

Environmental Data Justice and the Trump Administration: Reflections from the Environmental Data and Governance Initiative

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ABSTRACT

The Environmental Data and Governance Initiative (EDGI) was formed after the U.S. presidential elections in November 2016 to respond to the threat posed by the Trump administration to environmental data and policy, and to federal environmental agencies. During his campaign, Trump was openly hostile to the Environmental Protection Agency (EPA) and to the science of climate change. Since taking office, Trump's administration has taken steps to radically de-fund federal environmental agencies and roll-back environmental regulations, threatening the public accessibility of federal environmental datasets and continued monitoring of environmental harms. The Trump administration has also taken down information from federal environmental websites, such as the EPA's web pages explaining climate change to kids. This situation poses specific challenges for environmental justice (EJ) activism, as many EJ organizations rely on federal datasets and information on environmental risks, industrial emissions, and climate issues. Since November 2016, EDGI has focused on preserving existing federal environmental data, monitoring changes to federal websites, documenting the political transition through interviews with staff at EPA and Occupational Safety and Health Administration (OSHA), and offering timely academic analysis of current events. Though EDGI's focus so far has been largely reactive to current political events, in this article we suggest a positive vision of "environmental data justice," which we define as the public accessibility and continuity of environmental data and research, supported by networked open-source data infrastructure that can be modified, adapted, and supported by local communities. Environmental data justice also includes maintaining attention to long-standing EJ concerns about the politics of evidence, such as what counts as data, what data are collected, and whose interests they serve.

Keywords: environmental data justice, environmental justice, DataRescue, Environmental Data and Governance Initiative, politics of evidence

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INTRODUCTION

WITH THE RECENT U.S. elections, the relationship between environmental justice (EJ) and scientific evidence faces new challenges. Making good on anti-environmental campaign promises, President Trump has announced his intention to pull the United States out of the United Nations Paris Accord on climate change and disband the Interagency Working Group on Social Costs of Greenhouse Gases. Scott Pruitt, Trump's appointment to Environmental Protection Agency (EPA) Administrator, spent much of his career litigating against the very agency he now oversees. Pruitt had previously rejected the science supporting anthropogenic climate change,¹ and as EPA Administrator refused to ban the pesticide chlorpyrifos, which is known to cause developmental damage to children.² Pruitt is now poised to implement dramatic budgetary and staffing cuts to the EPA, along with deregulation that favors industrial and economic growth over human and environmental health.

Experience under Stephen Harper's recent administration in Canada (2006–2015) indicated to Environmental Data and Governance Initiative (EDGI) researchers that erasures of environmental data can be part of efforts to deregulate and undermine federal environmental agencies. Data loss can take several forms: the loss of access to online datasets, the termination of particular data collection projects, and even the removal of information from federal environmental websites.³ This situation poses specific challenges for EJ activism, as many EJ organizations rely on federal-level datasets on environmental risks, industrial emissions, and climate issues. Combined with geographical data on racial and economic inequalities, state environmental datasets allow EJ groups to make claims about inequitable toxic exposure. The continued preservation and public accessibility of federal environmental data is, therefore, an issue of environmental justice.

EDGI offers one way to respond to the Trump administration actions and to move toward "environmental data justice."⁴ EDGI formed after the U.S. elections in November as a small group of academics that was concerned about Trump's threats to environmental science and policy. Since then, EDGI has grown into a broad network of physical and social scientists, lawyers, librarians, data scientists, and professionals from

environmental nonprofits across North America, collaborating via online platforms. EDGI is primarily volunteer based, although it has received grants for a handful of projects.⁵

In this article, EDGI members describe the organization's research projects and practices developed since November 2016. EDGI aims to intervene in contemporary environmental politics through preserving environmental data in the public interest, monitoring changes to federal websites, documenting the presidential transition through interviews with agency staff, and offering timely academic analysis of current events. We also reflect on the ways our approach thus far has been limited and, in some ways, a form of reactive politics. In the final section of this article, we suggest a set of guiding questions and concerns to move toward "environmental data justice." We provisionally define environmental data justice as beginning with community-based environmental data collection, public (especially online) accessibility of environmental data, and environmental data platforms supported by an open source online infrastructure—in particular, one that can be used and modified by local communities. Beyond these basic tenets, we see environmental data justice as an opportunity to think about what injustices our current data practices may support or cannot ameliorate.⁶ In this way, environmental data justice also includes more theoretical considerations about the politics of evidence, including what counts as data, what data are collected, and whose interests they serve.

DATA RESCUE AND THE ARCHIVERS COMMUNITY

EDGI's Archiving Working Group seeks to archive websites and datasets from federal environmental agencies and to maintain their public accessibility. It emerged to support what became known as the "DataRescue" project, which we explain below. The first public archiving event (though it did not yet bear the "DataRescue" name) was hosted by EDGI scholars at the University of Toronto in December 2016. The location is not coincidental: Canadian scientists had recently endured former Prime Minister Stephen Harper's anti-science administration (2006–2015). Under Harper, Canadian federal laboratories and environmental research programs' budgets were severely cut back, environmental libraries were closed, scientists were unable to speak freely to the public, and the government deleted environmental information from websites.⁷ Based on

¹Coral Davenport. "Climate Change Denialists in Charge." *New York Times*, March 27, 2017. www.nytimes.com/2017/03/27/us/politics/climate-change-denialists-in-charge.html?mcubz=1&r=0. Accessed September 2, 2017.

²See Earthjustice. "EPA Refuses to Ban Pesticide Linked to Poisonings and Damage to Children's Brains." <http://earthjustice.org/news/press/2017/epa-refuses-to-ban-pesticide-linked-to-poisonings-and-damage-to-children-s-brains>. (Last accessed on June 13, 2017).

³Christopher Sellers *et al.* "The EPA Under Siege: Trump's Assault in History and Testimony." (Environmental Data and Governance Initiative, June 2017).

⁴The term *Environmental Data Justice* was coined by EDGI co-founder Michelle Murphy and owes its substantiation to her continuously pathbreaking work.

⁵EDGI has received grants from the Doris Duke Charitable Foundation and the David and Lucile Packard Foundation.

⁶We welcome others to build on and modify our definition.

⁷A few overviews of science under the Harper Administration: Joshua Rapp Learn. "Canadian Scientists Explain Exactly How Their Government Silenced Science." *Smithsonian.com*, January 30, 2107. www.smithsonianmag.com/science-nature/canadian-scientists-open-about-how-their-government-silenced-science-180961942/#lfCXD0VoTchRDM4.99; Leslie Evans Ogden. "Nine Years of Censorship." *Nature*, May 3, 2016. www.nature.com/news/nine-years-of-censorship-1.19842. Accessed September 2, 2017.

Trump's statements during the campaign and the appointment of a climate denier, Myron Ebell, to his EPA transition team, EDGI scholars worried that the Canadian experience would replay itself in the United States.⁸

The DataRescue project, which was co-coordinated with DataRefuge at the University of Pennsylvania, began as an effort to nominate federal environmental websites to the Internet Archive's End-of-Term archive, and to design an event toolkit that would enable the effort to spread across North America.

The Internet Archive is a San Francisco-based, non-profit digital library. It provides access to digital archives through the "Wayback Machine," a digital player of archived Internet web pages.⁹ In 2008, the Internet Archive helped initiate the End-of-Term archive, along with partners that included the Library of Congress and the U.S. Government Publishing Office. The End-of-Term project archives federal websites at risk of changing or being deleted during presidential transitions, preserving them for the public record.

DataRescue sought to address some limitations of the End-of-Term archive—namely, its web crawler (or bot), which "crawls" through and captures federal websites, only scratches the surface of those websites (in other words, it only captures the first layers of linked web pages). The Internet Archive recognized this limitation and it allowed users to suggest, or "nominate," particular web pages to the End-of-Term archive. Nominating a web page assists the Internet Archive's web crawler in capturing a more complete version of a government agency website. One important innovation of the DataRescue project was to organize events (some lasting several hours, others lasting multiple days) around the country to systematically nominate web pages from important federal environmental agencies to the End-of-Term archive. DataRescue events utilized EDGI-developed software and federal agency site maps to automate an otherwise cumbersome and un-scalable process. More than 30 DataRescue events took place between December 2016 and May 2017 adding 63,076 web pages to the Internet Archive. The DataRescue project, and EDGI-built online tools, led the way for the EPA to become the most comprehensively archived federal agency.

Approximately one-third of the web pages nominated for inclusion into the Internet Archive were not "crawlable" by the Internet Archive's web crawler (or in other words, the Internet Archive was unable to capture those pages), because its web crawler program cannot capture web pages with dynamic databases, data visualizations,

interactive features, multiple large files (like .pdfs), or data that exist behind the "search" function. Importantly, these uncrawlable web pages include data repositories that EJ groups often rely on for information and advocacy purposes. In response, EDGI members developed a digital workflow to download these difficult-to-capture web pages, and eventually archive them, in a high-quality format, for public viewing. Archiving datasets requires robust "chains of custody" and metadata as assurances of their authenticity (and therefore citability), in the case that the federal original copy "goes dark." This process is highly technical and time intensive. Although EDGI has flagged nearly 22,000 such web pages, we have only completed the archival and documentation process for several hundred web pages, including uploading them to DataRefuge's repository.¹⁰

Along with these measurable accomplishments in preserving public environmental data, the DataRescue project contributed to a larger community of resistance that emerged in the months after Trump's election. DataRescue events took place in the same time frame as the Women's March, the Science March, the Tax Day March, the rise of dissenting environmental agency social media accounts (such as @altNASA, @altNOAA, and @altEPA), and protests against Trump's "travel ban" that took place at airports across the country. EDGI added a different repertoire of action to this community of resistance, one that merged dissent with actively seeking to protect what might be lost or damaged. Some of EDGI's organizing techniques built on the "maker movement" and on hackathons and other online accountability movements. Importantly, DataRescue events also brought people together to form in-person communities of affinity around the importance of science, data, transparency, and public accountability. This form of social action aligns with EJ goals of building grassroots movements to hold the state accountable for environmental harms. EDGI builds on this drive toward state accountability in its web-monitoring project, which we discuss below.

WEBSITE MONITORING

Although it is common for new presidential administrations to change the wording or content of websites (indeed, this is the rationale for the Internet Archive's End of Term project), EDGI sought to move beyond archiving to detailed monitoring and analysis of federal website changes. Before Trump's inauguration, EDGI purchased an account with a website tracking software company (also called "version-tracking"), to monitor federal environmental agency web pages on a daily basis. Currently (as of June 2017), EDGI tracks changes to 25,000 websites, mostly at the EPA, the National Aeronautics and Space Administration, the National Oceanic

⁸Arthur Nelson. "Donald Trump 'Taking Steps to Abolish Environmental Protection Agency'." *The Guardian*, February 1, 2017. www.theguardian.com/us-news/2017/feb/02/donald-trump-plans-to-abolish-environmental-protection-agency; Louis Jacobson. "Yes, Donald Trump Did Call Climate Change a Hoax." *Politifact*, June 3, 2016. www.politifact.com/truth-o-meter/statements/2016/jun/03/hillary-clinton/yes-donald-trump-did-call-climate-change-chinese-h. Accessed September 2, 2017.

⁹For the End-of-Term project, visit: <http://eotarchive.cdlib.org>. For the Wayback Machine, visit: <https://archive.org/web>.

¹⁰Archived datasets housed by DataRefuge are available here: www.datarefuge.org.

and Atmospheric Administration, the Department of Energy, and the Department of the Interior.¹¹ EDGI's Website Monitoring working group involves EDGI members who work as "web monitoring analysts," culling socially significant changes to federal websites and developing reports on these changes. As of June 2017, EDGI's website monitoring working group published 15 reports on significant website changes, which have informed news articles at outlets including *The New York Times*, *The Washington Post*, and *ProPublica*.¹²

To date, we have not seen the wave of data removal that some initially feared. Still, we found three important types of federal environmental agency website changes:

- Changes that signal policy shifts, such as the withdrawal of the Obama-era rule on waste methane on the Bureau of Land Management website, prior to congressional review of the rule.¹³
- Rhetorical shifts, reflecting the Trump administration's priorities, such as the removal of language about greenhouse gases and climate change on State Department and Department of Energy websites¹⁴, and on the EPA website, the replacement of terms like "science-based" regulations to industry-friendly "technology-based standards," where polluters re-

ceive a regulatory green light simply by installing certain types of technology.¹⁵

- Barriers to and in some cases outright loss of public access to environmental information, including loss of access to EPA's entire set of web pages on climate change for kids in the April 28th overhaul of EPA.gov.¹⁶

The scalability and reproducibility of EDGI's monitoring project, or the degree to which EJ organizations could adopt similar tactics, must be prefaced with several important caveats. To begin with, the work of tracking 25,000 web pages is labor intensive. The version-tracking software identifies website changes, but it cannot assess whether these changes are socially significant. Thus, a trained team must look at every flagged web page change and evaluate whether or not it matters (including establishing the criteria for what matters).

Second, the necessary software is, at least at present, privately owned and, in most cases, expensive. In other words, this tactic is likely beyond the means of small organizations and community groups. EDGI recognizes this and is working to develop an open source, publicly accessible user interface for website tracking, one that could track tens of millions of federal web pages.¹⁷

Lastly, accurately analyzing website changes can be a difficult and confusing task, particularly in moments of heightened concern and suspicion toward the government. For these reasons, EDGI decided against publicizing every website change it registered. Rather, EDGI developed a process of researching and compiling co-authored reports, which go through an internal review process, on changes it finds politically meaningful. EDGI also decided to work with journalists, who could provide more research, context, and narrative, and add an additional layer of external review, to communicate its findings, and press for governmental accountability.

TIMELY ACADEMIC ANALYSIS

EDGI assembles its members' expertise to develop critical scholarly analyses of current political events. In these projects, we aim at responding quickly while maintaining academic rigor and a critical lens. For example, on the night of Scott Pruitt's inaugural address as EPA Administrator, a small group of EDGI social scientists and historians gathered online to collectively

¹¹We saved versions of those 25,000 pages before January 20, 2017 to serve as baselines, and can monitor any change to content or design since then using version tracking software. Then, we selected pages to monitor that were based on four primary sources: (1) published and off-the-record reports of the priorities of Trump's transition teams; (2) published reports from Republican leaders on the Hill, including the Freedom Caucus' First 100 Days plan; (3) suggestions from agency staff, scientists, and environmental advocacy organizations; and (4) our own best judgment from what collectively amounts to decades of studying U.S. environmental agencies.

¹²Chelsea Harvey. "Changes to Energy Department Websites Downplay Renewables as a Replacement for Fossil Fuels." *The Washington Post*, April 21, 2017. www.washingtonpost.com/news/energy-environment/wp/2017/04/21/the-energy-department-is-changing-its-website-to-reflect-trumps-climate-agenda/?utm_term=.4328f602ebc9; Amy Harmon. "Activists Rust to Save Government Data—If They Can Find It." *The New York Times*, March 6, 2017. www.nytimes.com/2017/03/06/science/donald-trump-data-rescue-science.html?rref=collection%2Fbyline%2Famy-harmon&action=click&contentCollection=undefined®ion=stream&module=stream_unit&version=latest&contentPlacement=1&pgtype=collection&r=0; Patrick G. Lee. "Concern Sparked by Recent Changes to a Department of Energy Website for Kids." *ProPublica*, February 17, 2017. www.propublica.org/article/childs-play-team-trump-rewrites-a-department-of-energy-website-for-kids. Please visit: <https://envirodatagov.org/website-monitoring> for more news article links.

¹³Alleen Brown. "Text Describing Federal Fracking Rule Disappears from Interior Department Website." *The Intercept*, February 15, 2017. <https://theintercept.com/2017/02/15/text-describing-federal-fracking-rule-disappears-from-interior-department-website>. Accessed September 2, 2017.

¹⁴Brian Kahn. "The State Department Rewrote Its Climate Change Page." *Climate Central*, March 23, 2017. www.climatecentral.org/news/state-dept-climate-change-web-page-21272; Christa Marshall. "Trump Admin Overhauls Webpages for Wind, Vehicles." *E&E News*, April 21, 2017. www.eenews.net/greenwire/stories/1060053418. Accessed September 2, 2017.

¹⁵Emily Atkin. "The EPA's Science Office Removed 'Science' From Its Mission Statement." *The New Republic*, March 7, 2017. <https://newrepublic.com/article/141174/epas-science-office-removed-science-mission-statement>. Accessed September 2, 2017.

¹⁶Juliet Eilperin. "The EPA Just Buried Its Climate Change Website for Kids." *The Washington Post*, May 6, 2017. www.washingtonpost.com/news/energy-environment/wp/2017/05/06/epa-buries-climate-change-site-for-kids. Accessed September 2, 2017.

¹⁷This project was made possible by a collaboration with a Canadian web-tracking company, PageFreezer, and has received funding from the Doris Duke Charitable Trust (\$50,000) and the David and Lucile Packard Foundations (\$75,000).

annotate Pruitt's speech, highlighting factual inconsistencies, adding historical context, and analyzing the specific rhetoric and political underpinnings of the speech.¹⁸ EDGI's annotation was published within a few days, reported on in *Newsweek*, and also published in *Environmental Health News*, with an additional EDGI commentary.¹⁹

EDGI's Capacity and Governance working group extended this critical scholarly approach to researching the consequences of Trump's administration. The Capacity and Governance group evaluated the Honest and Open New EPA Science Treatment (HONEST) Act of 2017 (H.R. 1430) in a white paper and a letter to the US Congress (the letter was entered into the Congressional Record during the House hearing on H.R. 1430).²⁰ H.R. 1430—which was passed on the House floor and currently sits in a Senate committee—would prohibit the EPA from relying on important kinds of scientific research in its decision-making process, such as studies that rely on trade secrets or private medical records (even though these records are anonymized). We concluded that if passed, H.R. 1430 would undermine the EPA's capacity to develop important environmental protections, particularly regulations on toxic chemicals. EDGI also gave oral public comments at an EPA hearing on proposed amendments to the Risk Management Program mandated by the Clean Air Act. EDGI members have partnered with other environmental nonprofits to develop collective Freedom of Information Act projects to gather records related to environmental agencies and policy deregulation.

EDGI provides one model for a collective, interdisciplinary, and timely academic analysis that fact-checks,

contextualizes, and concretely explores the Trump administration's effects on environmental agencies and environmental policy.²¹ The work is particularly important today, given that the news media—a vital check on the government—is fragmented and currently attacked by the executive branch itself (while the executive branch also contributes to creating and propagating falsehoods). As Trump's rhetoric invigorates a public anti-intellectualism, we find it particularly important that scholarly work develop new forms of academic engagement, collaboration, authorship, and critique, so as to inform civic debate, democratic decision making, and government accountability.

INTERVIEWING EPA AND OSHA EMPLOYEES

To better understand the current effort to deregulate and reduce the funding and staff of federal environmental agencies, EDGI researchers began confidentially interviewing current and retired EPA and Occupational Safety and Health Administration (OSHA) employees in December 2016. As of June 2017, ten EDGI researchers, based at universities across the country, completed over 60 formal interviews, and the project is ongoing.²² EDGI interview questions focus on agency employees' experiences of presidential transitions, and how different administrations have affected the size, budget, and capacities of EPA and OSHA.

The interviewing team has drawn several conclusions from its research thus far. First, many EPA and OSHA interviewees drew comparisons with the first Reagan administration. Reagan's appointment to EPA Administrator, Anne Gorsuch, had disastrous effects on the EPA—quite similar to that of Scott Pruitt today. Our interviewees recall the slashed budget, reduced enforcement capacities, significant decline in agency morale, and the quietly subversive ways that EPA employees were able to challenge Gorsuch's policies. This included leaks of important material to Congress, some of which fueled the investigations that resulted in Gorsuch's resignation.²³ Second, all interviewees—even long-time, retired employees who were employed at EPA from its beginning—agreed that they had never lived through a threat to the agency as significant or pronounced as the current administration.

¹⁸EDGI. "Scott Pruitt's First Address to the EPA: As Annotated by a Group of Academics, Social Scientists, Historians, and Environmental Researchers (EDGI)." February 21, 2017. <https://envirodatagov.org/wp-content/uploads/2017/02/Scott-Pruitts-First-Address-to-the-EPA-2-21-2017-An-Annotated-Version-v2.pdf>. Accessed September 2, 2017.

¹⁹Nathan DiCamillo. "Scott Pruitt's First EPA Speech Gets a D+/C- From Environmental Academics." *Newsweek*, February 25, 2017. www.newsweek.com/scott-pruitt-epa-speech-graded-annotated-scholars-560822. Accessed September 2, 2017.

²⁰Vivian Underhill, Megan Martenyi, Sarah Lamdan, Andrew Bergman. "Public Protections Under Threat at the EPA: Examining Safeguards and Programs That Would Have Been Blocked by H.R. 1430." March 27, 2017. <https://envirodatagov.org/publication/public-protections-under-threat>; Gretchen Goldman. "A Dishonest Proposal: The House Science Committee Resurrects EPA Secret Science Nonsense in the HONEST Act." March 28, 2017. <http://blog.ucsusa.org/gretchen-goldman/a-dishonest-proposal-the-house-science-committee-resurrects-epa-secret-science-nonsense-in-the-honest-act>. Accessed September 2, 2017.

²¹In so doing, we bring models of collective authorship and social practice common in art and design (such as the Critical Art Ensemble) together with forms of organizational, ethics-based advocacy developed by the physical and life sciences such (as the Union of Concerned Scientists). Indeed, EDGI was formed based on the ethical position that academics supported by public research funding ought to actively contribute the results of that expertise to enriching public discourse with historical, theoretical, and evidenced-based analysis as well as by creating infrastructure and tools for civic engagement and accountability.

²²These interviews are formal and recorded. Interviewees are recruited through personal contacts (many EDGI researchers have connections to EPA and OSHA staff from their own research), and through networks such as the EPA Alumni Association. To maintain the confidentiality of interviewees, EDGI de-identifies the transcripts and uses generic titles in publications (e.g., "EPA manager"). Online sharing of transcripts and audio files among researchers happens through an end-to-end encrypted file sharing program (researchers access this software using two-factor authentication).

²³Sellers *et al.* "The EPA Under Siege." In: Lash, Jonathan, Katherine Gillman, and David Sheridan (eds). *Season of Spoils: The Reagan Administration's Attack on the Environment*. (Pantheon Books, 1984).

Third—and perhaps most significant in relation to environmental data justice—our historical research revealed that the EPA’s budget and staff levels have declined over several decades, under both Democrats and Republican presidents alike. This finding might not surprise many EJ activists, who have struggled for state protections regardless of the political party in power, and experienced neoliberal environmental governance first hand.²⁴ Rather, this finding highlights that the work of advancing environmental data justice goes beyond a resistance to the Trump administration, and rather needs to involve a larger critique of political economy and state power.

TOWARD ENVIRONMENTAL DATA JUSTICE

Through multiple projects, EDGI contributes to the EJ movement’s legacy of environmental data activism. EJ activists and allies have long sought to “democratize” environmental science and data, or at least make them more accountable. This effort includes projects through which communities have defined and developed their own indicators of neighborhood environmental health problems to counter official health data and statistics, which may not “measure what matters.”²⁵ Democratizing environmental data also includes projects to increase access to scientific instruments, such as inexpensive air pollution sampling monitors used by community groups to measure toxic air quality.²⁶ EDGI continues in this tradition through its advocacy for accessibility of public interest data and continuity in collecting that data. EDGI also seeks to develop the repertoire of environment jus-

tice practices by convening communities of affinity to redesign environmental data platforms.²⁷ One example is EPA’s Toxic Release Inventory, which reports “estimated” rather than “actual” industrial emissions. EDGI’s work also points toward the many ways that federal environmental governance can be improved by open source coding communities and the input of users—such as EJ activists—particularly in the direction of displaying community-gathered data.

In addition to these efforts to reimagine and redesign environmental data platforms through community-based practices, EDGI is committed to long-standing academic and activist conversations around the politics of evidence. EDGI recognizes several tensions in its work, for example, in the idea that all federal data are “good.” Data can be used to obscure justice claims or actively produce ignorance, as with the tobacco industry and climate change denial tactics of “manufacturing doubt.” As another example, Trump’s “illegal immigrant crime database” illustrates how federal data—even if collected “in the public good”—can be wielded to oppressive ends.²⁸ EDGI also finds a tension in the notion—potentially promulgated through the DataRescue project—that all data are “raw,” rather than already “cooked” through the situated, social practices of their collection, storage, and transmission.²⁹ Environmental data justice is not simply about the governance of existing forms of data, but about addressing questions of what, how, and for whom data are generated.

Lastly, there is tension in EDGI’s work that comes from the discourse of “saving” within the DataRescue movement, which risks reinforcing a salvation narrative in which saving data is equated with saving the planet and its people. This narrative can likewise gloss over questions about what data are collected and who gets to use them. EDGI hopes to help add to the recent, widespread attention to the value of government-scientific data, generated by DataRescue events, with critical perspectives from those whom data and the federal government routinely fail.

Moving forward, EDGI seeks to advance decolonial EJ methods in the context of data collection and governance. By decolonial EJ methods, we include the ways research practices have wittingly or unwittingly supported imperialism and settler colonialism. EDGI honors the UN Declaration of Indigenous Peoples. In theorizing environmental data justice, we also build on indigenous feminism’s refusal to participate in

²⁴Ryan Holifield. “Neoliberalism and Environmental Justice in the United States Environmental Protection Agency: Translating Policy Into Managerial Practice in Hazardous Waste Remediation,” *Geoforum* 35 (2004): 285–297; Jill Harrison. “Abandoned Bodies and Spaces of Sacrifice: Pesticide Drift Activism and the Contestation of Neoliberal Environmental Politics in California,” *Geoforum* 39 (2008): 1197–1214.

²⁵The Pacific Institute West County Indicators Report, “Measuring What Matters: Neighborhood Research for Economic and Environmental Health and Justice in Richmond, North Richmond, and San Pablo” (2009). <http://pacinst.org/app/uploads/2014/04/measuring-what-matters.pdf>.

²⁶Gwen Ottinger. “Buckets of Resistance: Standards and the Effectiveness of Citizen Science,” *Science, Technology, & Human Values* 35 (2010): 244–270; Sara Wylie, Kirk Jalbert, Shannon Dosemagen, and Matt Ratto. “Institutions for Civic Technoscience: How Critical Making is Transforming Environmental Research,” *The Information Society* 30 (2014): 116–126; Max Liboiron and Jenny Molloy. “We Need to Break Science Out of Its Ivory Tower—Here’s One Way To Do This,” *The Conversation*, May 2017. <https://theconversation.com/we-need-to-break-science-out-of-its-ivory-tower-heres-one-way-to-do-this-76354>; National Academy of Science. *Measuring Personal Environmental Exposures*. (National Academies Press, 2017). www.nap.edu/catalog/24711/measuring-personal-environmental-exposures-proceedings-of-a-workshop-in-brief; Penn Loh and Jodi Sugerman-Brozan. “Environmental Justice Organizing for Environmental Health: Case Study on Asthma and Diesel Exhaust in Roxbury, Massachusetts,” *Annals of the American Academy of Political and Social Science* 584 (2002): 110–124.

²⁷We are hosting public meetings such as this one that are associated with the Society for the Social Studies of Science 2017 annual meeting in Boston: <https://envirodatagov.org/edgi-at-4s>.

²⁸David Michaels and Celeste Monforton. “Manufacturing Uncertainty: Contested Science and the Protection of the Public’s Health and Environment,” *American Journal of Public Health* 95 (2005): S39–S48; Naomi Oreskes and Erik M. Conway. “Merchants of Doubt.” (2010).

²⁹Lisa Gitelman. *Raw Data is an Oxymoron*. (MIT Press, 2013).

“damage-based” research, which can pathologize the lives and landscapes of already marginalized communities.³⁰ Damage-based research projects include those that ignore or sideline the knowledge, agency, and complexity of different communities. EDGI stands opposed to data collection that does not lead to a change in harmful environmental conditions. In contrast, EDGI’s methods aspire to openness, consent (including refusal), and the recognition and engagement with community capacities. Environmental data justice also includes imagining new ways of archiving and stewarding data, as well as new data infrastructures that enable the public assessment of data. Environmental data justice requires many kinds of knowledges and practices.³¹ EDGI is committed to further theorizing and elaborating decolonial

research practices in the context of environmental science and data.

AUTHOR DISCLOSURE STATEMENT

No competing financial interests exist.

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³⁰Eve Tuck. “Suspending Damage: A Letter to Communities.” *Harvard Educational Review* 79 (2009): 409–428; Michelle Murphy. “Alterlife and Decolonial Chemical Relations.” *Cultural Anthropology* (In Press). The intersection of critical race studies and surveillance studies is also informative of EDJ see: Simone Browne. *Dark Matters: On the Surveillance of Blackness*. (Duke University Press, 2015).

³¹Many of these ideas were developed by Michelle Murphy in preparation for the workshop, “Enacting Environmental Data Justice,” held at Northeastern University on August 29, 2017, as part of the Society for the Social Studies of Science annual meeting.

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1. Dawn Walker, Eric Nost, Aaron Lemelin, Rebecca Lave, Lindsey Dillon. 2018. Practicing environmental data justice: From DataRescue to Data Together. *Geo: Geography and Environment* 5:2, e00061. [[Crossref](#)]