

BRIEFER

No. 59 | April 23, 2024

CLIMATE SECURITY AND MISINFORMATION: A BASELINE

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EXECUTIVE SUMMARY

- As climate change and policy responses grow more intense, prominent, and high-stakes, opportunities will grow for state and non-state actors to spread mis- and disinformation.
- These mis- and disinformation challenges go beyond climate denialism, and are present across the breadth of climate security risks. These risks comprise the physical impacts of climate disasters, cascading socio-political impacts of climate change, and backlash or unintended consequences from climate policies themselves.
- These challenges are already occurring, including scapegoating of climate disasters on minorities or marginalized groups, xenophobic incitement against those displaced by climate change, petrostate or corporate efforts to discredit the energy transition, or state efforts to gain influence over shared water resources, climate-vulnerable allies, or foreign critical mineral supplies.
- These risks are mediated and exacerbated by broader factors, including the design and communication of climate policies. Many elements of the broader landscape bode poorly for climate security and misinformation, including low societal and institutional trust, fragmented information ecosystems, and the impacts of underregulated technologies.
- Beyond this baseline framework, important questions for future inquiry exist about specific climate misinformation risks and how to ensure integrated and effective policy responses.

INTRODUCTION

Climate change and policy responses provide new opportunities for state and non-state actors to engage in mis- and disinformation across a wide range of scales and topics. Traditionally, analysis of climate change and misinformation has focused most on the problem of climate change denialism and politicization of emissions reductions.¹ However, misinformation, disinformation peddling, and malign influence campaigns are increasing around a broader range of climate-related issues, such as blame for climate hazards, backlash to climate-driven displacement, disputes over clean energy policies, polarization over climate protests, and competition for influence in climate-vulnerable states. Such efforts have security implications across the political, economic and societal spheres, and warrant more holistic and proactive policy attention, drawing lessons from analogous efforts around the COVID-19 pandemic and security of elections.^{2,3,4}

This report provides a baseline on the intersection of climate security risks and mis- and disinformation challenges. For the purposes of clarity, we provide these definitions adapted from the US Cybersecurity and Infrastructure Security Agency (CISA):⁵

- **Misinformation:** false information, but not necessarily intended to cause harm.
- **Disinformation:** false information used to intentionally mislead, harm, or manipulate.

- **Malinformation:** information that is factual, but used out of context to mislead, harm, or manipulate.

In places for brevity, this article uses “misinformation” as a catch-all term to encompass all three categories. Where “misinformation” is meant particularly in contrast to the other types, it is specified. The term “influence campaigns” connotes the potential use of misinformation, disinformation, and malinformation alongside other overt and covert tools of state power to affect target audiences. Although patently false, state-backed disinformation can receive outsized attention, the decentralized societal spread of mis- and malinformation deserves equal attention.

CLIMATE SECURITY RISKS AND MIS- AND DISINFORMATION

As climate change effects and policy responses intensify, malign state and nonstate actors will gain new opportunities and motivations to spread misinformation, especially in contexts of hybrid warfare or other political disputes short of conflict.⁶ Mis- and disinformation are likely to be growing factors in the range of climate security risks, which can be categorized as physical risks, cascading risks, or response risks (also see graphic):

- **Physical risks:** Risks from the direct, physical impacts of climate change, such as climate-driven flooding or wildfires.

1 Climate Action Against Disinformation, “[Climate Mis/Disinformation Backgrounder](#),” September 2023.

2 US Department of Health and Human Services, “[Health Misinformation](#).”

3 US Office of the Director of National Intelligence, “[Election Security](#).”

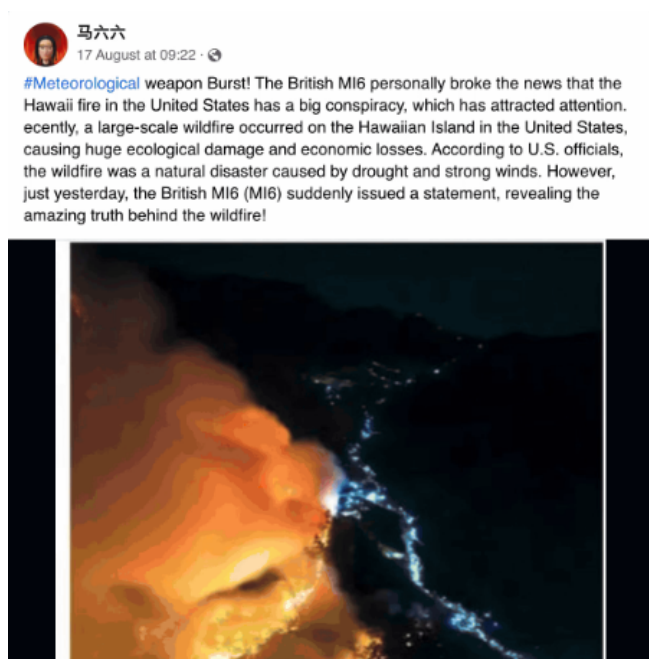
4 US Cybersecurity and Infrastructure Security Agency, “[Election Security](#).”

5 US Cybersecurity and Infrastructure Security Agency, “[Foreign Influence Operations and Disinformation](#).”

6 Chad M. Briggs, “[Climate Change and Hybrid Warfare Strategies](#),” *Journal of Strategic Security*, Vol. 13, No. 4, pp. 45–57.

- **Cascading risks:** Risks from the indirect social, political, or economic consequences of the physical impacts of climate change, such as conflict over scarce natural resources or backlash to climate-driven migration.
- **Response risks:** Risks from negative or unanticipated consequences of policies to cut emissions or adapt to climate change, such as instability in petrostates or displacement from coastal resilience efforts.

Physical, cascading, and response risks can create openings for mis- and disinformation, both from the “supply side,” by providing nefarious actors motivations and opportunities to propagate mis- and disinformation, and from the “demand side,” by making audiences more receptive to mis- and disinformation narratives.



A Facebook post associated with a pro-China disinformation campaign falsely attributing August 2023 wildfires in Maui to a US “weather weapon.” (Newsguard)

MISINFORMATION AND PHYSICAL RISKS

Climate change will create and exacerbate opportunities for mis- and disinformation to take hold around climate impacts themselves, including flooding, wildfires, heatwaves, food and water insecurity, disease spread, and infrastructure and service disruptions. As climate change impacts become more frequent and disruptive, state and nonstate actors may spread misinformation that casts blame for disasters, exploits climate disasters in unrelated disputes, seeks influence over shared natural resources, or contests the role of climate change in loss and damage to shape legal and financial accountability.

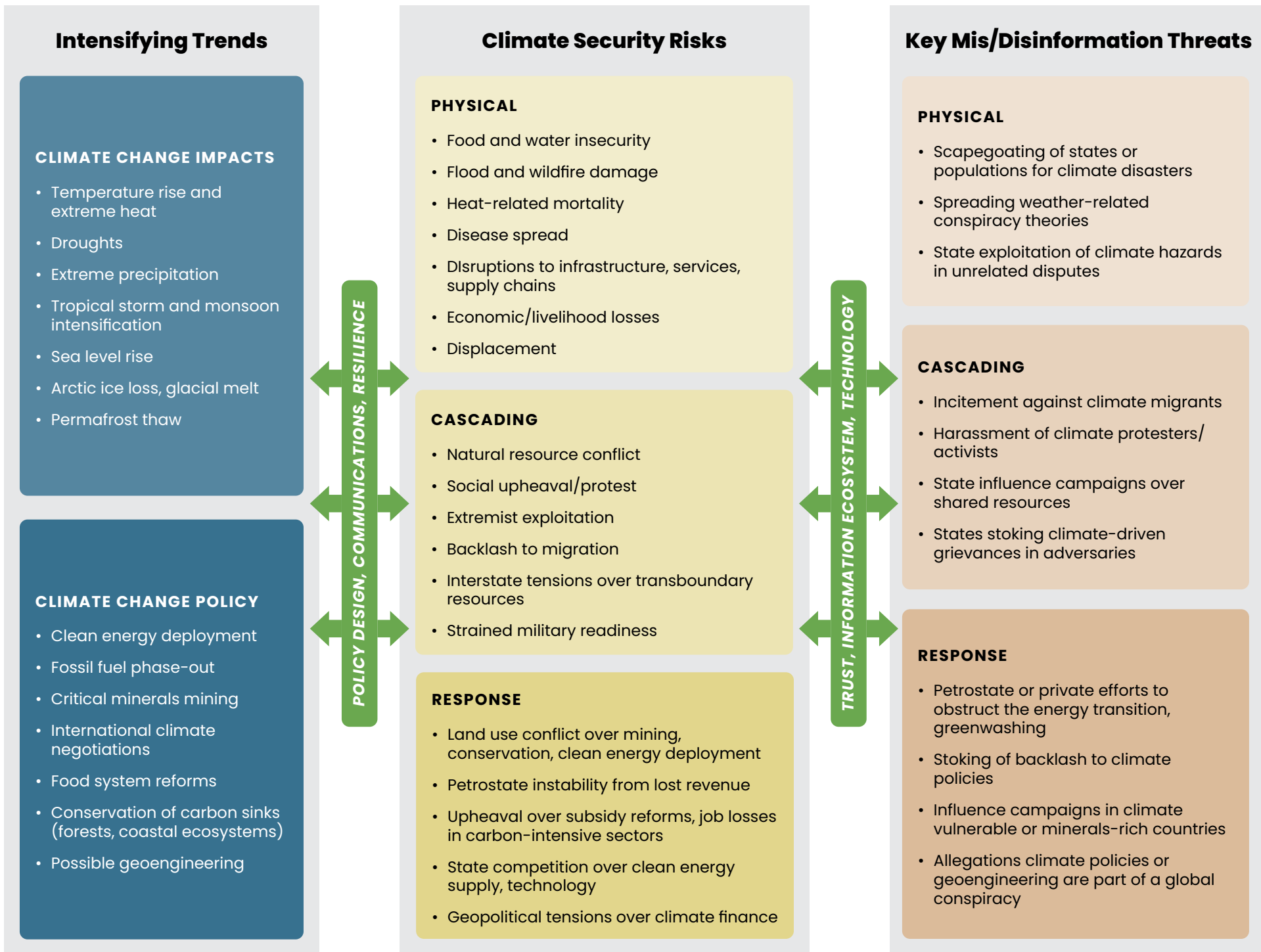
Already, climate hazards are regularly misattributed to conspiratorial causes or pinned on marginalized communities or other adversaries. This trend is likely to grow in light of trust deficits and worsening polarization in major countries and elites’ incentive to deflect blame for disasters.⁷ In some cases, these are largely instances of scapegoating along existing sociopolitical lines. During climate-fueled wildfires in 2021, Algeria blamed fires on Israel and regional rival Morocco,⁸ the Greek far-right blamed Afghan migrants,⁹ and Turkish state media accused Kurdish separatists of starting the conflagrations.¹⁰

7 Edelman, “Edelman Trust Barometer Special Report: Trust and Climate,” 2023.

8 Reuters, “Algeria Accuses Groups It Links to Morocco, Israel of Setting Wildfires,” 18 August 2021.

9 David Patrikarakos, “Conspiracy Theories Rise From the Ashes of Greece’s Fires,” 21 August 2021.

10 TRTWorld, “Why is the PKK suspected to have caused wildfires in Turkey?” 30 July 2021.



In other cases, fringe conspiracy theorists have claimed climate disasters are engineered by proponents of a New World Order to exert social control, or conversely that they are false flag operations by the climate lobby.^{11,12}

Governments also leverage climate disasters to spread disinformation in the context of larger foreign policy disputes, a dynamic that will likely persist in an era of geopolitical competition. For example, in 2023 a catastrophic wildfire struck Hawaii, killing more than 100 people. Coinciding with a period of heightened US-China tension over trade, technology, Taiwan, climate finance, and surveillance issues, Chinese disinformation networks alleged that a US “weather weapon” was responsible for the fires. Meanwhile, Russia falsely claimed that US assistance to Ukraine had come at the expense of domestic wildfire preparedness.¹³ And for years, Iran has alleged Israeli, Emirati, and Turkish weather manipulation is responsible for its droughts,^{14,15} rather than Tehran’s water mismanagement and climate change.¹⁶

Where climate impacts cross borders, such as affecting transboundary water resources, states and

communities competing for access may increasingly leverage disinformation to cast blame for shortages or contest policies. Amid diplomatic disputes between Egypt, Ethiopia, and Sudan over the Grand Ethiopian Renaissance Dam’s impact on shared Nile waters—exacerbated by climate change—Egypt conducted covert influence and disinformation campaigns targeting the Sudanese and Ethiopian publics, with Ethiopia launching its own influence campaigns to shape its domestic public opinion.¹⁷ Similarly, China’s state media reportedly created a front organization and a bogus study to undercut US and Southeast Asian efforts to increase transparency in China’s management of the Mekong River.¹⁸

Finally, the role of climate change compared to other factors in environmental disasters may increasingly become a point of contention where state and nonstate actors employ mis- and disinformation. The extent of climate change’s role in disasters is increasingly economically and politically consequential, as the United Nations seeks to operationalize a fund to compensate vulnerable states for loss and damage from climate impacts and lawsuits seek to hold high-emitting corporations accountable for

11 Jennie King, “[DENY, DECEIVE, DELAY \(Vol 2\): Exposing New Trends in Climate Mis- and Disinformation At COP27](#),” Climate Action Against Disinformation, 19 January 2023.

12 Olivia Rudgard and Daniel Zuidijk, “[Wildfires and Extreme Weather Are Driving Climate Denialism Online](#),” *Bloomberg*, 22 August 2023.

13 David E. Sanger and Steven Lee Myers, “[China Sows Disinformation About Hawaii Fires Using New Techniques](#),” *The New York Times*, 11 September 2023.

14 Sanam Mahoozi, “[Iran’s Next-Door Neighbor Accused Of Stealing Rain Clouds As Severe Drought Sweeps Through The Country](#),” *Forbes Magazine*, 11 January 2024.

15 Lubna Yousef, “[Iran’s ‘Cloudy’ Accusations](#),” Center for Strategic and International Studies, 23 May 2023.

16 Elsa Barron, Tom Ellison, and Alex Naegele, “[Looming Climate Security Crises in Iran](#),” 22 September 2023.

17 Joey Shea, “[The GERD’s Digital Theater](#)” Middle East Institute, 8 November 2021.

18 Adrienne Cuffley, “[Testimony of Stimson Center Southeast Asia Program Director, Mr. Brian Eyster](#),” Stimson Center, 7 December 2022.

climate impacts.^{19 20} Disputes that could be widened by disinformation were previewed in 2022, after devastating floods in Pakistan, when Islamabad cited climate change's role to press for loss and damage compensation from traditionally high-emitting countries,²¹ while others emphasized the role of natural resource mismanagement and corruption.²² In reality, the ultimate disaster came from multiple factors. Neither side was relying on false information to press their case, though they did frame the core issues differently. There is the potential in the future that actors on either side of such questions could turn to disinformation to buttress their position.



Destruction in Dublin, Ireland after far-right networks promoted anti-immigrant disinformation about a stabbing, prompting a riot in November 2023. Though not climate-related, such incitement is likely to be a growing challenge as the real and perceived impacts of climate change on migration grow. (Wikimedia Commons)

MISINFORMATION AND CASCADING RISKS

In addition to physical hazards, mis- and disinformation is likely to be a growing challenge exacerbating the indirect risks of climate change for security, including backlash to migration and international meddling in climate vulnerable fragile states.

Foremost in this category is misinformation attacking or exploiting migration, which is being exacerbated by climate change. The UN expects climate change to increasingly drive migration in the coming decades, mostly in the Global South. Weather-related disasters in 2022 already internally displaced 32.6 million people, exceeding conflict.^{23, 24} With anti-immigration politics surging in the United States and parts of Europe, as climate change exacerbates migration pressures, xenophobic state and nonstate actors may increasingly mobilize.

Misinformation scapegoating migrants for security challenges or environmental degradation already contributes to hardline migration policies and societal polarization. In Türkiye, animosity has grown toward Syrian refugees fleeing a conflict some partially attribute to a climate-driven drought and natural resource mismanagement^{25, 26}—with

- 19 Aruna Chandrasekhar et al, "COP28: Key Outcomes Agreed at the UN Climate Talks in Dubai," *Carbon Brief*, 13 December 2023.
- 20 Isabella Kaminski, *See You in Court: How Climate Lawsuits Could Sharpen Cop27 Loss and Damage Talks*, Climate Home News, 11 February 2022.
- 21 Zofeen T. Ebrahim, "Flood-Hit Pakistan Seeks Loss and Damage 'Compensation' at COP27," Reuters, 4 November 2022.
- 22 Michael Kugelman, "How Bad Governance Exacerbated Pakistan's Flooding," *Foreign Policy*, 1 September, 2022.
- 23 Intergovernmental Panel on Climate Change, "Climate Change 2022: Impacts, Adaptation and Vulnerability," United Nations Framework Convention on Climate Change, 2022.
- 24 Internal Displacement Monitoring Centre, "Global Report on Internal Displacement 2023," 2023.
- 25 Colin P. Kelley, Shahrzad Mohtadi, Mark A. Cane, Richard Seager, and Yochanan Kushnir, "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought." *Proceedings of the National Academy of Sciences of the United States of America*.
- 26 Francesco Femia and Caitlin E. Werrell, "Syria: Climate Change, Drought and Social Unrest," February 29, 2012.

xenophobic misinformation fueling anti-Syrian hate speech and political elites in the 2023 election pushing more nativist policies.^{27 28, 29, 30} Elsewhere in Europe, far-right communities are shifting from arguments that deny climate change’s existence to ones that invoke it as a pretext to advance xenophobic politics against migrants and other marginalized communities.^{31, 32} This includes the “ecobordering” phenomenon, which places the blame for environmental degradation on immigrant communities, for which there is no evidentiary support.^{33, 34}

Xenophobic misinformation also fuels violence, a risk that is likely to grow. In 2019, a self-described “eco-fascist” justified his shooting of 20 people in El Paso, Texas with a manifesto alleging a “Hispanic invasion of Texas.”³⁵ Similar xenophobic mis- and disinformation has motivated terrorist attacks on

ethnic and religious minorities in Buffalo, New York and Christchurch, New Zealand,^{36 37} and the US Intelligence Community now considers xenophobic and other far-right extremists the largest domestic terrorism threat, eclipsing jihadists.³⁸ And in the Global South, where most climate-related displacement is expected, research warns that refugees are often scapegoated for terrorism, or exposed to non-state violence when government capacity is weak.^{39, 40}

States are also likely to employ misinformation to weaponize migrants or widen migration-related fissures in their adversaries as climate change drives greater human mobility. Research shows climate-driven drought has been a major driver of Central American irregular migration to the United States, contributing to immigration debates Russian state media is now seeking to widen with disinformation aimed at

27 Dr. M. Murat Erdoğan, “[Syrians Barometer 2021](#),” United Nations High Commission on Refugees, November 2022.

28 Ruth Michaelson and Husam Hezaber, “[Syrians in Turkey facing uncertain future whether Erdoğan stays or goes](#),” The Guardian, 12 May 2023.

29 Daily Sabah, “[Social Media Provokes Acts against Syrian Refugees in Türkiye: Experts](#),” 19 May 2023,

30 Louisa Loveluck and Asmaa al-Omar, “[Amid Turkey Election, a Syrian Man’s Murder Stokes Fear among Refugees](#),” The Washington Post, 26 May 2023.

31 Oliver Milman, “[Climate denial is waning on the right. What’s replacing it might be just as scary](#),” The Guardian, 21 November 2021.

32 David Crouch and Emily Rauhala, “[Anti-immigrant party helps defeat Sweden’s government](#),” The Washington Post, 14 September 2022.

33 Joe Turner and Dan Bailey, “[Ecobordering: casting immigration control as environmental protection](#),” Environmental Politics, 29 April 2021.

34 Guizhen Ma, “[The Environmental Impact of Immigration in the United States](#),” Utah State University, May 2020.

35 Tim Arango, Nicholas Bogel-Burroughs and Katie Benner, “[Minutes Before El Paso Killing, Hate-Filled Manifesto Appears Online](#),” *The New York Times*, 4 August 2019.

36 Joshua Farrell-Molloy and Graham Macklin, “[Ted Kaczynski, Anti-Technology Radicalism and Eco-Fascism](#),” International Centre for Counter-Terrorism, 15 June 2022.

37 Jennie King, “[Climate Is the New Front in the Culture Wars – Part II](#),” Institute of Strategic Dialogue, 13 May 2021.

38 White House, “[National Strategy for Countering Domestic Terrorism](#),” p. 10-11, June 2021.

39 Burcu Savun and Christian Gineste, “[From Protection to Persecution: Threat Environment and Refugee Scapegoating](#),” *Journal of Peace Research*, Vol. 56(1) 88–102, January 2019.

40 Tobias Böhmelt, Vincenzo Bove, and Kristian Skrede Gleditsch, “[Blame the Victims? Refugees, State Capacity, and Non-State Actor Violence](#),” *Journal of Peace Research*, vol. 56, no. 1, January 2019.

influencing the US elections and Ukraine policy.⁴¹
⁴² In 2021, in retaliation for EU sanctions, Belarus manipulated visa rules and spread disinformation to encourage migration to Europe from climate- and conflict-affected countries^{43, 44, 45} in the Middle East and Africa to Europe,⁴⁶ before working with Russia to amplify reports of abused migrants at the Polish, Lithuanian, and Latvian borders.⁴⁷

Beyond migration, the indirect strains of climate change on livelihoods and governance in frontline communities are likely to create grievances and vulnerabilities that disinformation peddlers can exploit. According to the IPCC,⁴⁸ climate change will increasingly disrupt agricultural livelihoods and worsen existing inequalities by disproportionately harming marginalized groups. Climate-vulnerable Sub-Saharan African nations that are economically dependent on subsistence agriculture are experiencing a confluence of climate shocks, economic stress, and poor governance, contributing to coups and instability.⁴⁹ These have also created ripe conditions for domestic and foreign disinformation campaigns to stoke popular grievances, which reflect a mixture of governance and climate factors. Since 2022, researchers have identified 72

disinformation campaigns in West Africa alone, perpetrated by Russia, China, domestic political actors, and militant groups.⁵⁰



In 2020 during contentious negotiations over Ethiopia's filling of the Grand Ethiopian Renaissance Dam, which could [increase](#) vulnerability to climate-driven drought in Egypt, Facebook [identified](#) an Egyptian-backed covert influence effort to stoke fear of a dam collapse in Sudan and boost Egypt's image in Ethiopia. (Image: [Facebook](#))

41 David Klepper, "[Russian Disinformation Is about Immigration. The Real Aim Is to Undercut Ukraine Aid.](#)" AP News, 1 March 2024.

42 Andrew Linke, Stephanie Leutert, Joshua Busby, Maria Duque, Matthew Shawcroft, and Simon Brewer, "[Dry Growing Seasons Predicted Central American Migration to the US from 2012 to 2018.](#)" *Nature Scientific Reports*, vol. 13, no. 1, October 2023.

43 International Organization for Migration, "[Migration, Environment, and Climate Change in Iraq.](#)" 2022.

44 Nasrat Sayed and Said Hashmat Sadat. *Climate Change Compounds Longstanding Displacement in Afghanistan.* Migration Policy Institute, 29 June 2022.

45 Climate Refugees, "[Addressing the Human Rights Implications of Climate Change Displacement Including Legal Protection of People Displaced across International Borders.](#)" Submission to the UN Special Rapporteur on the Promotion and Protection of Human Rights in the Context of Climate Change, November 2022.

46 Rob Schmitz, "[The EU Accuses Belarus of Luring Global Migrants into Other European Countries.](#)" NPR, 12 October 2021.

47 Givi Gigitashvili, "[Belarus Criticizes EU Border Tactics, with Migrants Caught in the Middle.](#)" DFRLab, 13 October 2021.

48 Intergovernmental Panel on Climate Change, "[Climate Change 2022: Impacts, Adaptation and Vulnerability.](#)" United Nations Framework Convention on Climate Change, 2022.

49 Ope Adetayo, "[Coups, Climate and Cost of Living: Key Issues That Shaped 2023 in Africa.](#)" *Al Jazeera*, 19 December 2023.

50 The Africa Center for Strategic Studies, "[Mapping a Surge of Disinformation in Africa.](#)" 13 March 2024.

MISINFORMATION AND RESPONSE RISKS

Finally, if poorly designed or mischaracterized, climate mitigation and adaptation policies themselves can also create openings for mis- and disinformation, as state and nonstate actors contest narratives around the energy transition, relations with climate vulnerable and minerals-rich countries, climate-related protests and polarization, and potential geoengineering.

As climate change accelerates, pledges to cut emissions are becoming more urgent, threatening the economic interests of petrostates and private firms with a record of employing mis- and disinformation to slow the energy transition or greenwash. For example, in June 2023, a network of inauthentic social media accounts propagated messages boosting the climate credentials of the UAE ahead of it hosting the COP28 summit in Dubai.⁵¹ And amid conflict in Ukraine and European efforts to diversify off Russian energy toward renewables, pro-Russian influence actors have sought to entrench Russian trade and natural gas interests.^{52 53} Meanwhile, oil

and gas companies and associated PR firms for decades publicly downplayed or undermined climate science linking fossil fuels to climate change impacts,^{54 55} and multiple studies and investigations show that the majority of carbon offset projects relied upon by companies to claim emissions cuts overstate their impact.⁵⁶ As the urgency and stakes of such issues grow, states and companies will have increasing incentives to deploy influence tools, including mis- and disinformation, in pursuit of their state and private economic interests.

Mis- and disinformation is also likely to be a tool as state competition for influence intensifies in critical minerals-rich countries or strategically located climate-vulnerable states. The energy transition will mean an expansion of controversial minerals and metals mining for clean energy technology, often involving Chinese or other foreign firms and taking place in politically fragile locations. 2022 offered a preview of the influence implications, when China reacted to civil society criticism of China's mining and environmental impacts in Zimbabwe—including of a new lithium processing plant^{57, 58, 59}—by supporting a government crackdown on independent

51 Damian Carrington, [“Army of Fake Social Media Accounts Defend UAE Presidency of Climate Summit,”](#) *The Guardian*, 8 June 2023.

52 DFRLab, [“#BalticBrief: Narratives and Nord Stream 2,”](#) 14 October 2018.

53 DFRLab, [“Pro-Kremlin Outlets ‘predict’ Coronavirus-Driven Economic Collapse of the Baltic Countries,”](#) 10 April 2020.

54 Chairwoman Carolyn Maloney and Chairman Ro Khanna, [“Re: Investigation of Fossil Fuel Industry Disinformation,”](#) House of Representatives Committee on Oversight and Reform, 9 December 2022.

55 Hiroko Tabuchi, [“Oil Executives Privately Contradicted Public Statements on Climate, Files Show,”](#) *The New York Times*, 14 September, 2022.

56 Josh Gabbatiss, et al, [“In-Depth Q&A: Can “Carbon Offsets” Help to Tackle Climate Change?,”](#) Carbon Brief, 24 September 2023.

57 The Standard, [“News in Depth: Chinese Scramble for Zim’s Chrome Leaves Communal Lands Scarred,”](#) 13 March 2022.

58 Tawanda Majoni, [“Corruption Watch: Lithium Is Zimbabwe’s New Curse,”](#) The Standard, 12 March 2023.

59 Farai Mutsaka, [“A Chinese Mining Company Has Opened a Giant Lithium Processing Plant in Zimbabwe,”](#) AP News, 5 July 2023.

media and painting criticism as a US-led plot.^{60, 61, 62} Meanwhile, the US intelligence community warns that lagging finance investments are an increasing driver of dissatisfaction with the United States in climate-vulnerable states, while noting Beijing is growing more aggressive in efforts to sow doubts about US leadership and extend its influence in the Pacific,⁶³ which includes some of the most climate-vulnerable nations.

Domestic and international mis- and disinformation is also cropping up around protests and societal polarization over climate policy debates.⁶⁴ This includes backlash to real or perceived costs of climate policies, such as 2024's farmer protests across Europe resisting a range of EU Green Deal policies, including fuel subsidy removals, changes to EU safety net policies, and enhanced environmental regulations.⁶⁵ While mostly peaceful, these protests have at times threatened or attempted violence against politicians, and have been

fed by falsehoods^{66, 67} from far-right political actors and amplified by Russian state media.⁶⁸ In the UK in 2023, social media manipulation and misinformation claimed a local emissions reduction policy was a pretext for a "net zero prison" and "climate lockdown," and helped swing a key local election.⁶⁹ And in France during 2018's Yellow Vest demonstrations, misinformation about proposed tax increases on petrol to combat climate change spread among the protests, which ultimately sank the measure.⁷⁰

Misinformation targeting climate activism and demonstrations themselves is also a growing concern. For example, in the UK amid disruptive but peaceful climate protests, politicians and far-right actors routinely mislabel protesters as "terrorists,"⁷¹ contributing to a polarized environment where demonstrators have been attacked, run over, and choked by an MP,^{72 73 74} and prompting warnings from the UN and civil society about social unrest and violence against

60 Kenton Thibaut, "[China Spearheads Social Media Campaign to Attack Civil Society in Zimbabwe](#)," DFRLab, 9 November 2022.

61 "[US Plan to Discredit Chinese Investments Unmasked](#)," The Herald, 21 September 2021.

62 "[Chinese Embassy Dismisses Newspaper Report](#)," The Herald, 11 July 2022.

63 U.S. Office of the Director of National Intelligence, "[2023 Annual Threat Assessment](#)," 2023, pp. 22–23.

64 "[Climate Protest Tracker](#)," Carnegie Endowment for International Peace.

65 Siena Cicarelli and Erin Sikorsky, "[Risks of Response: Climate Security, Climate Policy & Farmer Protests in Europe](#)," The Center for Climate & Security, 1 February 2024.

66 Sadhbh O'Neill, "[Why Is Climate Misinformation Going Unchallenged among Farmers?](#)" The Irish Times, 12 March 2024, .

67 Steven Morris and Helena Horton, "[Farmers Stage Mass Protest Outside Welsh Parliament over Climate Policies](#)," The Guardian, 28 February 2024.

68 Nicolas Tenzer, "[Europe's Farmer Protests Have Been Fertile Ground for Russian Propaganda](#)," Politico, 13 March 2024.

69 Joshua Askew, "[Conspiracy Theories and Disinformation Mar UK Local Election](#)," Euronews, 4 August 2023.

70 Tony Cross, "[Fake News, Real Anger – Macron Faces Petrol Tax Rise Protests](#)," RFI, 5 November 2018.

71 Dan Wootton, "[DAN WOOTTON: Just Stop Oil Are Not Protestors or a Suffragette-Style Movement – They're a Deranged Criminal Eco-Terrorist Cult Putting Our Safety at Risk and Must Face the Full Force of the Law before They Cause Countless Deaths](#)," *Daily Mail*, 10 November 2022.

72 "[Video: Driver Brutally Hits and Kicks Climate Activists on Road in Mannheim](#)," *Daily Mail*.

73 Emily Atkinson, "[Moment Motorist Drives through Just Stop Oil Protesters Blocking Road and 'runs over Woman's Foot'.](#)" *The Independent*, 2 May 2023.

74 Patrick Greenfield, Caroline Davies, and Dan Sabbagh, "[Mark Field Suspended as Minister after Grabbing Climate Protester by Neck](#)." *The Guardian*, 21 June 2019.

activists.^{75 76} In Germany, a spike in media coverage misleadingly equating climate civil disobedience with Germany’s history of left-wing terrorism has coincided with an increase in violent attacks on climate protesters in Berlin.^{77 78} Such tensions give malign actors new avenues to polarize debate on both sides—for example, Russian trolls have attempted to encourage protests over fracking and oil pipelines in the United States, even as they support anti-green movements elsewhere.⁷⁹

Finally, further over the horizon as climate impacts accumulate, mis- and disinformation is likely to increase around growing debates on the merits or impacts of solar geoengineering—artificially dimming the sun to ameliorate runaway warming.^{80 81} Setting aside the unknowns and risks of such measures, these debates are likely to be fraught with misinformation risks. These include the possibility of states blaming natural disasters on other states’ alleged geoengineering efforts or the inflaming of long-established weather-control related conspiracy theories. Research shows online discourse around geoengineering already overlaps with conspiracy theories about “chemtrails.”⁸²

MEDIATING FACTORS AND VULNERABILITIES

Vulnerabilities to misinformation related to climate change hinge on several mediating factors, which can be the focus of policy interventions and future research.

Of course all else being equal, the degree of emissions mitigation and adaptation to climate change can ameliorate climate change’s physical and cascading impacts, and by extension reduce misinformation and security risks. As such, effective mitigation and adaptation must be pursued in parallel with efforts to manage security and misinformation risks. At the same time, ill-conceived or mischaracterized climate policies themselves can be vulnerable to misinformation around response risks. This can be driven by genuine harms of inadequately designed climate policies (such as avoided deforestation investments that lack safeguards to protect indigenous communities from forced displacement), or bad faith disinformation aiming to exacerbate or exploit backlash to perceived downsides of climate action.

The International Energy Agency warns that the transition to low-carbon energy may be volatile,^{83,84} as fossil fuel supply and demand decline out of step with

75 United Nations, “[Michel Forst UN Special Rapporteur on Environmental Defenders under the Aarhus Convention, Visit to London, United Kingdom of Great Britain and Northern Ireland](#),” January 2024.

76 Stella Levantesi, “[‘Enemies of Society’: How the Media Portray Climate Activists](#),” *Green European Journal*, 17 October 2023.

77 Ibid.

78 “[Berlin Police Record Jump in Angry Motorists Attacking Road-Blocking Climate Activists](#),” AP News, 1 June 2023.

79 Craig Timberg and Tony Romm, “[These Provocative Images Show Russian Trolls Sought to Inflame Debate over Climate Change, Fracking and Dakota Pipeline](#),” *The Washington Post*, 1 March 2018.

80 “[Safe Climate Research Initiative](#),” SilverLining.

81 The White House, “[Congressional—Mandated Report on Solar Radiation Modification](#),” 30 June 2023.

82 Ramit Debnath and Shaun Fitzgerald, “[Social Media Posts around Solar Geoengineering ‘Spill Over’ into Conspiracy Theories](#),” University of Cambridge, 28 February 2023.

83 International Energy Agency, “[World Energy Outlook 2022](#),” 2022.

84 Jason Bordoff and Meghan L. O’Sullivan, “[Green Upheaval](#),” *Foreign Affairs*, 30 November 2021.

one another, risking price spikes and economic dislocation that is fertile ground for misinformation, which highlights the importance of improving policy design.

Meanwhile, climate misinformation threats will also be shaped by the manifestations of broader challenges of inadequate societal and institutional trust, polarized information ecosystems, and inadequately regulated digital technology. Trust in key institutions is required to accept explanations of counterintuitive, indirect, or complex climate change impacts or policy solutions, but such trust is declining in the United States and globally.^{85, 86} Polling from 2023 by the Edelman Trust Barometer in 14 countries shows that the number of respondents who trust climate information from journalists, CEOs, or government leaders is less than 50% and fell year-on-year.⁸⁷

Fragmented media ecosystems and polarization augment this challenge. Edelman surveys show green energy innovation is politicized with more resistance from the right,⁸⁸ that stark trust gaps exist between rich and poor within and between countries, and that a majority of 28 countries polled qualify as “severely polarized” or “at risk of severe polarization.”⁸⁹ Surveys by Climate Action Against Disinformation in six key countries show significant minorities believe climate change is a global conspiracy to destabilize their

country, ranging from 6% of adults in the UK, to 19% in the United States, to 30% in India.⁹⁰

Finally, existing and rapidly evolving technologies will play a key role in moderating or amplifying climate misinformation threats. Persistent blind spots in social media moderation manifest in the climate sphere, with X, Meta, Youtube, and Tiktok having significant policy and enforcement gaps on climate misinformation.⁹¹ Meanwhile, experts warn that artificial intelligence-generated text, images, or video risks enabling more rapid or persuasive climate mis- and disinformation—as previewed by China’s use of AI-powered disinformation around US wildfires in 2023.⁹² At the same time, the mere possibility of such fabrications is simultaneously justifying the dismissal of authentic information.^{93, 94}

Worryingly, climate mis- and disinformation may exacerbate, as well as be exacerbated by, these broader trends. Real and perceived failures on climate challenges risk eroding broader social trust in institutions and government legitimacy, a key inoculating factor against mis- and disinformation of all kinds. For example, survey results showing a decline in trust in government leaders, CEOs, journalists, activists and NGOs, and foreign countries to appropriately tackle climate change⁹⁵ coincided with broader worsening

85 Brian Kennedy, “[Americans’ Trust in Scientists, Positive Views of Science Continue to Decline](#),” Pew Research, 14 November 2023.

86 Edelman, “[Edelman Trust Barometer Special Report: Trust and Climate](#),” 2023.

87 Ibid.

88 Edelman, “[Edelman Trust Barometer 2024](#),” 2024.

89 Edelman, “[Edelman Trust Barometer 2023](#),” 2023.

90 Climate Action Against Disinformation, “[The Impacts of Climate Disinformation on Public Perception](#),” 2022.

91 Climate Action Against Disinformation, “[Climate of Misinformation](#),” September 2023.

92 David E. Sanger and Steven Lee Myers, “[China Sows Disinformation About Hawaii Fires Using New Techniques](#).”

93 Climate Action Against Disinformation, “[Artificial Intelligence Threats to Climate Change](#),” 2024.

94 Jessica Brandt, “[Propaganda, Foreign Interference, and Generative AI](#),” Brookings, 8 November 2023.

95 Edelman, “[Edelman Trust Barometer Special Report: Trust and Climate](#).”

in economic optimism and polarization.⁹⁶ Other surveys suggest a correlation between people's faith that their country will take sufficient action on climate change and overall trust in government.⁹⁷

PRELIMINARY POLICY AND RESEARCH PRIORITIES

This report aims to act as a framework to consider the security interactions of climate change and mis- and disinformation, and as a baseline for future analysis and policy development. This analysis suggests several initial priorities.

First, mis- and disinformation risks should be more integrated in climate mitigation and adaptation policy design. This includes de-escalatory government rhetoric around climate protests and migration and planning for how humanitarian assistance and disaster relief will operate in a contested information environment. It also means considering early the real or perceived losers from climate-oriented energy, agriculture, or land-use policies and taking steps to insulate them from harm, in parallel with planning to counter ill-founded misinformation. One model of this thinking is the Just Energy Transition Partnerships, whereby Global South countries decarbonize in exchange for outside assistance offsetting the economic and social

costs of the transition, but so far these approaches are more theory than reality.⁹⁸

Second, countries should strengthen their ability to monitor and counter climate-related mis- and disinformation. Such efforts must be agile to consider non-state and state actors, compete with quickly evolving malign narratives, and keep pace with fast-moving climate disasters. Lessons can be learned from the successes and challenges faced by analogous efforts to more proactively push back against misinformation threats to COVID response and election security. Efforts to counter climate mis- and disinformation should be integrated with broader government programs to assess climate security risks, as well as with initiatives to push back against Russian, PRC, and other disinformation of all types. For example, the US Intelligence Community's Foreign Malign Influence Center,⁹⁹ FBI's Foreign Influence Task Force,¹⁰⁰ Congressional proposals on COVID and election disinformation,^{101, 102} and European Union counter-disinformation efforts,¹⁰³ have little focus on the nexus of climate security and mis- and disinformation.

Finally, climate misinformation broadly defined should be a more prominent consideration in ongoing policy discussions on how to properly regulate social media and artificial intelligence. Eight out of the top ten risks for the next decade identified by the World Economic Forum relate to climate and the environment, AI, misinformation, or societal

96 Edelman, "[Edelman Trust Barometer Special Report: Trust and Climate.](#)"

97 Valerie Frey and Monica Brezzi, "[Beyond the Headlines on Trust in Government.](#)" Center for Economic Policy Research, 23 October 2022.

98 Adam Tooze, "[JET-P: The 'Paper Tigers' of Western Climate Geopolitics.](#)" 22 February 2024.

99 Office of the Director of National Intelligence, "[Foreign Malign Influence Center.](#)"

100 Federal Bureau of Investigation, "[Combating Foreign Influence.](#)"

101 US Senate, "[Election Security Act of 2019.](#)" 16 May 2019.

102 US Senate, "[COVID-19 Misinformation and Disinformation Task Force Act of 2020.](#)" 6 August 2020.

103 European Commission, "[Tackling Online Disinformation.](#)"

polarization.¹⁰⁴ Nevertheless, the European Union and United States have inconsistent approaches to social media and AI regulation,¹⁰⁵ and a recent US Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence¹⁰⁶ includes minimal content on the nexus of AI, climate, and misinformation.

Finally, numerous research and policy questions emerge that are beyond the scope of this report, building on similar calls for similar research on environmental stress and atrocities.¹⁰⁷ Which particular forms of climate mis- and disinformation are most likely to result in violence? How can policymakers appropriately balance the security benefits of rapid climate action with the need to carefully consider misinformation risks in their design and implementation? What are the best interventions to blunt climate-related mis- and disinformation, and which are unique to climate policy and which are more universal? What tactical lessons from challenges like election interference and COVID-19 conspiracy theories are applicable to climate change, and which are not? The answers to these questions will be critical as the world navigates the mis- and disinformation challenges to climate security in the coming decades.

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104 World Economic Forum, "[Global Risks Report 2024](#)," 10 January 2024.

105 Bill Whyman, "[AI Regulation Is Coming – What Is the Likely Outcome?](#)" Center for Strategic and International Studies, 10 October 2023.

106 The White House, "[Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence](#)," 30 October 2023.

107 Cullen Hendrix, "[Putting Environmental Stress \(Back\) on the Mass Atrocities Agenda](#)," October 2016.