

We Need a Global Climate Observatory

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On January 30–31, 2025, IGCC convened a first-of-its-kind research incubator to examine the links between climate change, democratic backsliding, and public backlash against green policies. The conversation aimed to bridge the divide between scholars within the political and climate sciences to promote interdisciplinary studies at the crossroads between global environmental and governance challenges.

Workshop participants prepared memos before the meeting responding to two questions: *under which conditions can climate change and climate policies trigger a green backlash? And what are the consequences of climate change disruptions and green backlash for democracy?* These memos are now published as part of an ongoing IGCC essay series on Climate Change, Green Backlash, and Democracy.

About the Author

Mark Buntaine, professor at the Bren School of Environmental Science & Management at UC Santa Barbara, makes the case for a global climate observatory to better understand how climate impacts are affecting democratic governance.

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Motivation

Climate change is creating disruptions at a scale that governments around the world struggle to handle. Floods, wildfires, hurricanes, droughts, rising temperatures, and other hazards threaten lives and livelihoods of populations on a vast scale. These threats are growing. When specific critical events occur, they place intense pressure on governments to respond quickly and effectively. People who experience disasters are likely having the most intense interactions with government agencies that they will have at any point in their lives. Poor management of these interactions likely erodes trust in public institutions, while competent efforts might reinforce the legitimacy of democratic governance.

On average, however, the potential for negative effects seems more likely for most climate-related disasters. By definition, disasters overwhelm the ability of governance systems to effectively protect people and property. Accordingly, I think it is likely that climate events will cumulatively undermine social trust and commitment to democratic institutions. This prediction is contextual, however, with these disruptions being even more challenging in contexts with fewer resources, lower political stability, and less social cohesion. To better understand these possibilities and possible mitigating responses, we need a large-scale data infrastructure that helps us learn how people are responding to both critical climate events and mitigating interventions.

Some Hypotheses

Disasters overwhelm the normal functioning of governments. They represent a crucible when people interact with government agencies and learn whether their form of government is effectively coming to their aid in moments of intense need. Weak, slow, inadequate, or absent responses during a crisis likely cause the public to lose faith in government. This mistrust might then spill over into reduced voter turnout, increased cynicism, or outright calls for alternative forms of rule. The key idea is that disasters offer a very tangible test about whether democratic forms of governance are capable of providing the collective benefits that people depend upon during intense moments of need.

It is certainly possible that disasters offer opportunities for prevailing systems of governance to shine. When officials respond to disasters effectively—coordinating resources, communicating clearly, and addressing challenges faced by populations swiftly— that might bolster confidence in democracy. Voters reward incumbents at the polls for effective relief efforts (Healy and Malholtra 2009). And there is some evidence

that social cohesion can increase when disasters provide opportunities for people to work together (Lee 2020), but only in the context of high preexisting social trust. In places with more social division, these crises may intensify polarization, however. Climate events create visible winners and losers, and political opponents may exploit relief failures to cast incumbents as incompetent (just look at the Los Angeles fires). In highly partisan contexts, supporters of the ruling party might defend the government's performance, regardless of any obvious shortcomings. This clash of narratives might deepen existing political divides. My prediction is that climate impacts will exacerbate divisions in divided societies.

Disasters pose special risks in settings where governments have low capacity. In places where basic services are limited even during normal times, a climate disaster can devastate populations, overwhelming the ability of governments to provide even basic assistance. People who already suspect that the government is not serving their interests may become even more convinced that democratic forms of governance cannot deliver. In extreme cases, despair about failed responses might lead to support for authoritarian-style leaders who promise decisive action and support for violence to get there.

Wider issues like migration and inequality also affect democracy under climate stress. If entire communities must relocate, conflicts can flare in receiving areas. Governments unprepared for large-scale migration might struggle to address housing shortages, job competition, or cultural tensions, fueling resentment. Some citizens may blame democratic institutions for failing to manage these rapid changes, potentially generating backlash.

In short, climate disruptions create moments of reckoning for democracies and offer a direct test of citizens' faith in governments to deliver basic collective goods and manage social problems. Whether these events erode or strengthen democratic norms likely depends on government responsiveness, existing political cleavages, the state of trust in governments, and the ability of governments to meet moments of crisis that are inevitably growing more common.

Some Initial Evidence

While it is easy to speculate, as above, research on climate impacts and democratic outcomes is still in its early stages. Most studies to date focus on individual disasters in wealthier countries, where data is more readily available. The most compelling studies focus specifically on whether experiencing disasters is likely to increase public support for policies that address climate change. These designs leverage the as-if-random assignment in time and space of climate disasters to track political attitudes and outcomes. Taken together, the evidence suggests that climate events will have mixed effects on support for climate mitigation policies.

For example, Arias and Blair (2024) take advantage of an unexpected hurricane event that occurred during the fielding of a survey on climate change attitudes. They leverage the fact that respondents answered the survey both before and after this critical event. They find that experiencing the storm increased support for policies to address climate migration, but that these shifts in attitudes faded within months. Notably, the increase in support cuts across people with different political preferences. Baccini and Leemann (2021) also find a strong increase in pro-climate voting among populations exposed to floods in Switzerland.

Rather than using variation in time, Hazlett and Mildemberger (2020) leverage differential exposure in space to wildfire events, showing that segments of the population that are more liberal respond to wildfires with increased support for costly climate policies in actual voting outcomes. This effect is not found in more conservative areas, suggesting critical events may increase polarization on climate change. In sum, some initial studies show that experiencing wildfires or hurricanes can raise support for climate policies, but that these preferences can be fleeting. Partisan identity also appears to play a potentially important role—people who already believe in climate change may demand stronger policies, while skeptics remain unconvinced. The potential for critical events to drive further cleavages and backlash against climate policies is a particularly important possibility. There is even evidence suggesting that linking disasters to climate change may exacerbate political cleavages in how to prepare and respond (Hai and Perlman 2022).

While this is an important and interesting body of research (that is much larger than the papers I have mentioned here), these results do not directly speak to how climate events are linked to democratic resilience. First, most of the available causal evidence comes from high-income countries where governments can carry out basic functions. This may mute the deleterious effects on climate impacts on trust in governments and support of democracy. Second, most of the existing evidence looks at the relationship

between climate impacts and climate change policy preferences. There is evidence that more basic outcomes like social and institutional trust will be damaged by climate events, even in higher-income settings (Priest 2023).

In lower-capacity settings, including the low- and middle-income countries that are least ready to handle crises and climate events, research is much sparser. This is a major gap, since the stakes for human life and well-being are generally more acute and the ability of governments to respond effectively to climate events are lower. This raises the prospect for large-scale disruptions in government, erosion of social capital, and conflict. Indeed, observational evidence from sub-Saharan Africa suggests that awareness of climate change is negatively linked with trust in institutions (Dirksmeier et al. 2023). Exposure to longer-term drought events seems to significantly degrade trust in political institutions throughout Africa, at least as measured by Afrobarometer longitudinal data (Rhein and Jansesberger 2024). When state institutions do not provide effective responses to disasters, more basic social trust in fellow citizens erodes (Carlin et al. 2014). In turn, climate events that lower political trust also increase expressed support for violence to overturn systems of government (Detges 2017). All of these results point to the possibility that the basic underpinnings of democracy, such as political and social trust, are likely to be even eroded by climate impacts in settings where governments lack resources to respond effectively (or at all) to critical events.

One of the key prerequisites for functioning democracy is a level of social trust and belief that people's interests are best served in the long run by agreeing to settle disagreements according to the democratic process. These prerequisites are easier to maintain when there is some basic level of economic security, government functionality, and well-being. The most vulnerable places are often the most tenuous democracies. We need to understand these places better.

We Need a Climate Observatory

A major gap in our understanding stems from relying on short-term “snapshots” taken before and after single events. Almost all of these snapshots are taken in high-income countries where governments have a reasonable ability to respond to critical events. Climate change unfolds over years and decades, and many regions experience repeated disasters. Without tracking the same populations over time, researchers cannot see how multiple shocks accumulate to shape attitudes toward democracy. Are people becoming numb to disasters, or are they growing increasingly disillusioned with government failures? Do they attribute responsibility to governments for the longer-term outcomes after disasters? Do they become more engaged politically, or do they withdraw? Only

repeated observations, collected at multiple points in time across different crises, can answer these questions.

One promising approach is a longitudinal panel that surveys the same individuals or communities on a regular schedule. This design could reveal whether trust in government erodes after critical events, and whether targeted relief measures, such as international aid or public programs, cause trust to rebound. This approach might also detect regional variations in how people perceive their officials' performance and measure whether initial impressions of relief efforts carry lasting weight in the next election cycle. Without these types of data, we can hypothesize but are unlikely to learn much about the ways these changes will unfold.

The recurring theme here is the need for repeated data before and after critical events—a systematic, ongoing look at how different people in diverse, vulnerable locations experience climate events and assess their governments' performance and—more broadly—how democratic systems of governance affect their well-being. A large-scale “climate observatory” that tracked panels of people across diverse, climate-vulnerable contexts would allow researchers to collect this information at frequent intervals. Surveying the same households or individuals across multiple months or years would reveal how experiences of disasters will change the basic ingredients for democracy, like social trust, beliefs in the importance of the democratic process, and norms against violence and authoritarianism. We especially need these kinds of observations in the most precarious democracies.

Critically, this infrastructure needs to be set up in advance. Too often, data collection starts only after a major disaster, missing the chance to see how attitudes had been developing. When we rely on retrospective reports, people's memories of their prior trust levels or their sense of government competence can be distorted. By having an observatory in place and actively engaged with climate-vulnerable respondents, we can capture real-time shifts in opinion and track whether these shifts become persistent political behaviors.

Yet this approach comes with challenges. Setting up large longitudinal surveys is expensive and requires stable funding. Researchers must manage complex logistics, especially if they aim to work in remote or crisis-prone areas via mobile phones. Ensuring data quality, protecting respondents' privacy, and integrating findings across diverse contexts is a huge endeavor. The potential payoffs are significant, however. We could identify which groups are most vulnerable to disillusionment after disasters, which policies best rebuild trust, and how partisanship and social cleavages interact with climate shocks. We could track migration patterns, measure changing levels of social cohesion, and see whether repeated exposure to hazards pushes communities toward or away from democratic engagement.

Beyond just learning about the effects of disasters, we need to learn about how targeted or broad intervention might mitigate any harmful effects of climate impacts on democracy and social trust. Post-disaster assistance is one potential lever, especially when it is both timely and significant. Yet, to my knowledge we have no available data from low-income settings about how the timing of delivery of disaster relief affects trust in government or commitment to democracy.

External aid, especially in low-income regions, might fill critical gaps but risks overshadowing local institutions. It is critically important to learn about how external aid changes peoples' trust in their own governments, and engagement in the political process, especially after disasters.

A Call for Collaboration

We need to build a climate observatory. Carrying out this effort in the long-term will require more than a few researchers operating a standard research project. Building a climate observatory needs to be a collective undertaking that will involve governments, civil society groups, scholars from multiple disciplines, and funders willing to support long-term data collection infrastructure. Local partnerships are particularly vital, since researchers need to make sure these data are valuable for more than just academics.

We are working on laying the groundwork for such an initiative, but scaling it to the level required demands broad involvement. We hope to collaborate with colleagues who have active projects asking related questions, as well as practitioners who manage disaster preparedness and recovery. We first aim to set up a working prototype of the platform in four-to-five low-income countries that are highly vulnerable to climate impacts. We aim to precisely recruit the most climate-vulnerable individuals using targeted, mobile recruiting. We then want to work with a broad set of partners to make sure we are collecting the kind of data that is most informative about how climate impacts can be effectively managed and what this might mean for democracy and governance. If this sounds interesting, please reach out to brainstorm and contribute.

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