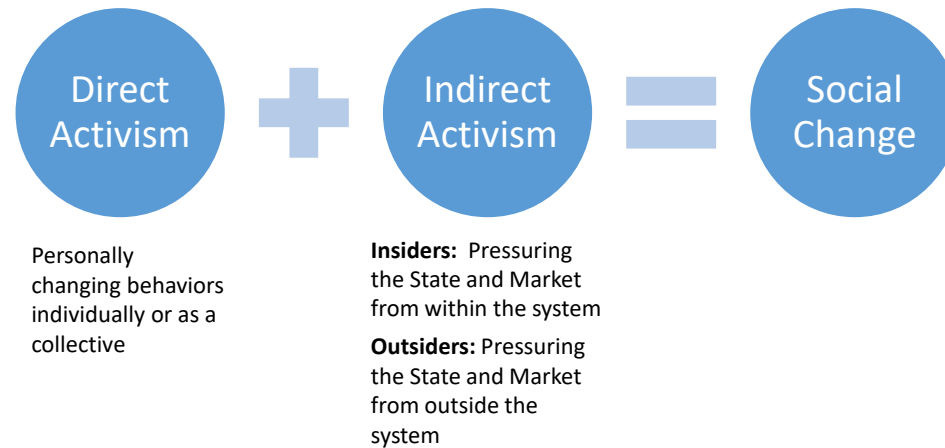
Main Findings and Significance to American Climate Politics

- Single information sources are amplified, distorting views of the state of the field
- Echo chambers amplify divergence from the consensus (but can also amplify the majority perspective)
- Science is cherry picked and minority positions can get caught in an echo chamber that can then affect policy outcomes.
- Explains how mainstream perspectives on science can flip-flop so significantly based on political ideology



Jasny, Lorien and Dana R. Fisher. 2019. "Echo Chambers in Climate Science." Environmental Research Communication. <https://doi.org/10.1088/2515-7620/ab491c>

Integrating Different Types of Collective Action





Recent Research Connecting Extreme Events and Climate Action (and research needs)

- Recent studies document how experiencing Climate-Exacerbated Disaster mitigates partisan divide (Del Ponte et al. 2025; Chen et al. 2024; see also Garfin et al. 2024).
- Pilot project post LA Wildfires:
 - Aim of adding a social layer to the climate attribution work
 - Goal of understanding support for climate science and climate action including engagement
 - Preliminary conclusions:
 - Some support for recent research findings but we need much better methods for sampling and tracking individuals affected by climate shock (even in the US)

Thank you.

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