

SOURCES OF CLIMATE DISINFORMATION

PAPER II



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The following publication is the second of a three-part series on climate change disinformation. These papers analyze the origins of climate disinformation, expose the international and domestic sources of climate disinformation, and calculate the impact of climate disinformation. Click [here](#) to read Part 1.

II. Sources of Climate Disinformation

The previous publication outlined the history of climate disinformation. In short, fossil fuel companies have used climate disinformation for decades to appease shareholders and protect profits. In this section, we discuss the sources of climate change disinformation. The first source is the existing climate denial debate in the United States, which provides fossil fuel corporations with arguments to amplify. Second, conservative think tanks funded by the fossil fuel industry produce skewed data to cast doubt on climate change. Third, foreign troll farms amplify the U.S. climate debate on social media with the goal of sowing distrust between US citizens and the government.

Climate Denial in the United States

Scholars have characterized the climate denial movement in the United States as “a collective force defending the industrial capitalist system,” comprised of multiple components: “conspiracy theories, reliance on fake experts, selectivity in picking papers that in isolation seem to support their claims, impossible expectations of what research can deliver, and misrepresentation and outright logical fallacies.”¹ In other words, their use of denial logic cherry picks evidence and blends lies with truths to be able to conclude that climate change is a hoax. Despite clear evidence of human-caused climate change, many U.S. politicians and think tanks oppose the incorporation of mainstream scientific evidence into climate policy, which

¹ Aaron M. McCright. "Anti-Reflexivity and Climate Change Skepticism in the US General Public." *Human Ecology Review* 22, no. 2 (2016): 77-107; Karin Edvardson Bjornberg, Mikael Karlsson, Michael Gilek, and Sven Ove Hansson. "Climate and Environmental Science Denial." *Journal of Cleaner Production* no. 10 (2017): 125-126.

is driven in part by corporate interests to protect fossil fuel profits.² The alarming prevalence of climate denial in the United States finds its roots in the early actions of the fossil fuel industry to disseminate climate disinformation with the goal of protecting business interests.

Domestic Sources of Climate Disinformation

Corporate elites in the fossil fuel industry protect their business interests from the economic impacts of climate policy in various ways. Directly, through misleading publications; indirectly, through organizations called conservative think tanks (CTTs). Some CTTs work to promote climate change denial on behalf of fossil fuel companies.³ Defined as “non-profit, public policy research and advocacy organizations that promote core conservative ideals,” CTTs often fail to provide objective policy analyses in their efforts to advocate for conservative goals.⁴

Through providing resources and funding to CTTs, fossil fuel companies have employed a variety of tactics to cast doubt on mainstream climate change science. One method used by CTTs in the United States is publishing books that challenge the scientific consensus on human-caused climate change. Books are a critical component to the climate denial campaign, as they reach “the conservative movement’s core constituency, wider segments of the public, and critical sectors of society such as corporate, political, and media leaders” while also conferring “a sense of legitimacy on their authors and providing them an effective tool for combating the findings of climate scientists that are published primarily in scholarly, peer-reviewed journals—at least within the public and policy (as opposed to scientific) arenas.”⁵ *One study conducted in 2008 found that over 92 per cent of books challenging*

² See Stephan Lewandowsky, Toby D. Pilditch, Jens K. Madsen, Naomi Oreskes, and James S. Risbey. "Influence and Seepage: An Evidence-Resistant Minority can Affect Public Opinion and Scientific Belief Formation." *Cognition* 188, (July, 2019): 124-139, Riley E. Dunlap and Peter J. Jacques. "Climate Change Denial Books and Conservative Think Tanks." *American Behavioral Scientist* 57, no. 6 (Jun, 2013): 699-731.

³ See DisinfoLab’s Timeline Graphic from Part I for more information on misleading publications from ExxonMobil and other fossil fuel companies in the United States since the 1950s.

⁴ Peter J. Jacques, Riley E. Dunlap, and Mark Freeman. "The Organisation of Denial: Conservative Think Tanks and Environmental Scepticism." *Environmental Politics* 17, no. 3 (Jun 1, 2008): 349-385.

⁵ Riley E. Dunlap and Peter J. Jacques. "Climate Change Denial Books and Conservative Think Tanks." *American Behavioral Scientist* 57, no. 6 (Jun, 2013): 699-731.

the scientific consensus on human-caused climate change published in the United States were “linked to conservative think tanks (CTTs),” and that many of the authors who were presented as “climate experts” actually lacked legitimate scientific credentials.⁶ CTTs also make use of newspaper articles to circulate disinformation. They feature “highly dismissive views of climate change and critical stances toward climate science,” further “amplifying the denial machine's messages to a broad segment of the American public.”⁷

Another climate change denial tactic used by the fossil-fuel funded CTTs involves the application of “open record laws in scientifically uncertain areas to cast doubt on the accuracy of scientific information.”⁸ Through invoking open record laws, CTTs may “gain access to the data and correspondence of scientists engaged in climate science research.”⁹ Not unlike the publication of books by self-proclaimed “experts,” this tactic of revisiting past records of climate research to cast doubt on current scientific findings has proven effective in propagating disinformation and sowing climate denial due to the claims’ perceived legitimacy.¹⁰

In the age of social media, domestic sources of climate change disinformation are also abundant online. While it may be difficult to determine whether a trend on social media may be domestic or international in origin, several public figures in the United States are known disseminators of climate change disinformation online.

⁶ Peter J. Jacques, Riley E. Dunlap, and Mark Freeman. "The Organisation of Denial: Conservative Think Tanks and Environmental Scepticism." *Environmental Politics* 17, no. 3 (Jun 1, 2008): 349-385.

⁷ Shaun W. Elsasser and Riley E. Dunlap. "Leading Voices in the Denier Choir: Conservative Columnists' Dismissal of Global Warming and Denigration of Climate Science." *American Behavioral Scientist* 57, no. 6 (June, 2013): 754-776.

⁸ Aaron J. Ley. "Mobilizing Doubt: The Legal Mobilization of Climate Denialist Groups." *Law & Policy* 40, no. 3 (July, 2018): 221-242.

⁹ Ibid.

¹⁰ Ibid.

Most notably, former President Donald Trump has engaged in the spread of climate disinformation on Twitter and other social media platforms.¹¹ The Trump administration hired climate denialists to work on scientific climate change work.¹² One of them, Dr. Legates, “posted the series of largely discredited scientific reports on a site associated with Wei-Hock Soon, known as Willie, an astrophysicist whose work downplaying the risks of greenhouse gas emissions was funded by the fossil fuel industry.”¹³ Using Milankovitch Cycle denialist logic and the White House logo, those science representatives published false claims about the climate.¹⁴ The government’s bully pulpit allows more coverage and exposure so people are more likely to hear and potentially believe denial claims.

In addition to former President Trump, tweets and posts from other popular accounts have the power to be spread across platforms, which can then devolve into public discourse. In turn, trolls and bots with political agendas—both foreign and domestic—can target and reinforce these posts.

Social media also has an unparalleled impact on the spread of climate disinformation. The graphic below summarizes the algorithmic trends that propagate false climate information online from disinformation actors. The information travels from corporate actors to “people in positions of power, such as the media, politicians and prominent bloggers, then repeat and amplify this information in an “influencers echo chamber” (blue), and from

¹¹ For more information on **individuals who contribute to climate disinformation in the United States**, see these three websites: "Climate Disinformation Database." DeSmog., accessed July 22, 2021, <https://www.desmog.com/climate-disinformation-database/>; "Climate Misinformation by Source." Skeptical Science., accessed July 22, 2021, <https://skepticalscience.com/misinformers.php>; "The Funders of Climate Disinformation." Campaign Against Climate Change., accessed July 22, 2021, https://www.campaigncc.org/climate_change/sceptics/funders.

¹² Friedman, Lisa and Christopher Flavelle. 2021. “A Late Burst of Climate Denial Extends the Era of Trump Disinformation.” *The New York Times*.

<https://www.nytimes.com/2021/01/12/climate/trump-disinformation-climate-change.html>

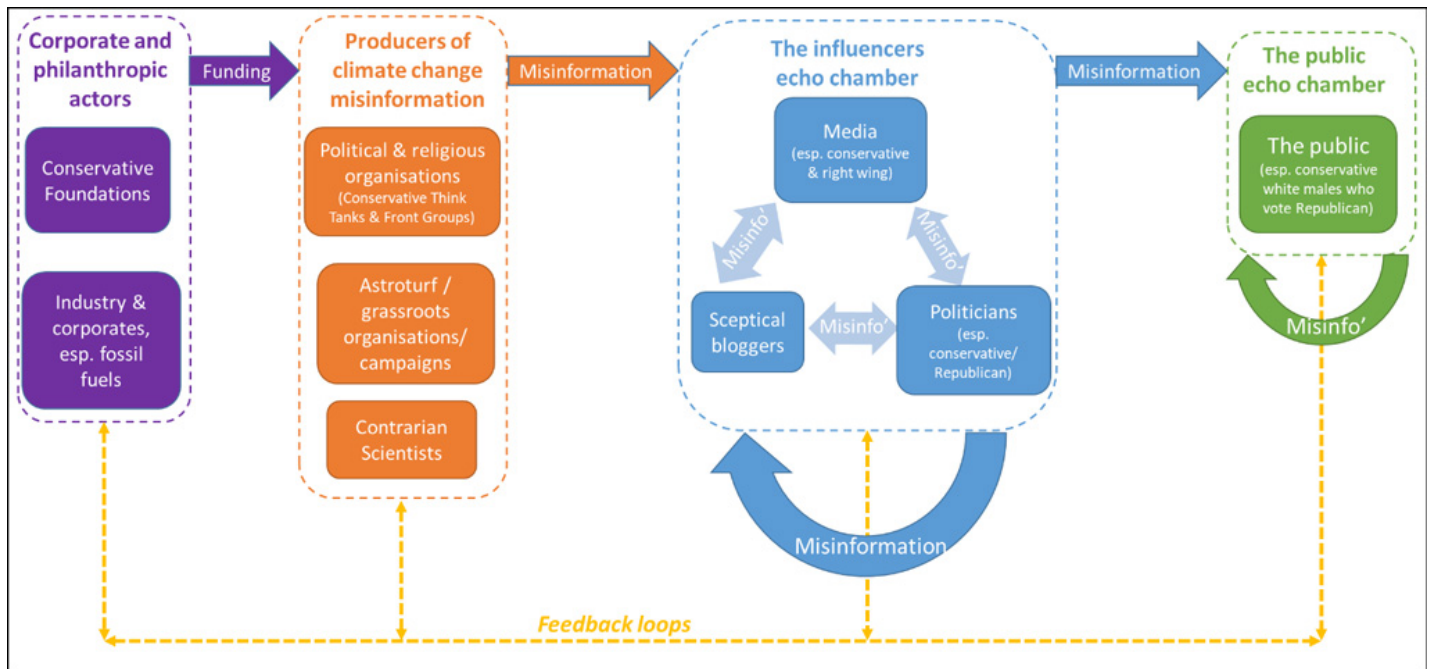
¹³ Friedman and Flavelle. “A Late Burst of Climate Denial Extends the Era of Trump Disinformation.” Gillis, Justin and John Schwartz. 2015. “Deeper Ties to Corporate Cash for Doubtful Climate Researcher.” *New York Times*.

<https://www.nytimes.com/2015/02/22/us/ties-to-corporate-cash-for-climate-change-researcher-Wei-Hock-Soon.html>

¹⁴ Friedman and Flavelle. “A Late Burst of Climate Denial Extends the Era of Trump Disinformation.”

there it reaches a wider audience (green).”¹⁵ Echo chambers—online spaces where certain opinions are confirmed and amplified without alternative perspectives—create even more polarization about controversial topics.¹⁶ The media overall is a major proliferator of misleading information as well.

Figure 1.¹⁷



Foreign Sources of Climate Disinformation

Foreign adversaries including Russia and China have long targeted areas of contention in U.S. politics through mobilizing thousands of inauthentic accounts posing as U.S. citizens in order to amplify existing polarization and distrust in the U.S. media, government, and scientific community amongst American citizens.

Both Russia and China have proven track records for launching disinformation campaigns designed to challenge scientific evidence and claims that are widely accepted by the global scientific community. The recent disinformation campaigns following the outbreak of COVID-19, for

¹⁵ Treen, Kathie, et al. “Guest Post: How Climate Change Misinformation Spreads Online.” *Carbon Brief*, 7 Apr. 2021, www.carbonbrief.org/guest-post-how-climate-change-misinformation-spreads-online

¹⁶ Ibid.

¹⁷ Ibid.

example, sowed chaos in the form of conspiracy theories designed to pit Americans against each other and their government while drawing attention and blame away from the Chinese government.¹⁸ Meanwhile, vaccine disinformation campaigns from Russia have cast doubt on scientific evidence and stirred contention between Americans on either side of the anti-vax movement for years; recently these efforts by the Kremlin have intensified with the release of COVID-19 vaccinations.¹⁹

Undoubtedly, these same adversaries have recognized the extensive polarization caused initially by domestic sources of climate denial in the United States. If foreign actors like Russia and China were to take advantage of this divide by disseminating disinformation to exacerbate climate denial in the United States, more doubt would be cast on the efficacy of the scientific community as well as the media and the government, sowing chaos and mistrust in these U.S. institutions amongst the American public. Evidence collected during recent studies suggests it is very likely that these foreign adversaries have indeed taken to social media in an effort to capitalize on this opportunity to further inflame the polarization surrounding the issue of human-caused climate change.²⁰

¹⁸ Julian E. Barnes, Matthew Rosenberg, and Edward Wong. "As Virus Spreads, China and Russia See Openings for Disinformation: The Two Powers Amplify Discredited Conspiracy Theories and Sow Division as they Look to Undermine the United States." *The New York Times* (April 10, 2020).
<https://www.nytimes.com/2020/03/28/us/politics/china-russia-coronavirus-disinformation.html>
; Bethany Allen-Ebrahimian. "China Takes a Page from Russia's Disinformation Playbook." *Axios* (March 25, 2020).
<https://www.axios.com/coronavirus-china-russia-disinformation-playbook-c49b6f3b-2a9a-47c1-9065-240121c9ceb2.html>.

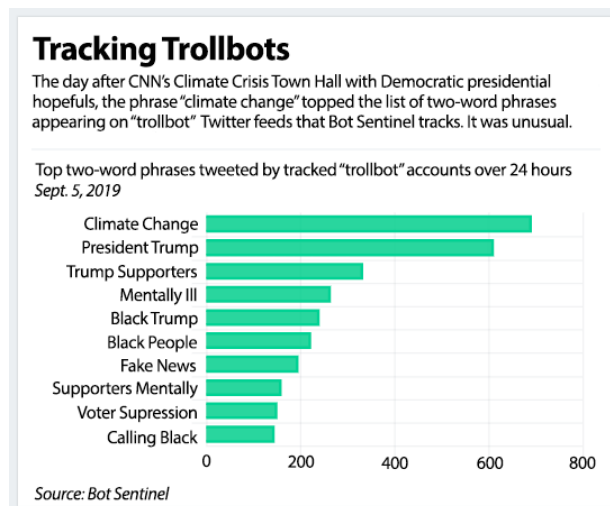
¹⁹ Broniatowski, David A., et al., 2018. "Weaponized Health Communication: Twitter Bots and Russian Trolls Amplify the Vaccine Debate." *American Journal of Public Health* 108 (10) (October): 1378-1384; Gordon, Michael R. and Volz, Dustin. "Russian Disinformation Campaign Aims to Undermine Confidence in Pfizer, Other Covid-19 Vaccines, U.S. Officials Say." *Wall Street Journal*, last modified March 7, accessed July 22, 2021; O'Kane, Caitlin. "Russian Trolls Fueled Anti-Vaccination Debate in U.S. by Spreading Misinformation on Twitter, Study Finds." *CBS News*, last modified May 31, accessed July 22, 2021.

²⁰ Maxwell, Richard and Miller, Toby. "A Quarter of Tweets Refuting Climate Science are Fake—So what? Why we must Identify and Fight Social Media Distortions of Climate Science." *Psychology Today*, last modified April 6, accessed July 22, 2021; Hiar, Corbin. 2021. "Twitter Bots are a Major Source of Climate Disinformation." *Scientific American* (January 22); Marlow, Thomas, Sean Miller, and J. Timmons Roberts. 2021. "Bots and Online Climate Discourses: Twitter Discourse on President Trump's Announcement of U.S. Withdrawal from the Paris Agreement." *Climate Policy* (Jan 15); Tyagi, Aman, Matthew Babcock, Kathleen M. Carley, and Douglas C. Sicker. 2020. "Polarizing Tweets on Climate Change." *Cornell University Computer Science* (Aug 29); Lavelle, Marianne. "'Trollbots' Swarm Twitter with Attacks on Climate Science Ahead of UN Summit." *Inside Climate News*, last modified Sept 16, accessed July 22,

Evidence From Scientific Studies

1. BotSentinel, an online media tracking platform that identifies fraudulent account posting trends, is a unique data gathering tool. It collected data about tweets with the words “climate change” that appeared on trollbot feeds.²¹ BotSentinel uses a specific algorithm that includes variables to identify bot-like accounts that “frequently retweet known propaganda accounts, exhibit repetitive behavior or violate Twitter’s terms of service by harassing other users.”²² After the CNN climate forum meeting, “there was an unusually high 700 mentions of climate change in a 24-hour period from the 100,000-some accounts Bot Sentinel is tracking as trollbots.”²³ According to the software developer, Christopher Bouzy, “when a topic like “climate change” trends among the trollbots, it is likely there is some amount of coordination involved.”²⁴

Figure 2.²⁵



2021; Timberg, Craig and Tony Romm. 2018. "These provocative images show Russian Trolls Sought to Inflamm Debate Over Climate Change, Fracking, Dakota Pipeline." *Washington Post*, March 1, 2021.

<https://www.washingtonpost.com/news/the-switch/wp/2018/03/01/congress-russians-trolls-sought-to-inflame-u-s-debate-on-climate-change-fracking-and-dakota-pipeline/>

²¹ Lavelle, Marianne. "Trollbots' Swarm Twitter with Attacks on Climate Science Ahead of UN Summit." *Inside Climate News*, last modified Sept 16, accessed July 22, 2021.

²² Ibid.

²³ Ibid.

²⁴ Ibid.

²⁵ Lavelle, Marianne. 2019. "Trollbots' Swarm Twitter with Attacks on Climate Science Ahead of UN Summit." *Inside Climate News*.

<https://insideclimatenews.org/news/16092019/trollbot-twitter-climate-change-attacks-disinformation-campaign-mann-mckenna-greta-targeted/>

2. A scientific paper published in 2020 “estimated that 35% of the accounts that tweeted about climate during the 2018 United Nations Climate Change Conference in Poland were bots.”²⁶ That paper however, noticed “**there were an equal number of bots that both supported and cast doubt on climate science.**”²⁷ That type of tweeting pattern is even more dangerous because it feeds off of the climate denialism debate and only polarizes the population.

3. Foreign media influence from Russia prodded U.S. media with disinformation and propaganda about the Dakota pipeline project.²⁸ A report from the House Science, Space and Technology Committee included Russian social media posts which included examples like:

“One Facebook post created by a Russian-controlled group called "Native Americans United" shows what appears to be a young girl in a braid peering out over an unspoiled prairie. "Love Water Not Oil, Protect Our Mother, Stand With Standing Rock," a reference to an Indian tribe that opposed the Dakota Access Pipeline. The post also said, "No Pipelines. No Fracking. No Tar Sands."”²⁹

²⁶ Tyagi, Aman, Matthew Babcock, Kathleen M. Carley, and Douglas C. Sicker. 2020. "Polarizing Tweets on Climate Change." *Cornell University Computer Science* (Aug 29).

²⁷ Hiar, Corbin. 2021. "Twitter Bots are a Major Source of Climate Disinformation." *Scientific American* (January 22); Tyagi, Aman, Matthew Babcock, Kathleen M. Carley, and Douglas C. Sicker. 2020. "Polarizing Tweets on Climate Change." *Cornell University Computer Science* (Aug 29).

²⁸ Timberg, Craig and Tony Romm. 2018. "These provocative images show Russian Trolls Sought to Inflame Debate Over Climate Change, Fracking, Dakota Pipeline." *Washington Post*, March 1, 2021.

<https://www.washingtonpost.com/news/the-switch/wp/2018/03/01/congress-russians-trolls-sought-to-inflame-u-s-debate-on-climate-change-fracking-and-dakota-pipeline/>

²⁹ Ibid.

Figure 3.³⁰



Facebook

Page name: "Native Americans United"

Shares: 8

Likes: 22

Reactions: 5

Comments: 0

Posted: February 14, 2017

Instagram

Account name: "native_americans_united"

Likes: 718

Comments: 14

Posted: February 14, 2017

Further investigations focused on the Internet Research Agency, a troll farm in St. Petersburg. The report found that "between 2015 and 2017, more than 9,000 posts and tweets dealt with U.S. energy policy produced by 4,334 Facebook, Twitter and Instagram accounts controlled by the Internet Research Agency." The results of the Internet Research Agency Investigation is a clear indication of foreign meddling with the intention to spread incorrect information and influence U.S. media consumers. Committee Chairman Lamar Smith, a Texas representative said "Russian agents created and spread propaganda on U.S. social media platforms in an obvious attempt to influence the U.S. energy market."³¹ Moreover, the report claims that trolls were promoting both sides of the debate and altered their information depending on the consumer.

4. A 2021 study looked at the climate change postings surrounding Donald Trump's decision to withdraw from the Paris Agreement in 2017. The report found that online bot presence was minimal immediately after the withdrawal, but before it, and days later, "suspected bots were responsible for approximately 25% of original tweets."³² The report also found that on average, climate change posts are not created by bots. **However, in light of a large announcement or a weather event that monopolizes the media—like the**

³⁰ Ibid.

³¹ Ibid.

³² Marlow, Thomas, Sean Miller, and J. Timmons Roberts. 2021. "Bots and Online Climate Discourses: Twitter Discourse on President Trump's Announcement of U.S. Withdrawal from the Paris Agreement." *Climate Policy* (Jan 15).

Paris Agreement withdrawal or the UN Summit warnings—bot activity skyrockets.³³ The overall findings were astonishing since **“bots are not just prevalent, but disproportionately so in topics that were supportive of Trump’s announcement or skeptical of climate science and action.”**³⁴

To combat this inauthentic activity, the study also suggested that companies should create stronger bot tracking methods. Sources of information should also be clear to social media users regarding postings about climate change. Users also should be aware of when disinformation posts are more prevalent online.

The study then offered insight into curtailing bot activities through identification, marginalization and revocation along with following accredited scientists online directly. More on methods to prevent the spread of disinformation in Part IV.

Summary

Climate change disinformation and propaganda comes from online bots, foreign actors, domestic think tanks, and Big Oil companies. It is crucial for citizens to understand where information is coming from and to constantly question online data and postings. Many sources are motivated to polarize citizens and benefit from the climate change denial debate. Benefits could be preventing more regulations, to receive funding for a campaign, or to confuse the U.S. populace.

Continue reading about the impacts of climate disinformation in Part 3.

³³ Ibid.

³⁴ Maxwell, Richard and Miller, Toby. "A Quarter of Tweets Refuting Climate Science are Fake—So what? Why we must Identify and Fight Social Media Distortions of Climate Science." *Psychology Today*, last modified April 6, accessed July 22, 2021; Hiar, Corbin. 2021. "Twitter Bots are a Major Source of Climate Disinformation." *Scientific American* (January 22); Marlow, Thomas, Sean Miller, and J. Timmons Roberts. 2021. "Bots and Online Climate Discourses: Twitter Discourse on President Trump’s Announcement of U.S. Withdrawal from the Paris Agreement." *Climate Policy* (Jan 15).