



2024

Bridging Silos: Environmental and Reproductive Justice in the Climate Crisis


Sara A. Colangelo

Georgetown University Law Center, Sara.Colangelo@law.georgetown.edu

This paper can be downloaded free of charge from:
<https://scholarship.law.georgetown.edu/facpub/2630>
<https://dx.doi.org/10.2139/ssrn.4961531>

California Law Review, Vol. 112, Pp. 1255-1319.

This open-access article is brought to you by the Georgetown Law Library. Posted with permission of the author.
Follow this and additional works at: <https://scholarship.law.georgetown.edu/facpub>

 Part of the [Environmental Law Commons](#), [Health Law and Policy Commons](#), [Law and Gender Commons](#), and the [Law and Politics Commons](#)

Bridging Silos: Environmental and Reproductive Justice in the Climate Crisis

Sara A. Colangelo*

The climate crisis is a perilous yet underexamined example of the intersection of environmental injustice and reproductive injustice. The physical manifestations of the climate crisis affect key elements of reproductive justice: women's rights to have children, to not have children, and to parent children in healthy, sustainable communities. Reams of studies document climate disaster-driven gender violence, loss of access to healthcare and reproductive services, as well as direct and deadly health effects of climate change on maternal health, fetal development, infants, and children. Despite these profound impacts, the environmental and reproductive justice movements remain largely siloed, particularly in the legal community.

This Article makes two interventions into existing legal scholarship. First, the Article identifies an intersectional nexus of hazard between environmental and reproductive justice, which is especially acute for women of color living in under-resourced communities. It argues that environmental injustices in the context of the climate crisis undermine reproductive justice. Second, the Article explores how the movements can align strands of their advocacy and

DOI: <https://doi.org/10.15779/Z38K06X251>

Copyright © 2024 Sara A. Colangelo.

* Sara A. Colangelo, Georgetown University Law Center Associate Professor of Law and Director of the Environmental Law & Justice Clinic. I am deeply grateful for generous feedback and thoughtful insights from William Buzbee, Peter Byrne, Erin Carroll, Melissa Colangelo, Bethany Davis Noll, Sheila Foster, Janel George, Stephanie Glaberson, Michele Goodwin, Lisa Heinzerling, Audrey Ingram, Amanda Levendowski, Naomi Mezey, Jill Morrison, David Rapallo, David Vladeck, Robin West, and Kathryn Zyla. This Article was inspired by my clients on the frontlines of many battles described herein and by public health briefs I have filed, to which Jack H.L. Whiteley and Drs. Susan Anenberg, Lynn Goldman, Gillian Goobie, Jack Harkema, Anne Hicks, Nicholas Nassikas, Jonathan Patz and Franziska Rosser provided invaluable contributions. Margaret McCallister's research and assistance were exceptional.

suggests how advocates can leverage various legal and policy strategies to mitigate these intersectional injustices. It argues for a ground-up approach based on community power-building and interdisciplinary cooperation, which can inform legal and policy solutions at scale. Collective action to foster health and dignity has never been more urgent, as climate change harms escalate, maternal health deteriorates, and the Supreme Court issues decisions shredding reproductive autonomy and circumscribing environmental regulatory authority.

Introduction.....	1257
I. Frameworks and Foundations.....	1265
A. Environmental Justice.....	1266
B. Reproductive Justice.....	1270
C. Overlapping Ideals.....	1273
D. Lingering Disconnection.....	1276
II. The Climate Crisis and Reproductive Oppression.....	1279
A. Climate Change Suppresses Autonomy Over Whether to Have Children.....	1280
1. Sexual Violence in Climate Disaster Shelters.....	1280
2. Loss of Access to Medical and Reproductive Care.....	1281
B. Climate Change Threatens the Ability to Carry Children to Term Safely and Raise Children in Healthy Communities.....	1283
1. Heat and Fires.....	1283
2. Impaired Air Quality.....	1289
3. Storms.....	1290
4. Mosquito-Transmissible Diseases.....	1292
C. Reproductive Justice as Environmental Justice.....	1293
III. De-siloing Environmental and Reproductive Justice.....	1297
A. Building Bridges: Opportunities and Obstacles.....	1297
B. Centering Community Power and Women’s Voices.....	1300
C. Implementing Environmental and Reproductive Justice-Informed Strategies.....	1304
1. Leveraging Integrative Lawyering to Serve Community Goals.....	1304
2. Advancing Solutions through Environmental Enforcement Remedies.....	1306
3. Pursuing Climate-Related Funding to Mitigate Intersectional Harms.....	1310
D. Bracing for Judicial Barriers to Environmental and Reproductive Justice in the Climate Crisis.....	1315
Conclusion.....	1319

INTRODUCTION

The jagged boot-shaped coast of Louisiana is scarred with thousands of channels dredged by the oil and gas industry over its more than a century of operation.¹ Artificially thin outstretches of land now grip a disappearing shoreline, as the channels hasten the erosive capacity of rising tides.² Indigenous Peoples—some of whom have lived on this coast for millennia—watch their traditional lands slip away beneath their feet as their communities become a frontline of forced climate displacement within the United States.³

North of the bayou, the air is rife with pollution. An eighty-five-mile corridor from Baton Rouge to New Orleans, referred to as “Cancer Alley,” houses the densest concentration of pollutant-generating industrial facilities in the United States.⁴ Residents suffer an excess cancer risk from industrial air pollution up to forty-seven times the rate that the U.S. Environmental Protection

1. See R. Eugene Turner & Giovanna McClenachan, *Reversing Wetland Death from 35,000 Cuts: Opportunities to Restore Louisiana's Dredged Canals*, PLOS ONE 1, 3, 5, (Dec. 14, 2018), <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0207717&type=printable> [<https://perma.cc/TJJ9-F3N4>] (examining permits for oil and gas activities beginning in 1900, and associated dredged canals and resulting land loss); John Carey, *Louisiana Wetlands Tattered by Industrial Canals, Not Just River Levees*, SCI. AM. (Dec. 1, 2013), <https://www.scientificamerican.com/article/carey-louisiana-wetlands-tattered-by-industrial-canals/> [<https://perma.cc/Q2CY-DHYM>] (discussing the “cutting and dredging of thousands of kilometers of canals by oil, gas and pipeline companies”).

2. See Turner & McClenachan, *supra* note 1, at 1–2.

3. See, e.g., U.S. GOV'T ACCOUNTABILITY OFF., GAO-20-488, CLIMATE CHANGE: A CLIMATE MIGRATION PILOT PROGRAM COULD ENHANCE THE NATION'S RESILIENCE AND REDUCE FEDERAL FISCAL EXPOSURE 17–20 (2020) (“Tribal leaders . . . have identified Isle de Jean Charles’ rapid land loss as an existential threat to their communities, livelihood, and culture because families have spread across the region and sacred places, cultural sites and practices, healing plants, traditional foods, and lifeways are being lost.”); Emmarie Huetteman, *For the Houma People, Displacement Looms with Every Storm*, KFF HEALTH NEWS (Oct. 24, 2022), <https://khn.org/news/article/indigenous-people-houma-displacement-climate-change-health-louisiana/> [<https://perma.cc/3E3J-YQHB>] (noting the heightened vulnerability to climate change of the United Houma Nation and the threats of displacement including “loss of land, infrastructure, and cultural heritage”). Some Indigenous Peoples such as the Chitimacha Tribe of Louisiana have lived in what is called coastal Louisiana for millennia. Tribal History, SOVEREIGN NATION OF THE CHITIMACHA, <https://www.chitimacha.gov/history-culture/tribal-history> [<https://perma.cc/XR3R-S823>]. Others, such as the Isle de Jean Charles Band of Biloxi-Chitimacha-Choctaw Tribe trace their history there to the Indian Removal Act of 1830, which resulted in what is commonly known as the “Trail of Tears.” See *Bienvenue, Halito, Welcome to Isle de Jean Charles*, ISLE DE JEAN CHARLES, <http://www.isledejeancharles.com/island> [<https://perma.cc/6WJP-3JTL>]; JULIE K. MALDONADO, *SEEKING JUSTICE IN AN ENERGY SACRIFICE ZONE: STANDING ON VANISHING LAND IN COASTAL LOUISIANA* 3, 63–64 (Routledge 2019).

4. See UNIV. NETWORK FOR HUM. RTS., “WAITING TO DIE”: TOXIC EMISSIONS AND DISEASE NEAR THE LOUISIANA DENKA/DUPONT PLANT 5, 25–37 (2019), https://www.epa.gov/sites/default/files/2019-12/documents/waiting_to_die_final.pdf [<https://perma.cc/4ZFK-4EG3>]; Luke Denne, *In ‘Cancer Alley,’ a Renewed Focus on Systemic Racism Is Too Late*, NBC NEWS (June 21, 2020), <https://www.nbcnews.com/science/science-news/cancer-alley-renewed-focus-systemic-racism-too-late-n1231602> [<https://perma.cc/ZJ9A-B3BQ>] (“A higher risk of cancer in these communities—surrounded by the densest concentration of petrochemical plants in the country—have led to the area gaining the unwelcome title of ‘Cancer Alley.’”).

Agency (EPA) deems acceptable.⁵ Petrochemical plants foul the air in these rural, majority-Black⁶ communities, as they emit pollution that fuels a destabilizing climate.⁷

The climate crisis is omnipresent and palpable in Louisiana. Scientists predict the state will experience “20 to 30 more extreme heat days by 2050.”⁸ Louisiana is home to half of the top ten U.S. cities most frequently subject to “High Risk Excessive Rainfall Outlook,” the flood level associated with the most death and damage.⁹ And year after year, destructive hurricanes sweep through the state, as punishing floods wash away homes and communities.¹⁰

Women, particularly poor women of color, can experience compounding trauma in the aftermath of these disasters: sexual violence in storm shelters and lack of access to medical and reproductive services.¹¹ At the same time,

5. Al Shaw & Lylla Younes, *The Most Detailed Map of Cancer-Causing Industrial Air Pollution in the U.S.*, PROPUBLICA (Aug. 28, 2023), <https://projects.propublica.org/toxmap/> [<https://perma.cc/7C6L-7T3J>].

6. Regarding terminology, I intend the nomenclature herein to be as circumstance-specific as possible when referencing individuals with non-White racial identities, acknowledging that there are preferences among terms including “communities of color,” BIPOC, and others. In this Article, I use “Indigenous” to describe people native to a specific region. I use “Tribe” or “Tribal community” to refer to federally, state, or non-federally recognized Tribes. Further, I do not use the term “environmental justice communities” to avoid the implication that communities with environmental justice concerns are homogenous in identity, concerns, or goals. When this Article uses the term “women” outside of the context of people capable of sustaining pregnancies, it embraces all who identify as women including trans women. Gender nonconforming and transgender people may also have uteruses and the capacity for pregnancy. “[N]ot all persons who may become pregnant identify as female.” *Reprod. Health Servs. v. Strange*, 3 F.4th 1240, 1246 n.2 (11th Cir. 2021) (per curiam), *vacated sub nom.* *Reprod. Health Servs. ex rel. Ayers v. Strange*, 22 F.4th 1346 (11th Cir. 2022) (mem.).

7. See, e.g., Mara Kardas-Nelson, *The Petrochemical Industry Is Killing Another Black Community in ‘Cancer Alley,’* NATION (Aug. 26, 2019), <https://www.thenation.com/article/archive/st-james-louisiana-plastic-petrochemicals-buy-out/> [<https://perma.cc/JG88-AHYD>] (describing how oil, gas, chemical, and plastic plants have contributed to health concerns for residents in Cancer Alley, which is made up of mostly Black communities).

8. E.g., Mark Schleifstein, *New Climate Assessment Details Litany of Threats Closing in on Louisiana*, NOLA.COM (Nov. 23, 2023), https://www.nola.com/news/environment/new-climate-assessment-details-litany-of-risks-to-louisiana/article_e11f02f0-859b-11ee-9ae5-9b1f361227ad.html [<https://perma.cc/EK2M-SPGR>] (summarizing the expected effects on Louisiana in the National Climate Assessment).

9. Nat’l Oceanic and Atmospheric Admin., *ERO High Risk Climatology*, WEATHER PREDICTION CTR., <https://origin.wpc.ncep.noaa.gov/qpf/eroclimo/> [<https://perma.cc/2A8E-PRQC>].

10. See, e.g., Leslie Kaufman, Mira Rojasakul, Hayley Warren, Jason Kao, Brittany Harris & Prashant Gopal, *Mapping America’s Underwater Real Estate*, BLOOMBERG GREEN (June 29, 2020), <https://www.bloomberg.com/graphics/2020-flood-risk-zone-us-map/> [<https://perma.cc/YN3K-QXGK>] (noting that climate change likely will increase the risk of flooding in almost every state, but will be “particularly devastating” in Louisiana, Delaware, and New Jersey); Amie Just and Emma Discher, *What Hurricanes Have Hit Louisiana in Recorded History? How Strong Were They? Here’s a List*, NOLA.COM (Aug. 29, 2021), https://www.nola.com/news/hurricane/what-hurricanes-have-hit-louisiana-in-recorded-history-how-strong-were-they-heres-a-list/article_4d11980c-08f2-11ec-864d-db7d7884b2dc.html [<https://perma.cc/YGE4-C4NW>] (listing hurricanes that have made landfall in or near Louisiana from 1527 to 2021).

11. See *infra* Part II. Of note, the phrase “women of color” should not suggest that all women of non-White racial identity experience reproductive injustices uniformly. Women of different races and

Louisiana lawmakers have banned abortion in most cases, with no exception for rape.¹² Americans United for Life, an anti-abortion legislative advocacy organization, ranks Louisiana second among all states considering “protection of Life from conception . . . [including] legal recognition of unborn children.”¹³ And yet, Louisiana ranks forty-ninth among the fifty states in measures of overall child well-being¹⁴ and last in women and children’s overall health.¹⁵

Suppression of bodily autonomy includes barriers and threats to women’s capacity to have children and to raise them in healthy communities. Following Hurricane Katrina, for example, a state lawmaker suggested paying women earning low incomes to be sterilized as a poverty-alleviation strategy.¹⁶ Today, maternal and fetal health for people of color in Louisiana are among the worst in the nation: “[f]our Black mothers die for every [W]hite mother, compared to the three-to-one ratio nationally.”¹⁷ Indigenous women suffer a maternal mortality

ethnicities, sexual orientation, and ability experience different forms of oppression. *See, e.g.*, ASIAN COMMUNITIES FOR REPRODUCTIVE JUSTICE, A NEW VISION FOR ADVANCING OUR MOVEMENT FOR REPRODUCTIVE HEALTH, REPRODUCTIVE RIGHTS, AND REPRODUCTIVE JUSTICE 3 (2005) (observing the lack of focus in racial analyses on the “oppression experienced by Asian and Pacific Islander (API), Latina, Indigenous, or Arab American and Middle Eastern women”).

12. *Interactive Map: US Abortion Policies and Access After Roe*, GUTTMACHER INST., (Mar. 13, 2024), <https://states.guttmacher.org/policies/louisiana/abortion-policies> [<https://perma.cc/6D2C-W3CQ>] (noting that abortion is banned in Louisiana “with very limited exceptions”); *see, e.g.*, Ava Sasani & Emily Cochrane, *I’m Carrying This Baby Just to Bury It’: The Struggle to Decode Abortion Laws*, N.Y. TIMES (Aug. 19, 2022), <https://www.nytimes.com/2022/08/19/us/politics/louisiana-abortion-law.html> [<https://perma.cc/TGL3-32H6>] (explaining how a woman was forced to continue her unviable pregnancy because the fetus’s diagnosis of acrania was not on Louisiana’s “list of acceptable conditions for an abortion exception”).

13. Natalie M. Hejran, *Arkansas Ranks First on Americans United for Life’s Annual “Life List” for Third Straight Year*, AMS. UNITED FOR LIFE (Jan. 5, 2023) <https://aul.org/2023/01/05/arkansas-ranks-first-on-americans-united-for-lifes-annual-life-list-for-third-straight-year/> [<https://perma.cc/H4HT-KMCX>].

14. *See* ANNIE E. CASEY FOUND., 2023 KIDS COUNT DATA BOOK: STATE TRENDS IN CHILD WELL-BEING 19 (2023), <https://assets.aecf.org/m/resourcedoc/aecf-2023kidscountdatabook-2023.pdf> [<https://perma.cc/EK5V-GSFV>].

15. UNITED HEALTH FOUND., 2022 HEALTH OF WOMEN AND CHILDREN REPORT 23–25 (2022), <https://assets.americashealthrankings.org/app/uploads/2022-health-of-women-and-children-report.pdf> [<https://perma.cc/N8NA-6PKD>] (considering “84 measures across . . . social and economic factors, physical environment, behaviors, clinical care and health outcomes”).

16. In 2008, Representative John LaBruzzo (R-Metairie) announced his interest in paying women earning low incomes \$1,000 to undergo sterilization. Mark Waller, *LaBruzzo Considering Plan to Pay Poor Women \$1000 to Have Tubes Tied*, NOLA.COM (June 25, 2019), https://www.nola.com/news/labruzzo-considering-plan-to-pay-poor-women-1-000-to-have-tubes-tied/article_167c97c7-7cbb-57eb-b6da-bc4ea0f8deb7.html [<https://perma.cc/R6HG-LS2U>]. Multiple scholars and organizations discuss the influence that forced sterilization and population control efforts targeting potential mothers of color have had on the reproductive justice movement. *See, e.g.*, Reva B. Siegel, Serena Mayeri & Melissa Murray, *Equal Protection in Dobbs and Beyond: How States Protect Life Inside and Outside of the Abortion Context*, 43 COLUM. J. GENDER & L. 67, 92 (2022) (“In the 1950s and 1960s, post-partum sterilization of poor women of color without their consent, and often without their knowledge, became common enough to earn the colloquial moniker ‘Mississippi appendectomy.’”).

17. Sarah Owerhohle, *Why Louisiana’s Maternal Mortality Rates Are So High*, POLITICO (May 19, 2022), <https://www.politico.com/news/2022/05/19/why-louisianas-maternal-mortality-rates-are-so>

rate at two and half times that of White women.¹⁸ Further, Louisiana is second in the nation for low birth weight¹⁹ and preterm birth²⁰—both among the leading causes of U.S. infant mortality.²¹ Maternal, fetal, and neonatal health are affected by multiple factors such as racism, poverty, and inadequate health care, in addition to the physical environment, including heat, fires and floods, air quality, and maternal stress during weather disasters.²²

This Article argues that these social, medical, and climate conditions are sources of interrelated, compounding burdens and barriers, exemplified by the intersection of environmental and reproductive injustices in Louisiana yet present in varying forms across the United States. Building on facets of the environmental and reproductive justice movements, this Article sets forth what the stories of too many women bear true: that environmental injustices within the climate context suppress reproductive justice, depriving women of autonomy as to *whether* and *how* they will have children.

Despite these acute linkages in the lives of women and a shared, long-standing concern for maternal health, the environmental and reproductive justice movements remain largely siloed, particularly in the legal community.²³ This Article fills a critical gap in existing legal scholarship, as the intersection of environmental and reproductive justice relating to climate change remains “alarmingly under-researched.”²⁴ In 2023, WE ACT for Environmental Justice’s

high-00033832#:~:text=Against%20that%20backdrop%2C%20Louisiana’s%20health,%2Dto%2Don e%20ratio%20nationally [https://perma.cc/3L54-YMMB] (citing statistics from the Centers for Disease Control and Prevention and the Louisiana Department of Health).

18. Emily E. Petersen, Nicole L. Davis, David Goodman, Shanna Cox, Nikki Mayes, Emily Johnston, Carla Syverson, Kristi Seed, Carrie K. Shapiro-Mendoza, William M. Callaghan & Wanda Barfield, *Vital Signs: Pregnancy-Related Deaths, United States, 2011–2015, and Strategies for Prevention, 13 States, 2013–2017*, 68 MORBIDITY & MORTALITY WKLY. REP. 423, 424 (2019).

19. *See Percentage of Babies Born Low Birthweight by State*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/nchs/pressroom/sosmap/lbw_births/lbw.htm [https://perma.cc/EP49-GMM3] (providing data from 2021).

20. *See Percentage of Births Born Preterm by State*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/nchs/pressroom/sosmap/preterm_births/preterm.htm [https://perma.cc/PW8X-3TMW] (providing data from 2021).

21. *Infant Mortality*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm> [https://perma.cc/JN3V-MQHN] (providing data from 2021).

22. *Infra* Part II.

23. This gap exists both at the scholarly and practice level. *See, e.g.*, Chantal de Jonge Oudraat & Michael E. Brown, *Gender, Climate Change, and Security: Making the Connections*, WILSON CTR., ENV’T CHANGE & SEC. PROGRAM (Jan. 25, 2022), <https://www.wilsoncenter.org/article/gender-climate-change-and-security-making-connections> [https://perma.cc/DU2A-JESR] (observing that “[g]ender issues, climate change, and security problems are interconnected in complex and powerful ways . . . [but] these connections have not received enough attention from scholars, policy analysts, and policymakers”).

24. *See, e.g.*, JACQUELINE PATTERSON, JADE S. SASSER, ADRIENNE L. HOLLIS, JAYNELL NICHOLSON & FRANCES ROBERTS-GREGORY, *THE CHISHOLM LEGACY PROJECT, US ORGANIZATIONS CONNECTING GENDER JUSTICE AND CLIMATE JUSTICE: REFLECTIONS AND LESSONS FROM TWENTY-EIGHT GROUPS WORKING AT THE INTERSECTION* 5–6 (2022), <https://thechisholmlegacyproject.org/wp-content/uploads/2022/04/Gender-and-Climate-Justice->

Director of Environmental Health observed that “for too long these movements have been seen as separate . . . [,] ‘siloed not only scientifically, but then even within the justice space itself.’”²⁵

Where the movements have been conversant, it is generally through non-profit organizations,²⁶ international social and environmental science literature,²⁷ and analyses of the link between toxins and maternal and fetal health.²⁸ But scholarly literature is limited. For example, researchers observed in 2020 that weather disasters “exacerbate social inequalities, yet reproductive health outcomes are often overlooked. Despite a small but growing literature on gender and disaster-related impacts, there are no studies to date . . . on the intersection of abortion and disasters.”²⁹

The legal scholars who have explored the environmental and reproductive justice nexus have generally done so in the context of examining fetal protection and abortion laws, with a focus on the environmental justice implications of toxins and pesticides. For example, Professor Michele Goodwin critiques fetal

4.27.pdf [https://perma.cc/ZY5Y-FPEV] (quoting Pam Miller, Executive Director of Alaska Community Action on Toxics, as describing the “intersection of gender justice and climate change” as “hugely under-addressed”).

25. Jessica Kutz, *Environmental Advocates Are Asking the EPA to Take a Stand on Reproductive Justice*, 19TH (June 2, 2023), https://19thnews.org/2023/06/environmental-advocates-epa-reproductive-justice/ [https://perma.cc/XH6X-TL2D].

26. See, e.g., Nat’l Women’s Law Ctr. & Law Students for Reprod. Just., *If You Really Care About Environmental Justice, You Should Care About Reproductive Justice!*, NAT’L WOMEN’S L. CTR., https://nwlc.org/wp-content/uploads/2015/08/FactSheetEnvironmentalJusticeandReproJustice.pdf [https://perma.cc/4Z73-A32E] (finding that advancing reproductive justice and environmental justice complement one another); *Why We Can’t Have Environmental Justice Without Reproductive Justice*, GREENPEACE (May 31, 2019), https://www.greenpeace.org/usa/envirojusticexreprojustice/. [https://perma.cc/68T6-Y2VK] (asserting that “[a]ccess to abortion and reproductive healthcare is fundamentally tied to environmental justice”).

27. See, e.g., UN WomenWatch, Fact Sheet: Women, Gender Equality and Climate Change (2009), https://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf [https://perma.cc/PH2S-2GDK] (providing a compendium of the intersections between gender and climate change including food insecurity, biodiversity, water resources, migration, human rights, energy, and more). The United Nations Development Programme already provides guidance on devising strategies that promote gender equity while advancing national climate action. Una Murray, UN Dev. Programme, *Gender Analysis and Nationally Determined Contributions (NDCs): Short Guidance for Government Stakeholders* (2019), https://climatepromise.undp.org/sites/default/files/research_report_document/undp-ndcsp-gender-analysis-ndcs-short-guidance.pdf [https://perma.cc/4ESG-J555].

28. This limited literature has focused on the maternal/fetal impacts from toxins, pesticides, lead exposure, and some air pollution, as opposed to the risks and burdens associated with the climate change. See, e.g., Angie McCarthy, *On Fertile Ground: The Environmental and Reproductive Justice Movements as a Unified Force for Reforming Toxic Chemical Regulation*, 13 SUSTAINABLE DEV. L. & POL’Y 20, 20 (2012) (“Despite the clear links between toxic chemical exposure and harm to reproductive health, reproductive rights organizations have traditionally ignored the EJ movement.”); Nat’l Women’s Law Ctr. & Law Students for Reprod. Just., *supra* note 26 (encouraging advocacy around “regulatory protections and safer labor practices for those exposed to toxic chemicals in industries dominated by low-income workers and Women of Color” and agency regulations requiring testing of product toxicity).

29. Ophra Leyser-Whalen, Sanaz Zareei Chaleshtori & Adelle Montebianco, *Another Disaster: Access to Abortion After Hurricane Harvey*, 41 HEALTH CARE FOR WOMEN INT’L 1111, 1111 (2020).

protection laws as “penaliz[ing] pregnant women for fetal outcomes incidental to maternal control.”³⁰ In one portion of her analysis, Goodwin identifies toxic exposures in the workplace, such as lead and pesticides, and their problematic interaction with fetal protection laws that wrongly “locat[e] fetal harms as the exclusive control of women.”³¹ She observes that “numerous empirical studies indicate that fetal health is not controlled exclusively by pregnant women, because environment contributes significantly to fetal health.”³²

Professor Khiara Bridges’ scholarship enriches this literature by focusing on the relationship between environmental degradation and reproductive injustice. She conceives of environmental justice as part of the reproductive justice framework “inasmuch as toxins cause infertility, miscarriages, and stillbirths.”³³ Her analysis focuses on lead and industrial chemical exposures in the home and workplace, as well as exposures due to proximity to hazardous sites, incinerators, and polluting factories.³⁴ She analyzes these examples in concert with abortion laws to argue that the “government . . . forces people to give birth to children whose health has been impaired by toxic environments that the state is complicit in creating”—a cycle Bridges labels “the dysgenic state.”³⁵

Here, I build upon this literature by making two contributions. First, distinct from scholarship on environmental and reproductive injustices related to pollution or toxics exposures, this Article identifies the intersection of environmental and reproductive justice as a nexus of hazard that is especially acute within the climate crisis. It argues that the physical manifestations of environmental injustice arising from *climate change* undermine reproductive justice, especially for women of color living in under-resourced communities. Second, this Article analyzes how the environmental and reproductive justice movements can align components of their advocacy efforts and leverage various legal and policy strategies to mitigate intersectional injustices. It argues for a ground-up approach to advocacy based on community power-building and interprofessional cooperation, which can inform legal and policy solutions at scale.

30. Michele Goodwin, *Fetal Protection Laws: Moral Panic and the New Constitutional Battlefield*, 102 CALIF. L. REV. 781, 794 (2014).

31. *Id.* at 863–69.

32. *Id.* at 873 (footnote omitted) (collecting cases finding that environmental factors affect fetal health).

33. Khiara M. Bridges, *The Dysgenic State: Environmental Injustice and Disability-Selective Abortion Bans*, 110 CALIF. L. REV. 297, 308 (2022). Bridges’s article focuses on “the relationship between pollution and fetal impairments.” *Id.* at 324. However, Bridges acknowledges “it is impossible to construct an experiment that could clearly establish a causal relationship between a particular pollutant and a particular fetal impairment,” and that “poverty may be a confounding factor.” *Id.* at 324–325.

34. *Id.* at 314–24. Bridges weaves environmental justice into her argument with a focus on “studies that show that toxins in the places where marginalized people live, work, and play cause health impairments in fetuses.” *Id.* at 308.

35. *Id.* at 306.

Bridging the silos between the environmental and reproductive justice movements to foster collective power and action has never been more urgent. Recent Supreme Court decisions³⁶ on climate regulatory authority, reproductive rights, and race-conscious decision-making have alarmed and activated the public, advocates, and scholars alike. Simultaneously, the lived conditions of those susceptible to climate and reproductive injustices are deteriorating. Domestic maternal mortality rates are rising. The World Health Organization estimates that U.S. maternal deaths per 100,000 live births increased by 58 percent from 2000 to 2017.³⁷

Concurrently, anthropogenic climate change's public health harms are escalating and diversifying. Anthropogenic climate change describes the effects caused by elevated concentrations of greenhouse gases, which trap a higher portion of the sun's heat that the Earth radiates back into space, leading to warmer lands and oceans.³⁸ Elevated concentrations of greenhouse gases are primarily caused by the burning of fossil fuels.³⁹ This Article refers to this phenomenon as "climate change," and its consequences as the "climate crisis." Climate change foments destructive events such as fires, hurricanes, and extreme

36. See *infra* Part III.D touching upon the implications of *Dobbs v. Jackson Women's Health Organization*, *West Virginia v. EPA*, *Sackett v. EPA*, and *Students for Fair Admissions Inc. v. President & Fellows of Harvard College*.

37. WORLD HEALTH ORG., UN INT'L CHILD.'S EMERGENCY FUND, UN POPULATION FUND, WORLD BANK GROUP & UN POPULATION DIV., *TRENDS IN MATERNAL MORTALITY: 2000 TO 2017* 104 (2019).

38. The descriptor "anthropogenic" in this context means "[r]esulting from or produced by human activities." Intergovernmental Panel on Climate Change, *Annex I: Glossary*, in *GLOBAL WARMING OF 1.5°C: AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY* 541, 543 (Valerie Masson-Delmonte et al. eds., 2018), https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_AnnexI.pdf [<https://perma.cc/DE93-XQ7B>]. For a broader scientific discussion of this process, see *Causes of Climate Change*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/climatechange-science/causes-climate-change> [<https://perma.cc/CP7U-PRP4>].

39. See, e.g., U.S. ENV'T PROT. AGENCY, *supra* note 38 ("Burning fossil fuels changes the climate more than any other human activity.").

rainfall,⁴⁰ and their increasing intensity and frequency.⁴¹ Attendant consequences include heat- and air pollution-related illnesses, injuries and deaths from fires and storms, and the spread of mosquito-borne diseases.⁴²

This Article proceeds in three Sections. Part I describes the social justice frameworks of environmental justice and its related movements of climate and energy justice, as well as reproductive justice. In reviewing the movements' history and ideals, the Article identifies overlapping norms and concerns that are implicated by the intersection of environmental and reproductive justice.

Part II establishes the empirical case for the intersection of environmental and reproductive justice related to climate change by synthesizing peer-reviewed scientific studies and social science reports. The Article chronicles the hazards at the nexus of environmental and reproductive injustice within the climate crisis, which are especially acute for women of color in under-resourced communities. It demonstrates that the physical manifestations of environmental injustice in the context of climate change suppress reproductive justice. It also identifies the ways in which pursuing reproductive justice serves key environmental justice principles and would contribute to climate solutions.

Part III analyzes how the environmental and reproductive justice movements can align for mutual advancement and identifies potential barriers to doing so. It argues for an advocacy approach rooted in community power-building and interprofessional cooperation, which can inform solutions at scale. The Article then proposes categories of legal and policy advocacy that leverage existing strategies from the environmental toolbox in service of joint progress.

40. See, e.g., Intergovernmental Panel on Climate Change, *Summary for Policymakers*, in CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS 3, 4 (Valerie Masson-Delmotte et al. eds., 2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_Stand_Alone.pdf [<https://perma.cc/K4DD-8VQQ>] (“It is unequivocal that human influence has warmed the atmosphere, ocean and land.”); Sihan Li & Friederike E. L. Otto, *The Role of Human-Induced Climate Change in Heavy Rainfall Events Such as the One Associated with Typhoon Hagibis*, CLIMATIC CHANGE 17 (May 18, 2022), <https://link.springer.com/article/10.1007/s10584-022-03344-9> [<https://perma.cc/NJ37-TUY9>] (concluding that climate change resulted in “increased precipitation during heavy rainfall events in the Tokyo area”); Philip B. Duffy, Christopher B. Field, Noah S. Diffenbaugh, Scott C. Doney, Zoe Dutton, Sherri Goodman, Lisa Heinzerling, Solomon Hsiang, David B. Lobell, Loretta J. Mickley, Samuel Myers, Susan M. Natali, Camille Parmesan, Susan Tierney & A. Park Williams, *Strengthened Scientific Support for the Endangerment Finding for Atmospheric Greenhouse Gases*, 363 SCI. 597, 605 (2019) (observing that “[i]ntensifying wildfires threaten facilities, transportation infrastructure, and utility lines”).

41. See, e.g., Greg Holland & Cindy L. Bruyère, *Recent Intense Hurricane Response to Global Climate Change*, 42 CLIMATE DYNAMICS 617, 617 (2014) (finding an increase in Category 4-5 hurricanes but noting that this increase “in Category 4-5 hurricanes may not continue at the same rate” as global warming continues); Noah S. Diffenbaugh, *Verification of Extreme Event Attribution: Using Out-of-Sample Observations to Assess Changes in Probabilities of Unprecedented Events* SCI. ADVANCES 4 (Mar. 18, 2020), <https://www.science.org/doi/epdf/10.1126/sciadv.aay2368> [<https://perma.cc/9LP8-GC2Q>] (comparing the “frequency of record-setting events between 1986-2005 and 2006-2017” and finding that “a substantial increase in the risk of unprecedented events between the attribution and verification periods, particularly for hot and wet events”).

42. See *infra* Part II.B.

I.

FRAMEWORKS AND FOUNDATIONS

The climate crisis presents an underexamined example of the intersection between environmental and reproductive injustices. This Article references the term “intersection” based on Kimberlé Crenshaw’s groundbreaking work on “intersectionality” as a method of describing how different forms of inequality interact and exacerbate one another.⁴³ Crenshaw coined the term in response to the multifactor discrimination of racism and sexism wrought upon Black women.⁴⁴ The framework introduced herein establishes such multifactor and disproportionate dangers in the context of the climate crisis.⁴⁵ It underscores the importance of an environmental justice-informed lens for reproductive justice, and a reproductive justice-informed lens for environmental justice.⁴⁶ This proposition is at once underacknowledged and yet highly consequential from both a legal and experiential perspective.

Climate change is often labeled a threat multiplier.⁴⁷ And it is disproportionately so for women. Across the world, women and children are more likely to die than men in natural disasters.⁴⁸ Women are more vulnerable than men to a variety of climate harms on a global scale because “they constitute the majority of the world’s poor and are more dependent for their livelihood on natural resources that are threatened by climate change. Furthermore, they face

43. See Kimberlé Crenshaw, *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics*, 1989 U. CHI. LEGAL F. 139, 140 (1989).

44. *Id.* (“Because the intersectional experience is greater than the sum of racism and sexism, any analysis that does not take intersectionality into account cannot sufficiently address the particular manner in which Black women are subordinated.”).

45. See *infra* Part II.

46. Organizations on the ground, such as the Chisholm Legacy Project, a resource hub for Black frontline climate justice leadership, are beginning to embrace this concept. PATTERSON & SASSER, *supra* note 24, at 4 (“Through an intersectional lens, one can observe how the root causes of the climate crisis are in constant interplay [with t]he historic marginalization of women (sexism), intensified by factors like race (racism).”).

47. See, e.g., Jody Freeman & Andrew Guzman, *Climate Change and U.S. Interests*, 109 COLUM. L. REV. 1531, 1576–77 (2009) (footnote omitted) (noting that climate change is a “‘threat multiplier’ because it . . . is likely to exacerbate instability around the world as weak or poor governments struggle to cope with its impacts”); UN News, *Climate Change Recognized as ‘Threat Multiplier,’ UN Security Council Debates Its Impact on Peace* (Jan. 25, 2019), <https://news.un.org/en/story/2019/01/1031322> [<https://perma.cc/9D7M-Y3C9>] (discussing the debate over whether the UN’s Security Council should examine climate change and its impact on global relations because it is a “‘threat multiplier’”).

48. See OXFAM AM., *FACT SHEET: CLIMATE CHANGE & WOMEN* (2008), <https://s3.amazonaws.com/oxfam-us/static/oa3/files/climatechangewomen-factsheet.pdf> [<https://perma.cc/F7EJ-W8KJ>] (explaining that women are “most likely to bear the heaviest burdens” of natural disasters because they “make up an estimated 70 percent of those living below the poverty line”).

social, economic, and political barriers that limit their coping capacity.”⁴⁹ Because women tend to own less land, experience more restrictions on their ability to accumulate wealth, and are more likely to rely on credit, they must cope with climate harms in different ways from men.⁵⁰ “[E]xperts say that poverty and caregiving responsibilities, which make women vulnerable to climate change globally, are factors in the U.S. too.”⁵¹ However, U.S. government agencies have yet to link gender, climate, and justice issues. Agencies such as the Federal Emergency Management Agency (FEMA) do not disaggregate applications for post-disaster assistance by gender identity,⁵² limiting domestic information.

To identify and examine these potential linkages, this Section introduces the environmental justice and reproductive justice movements. It then details their overlapping concerns and ideals, as well as their historical tensions that will inform the Article’s subsequent Sections.

A. Environmental Justice

The foundational principles of environmental justice are that all people have the right to live in healthy environments, be protected from disproportionate amounts of pollution, enjoy an equitable distribution of environmental benefits, and participate in environmental decision-making that will affect their lives.⁵³ The movement grew out of the marginalization of non-White and under-resourced communities and the “significant racial and socioeconomic disparities” in the distribution of environmental burdens.⁵⁴

49. UN WomenWatch, *supra* note 27 (discussing how mobility, access to financial resources, and socio-political factors affect women’s options to adapt to long term climate changes and cope with acute climate disasters).

50. See SAM SELLERS, GENDER AND CLIMATE CHANGE: A CLOSER LOOK AT EXISTING EVIDENCE 9–14 (2016), <https://wedo.org/wp-content/uploads/2016/11/GGCA-RP-FINAL.pdf>. [<https://perma.cc/7ZKE-3FT6>] (describing how climate change affects men and women differently based on local factors).

51. See Jena Brooker, *Climate Change Is Forcing American Women from Their Homes*, PBS PERIL & PROMISE (Apr. 18, 2022) (third alteration in original), <https://www.pbs.org/wnet/peril-and-promise/2022/04/climate-change-is-forcing-american-women-from-their-homes/> [<https://perma.cc/A68V-WYYR>] (“Nearly 13 percent of women in the U.S. live below the poverty line, as compared to 10.6 percent of men. Nationally, 80 percent of single-parent households are headed by women . . . [Those] ‘[h]ouseholds . . . have that much more of a challenge because you can’t easily apply [for federal assistance] if you’re dealing with your kids, housing issues, health issues, et cetera.’”).

52. *Id.*

53. In this Article, I channel the scholarly work and advocacy of others and marshal my own work with communities with environmental justice concerns. I do not, however, claim experience living in a community with environmental justice concerns.

54. ROBERT D. BULLARD, PAUL MOHAI, ROBIN SAHA & BEVERLY WRIGHT, TOXIC WASTES AND RACE AT TWENTY 1987–2007: A REPORT PREPARED FOR THE UNITED CHURCH OF CHRIST JUSTICE & WITNESS MINISTRIES xi–xii (2007). See, e.g., Elisheba Spiller, Jeremy Proville, Ananya Roy & Nicholas Z. Muller, *Mortality Risk from PM_{2.5}: A Comparison of Modeling Approaches to Identify Disparities Across Racial/Ethnic Groups in Policy Outcomes*, ENV’T HEALTH PERSPS. 127004-1 (Dec. 8, 2021) <https://ehp.niehs.nih.gov/doi/epdf/10.1289/EHP9001> [<https://perma.cc/TXX7-GMEF>] (observing that “race/ethnicity-specific information increased PM_{2.5}-related premature mortality

In 2000, advocate and academic Luke Cole and Professor Sheila Foster found that “numerous environmental hazards: garbage dumps, air pollution, lead poisoning, toxic waste production and disposal, pesticide poisoning, noise pollution, [and] occupational hazards . . . are inequitably distributed by income or race.”⁵⁵ The studies Cole and Foster reviewed concluded that “race was most often found to be the better predictor of exposure to” such hazards⁵⁶—a finding repeatedly corroborated by other researchers.⁵⁷ Further, the cumulative impacts of both chemical and nonchemical stressors (*i.e.*, pollutants and institutional racism) have compounded and amplified the burden of pollution on under-resourced communities and people of color over time.⁵⁸

A web of longstanding societal and governmental practices gave rise to this inequitable distribution of burdens, and a significant body of scholarship details these roots.⁵⁹ The development of land use and zoning laws is a frequent origin for environmental justice analyses.⁶⁰ Scholars such as Professor Shalanda Baker

estimates . . . among older Black Americans by 150% for all-source pollution exposure”); Ihab Mikati, Adam F. Benson, Thomas J. Luben, Jason D. Sacks & Jennifer Richmond-Bryant, *Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status*, 108 AM. J. PUB. HEALTH 480, 480 (2018) (finding that “[d]isparities in burden from PM-emitting facilities . . . for Blacks are more pronounced than are disparities on the basis of poverty status”).

55. LUKE W. COLE & SHEILA R. FOSTER, FROM THE GROUND UP: ENVIRONMENTAL RACISM AND THE RISE OF THE ENVIRONMENTAL JUSTICE MOVEMENT 54–55 (2001). This section is adapted from Sara A. Colangelo & Abigail E. André, *Environmental Justice Before U.S. Courts in Environmental Law Before the Courts*, in A US-EU NARRATIVE, 58–60 (Giovanni Antonelli et al. eds., 2023).

56. *Id.* at 55. Cole and Foster included an “An Annotated Bibliography of Studies and Articles That Document and Describe the Disproportionate Impact of Environmental Hazards by Race and Income” to catalog the studies they considered. *Id.* at 167–83.

57. *See, e.g.*, Paul Mohai & Robin Saha, *Which Came First, People or Pollution? A Review of Theory and Evidence from Longitudinal Environmental Justice Studies*, ENV’T RSCH. LETTERS 2–7 (Dec. 22, 2015), <https://iopscience.iop.org/article/10.1088/1748-9326/10/12/125011/pdf> [<https://perma.cc/3DLK-BNDM>] (examining disparities in location of pollution sources by race and economic status). *See generally* DORCETA E. TAYLOR, TOXIC COMMUNITIES: ENVIRONMENTAL RACISM, INDUSTRIAL POLLUTION, AND RESIDENTIAL MOBILITY (2014) (discussing differential exposure to pollution and other environmental hazards based on race and socioeconomic status).

58. EPA defines cumulative impacts as “the totality of exposures to combinations of chemical and non-chemical stressors and their effects on health, well-being, and quality of life outcomes. Cumulative impacts include contemporary exposures to multiple stressors as well as exposures throughout a person’s lifetime.” U.S. ENV’T PROT. AGENCY, EPA 600/R-22/014A, CUMULATIVE IMPACTS RESEARCH: RECOMMENDATIONS FOR EPA’S OFFICE OF RESEARCH AND DEVELOPMENT 4–5 (2022) (footnotes omitted); *see also* Khiara M. Bridges, CRITICAL RACE THEORY: A PRIMER 147–50 (2018) (defining institutional racism).

59. *See, e.g.*, Sheila Foster, *The Challenge of Environmental Justice*, 1 RUTGERS J.L. & URB. POL’Y 1, 10 (2004) (“Courts have significantly watered down civil rights laws in the past 20 years, such that what appears to the average person to be a clear violation of civil rights might not fit the narrow legal definition of such a violation.”). *See generally* RICHARD ROTHSTEIN, THE COLOR OF LAW: A FORGOTTEN HISTORY OF HOW OUR GOVERNMENT SEGREGATED AMERICA (2017) (summarizing the complex factors contributing to environmental injustice).

60. Some scholars cite “market-based forces that make [areas that] are already heavily industrial particularly appealing for the siting of new [locally unwanted land uses], as well as entrenched political and economic disempowerment of many of the affected communities.” Carlos A. Ball, *The Curious Intersection of Nuisance and Takings Law*, 86 B.U. L. REV. 819, 870 (2006); *see also* Sheila R. Foster,

also emphasize the fossil fuel-based energy system's role in "ongoing structural inequality because it places disproportionate burdens on poor communities and communities of color."⁶¹ Others point to disparate enforcement of environmental protections and investment in critical infrastructure.⁶² Today, such inequities have become entrenched and are grimly confirmed by COVID-19 morbidity and mortality rates as well as disproportionate vulnerability to climate change-driven health and safety harms.⁶³

The environmental justice movement responds to these disparities. Its advocates and activists are concerned with "the 'environmental racism' embedded in decisions to disproportionately dispose of hazardous wastes in predominantly Black communities . . . [and] with redistributing the negative externalities associated with other environmentally harmful industries."⁶⁴ Environmental justice draws upon aspects of the civil rights, social justice, labor, and environmental movements. It intersects policy and economics, as well as federal, state, and local laws.⁶⁵ Legal efforts are one strand of broader movement-building strategies.

Vulnerability, Equality and Environmental Justice: The Potential and Limits of Law, in THE ROUTLEDGE HANDBOOK OF ENVIRONMENTAL JUSTICE 136, 136–37 (Ryan Holifield et al. eds., 2018) (collecting sources on land use and zoning influences on environmental disparity and noting counter arguments). Professor Vicki Been also is a consistent and prominent contributor to the scholarship on the siting of undesirable land uses, market dynamics, and environmental justice. *See, e.g.*, Vicki Been, *Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics?*, 103 YALE L.J. 1383, 1386–87 (1994).

61. Shalanda H. Baker, *Anti-Resilience: A Roadmap for Transformational Justice Within the Energy System*, 54 HARV. C.R.-C.L. L. REV. 1, 6 (2019). Baker details scholarship suggesting that "[f]ossil fuels . . . led to 'the westward expansion, growth of urban centers, rise of monopoly capitalism, concentration of wealth, migration and immigration of working-class people and people of color, segregation, [and] impoverishment.'" *Id.* at 10 (citing ENERGY DEMOCRACY: ADVANCING EQUITY IN CLEAN ENERGY SOLUTIONS 8 (Denise Fairchild & Al Weinrub eds., 2017)).

62. *See, e.g.*, Robert R. Kuehn, *Remedying the Unequal Enforcement of Environmental Laws*, 9 J. CR & ECON. DEV. 625, 627 (1994) (arguing that the EPA and state environmental protection agencies should "ensur[e] that their enforcement efforts do not discriminate against any community or class of persons").

63. *See* Shruti Magesh, Daniel John, Wei Tse Li, Yuxiang Li, Aidan Mattingly-app, Sharad Jain, Eric Y. Chang & Weg M. Ongkeko, *Disparities in COVID-19 Outcomes by Race, Ethnicity, and Socioeconomic Status: A Systematic Review and Meta-analysis*, JAMA NETWORK OPEN 1–2 (Nov. 11, 2021), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2785980> [<https://perma.cc/7GM5-3WNB>] ("In this study, members of racial and ethnic minority groups had higher risks of COVID-19 positivity and disease severity. Furthermore, socioeconomic determinants were strongly associated with COVID-19 outcomes in racial and ethnic minority populations."); Zhanghua Chen, Margo A. Sidell, Brian Z. Huang, Ting Chow, Sandrah P. Eckel, Mayra P. Martinez, Roya Gheissari, Fred Lurmann, Duncan C. Thomas, Frank D. Gilliland & Anny H. Xiang, *Ambient Air Pollutant Exposures and COVID-19 Severity and Mortality in a Cohort of Patients with COVID-19 in Southern California*, 206 AM. J. RESPIRATORY & CRITICAL CARE MED. 440, 440 (2022) (concluding that "[a]mbient PM_{2.5} and NO₂ exposures may affect COVID-19 severity and mortality").

64. Baker, *supra* note 61, at 14 (footnote omitted).

65. *See, e.g.*, Bunyan Bryant, *Introduction*, in ENVIRONMENTAL JUSTICE: ISSUES, POLICIES, AND SOLUTIONS 1, 5–6 (Bunyan Bryant ed., 1995).

Activists launched the movement in the latter half of the twentieth century through, most prominently, a 1968 Memphis Sanitation Strike and a 1982 weeks-long protest against the siting of carcinogen-contaminated soil in a predominantly Black community in Warren County, North Carolina.⁶⁶ Environmental justice leaders later drafted 17 Principles of Environmental Justice in 1991, affirming the right to “self-determination” and to be “free from environmental hazards,” and demanding “the right to participate as equal partners at every level of decision-making,” among others.⁶⁷

Definitions of environmental justice vary. EPA’s definition of environmental justice enshrines some, but not all, of the movement’s principles. EPA defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”⁶⁸ Other experts and advocates focus on the equitable distribution of environmental burdens and benefits, parity in decision-making processes, and the fairness of environmental punishment and compensation.⁶⁹

Climate and energy justice share topical underpinnings with environmental justice. The Mary Robinson Foundation – Climate Justice, a thought leadership, education, and advocacy center, defines climate justice as demanding a just energy transition while “link[ing] human rights and development to . . . safeguard[] the rights of the most vulnerable people and shar[e] the burdens and benefits of climate change and its impacts equitably and fairly.”⁷⁰

66. See, e.g., *id.* at 1–5. See also BULLARD, *supra* note 54, at viii, 1–2 (discussing the history of the environmental justice movement including the Memphis sanitation strike and the 1982 PCB protests).

67. DELEGATES TO THE FIRST NATIONAL PEOPLE OF COLOR ENVIRONMENTAL LEADERSHIP SUMMIT, THE PRINCIPLES OF ENVIRONMENTAL JUSTICE (1991), <https://www.ejnet.org/ej/principles.pdf> [<https://perma.cc/7SED-KDBV>].

68. *Environmental Justice*, U.S. ENV’T PROT. AGENCY (Feb. 4, 2024), <https://www.epa.gov/environmentaljustice> [<https://perma.cc/YYW3-484F>].

69. David M. Konisky, *Introduction*, in *FAILED PROMISES: EVALUATING THE FEDERAL GOVERNMENT’S RESPONSE TO ENVIRONMENTAL JUSTICE* 15–16 (David M. Konisky ed., 2015). See generally CATHERINE COLEMAN FLOWERS, *WASTE: ONE WOMAN’S FIGHT AGAINST AMERICA’S DIRTY SECRET* 119–206 (2020) (describing the inequities in sanitation infrastructure for rural, historically Black communities and highlighting similar conditions in other marginalized communities, such as Appalachia).

70. *Principles of Climate Justice*, MARY ROBINSON FOUND. – CLIMATE JUST., <https://www.mrfcj.org/principles-of-climate-justice/> [<https://perma.cc/CCP8-GWRW>]. This Article does not use climate justice as its main analytic lens because the broader spectrum of environmental justice concerns is at issue and because the Article does not focus on a key element of climate justice: a “just transition” to a low carbon economy. See, e.g., *Climate Justice Working Groups*, WE ACT FOR ENV’T JUST., weact.org/home-3-2-2-2/getinvolved/membership/cjwg/ [<https://perma.cc/K5R5-27FE>] (defining climate justice as “addressing the climate crisis in a just and equitable way”); *EQUITABLE & JUST. NAT’L CLIMATE PLATFORM, EQUITABLE & JUST NATIONAL CLIMATE PLATFORM 4*, <https://ajustclimate.org/pdfs/ClimatePlatform.pdf> [<https://perma.cc/4NLX-BH6D>].

The distribution of the burdens and benefits of climate change are intimately tied to the U.S. energy system. Energy justice or energy equity refers to “[t]he goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system.”⁷¹ Baker’s scholarship on energy justice vividly details the energy system’s elements of disparity:

Port Arthur, Texas, a poor, highly segregated, majority-minority town . . . forms part of the nucleus of the nation’s fossil fuel energy system . . . [Offshore,] Black and [B]rown bodies toil in . . . facilities that . . . produce black and brown liquid that flows through pipelines across sacred native lands, damaging waters that form the lifeblood of surrounding communities. The black and brown liquid arrives in facilities in [B]lack and [B]rown communities, where it burns and creates smoke . . . sickening nearly everyone.⁷²

Extractive industries and labor exploitation, Baker argues, support a fossil fuel economy that disproportionately impacts people of color while fueling the climate crisis.⁷³ Focus on the persistent disparities across environmental and energy burdens, benefits, and access to decision-making is woven through environmental, climate, and energy justice.

B. Reproductive Justice

The second framework that animates this Article is reproductive justice. Sister Song Women of Color Reproductive Justice Collaborative, a leading voice in the movement, defines reproductive justice as “the human right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities.”⁷⁴ Reproductive justice champions women’s agency while challenging the staggering breadth of constraints marshaled against it: racism, misogyny, and intimate partner violence, as well as disparities in income and health insurance, educational

71. SHALANDA BAKER, SUBIN DEVAR & SHIVA PRAKASH, THE ENERGY JUSTICE WORKBOOK 14–15 (2019), <https://iejusa.org/wp-content/uploads/2019/12/The-Energy-Justice-Workbook-2019-web.pdf> [<https://perma.cc/4C5H-6H57>] (defining energy justice based on “practitioners and advocates” and “acknowledg[ing] the unique perspectives and understandings of energy justice as defined by those engaged in the work on the ground”).

72. Baker, *supra* note 61, at 4–5 (footnotes omitted).

73. *Id.* at 10.

74. *Reproductive Justice*, SISTERSONG, <https://www.sistersong.net/reproductive-justice> [<https://perma.cc/YM7Y-EBDY>]. Because this Article advocates for ground-up approaches to environmental and reproductive justice, it employs the definition of reproductive justice espoused by a network of grassroots organizations. Most organizations and scholars adopt similar definitions. *See, e.g.*, Nat’l Women’s L. Ctr. & L. Students for Reprod. Just., *supra* note 26 (using a similar definition and adding the right of individuals to “plan their families through safe, legal access to abortion and contraception”).

opportunities, reproductive and prenatal care, access to healthy communities, parental leave, and affordable childcare.⁷⁵

Reproductive justice arose in the 1990s as a response to then-dominant approaches to reproductive freedom that did not consider disempowerment, race, and socio-economic status.⁷⁶ It resisted a framework narrowly focused on protecting abortion rights, which it recognized as important but not “encompass[ing] the entire universe of reproductive concerns.”⁷⁷ Reproductive justice activists conceived of the concern about compelled motherhood as the arena of “wealthier, [W]hite, cisgender women.”⁷⁸ While marginalized women faced the same threat, their broader concerns included being “denied the ability to become mothers” and “deprived of the ability to parent the children that they had in humane, dignity-respecting, life-affirming conditions.”⁷⁹

Reproductive justice provides an “inclusive lens” to examine “gender, race, class, sexuality and nationality.”⁸⁰ Professors Zakiya Luna and Kristin Luker, among others, consider three rights fundamental to reproductive justice: to have a child, to not have children, and to parent with dignity.⁸¹ These categories encompass many issues influencing reproductive capacity and decision-making. Specific issues include evading forced sterilization; having the opportunity to conceive and deliver a healthy baby; avoiding forcible pregnancy; having access to education; and empowering people to raise their children in communities with the resources necessary for life, such as clean air and water.⁸²

75. See generally Melissa Murray, *Race-ing Roe: Reproductive Justice, Racial Justice, and the Battle for Roe v. Wade*, 134 HARV. L. REV. 2025, 2052–55 (2021) (explaining that reproductive justice “take[s] an explicitly intersectional approach, centering the experience of women of color, the poor, queer communities, and the disabled” and that “the contours of a reproductive justice framework are purposefully broad, ‘encompassing the various ways law shapes the decision “whether to bear or beget a child” and the conditions under which families are created and sustained”).

76. For a critique of the “individual, negative, constitutional” right to abortion and cataloging of “opportunities for promoting reproductive justice,” see generally Robin West, *From Choice to Reproductive Justice: De-Constitutionalizing Abortion Rights*, 118 YALE L.J. 1394, 1396–98 (2009) (arguing “that there are unreckoned moral and political costs of the judicially created, individualist, and negative right to an abortion—costs that ought to be troubling for all, but particularly for feminist legal scholars”).

77. Bridges, *supra* note 33, at 306; see also Jill C. Morrison, *Resuscitating the Black Body: Reproductive Justice as Resistance to the State’s Property Interest in Black Women’s Reproductive Capacity*, 31 YALE J.L. & FEMINISM 35, 36 (2019) (footnote omitted) (“The Reproductive Justice (RJ) movement arose in recent decades in response to a pro-choice movement concerned primarily with preventing births and terminating unwanted pregnancies. This focus ignored the very real threats to Black women’s reproductive autonomy These include barriers to becoming pregnant, having healthy pregnancies and births, and raising children to adulthood in safe environments.”).

78. Bridges, *supra* note 33, at 306.

79. *Id.*

80. Greta Gaard, *Reproductive Technology, or Reproductive Justice?: An Ecofeminist, Environmental Justice Perspective on the Rhetoric of Choice*, 15 ETHICS & ENV’T 103, 111 (2010).

81. Zakiya Luna & Kristin Luker, *Reproductive Justice*, 9 ANN. REV. L. & SOC. SCI. 327, 338–40 (2013).

82. See *id.* at 328–29, 338, 340–41. Professor Dorothy Roberts and others have detailed the growth of eugenics philosophy related to Black reproduction, including contraceptives and coerced

Safe, legal abortions remain a component of the reproductive justice framework. Approximately 14% of fifteen- to forty-four-year-old women nationwide are Black, and yet data from reporting states suggest that they represent at least 39% of women receiving abortions.⁸³ Bridges has explained that “[B]lack people with the capacity for pregnancy have higher rates of unintended pregnancies because they more frequently encounter constraints that make it extremely difficult to fully control their reproductive lives, e.g., poverty, sexual violence, inaccessibility of reliable contraception, lack of sex education in public schools.”⁸⁴ These systemic challenges result in Black women “more frequently find[ing] themselves facing unintended and unwanted pregnancies,” and “more frequently rely[ing] on abortion care to control the number and spacing of their children.”⁸⁵

Literature establishing the environmental and reproductive justice intersection could be misconstrued to imply that women’s roles are solely as victims within the climate crisis. This Article rebuffs such implication. Instead, it adopts the contention of experts who protest that “[I]ittle has been done so far to address the gender-specific dimension of the climate problem. If the issue [i]s considered . . . , the discussion has focused primarily on how women are particularly *susceptible* to climate change [T]he potential of and for women with regard to climate *protection* is rarely addressed”⁸⁶ What is lost is that women bring enormous mental, physical, and cultural resources to the intersection of environmental and reproductive justice.⁸⁷

sterilization. See, e.g., DOROTHY ROBERTS, *KILLING THE BLACK BODY: RACE, REPRODUCTION, AND THE MEANING OF LIBERTY* 56 (2d ed. 2017).

83. *Population*, MARCH DIMES PERISTATS, <https://www.marchofdimes.org/peristats/data?reg=99&top=14&stop=127&lev=1&slev=1&obj=3> [https://perma.cc/72QD-ZXRN]; Jeff Diamant & Besheer Mohamed, *What the Data Says About Abortion in the U.S.*, PEW RSCH. CTR. (Jan. 11, 2023), <https://www.pewresearch.org/short-reads/2023/01/11/what-the-data-says-about-abortion-in-the-u-s-2/> [https://perma.cc/G235-UBMU] (“In the District of Columbia and 29 states that reported racial and ethnic data on abortion to the CDC, 39% of all women who had abortions in 2020 were non-Hispanic Black.”); Katherine Kortsmitt, Antoinette T. Nguyen, Michele G. Mandel, Lisa M. Hollier, Stephanie Ramer, Jessica Rodenhizer & Maura K. Whiteman, *Abortion Surveillance – United States, 2021*, MORBIDITY & MORTALITY WKLY. REP. SURVEILLANCE SUMMARIES 6 (Nov. 24, 2023), <https://www.cdc.gov/mmwr/volumes/72/ss/pdfs/ss7209a1-H.pdf> [https://perma.cc/L7FD-6GC6].

84. Bridges, *supra* note 33, at 333; see also Murray, *supra* note 75, at 2033–49 (emphasizing the racialized evolution of healthcare for reproductive services).

85. Bridges, *supra* note 33, at 333–34; see also Murray, *supra* note 75, at 2090–91 (“[F]or many people of color, the decision to terminate a pregnancy is shot through with concerns about economic and financial insecurity, limited employment options, diminution of educational opportunities and lack of access to health care and affordable quality childcare.”).

86. Sandra Bähge, *The Governance Cluster 4* (Oct. 2010) (unpublished working paper) (emphasis added), <https://www.oecd.org/dac/gender-development/46975138.pdf> [https://perma.cc/89DF-BE5R].

87. See, e.g., UN WomenWatch, *supra* note 27 (observing that “women are not only vulnerable to climate change but they are also effective actors or agents of change in relations to both mitigation and adaptation” and “[w]omen often have a strong body of knowledge and expertise” relevant to the climate crisis.).

This Article reserves for future scholarship the necessary work to evaluate the entirety of these issues through a gender justice framework.⁸⁸ That framework would draw from the writings of legal scholars such as Professors Rebecca Tsosie,⁸⁹ Angela Harris,⁹⁰ and Carmen Gonzalez,⁹¹ who have examined environmental justice and gender through lenses including Indigenous rights, race and poverty, and international law.⁹² Future scholarship might also explore men's role in gender justice. For example, scholars like Goodwin have observed the "flawed theory that women alone determine fetal health," which impermissibly ignores men's role.⁹³ A gender-just climate framework might incorporate feminist legal theory as well.⁹⁴ Accordingly, the portions of this Article that implicate gender justice and feminism only touch upon its expansive applications.

C. Overlapping Ideals

The environmental and reproductive justice movements share norms, goals, and concerns that lend themselves to coalition building.⁹⁵ Both movements

88. See, e.g., B athge, *supra* note 86, at 5–6 (explicating how climate change affects women and men differently across multiple social determinants of health, cultural, economic, and occupational power systems).

89. E.g., Rebecca Tsosie, *Indigenous Peoples and the Ethics of Remediation: Redressing the Legacy of Radioactive Contamination for Native Peoples and Native Lands*, 13 SANTA CLARA J. INT'L L. 203, 209, 257 (2015) (discussing present and historical radioactive contamination in Indigenous Communities and proposing a framework for remediation efforts that accounts for the disproportionate harms that fall "upon Indigenous women and children").

90. E.g., Angela P. Harris & Aysha Pamukcu, *The Civil Rights of Health: A New Approach to Challenging Structural Inequality*, 67 UCLA L. REV. 758, 765 (2020) (advocating for increased collaboration between public health and legal advocates to address subordination in public health based on gender, race, sexuality, or socioeconomic status).

91. E.g., Carmen G. Gonzalez, *Migration as Reparation: Climate Change and the Disruption of Borders*, 66 LOY. L. REV. 401, 403–04, 430 (2020) (arguing that the Global North should accept climate-displaced persons, including the women who are "overrepresented in . . . 'trapped populations,'" as a form of reparations to mitigate transboundary harm).

92. Scholars from other disciplines, such as Drs. Vandana Shiva, Sherilyn MacGregor, Giovanna Di Chiro, and Dorceta E. Taylor, have also contributed to the literature on gender, feminism and eco-feminism, environmental politics and environmental injustices.

93. Goodwin, *supra* note 30, at 859.

94. See Gaard, *supra* note 80, at 116–24 (detailing inception of ecofeminism movement and its evolution along with field of environmental health). See generally Sarah Deer, *(En)Gendering Indian Law: Indigenous Feminist Legal Theory in the United States*, 31 YALE J.L. & FEMINISM 1 (2019) (applying feminist legal theory to aspects of federal Indian law); Amanda Levendowski, *Defragging Feminist Cyberlaw*, 38 BERKELEY TECH. L.J. 797 (2023) (cataloging feminist scholars and key ideals, and illustrating the application of feminist legal theory to substantive areas of the law).

95. For example, many environmental health and justice organization's founding leaders cited concerns for their present and future children as motivation for joining the environmental justice movement. See, e.g., *Who We Are*, MOTHERS OUT FRONT, <https://www.mothersoutfront.org/who-we-are/> [<https://perma.cc/9HVV-TY3H>]; *Our Mission*, MOMS CLEAN AIR FORCE, <https://www.momscleanairforce.org/our-mission/> [<https://perma.cc/T3FP-T2TF>]; *Mothers on the Move (MOM): Wanda Salaman*, WOMEN BUILD CMTY. <https://www.womenbuildcommunity.org/case/mothers-on-the-move-mom/> [<https://perma.cc/Y5JR-2JEL>]. Further, many environmental justice organizations advocate around issues that signal a concern for health equity and reproductive health such

regard justice as requiring that “all people have the economic, social, and political power to make healthy decisions about their bodies.”⁹⁶ Both are rooted in human rights and center communities that have been historically marginalized due to markers of identity.⁹⁷ The movements’ view of justice is capacious, not constrained. Each movement rejects not only racism but also elitism and classism.⁹⁸ In consequence, lawyers’ utility for advancing movement goals is a nuanced subject as discussed in Part III.

The ideological force of the environmental and reproductive justice movements also transformed narrower frameworks of abortion rights and conventional environmentalism to incorporate issues of discrimination, structural barriers, race, and poverty. Professor Melissa Murray has observed that “[b]y the early 2000s, both Planned Parenthood and the [National Abortion Rights Action League, now Reproductive Freedom for All] expanded their reform agendas beyond abortion to include access to contraception and health care. By 2010, . . . mainstream reproductive rights groups began to embrace the vernacular and logic of the reproductive justice movement”⁹⁹ Similarly, the environmental justice movement started identifying mainstream environmental

as toxins in makeup and other products for girls and young women. *See, e.g., Beauty Inside Out*, WE ACT FOR ENV’T JUST., <https://www.weact.org/campaigns/beauty-inside-out/> [<https://perma.cc/4FJV-J84Q>]; *Gender & Ethnic Based Personal Care Products*, WE ACT FOR ENV’T JUST., <https://www.weact.org/campaigns/gender-ethnic-based-personal-care-products/> [<https://perma.cc/GEC8-Y3LW>]. Reproductive justice, however, is not listed as a specific term under areas of work for WE ACT or Climate Justice Alliance, both leading environmental justice organizations.

96. Nat’l Women’s Law Ctr. & Law Students for Reprod. Just., *supra* note 26. *See also* DELEGATES TO THE FIRST NATIONAL PEOPLE OF COLOR ENVIRONMENTAL LEADERSHIP SUMMIT, *supra* note 67 (listing among the fundamental “Principles of Environmental Justice” the “right to political, economic, cultural and environmental self-determination of all peoples”).

97. *See generally* LORETTA J. ROSS & RICKIE SOLINGER, REPRODUCTIVE JUSTICE: AN INTRODUCTION (2017) (discussing the history and evolution of the reproductive justice movement); Jedediah Purdy, *The Long Environmental Justice Movement*, 44 *ECOLOGY L.Q.* 809 (2018) (detailing the history of the environmental justice movement); ROBERT D. BULLARD, ENVIRONMENT AND MORALITY: CONFRONTING ENVIRONMENTAL RACISM 4 (2004) (describing significant events in the environmental justice movement centered around race); Claudia Polsky, *A Black Staffer’s Noisy Exit from a Green NGO*, LEGAL PLANET (June 19, 2020), <https://legal-planet.org/2020/06/19/a-black-staffers-noisy-exit-from-a-green-ngo/> [<https://perma.cc/QRD9-NQYA>] (explaining Ruth Tyson’s decision to quit the Union of Concerned Scientists and her open letter alleging an “oppressively and hegemonically [W]hite” workplace culture).

98. *See, e.g.,* Sarah London, *Reproductive Justice: Developing a Lawyering Model*, 13 *BERKELEY J. AFR.-AM. L. & POL’Y* 71, 76, 88 (2011); Luke W. Cole, *Macho Law Brains, Public Citizens, and Grassroots Activists: Three Models of Environmental Advocacy*, 14 *VA. ENV’T L.J.* 687, 703–09 (1995) (arguing that lawyers should attack environmental injustice by empowering communities and providing legal expertise instead of relying on litigation, which removes the matter from the hands of the community).

99. Murray, *supra* note 75, at 2055. Notably, a 2022 complaint from a Black woman alleged that Planned Parenthood “blatantly ignored reports by dozens of its Black employees of systemic unequal hiring and promotion, more work for lower pay, overt hostility, and trafficking in stereotypes by leadership.” Ayana Archie, *A Former Employee Sues Planned Parenthood, Claiming She Faced Months of Racism*, NPR (Oct. 20, 2022), <https://www.npr.org/2022/10/20/1130133440/planned-parenthood-racism-lawsuit>. [<https://perma.cc/F6B8-5KZ9>].

organizations as potential partners by 1990, yet skepticism persisted. “That year, several environmental justice leaders cosigned a widely publicized letter to the ‘Big 10’ environmental groups, . . . accusing them of racial bias . . . and challenging them to address toxic contamination in the communities and workplaces of people of color and the poor.”¹⁰⁰ Some groups responded faster and with more thorough approaches than others. But eventually, many major environmental organizations developed environmental justice platforms and programs, while making some progress towards creating more diverse staffs and leadership.¹⁰¹

Finally, reproductive and environmental justice are both in a transformative moment of urgency.¹⁰² Legislative and judicial attacks on women’s reproductive agency, as well as the ravaging of communities of color by COVID-19, shook not only those within the movement but also the general public.¹⁰³

100. Renee Skelton, Vernice Miller & Courtney Lindwall, *The Environmental Justice Movement*, NAT. RES. DEF. COUNCIL (Aug. 22, 2023), <https://www.nrdc.org/stories/environmental-justice-movement> [<https://perma.cc/6TXT-E7W9>]. The Center for Media and Democracy’s SourceWatch lists the ten leading environmental organizations as: Defenders of Wildlife, Environmental Defense Fund, Greenpeace, National Audubon Society, National Wildlife Federation, Natural Resources Defense Council, The Nature Conservancy, Sierra Club, The Wilderness Society, and World Wildlife Fund. As of this writing, Environmental Defense Fund, Greenpeace, National Wildlife Federation, Natural Resources Defense Council, Sierra Club, and World Wildlife Fund list environmental justice, healthy communities, or people and equity among priority action areas on their homepages. These issues may be imbedded within other campaign areas for the remaining organizations but they are not listed as individual areas of focus.

101. *Id.*

102. *See, e.g.*, Jennifer D. Roberts, Katherine L. Dickinson, Marccus D. Hendricks & Viniece Jennings, “*I Can’t Breathe*”: *Examining the Legacy of American Racism on Determinants of Health and the Ongoing Pursuit of Environmental Justice*, 9 CURRENT ENV’T HEALTH REPS. 211, 219–20, 222 (2022) (contextualizing the prevalence and increasing importance of environmental justice in the wake of the COVID-19 pandemic and the protests following George Floyd’s murder); Robert D. Bullard, *Introduction: Environmental Justice—Once a Footnote, Now a Headline*, 45 HARV. ENV’T L. REV. 243, 244–45, 248 (2021). Indicative of the public and academic concern over *Dobbs*, multiple symposia and lectures address the urgency of reproductive justice following the decision. *See, e.g.*, Keith Pierce, *Health, Equity, and Law after Dobbs*, AMERICAN UNIVERSITY WASH. COLLEGE OF LAW (Mar. 7, 2023), <https://www.wcl.american.edu/news-events/news/health-equity-and-law-after-dobbs/> (describing symposium on health equity and “reproductive health and justice” and citing an “urgent need for action” following *Dobbs*); *Dorothy Roberts on “The Urgency of Reproductive Justice After Dobbs”*, SIMPSON CTR. FOR THE HUMANITIES, <https://simpsoncenter.org/events/event-detail?eventid=171160523&trumbaEmbed=view%3Devent%26eventid%3D171160523> [<https://perma.cc/W4RV-6T2W>] (summarizing Professor Dorothy Roberts’ lecture and noting the pillars of the reproductive justice framework are made “more urgent than ever by *Dobbs*”).

103. *See, e.g.*, Helen Sprainer, *Air Quality Equity: Why the Clean Air Act Failed to Protect Low-Income Communities and Communities of Color from COVID-19*, 30 N.Y.U. ENV’T L.J. 123, 123 (2022); Danielle Muoio Dunn, *An ‘Urgent’ Crisis: City’s Study of Environmental Inequities Gains New Momentum amid Covid*, POLITICO (Nov. 8, 2021), <https://www.politico.com/states/new-york/albany/story/2021/11/08/an-urgent-crisis-citys-study-of-environmental-inequities-gains-new-momentum-amid-covid-1392421> [<https://perma.cc/HZ9N-ANNQ>] (describing the “significantly higher death rates” of Black and Latino populations from COVID-19 and their relationship to disparate pollution exposure, and quoting environmental justice expert Peggy Shepard as observing that the pandemic “shone a light on systemic bias that has created the conditions that so many of our

D. Lingering Disconnection

Despite shared complementary principles and longstanding overlapping concerns such as maternal health, the environmental and reproductive justice movements remain largely separate. The Center for American Progress observed that “there is a dearth of research that uses a reproductive justice framework to better understand and respond to the inequitable effects that climate change has on women [T]here is a clear lack of attention or interest in rigorously applying a reproductive justice lens to climate research.”¹⁰⁴ This disconnect is discernable in practice. Even when actors and advocates pursue progressive policies or legal theories in either topical sphere, the results rarely advance both missions.

Three recent examples of this disconnect are illustrative. First, the Biden administration has shown unprecedented interest in environmental justice, as well as acknowledgment of the Black maternal health crisis. Following his inauguration, President Biden issued Executive Orders 13985 (Advancing Racial Equity and Support for Underserved Communities Through the Federal Government) and 14008 (Tackling the Climate Crisis at Home and Abroad). Together, these Orders direct federal agencies to “work toward proactively achieving environmental justice[,] . . . develop and implement policies and strategies that strengthen compliance and enforcement, . . . increase community engagement, and ensure that . . . 40 percent of the benefits from federal investments in climate and clean energy flow to underserved communities.”¹⁰⁵ Further, the administration has signaled the importance of addressing the Black maternal health crisis. For instance, it has released a fact sheet acknowledging “unacceptably high maternal mortality and morbidity rates” among women of color and set forth a range of health justice investments.¹⁰⁶

However, the Biden administration’s climate plans as of this writing do not address climate change’s threats to dimensions of reproductive justice.¹⁰⁷ While

communities are experiencing I think all of those things culminated in a perfect storm to raise the visibility of environmental justice”).

104. Osub Ahmed, *Integrating a Reproductive Justice Framework in Climate Research*, CTR. FOR AM. PROGRESS (Mar. 6, 2020), <https://www.americanprogress.org/article/integrating-reproductive-justice-framework-climate-research/> [<https://perma.cc/26SC-BW5G>].

105. Press Release, U.S. Env’t Prot. Agency, EPA Finalizes Environmental Justice Action Plan for Land Protection and Cleanup Programs (Sept. 30, 2022), <https://www.epa.gov/newsreleases/epa-finalizes-environmental-justice-action-plan-land-protection-and-cleanup-programs> [<https://perma.cc/TG2Y-Y6MB>] (detailing the Office of Land and Emergency Management’s new EJ Action Plan and situating it within the broader environmental justice efforts across the EPA in response to executive orders 13985 and 14008 and the Biden administration’s Justice40 Initiative).

106. Press Release, The White House, FACT SHEET: Biden-Harris Administration Announces Initial Actions to Address the Black Maternal Health Crisis (Apr. 13, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/13/fact-sheet-biden-harris-administration-announces-initial-actions-to-address-the-black-maternal-health-crisis/> [<https://perma.cc/3KBT-3MXU>].

107. See, e.g., Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021); Press Release, The White House, FACT SHEET: President Biden to Catalyze Global Climate Action Through the Major

the Black Maternal Health Crisis Fact Sheet lists several health interventions, none acknowledge compounding climate risk factors.¹⁰⁸ This omission highlights a missed opportunity to share resources, foster interprofessional dialogue around intersecting challenges, and develop cross-functional solutions at the intersection of environmental and reproductive justice.

Second, both reproductive justice and climate change took center stage in United States Supreme Court cases in 2021-2022. Together, *Dobbs v. Jackson Women's Health Organization* and *West Virginia v. Environmental Protection Agency* garnered an eye-popping volume of amicus curiae or "friend of the court" briefs. But none of the more than fifty amicus briefs supporting the Respondents in *Dobbs* nor the fifteen amicus briefs supporting the Respondents in *West Virginia* were filed to voice support from the other movement. A strategic, cross-movement amicus brief campaign could have highlighted the cascading impacts of the Court's decision in both spheres. While likely of limited persuasive power to the conservative supermajority, such a campaign's potential influence on other jurists and public discourse could be significant in bridging this conceptual gap.

Finally, municipal and state climate liability suits illustrate how government advocacy is failing to jointly advance justice for constituents. While not styled as environmental justice cases, climate suits have the potential to spotlight harms at the intersection of environmental and reproductive justice and incorporate relevant remedies into demands for relief.¹⁰⁹ Recent suits involve states and municipalities seeking relief from major energy and greenhouse gas producers; some sounding in tort theories and others in claims of breach of fiduciary duties and financial risks and disclosures.¹¹⁰ Multiple complaints have

Economies Forum on Energy and Climate (Apr. 20, 2023), <https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/20/fact-sheet-president-biden-to-catalyze-global-climate-action-through-the-major-economies-forum-on-energy-and-climate/> [<https://perma.cc/H4JU-R6DX>]. See generally Dan Lashof, *Tracking Progress: Climate Action Under the Biden Administration*, WORLD RES. INST. (Jan. 23, 2023), <https://www.wri.org/insights/biden-administration-tracking-climate-action-progress> [<https://perma.cc/5DAK-S96E>] (discussing several areas of progressive climate action but none involving the terms women, gender, or reproductive justice).

108. See *supra* Part I.A and *infra* Part III.C; *Fact Sheet: Biden-Harris Administration Announces Initial Actions to Address the Black Maternal Health Crisis*, THE WHITE HOUSE (Apr. 13, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/13/fact-sheet-biden-harris-administration-announces-initial-actions-to-address-the-black-maternal-health-crisis> [<https://perma.cc/MNG7-RV86>]. Further, the U.S. Government drafted its inaugural National Strategy on Gender Equity and Equality in 2021. The document acknowledges the need for gender equity in climate change responses, including humanitarian relief. See THE WHITE HOUSE, NATIONAL STRATEGY ON GENDER EQUITY AND EQUALITY (2021), <https://www.whitehouse.gov/wp-content/uploads/2021/10/National-Strategy-on-Gender-Equity-and-Equality.pdf> [<https://perma.cc/6WKT-FHSA>].

109. See Jina J. Kim, *Leave No One Behind: Realizing Environmental Justice Through Climate Litigation Remedies*, 48 *ECOLOGY L.Q.* 409, 416 (2021).

110. See, e.g., *Fentress v. Exxon Mobil Corp.*, SABIN CTR. FOR CLIMATE CHANGE L. (2024), <https://climatecasechart.com/case/fentress-v-exxon-mobil-corp/> [<https://perma.cc/RGQ6-ENHH>] (providing detailed analysis of filings in *Fentress v. Exxon Mobil Corp.*, a climate liability suit alleging violations of "fiduciary duties under Employee Retirement Income Security Act"); Maxine Burkett,

demanded funds for repairing or preparing for climate change infrastructure harms such as storm surges and flooding. Critically, under-resourced communities, Indigenous Peoples, and communities of color are disproportionately concentrated in flood-prone areas and face significant health and safety risks connected to elements of reproductive justice during increasingly common flood events.¹¹¹

Climate-based environmental and reproductive justice evidence could strengthen these legal claims and simultaneously benefit from their remedies. Scholars Aisha Saad, Michael Burger, and others have argued that evolutions in climate attribution science, modeling that “distinguish[es] human contributions to climate change from ‘natural disasters’ or ‘acts of God,’”¹¹² have the potential to strengthen many aspects of tort litigation.¹¹³ Similarly, incorporating the studies marshalled herein and first-hand reports into climate liability filings could bolster elements such as standing, injury, and damages. Yet even the June 2023 climate tort liability complaint in *Multnomah County v. Exxon Mobile Corp., et al*, concerning the deadly heat dome that seared the Pacific Northwest in 2021, did not include allegations or information regarding harms to maternal, fetal, or neonatal health.¹¹⁴

In the following Sections, this Article demonstrates the integral connection between environmental and reproductive justice, which legal and climate change experts have largely failed to engage. The Article catalogs climate crisis-based threats to reproductive self-determination.¹¹⁵ It also explores how reproductive justice efforts can support climate solutions and broader environmental justice goals.

Litigating Separate and Equal: Climate Justice and the Fourth Branch, 72 STAN. L. REV. ONLINE 145, 146–49 (2020).

111. E.g., Eric Tate, Md Asif Rahman, Christopher T. Emrich & Christopher C. Sampson, *Flood Exposure and Social Vulnerability in the United States*, 106 NAT. HAZARDS 435, 453 (2021) (finding that communities of color are overrepresented in hotspots where flood-prone areas and social vulnerabilities converge); see *infra* Part II.

112. Aisha Saad has described the utility of scientific evidence to a reconceptualization of climate impacts as follows: “In recent years, climate scientists have developed methods to discern the impact of human contributions on both the intensity and frequency of extreme weather events like heatwaves, floods, droughts, and hurricanes These findings reframe climate change impacts . . . from unavoidable natural occurrences to preventable tragedies” Aisha I. Saad, *Attribution for Climate Torts*, 64 B.C. L. REV. 867, 870–71 (2023).

113. *Id.* at 870; see Michael Burger, Jessica Wentz & Radley Horton, *The Law and Science of Climate Change Attribution*, COLUM. J. ENV’T L. 57, 225–39 (2020).

114. Complaint, *County of Multnomah v. Exxon Mobil Corp.*, No. 23-cv-25164 (Or. Cir. Ct. filed June 22, 2023), https://climatecasechart.com/wp-content/uploads/case-documents/2023/20230622_docket-23CV25164_complaint.pdf [<https://perma.cc/23FN-3EN2>].

115. See, e.g., KRISTEN ZIMMERMAN & VERA MIAO, MOVEMENT STRATEGY CTR., FERTILE GROUND: WOMEN ORGANIZING AT THE INTERSECTION OF ENVIRONMENTAL JUSTICE AND REPRODUCTIVE JUSTICE 6–12 (2009).

II.

THE CLIMATE CRISIS AND REPRODUCTIVE OPPRESSION

In 2017, women from in and around Houston, Texas, sought assistance in receiving abortions from medical providers.¹¹⁶ These women struggled to access reproductive care weeks after Hurricane Harvey had swept through, bringing unprecedented flood waters that eviscerated the city's power and transportation systems for extended periods of time.¹¹⁷ A study of the women's calls revealed that the hurricane not only displaced them, but also exacerbated their already-strained access to clinics due to massive shutdowns following the passage of Texas' restrictive abortion laws.¹¹⁸ The callers who identified their race were non-White, each reported needing financial assistance to receive abortion care, and each reported needing to travel hundreds of miles for that care.¹¹⁹ Some women reported being raped and experiencing intimate partner violence, and one reported being raped in a hurricane shelter.¹²⁰

As was the case in the aftermath of Hurricane Harvey, the disparate impacts of climate change on women include threats to the rights to have children, to not have children, and to parent children in healthy, sustainable communities. Many reports document climate disaster-driven gender violence,¹²¹ as well as loss of access to healthcare and reproductive services.¹²² Numerous peer-reviewed scientific studies also establish the severe health effects of climate change on people capable of sustaining pregnancies, fetal development, infants, and children.¹²³ While these impacts can be calculated in billions of dollars,¹²⁴ their

116. See Leyser-Whalen et al., *supra* note 29, at 1111–14 (examining anonymized data from West Fund, an El Paso, TX nonprofit “that provides information, local programming, community building, and gap funding for those in need of economic support to obtain an abortion”).

117. *Id.* at 1116.

118. *Id.* at 1113–14 (describing significant shutdowns of clinics across the state, punctuated by shutdowns following HB2 in 2013).

119. *Id.* at 1117–18.

120. *Id.* at 1118. At the same time, the hurricane wrought deadly consequences for people giving birth during or in its wake: maternal and neonatal mortality rates spiked at hospitals in Southeast Texas following the storm. See discussion of study *infra* Part II.B.

121. Multiple subjects within this Article relate to experiences of trauma. Many contributors to media narratives, grassroots organizing, and scholarly literature who have shared and examined these subjects have often done so knowing it may be retraumatizing for them. People can visit RAINN (Rape, Abuse, & Incest National Network), which has a hotline, chat line, and offers referrals to both local and related resources, for support at *National Sexual Assault Hotline: Confidential 24/7 Support*, RAINN, <https://www.rainn.org/resources> [<https://perma.cc/MG3Y-ANGD>].

122. See, e.g., *infra* Part II.A.2.

123. I disclose that I served as lead author on a U.S. Supreme Court amicus brief that set forth the consensus of the medical community regarding the public health effects of climate change on all U.S. populations. Brief of Amici Curiae American Thoracic Society, American Medical Ass'n, American Academy of Pediatrics, American College of Physicians, and Leaders of Public Health Schools, et al. as Amici Curiae in Support of Respondents, *W. Virginia v. Env't Prot. Agency*, 597 U.S. 697 (2022) (Nos. 20-1530, 20-1531, 20-1778, & 20-1780), 2022 WL 264789 (with Jack H.L. Whiteley).

124. See, e.g., Kim Knowlton, Miriam Rotkin-Ellman, Linda Geballe, Wendy Max & Gina M. Solomon, *Six Climate Change-Related Events in the United States Accounted for About \$14 Billion In Lost Lives and Health Costs*, 30 HEALTH AFFS. 2167, 2167–68 (2011).

most harrowing costs are measured in violence, altered life plans, lives shortened, and lives lost.¹²⁵

This Section collects sources that establish the escalating toll climate change exacts on multiple aspects of reproductive justice. Part II.A explores the ways in which climate change disasters, such as more frequent and intense storms and floods, limit women's ability to choose *whether* to have children. Part II.B takes up climate change-driven limitations on *how* women have and raise children. Part II.C highlights why the pursuit of reproductive justice can serve key principles of environmental justice and contribute to climate solutions. Part III then builds on this evidence to argue for cross-movement dialogue to foster mutually beneficial legal and policy changes.

A. *Climate Change Suppresses Autonomy Over Whether to Have Children*

The climate crisis threatens women's mobility, access to medical and reproductive services, and bodily autonomy. Storm shelters are not always places of safety but sometimes of violence, including sexual assault and child abuse. Following storms, floods, and fires, women can be cut off from medical care, including reproductive services. The impact of being separated from this care is especially acute in a post-*Dobbs* world where many states have imposed a statutory clock prohibiting abortions based on pregnancy duration. Taken together, the climate threats described in this sub-Section compound the risks of lost autonomy over whether to have children.

1. *Sexual Violence in Climate Disaster Shelters*

Increasingly frequent and intense storms fueled by climate change drive people into conditions that render them vulnerable to violence and oppression. A prominent example occurred during Hurricane Katrina, where reports of sexual violence rose in the aftermath of the storm, both within the Superdome and locations where people attempted to take refuge across the city.¹²⁶ As Hurricane Katrina ravaged New Orleans, thirty thousand people—largely Black residents from the 9th Ward—sought shelter in the Superdome, only to plunge

125. See, e.g., Drew Shindell, Yuqiang Zhang, Melissa Scott, Muye Ru, Krista Stark & Kristie L. Ebi, *The Effects of Heat Exposure on Human Mortality Throughout the United States* GEOHEALTH 7 (Aug. 7, 2021), <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2019GH000234> [<https://perma.cc/BWZ2-6RBT>] (estimating that “during the 2010s,” an average of 12,000 “premature heat-related deaths” occurred annually in the U.S.).

126. See, e.g., Anna North, *Hurricane Katrina Left Survivors Vulnerable to Sexual Assault. Here's How to Protect Irma Evacuees*, VOX (Sept. 11, 2017), <https://www.vox.com/identities/2017/8/30/16221902/hurricane-harvey-katrina-sexual-assault-survivors> [<https://perma.cc/4WUK-KZJB>] (relaying information about assaults in the wake of Hurricane Katrina and their commonality after extreme weather events). There is disagreement regarding the numbers of reported and actual sexual violence following Hurricane Katrina. See Associated Press, *Cops: Superdome Violence Reports Exaggerated*, FOX NEWS (Jan. 13, 2015), <https://www.foxnews.com/story/cops-superdome-violence-reports-exaggerated> [<https://perma.cc/8YGT-DPWJ>].

into a nightmare.¹²⁷ The Louisiana Foundation Against Sexual Assault and the National Sexual Violence Resource Center described the “sub-human conditions”:

Due to the breach in the levees later that day, water engulfed the Superdome, trapping the evacuees inside. Electricity, lost just hours into the storm . . . shone only tiny patches of light . . . With temperatures well over 100 degrees and no air conditioning or adequate ventilation, a kind of fog formed throughout the Superdome . . . Parents and caretakers struggled to constrain thousands of children . . . As conditions worsened, safety diminished. The massive crowd within the Superdome became angrier; women, children, and people with disabilities, in particular, felt the threat of personal attack growing . . . Within hours of the hurricane’s arrival in New Orleans, reports of sexual assaults within the Superdome and in other evacuation locations began to make their way to the media.¹²⁸

These organizations, along with other experts, have emphasized that understaffed and overcrowded storm shelters can facilitate violence: “A disaster like a hurricane can exacerbate the factors that lead people to commit sexual assault . . . A disaster can also put people in situations where they’re at greater risk of being assaulted, from living with an abusive family member to staying at a crowded shelter.”¹²⁹ Children are also at heightened risk of physical violence in natural disasters.¹³⁰ In sum, climate change-fueled disasters force people into conditions where sexual violence, unintended pregnancies, and child abuse are real threats. And these threats deprive people of autonomy over whether to have and how to raise their children, thereby eroding core elements of reproductive justice.

2. *Loss of Access to Medical and Reproductive Care*

Compounding the potential risk of forcible pregnancies is the loss of access to reproductive care in the aftermath of climate-linked disasters. The need to harden the resilience of hospitals to climate change and extreme weather events has become strikingly clear in the wake of Hurricanes Katrina, Sandy, Maria,

127. ALISA KLEIN, LA. FOUND. AGAINST SEXUAL ASSAULT & NAT’L SEXUAL VIOLENCE RES. CTR., *SEXUAL VIOLENCE IN DISASTERS: A PLANNING GUIDE FOR PREVENTION AND RESPONSE* 5 (2008).

128. *Id.* at 6–7.

129. North, *supra* note 126.

130. See, e.g., Hamed Seddighi, Ibrahim Salmani, Mohamad Hossein Javadi & Saeideh Seddighi, *Child Abuse in Natural Disasters and Conflicts: A Systematic Review*, 22 *TRAUMA, VIOLENCE, & ABUSE* 176, 183 (2021).

Harvey, and others where¹³¹ reports evince racial and socio-economic disparities in displacement from health care advice and time-sensitive medical services.¹³²

Climate change-fueled higher temperatures may also interfere with women's access to medical and reproductive care. Higher temperatures lead to extreme rainfall, producing dangerous floods across the country.¹³³ These punishing floods can damage roads, hospitals, and power grids—conditions that can leave women in under-resourced communities without recourse to medical and reproductive care.¹³⁴

Transportation inequities along racial lines add another layer of environmental injustice that hinders women of color's access to reproductive care. Sociologist and activist Dr. Robert Bullard has long criticized transportation inequity, particularly in the public transportation context, arguing that it limits access and deepens isolation.¹³⁵ Lack of mobility becomes

131. See, e.g., Anita Chandra, Terry Marsh, Jaime Madrigano, Molly M. Simmons, Mahshid Abir, Edward W. Chan, Jamie Byan, Nupur Nanda, Michelle D. Zeigler & Christopher Nelson, *Health and Social Services in Puerto Rico Before and After Hurricane Maria*, RAND HEALTH Q. (2021), <https://www.rand.org/pubs/periodicals/health-quarterly/issues/v9/n2/10.html> [<https://perma.cc/6GN5-H2LT>]; Jackie Vicksman, *Hurricane Maria's Effect on Abortion Care in Puerto Rico*, DUKE CTR. FOR GLOB. REPROD. HEALTH (Dec. 3, 2019), <https://dukecenterforglobalreproductivehealth.org/2019/12/03/hurricane-marias-effect-on-abortion-care-in-puerto-rico/> [<https://perma.cc/RN6Q-83E2>] (discussing loss of access to reproductive care following Hurricane Maria); Irwin Redlener & Michael J. Reilly, *Lessons from Sandy—Preparing Health Systems for Future Disasters*, 367 NEW ENG. J. MED. 2269, 2269–71 (2012).

132. See, e.g., Joanna Burger, Michael Gochfeld & Clifton Lacy, *Ethnic Differences in Risk: Experiences, Medical Needs, and Access to Care after Hurricane Sandy in New Jersey*, 82 J. TOXICOLOGY & ENV'T HEALTH 128, 128 (2019); Aaron B. Flores, Timothy W. Collins, Sara E. Grineski & Jayajit Chakraborty, *Disparities in Health Effects and Access to Health Care Among Houston Area Residents After Hurricane Harvey*, 135 PUB. HEALTH REPS. 511, 511 (2020); Simone Domingue, *How Natural Disasters Can Influence Reproductive Health and Fertility*, POPULATION REFERENCE BUREAU (Apr. 30, 2018), <https://www.prb.org/resources/how-natural-disasters-can-influence-reproductive-health-and-fertility/> [<https://perma.cc/E388-F8CW>].

133. S. Westra, H. J. Fowler, J. P. Evans, L. V. Alexander, P. Berg, F. Johnson, E. J. Kendon, G. Lenderink & N. M. Roberts, *Future Changes to the Intensity and Frequency of Short-Duration Extreme Rainfall*, 52 REV. GEOPHYSICS 522, 522–25 (2014) (detailing why warmer air “has the potential to provide more moisture to rainfall events”).

134. See, e.g., Jacob Hochard, Yuanhao Li & Nino Abashidze, *Associations of Hurricane Exposure and Forecasting with Impaired Birth Outcomes*, 13 NATURE COMM'NS, 6745, Nov. 2022 (“Experiencing a disaster during pregnancy can impair birth outcomes and disrupt access to healthcare services”); Vicksman, *supra* note 131 (noting reproductive care challenges driven by loss of transportation and closure of medical facilities such as hospitals, clinics, and pharmacies in the wake of a storm); see generally Janet L. Gamble & John Balbus, *Populations of Concern*, in THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT, 247, 257 (2016), https://health2016.globalchange.gov/low/ClimateHealth2016_FullReport_small.pdf [<https://perma.cc/CF4V-ZRHQ>] (“Floods are associated with an increased risk of maternal exposure to environmental toxins and mold, reduced access to safe food and water, psychological stress, and disrupted health care.”).

135. See Robert D. Bullard, *Addressing Urban Transportation Equity in the United States*, 31 FORDHAM URB. L.J. 1183, 1188–89, 1191 (2003) (explaining how transportation inequities, particularly in urban areas, result in “a high proportion of ‘captive’ transit dependents,” which Bullard argues “exacerbate[s] social, economic, and racial isolation, especially for low-income people of color—residents who already have limited transportation options”).

enormously consequential in the context of climate disasters. For example, transportation access has historically been understood as a barrier to abortion care.¹³⁶ But those “barriers are exacerbated during weather-related disasters.”¹³⁷ Thus, climate change and its attendant inequities not only subject women of color in under-resourced communities to greater risk of sexual violence but also prevents them from getting the time-sensitive medical care they need to inform and effectuate decisions around pregnancy and parenthood.

B. Climate Change Threatens the Ability to Carry Children to Term Safely and Raise Children in Healthy Communities

The physical consequences of climate change erode other hallmarks of reproductive justice, including the right to have children and to raise children in healthy, sustainable communities. The impacts of a destabilizing climate disproportionately affect people capable of sustaining pregnancies, fetal development, infants, and the health and development of young children. Set forth below is only a subset of the myriad harms of climate change, including heat and fires, impaired air quality, storms, and mosquito-transmissible diseases.¹³⁸

1. Heat and Fires

First, rising temperatures due to climate change increase heat-related illnesses, hospitalizations, and deaths for people capable of sustaining pregnancies, infants, and young children. Climate change results in higher ambient temperatures¹³⁹ and more “heat waves,” unusually hot weather that

136. Jenna Jerman, Lori Frohwirth, Megan L. Kavanaugh & Nakeisha Blades, *Barriers to Abortion Care and Their Consequences for Patients Traveling for Services: Qualitative Findings from Two States*, 49 PERSPS. ON SEXUAL & REPROD. HEALTH 95, 99–103 (2017).

137. See Leyser-Whalen et al., *supra* note 29, at 1113–14 (observing that storms have the potential to “delay abortion care” and noting attendant impacts of that delay).

138. Sea level rise, drought, and food insecurity are other commonly cited examples of harm. Even pollen seasons, prolonged and intensified by climate change, present disparate danger: they trigger more frequent and severe asthma attacks, which already affect Black children more frequently than their White counterparts. See *Asthma and African Americans*, U.S. DEPT. OF HEALTH AND HUM. SERVS. OFF. OF MINORITY HEALTH, <https://minorityhealth.hhs.gov/asthma-and-african-americans> [<https://perma.cc/ZE8D-P72C>] (noting Black children are 7.6 times more likely to die from asthma-related issues than White children). Climate change is the dominant driver of pollen season length and increasing pollen concentrations. See, e.g., William R. L. Anderegg, John T. Abatzoglou, Leander D. L. Anderegg, Leonard Bielory, Patrick L. Kinney & Lewis Ziska, *Anthropogenic Climate Change is Worsening North American Pollen Seasons*, PROC. NAT’L ACAD. SCI. 1 (Feb. 8, 2021), <https://www.pnas.org/doi/epdf/10.1073/pnas.2013284118> [<https://perma.cc/DX3H-LWTH>]; see, e.g., Susan C. Anenberg, Kate R. Weinberger, Henry Roman, James E. Neumann, Alison Crimmins, Neal Fann, Jeremy Martinich & Patrick L. Kinney, *Impacts of Oak Pollen on Allergic Asthma in the United States and Potential Influence of Future Climate Change*, 1 GEOHEALTH 80, 80 (2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7007169/pdf/GH2-1-80.pdf> [<https://perma.cc/4Y6N-6BUP>].

139. See, e.g., David H. Levinson & Christopher J. Fettig, *Climate Change: Overview of Data Sources, Observed and Predicted Temperature Changes, and Impacts on Public and Environmental Health*, in GLOBAL CLIMATE CHANGE AND PUBLIC HEALTH 31, 32–36 (Kent E. Pinkerton & William

exceeds regional averages for two or more days.¹⁴⁰ In July 2023, the combination of anthropogenic climate change and the El Niño weather phenomenon spawned the hottest global temperature ever recorded, not just once, but three times in one week.¹⁴¹ The pace of warming in the Northern Hemisphere outstrips that of other global regions, with the Northeast experiencing the most rapid warming in the contiguous United States.¹⁴²

There is a direct and deadly connection between rising temperatures and health and well-being.¹⁴³ Between 2010 and 2020, premature heat-related deaths in the contiguous United States were estimated at 12,000 per year.¹⁴⁴ Heat waves and higher temperatures cause several other serious health effects. One such effect is “[h]eat stress,” when the body receives heat “in excess of that which the body can tolerate, without physiological impairment.”¹⁴⁵ Other health harms associated with heat waves and higher temperatures include heat stroke¹⁴⁶ and decreased lung function.¹⁴⁷

N. Rom eds., 2014) (summarizing leading research on past and projected increases in ambient temperatures).

140. See, e.g., Tiffany T. Smith, Benjamin F. Zaitchik & Julia M. Gohlke, *Heat Waves in the United States: Definitions, Patterns, and Trends*, 118 CLIMATIC CHANGE 811, 812–14 (2013); A. Haines, R. S. Kovats, D. Campbell-Lendrum & C. Corvalan, *Climate Change and Human Health: Impacts, Vulnerability, and Mitigation*, 367 LANCET 2101, 2102 (2006) (concluding that human influence on climate has at least doubled the risk of major heat waves).

141. See Georgina Rannard, *World Records Hottest Day for Third Time in a Week*, BBC NEWS (July 7, 2023), <https://www.bbc.com/news/science-environment-66120297> [<https://perma.cc/6SFC-HJM6>].

142. See, e.g., Ambarish V. Karmalkar & Raymond S. Bradley, *Consequences of Global Warming of 1.5°C and 2°C for Regional Temperature and Precipitation Changes in the Contiguous United States*, PLOS ONE 1 (Jan. 11, 2017), <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0168697&type=printable> [<https://perma.cc/CQ7Y-GDWR>].

143. See, e.g., Shakoor Hajat & Tom Kosatky, *Heat-Related Mortality: A Review and Exploration of Heterogeneity*, 64 J. EPIDEMIOLOGY & CMTY. HEALTH 753, 754 (2010) (determining that risk of mortality in various cities increased by one- to three-percent with each degree Centigrade increase in temperature); M. Medina-Ramón & J. Schwartz, *Temperature, Temperature Extremes, and Mortality: A Study of Acclimatisation and Effect Modification in 50 US Cities*, 64 J. OCCUPATIONAL & ENV'T MED. 827, 829–30 (2007) (identifying a correlation between high temperatures and mortality based on over six million observations).

144. E.g., Shindell et al., *supra* note 125, at 7.

145. Tord Kjellstrom, David Briggs, Chris Freyberg, Bruno Lemke, Matthias Otto & Olivia Hyatt, *Human Performance, and Occupational Health: A Key Issue for the Assessment of Global Climate Change Impacts*, 37 ANN. REV. PUB. HEALTH 97, 98 (2016).

146. See, e.g., R. Sari Kovats & Shakoor Hajat, *Heat Stress and Public Health: A Critical Review*, 29 ANN. REV. PUB. HEALTH 41, 42, 46–48 (2008) (noting danger of and risk factors for heat stroke); Helene G. Margolis, *Heat Waves and Rising Temperatures: Human Health Impacts and the Determinants of Vulnerability*, in GLOBAL CLIMATE CHANGE AND PUBLIC HEALTH, 85, 97–100 (Kent E. Pinkerton & William N. Rom eds., 2014) (describing pathways through which high temperatures can lead to adverse health outcomes).

147. See, e.g., Mary B. Rice, Wenyuan Li, Elissa H. *Association of Outdoor Temperature with Lung Function in a Temperate Climate* EUR. RESPIRATORY J. 1 (2019), <https://erj.ersjournals.com/content/erj/53/1/1800612.full.pdf> [<https://perma.cc/LC7J-YCJ7>] (establishing that “1-, 2- and 7-day [higher] average temperatures were all associated with lower lung function”); see also Nana Mireku, Yun Wang, Joel Ager, Raju C. Reddy & Alan P. Baptist, *Changes in Weather and the Effects on Pediatric Asthma Exacerbations*, 103 ANNALS ALLERGY, ASTHMA & IMMUNOLOGY 220, 223 (2009)

People capable of sustaining pregnancies, infants, and young children are among the most vulnerable to climate change-driven, heat-related morbidity and mortality.¹⁴⁸ Heat waves during pregnancy are correlated with increased maternal stress and, consequently, babies with abnormal conditions.¹⁴⁹ The risk of severe complications—including preterm birth, low birth weight, stillbirth,¹⁵⁰ and infant mortality—escalates with temperature increases.¹⁵¹ One study based on thirty-two million births across 403 U.S. counties established that exposure to extreme heat is associated with an increased risk of preterm birth, which is the second leading cause of death in children under five.¹⁵² Infants and young children are highly susceptible to temperature increases and heat waves because they cannot regulate body temperature as well as adults.¹⁵³ Heat stroke and heat stress affect children more acutely as they tend to spend more time outdoors.¹⁵⁴ Moreover, extreme heat has adverse impacts on cognitive development and learning outcomes for children.¹⁵⁵

(showing “a strong relationship between temperature and humidity fluctuations and pediatric asthma exacerbations”).

148. See, e.g., Rupa Basu, *High Ambient Temperature and Mortality: A Review of Epidemiologic Studies from 2001 to 2008*, ENV'T HEALTH (Sept. 16, 2009), <https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-8-40> [<https://perma.cc/YSL2-WVML>] (determining that the groups most vulnerable to elevated heat-related deaths included infants and young children, and those over sixty-five).

149. Gulcan Cil & Trudy Anne Cameron, *Potential Climate Change Health Risks from Increases in Heat Waves: Abnormal Birth Outcomes and Adverse Maternal Health Conditions*, 37 RISK ANALYSIS 2066, 2072–74, 2077 (2017) (examining adverse conditions such as fetal distress and reliance on a ventilator at birth).

150. See, e.g., Bruce Bekkar, Susan Pacheco, Rupa Basu & Nathaniel DeNicola, *Association of Air Pollution and Heat Exposure with Preterm Birth, Low Birth Weight, and Stillbirth in the US: A Systematic Review*, JAMA NETWORK OPEN 4–8 (June 18, 2020), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2767260> [<https://perma.cc/E4LR-AK3Y>] (providing a review of fifty-seven studies and concluding that heat, ozone, and fine particulate matter are associated with preterm birth, low birth weight, and stillbirth).

151. See, e.g., Leah H. Schinasi, Joan Rosen Bloch, Steven Melly, Yuzhe Zhao, Kari Moore & Anneclaire J. De Roos, *High Ambient Temperature and Infant Mortality in Philadelphia, Pennsylvania: A Case–Crossover Study*, 110 AM. J. PUB. HEALTH 189, 189 (2020).

152. Shengzhi Sun, Kate R. Weinberger, Keith R. Spangler, Melissa N. Eliot, Joseph M. Braun & Gregory A. Wellenius, *Ambient Temperature and Preterm Birth: A Retrospective Study of 32 Million US Singleton Births*, 126 ENV'T INT'L 7, 7, 12 (2019).

153. See Marcus C. Sarofim, Shubhayu Saha, Michelle D. Hawkins, David M. Mills, Jeremy Hess, Radley M. Horton, Patrick L. Kinney, Joel D. Schwartz & Alexis St. Juliana, *Temperature-Related Death and Illness*, in THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT, *supra* note 134, at 43, 59, (“Causes of heat-related illness in children include inefficient thermoregulation, reduced cardiovascular output, and heightened metabolic rate. Children also spend a considerable amount of time outdoors and participating in vigorous activities.”); Kim Knowlton, Miriam Rotkin-Ellman, Galatea King, Helene G. Margolis, Daniel Smith, Gina Solomon, Roger Trent & Paul English, *The 2006 California Heat Wave: Impacts on Hospitalizations and Emergency Department Visits*, 117 ENV'T HEALTH PERSPS. 61, 61 (2009) (observing greater risk of heat-related emergency department visits for children ages zero to four).

154. See Sarofim et al., *supra* note 153, at 59.

155. See, e.g., R. Jisung Park, A. Patrick Behrer & Joshua Goodman, *Learning is Inhibited by Heat Exposure, Both Internationally and Within the United States*, 5 NATURE HUM. BEHAV. 19, 19 (2021). Heat also affects mental health and heat waves impair cognition, mood, and sleep. See, e.g., Nick

Second, climate change fuels longer and more intense fire seasons, spurring manifold threats to children and people capable of sustaining pregnancies. Wildfires and fires near populated areas are becoming more frequent and intense.¹⁵⁶ Multiple studies conclude that climate change is worsening fire seasons because of increases in temperatures and aridity.¹⁵⁷ In recent decades, the susceptibility of the United States to wildfires has significantly increased,¹⁵⁸ scientists observe an approximate four-fold increase in area burned.¹⁵⁹

Wildfires release high concentrations of particulate matter and the chemical compounds that form ground-level ozone.¹⁶⁰ These pollutants can harm the health of people across the county.¹⁶¹ In 2017, an estimated 10 percent of the

Obradovich, Robyn Migliorini, Martin P. Paulus & Iyad Rahwan, *Empirical Evidence of Mental Health Risks Posed by Climate Change*, 115 PROC. NAT'L ACAD. SCI. 10953, 10953 (2018); Jingwen Liu, Blesson M. Varghese, Alana Hansen, Jianjun Xiang, Ying Zhang, Keith Dear, Michelle Gourley, Timothy Driscoll, Geoffrey Morgan, Anthony Capon & Peng Bi, *Is There an Association Between Hot Weather and Poor Mental Health Outcomes? A Systematic Review and Meta-Analysis*, ENV'T INT'L 1, 16, (Mar. 30, 2021), <https://www.sciencedirect.com/science/article/pii/S0160412021001586> [<https://perma.cc/86PE-9HVL>]; Park et al., *supra*, at 19.

156. See, e.g., Philip E. Dennison, Simon C. Brewer, James D. Arnold & Max A. Moritz, *Large Wildfire Trends in the Western United States, 1984–2011*, 41 GEOPHYSICAL RSCH. LETTERS 2928, 2930 (2014), <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2014GL059576> [<https://perma.cc/NQ85-BPMJ>] (finding that the number of large U.S. fires is increasing); Jeremy S. Littell, Donald McKenzie, David L. Peterson & Anthony L. Westerling, *Climate and Wildfire Area Burned in Western U.S. Ecoprovinces, 1916–2003*, 19 ECOLOGICAL APPLICATIONS 1003, 1003–04 (2009) (finding that U.S. area burned in fires is increasing); A. L. Westerling, H. G. Hidalgo, D. R. Cayán & T. W. Swetnam, *Warming and Earlier Spring Increase Western U.S. Forest Wildfire Activity*, 313 SCI. 940, 941 (2006) (observing that U.S. fire season duration is increasing).

157. See, e.g., Marco Turco, John T. Abatzoglou, Sixto Herrera & Ivana Cvijanovic, *Anthropogenic Climate Change Impacts Exacerbate Summer Forest Fires in California*, PNAS 5 (June 12, 2023), <https://www.pnas.org/doi/epdf/10.1073/pnas.2213815120> [<https://perma.cc/FM5T-PE52>] (“We estimate that from 1971 to 2021, anthropogenic climate change contributed to a +172% increase in [burned area], with a remarkable +320% increase from 1996 to 2021.”); John T. Abatzoglou & A. Park Williams, *Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests*, 113 PROC. NAT'L ACAD. SCI. 11770, 11770 (2016) (“[H]uman-caused climate change caused over half of the documented increases in fuel aridity since the 1970s and doubled the cumulative forest fire area since 1984.”).

158. See Dennison et al., *supra* note 156, at 2930–33; Steven W. Running, *Is Global Warming Causing More, Larger Wildfires?*, 313 SCI. 927, 927 (2006) (reporting “a fourfold increase of major [American] wildfires” since 1986).

159. Marshall Burke, Anne Driscoll, Sam Heft-Neal, Jiani Xue, Jennifer Burney & Michael Wara, *The Changing Risk and Burden of Wildfire in the United States*, PROC. NAT'L ACAD. SCI. 1 (Jan. 11, 2021), <https://www.pnas.org/doi/epdf/10.1073/pnas.2011048118> [<https://perma.cc/XRY6-UMRL>].

160. See, e.g., Jennifer D. Stowell, Guannan Geng, Eri Saikawa, Howard H. Chang, Joshua Fu, Cheng-En Yang, Qingzhao Zhu, Yang Liu & Matthew J. Strickland, *Associations of Wildfire Smoke PM_{2.5} Exposure with Cardiorespiratory Events in Colorado 2011–2014*, ENV'T INT'L 6 (Sept. 11, 2019), <https://www.sciencedirect.com/science/article/pii/S0160412019317404> [<https://perma.cc/BQ4N-ZJJV>] (demonstrating that increased exposure to wildfire-derived PM_{2.5} was associated with increased respiratory hospitalizations, when separating out background PM); Daniel A. Jaffe & Nicole L. Wigder, *Ozone Production from Wildfires: A Critical Review*, 51 ATMOSPHERIC ENV'T 1, 2, 7 (2012).

161. See, e.g., Katelyn O'Dell, Kelsey Bilsback, Bonne Ford, Sheena E. Martenies, Sheryl Magzamen, Emily V. Fischer & Jeffrey R. Pierce, *Estimated Mortality and Morbidity Attributable to Smoke Plumes in the United States: Not Just a Western US Problem*, GEOHEALTH 6–14 (Aug. 21, 2021),

U.S. population, approximately 30.5 million people, lived where wildfires could significantly contribute to fine particulate matter exposure.¹⁶² In fact, by the summer of 2023, residents along the East Coast awoke to orange-tinged skies from billowing cross-border smoke that rendered their air quality among the worst in the world.¹⁶³

Higher incidences of wildfires are perilous for pregnant people as well as infants and children with developing lungs.¹⁶⁴ Exposure to wildfire smoke during pregnancy is associated with low birth weight and pre-term birth.¹⁶⁵ For children, wildfire-derived particulate matter increases hospital admissions and asthma exacerbations, and decreases lung function.¹⁶⁶ Further, as fires proliferate across the country, incarcerated populations, including women and youth housed in juvenile detention facilities, are increasingly recruited to the dangerous and damaging work of fighting fires.¹⁶⁷

Race and income are significant predictors of climate health harms, rendering the reproductive justice lens particularly acute in the context of the

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2021GH000457> [https://perma.cc/2C9N-NU4L].

162. Ana G. Rappold, Jeanette Reyes, George Pouliot, Wayne E. Cascio & David Diaz-Sanchez, *Community Vulnerability to Health Impacts from Wildland Fire Smoke Exposure*, 51 ENV'T SCI. & TECH. 6674, 6675 (2017).

163. Emma Newburger, *New York City Tops World's Worst Air Pollution List from Canada Wildfire Smoke*, CNBC (June 7, 2023), <https://www.cnbc.com/2023/06/07/canadian-wildfire-smoke-nyc-residents-urged-to-stay-inside.html> [https://perma.cc/56WY-75NC]; Julie Bosman, *Smoky Skies Menace U.S. Cities, Driving Residents Indoors*, N.Y. TIMES, <https://www.nytimes.com/2023/06/28/us/canada-wildfire-smoke-air-quality-midwest.html> [https://perma.cc/8ZJ2-B22M] (June 30, 2023).

164. See, e.g., Stephanie M. Holm, Mark D. Miller & John R. Balmes, *Health Effects of Wildfire Smoke in Children and Public Health Tools: A Narrative Review*, 31 J. EXPOSURE SCI. & ENV'T EPIDEMIOLOGY 1, 2 (2021); Rosana Aguilera, Thomas Corringham, Alexander Gershunov, Sydney Leibel & Tarik Benmarhnia, *Fine Particles in Wildfire Smoke and Pediatric Respiratory Health in California*, PEDIATRICS 5 (Apr. 1, 2021), <https://publications.aap.org/pediatrics/article/147/4/e2020027128/180791/Fine-Particles-in-Wildfire-Smoke-and-Pediatric?autologincheck=redirected> [https://perma.cc/J35G-PHWH]; Sam Heft-Neal, Anne Driscoll, Wei Yang, Gary Shaw & Marshall Burke, *Associations Between Wildfire Smoke Exposure During Pregnancy and Risk of Preterm Birth in California*, ENV'T RSCH. 1 (Aug. 14, 2021), <https://www.sciencedirect.com/science/article/pii/S001393512101166X> [https://perma.cc/9EWX-GD8D].

165. See, e.g., Sana Amjad, Dagmara Chojecki, Alvaro Osorio-Vargas & Maria B. Ospina, *Wildfire Exposure During Pregnancy and the Risk of Adverse Birth Outcomes: A Systematic Review*, ENV'T INT'L 2 (May 21, 2021), <https://www.sciencedirect.com/science/article/pii/S0160412021002695?via%3Dihub> [https://perma.cc/H8WN-DWSH]; Mona Abdo, Isabella Ward, Katelyn O'Dell, Bonne Ford, Jeffrey R. Pierce, Emily V. Fischer & James L. Crooks, *Impact of Wildfire Smoke on Adverse Pregnancy Outcomes in Colorado, 2007–2015*, INT'L J. ENV'T RSCH. & PUB. HEALTH 1 (Oct. 2, 2019), <https://www.mdpi.com/1660-4601/16/19/3720> [https://perma.cc/UZ3U-SBSP].

166. See, e.g., Holm et al., *supra* note 164, at 3; Aguilera et al., *supra* note 164, at 2, 4.

167. Emily C. Gribble & David N. Pellow, *Climate Change and Incarcerated Populations: Confronting Environmental and Climate Injustices Behind Bars*, 49 FORDHAM URB. L.J. 341, 359–360 (2022) (“Some 4,000 persons are actively involved in this program in the state of California—including at least 250 women—which means that around one-third of the firefighters in California are incarcerated. In other states on the West Coast, many firefighters are drawn from juvenile detention facilities.”).

climate crisis.¹⁶⁸ For example, in the wildfire context, studies establish that Black women are at significantly higher risk of respiratory-related hospital admissions on high-smoke days.¹⁶⁹ Residents in urban areas also experience the “heat island” effect where asphalt surfaces and building materials heat faster and retain heat for longer than the vegetation and water surfaces more prevalent in non-urban areas.¹⁷⁰ Women and children who labor outdoors, particularly temporary or migrating workers of Latin American heritage, are also at significant risk from heat-related climate impacts.¹⁷¹ Further, because people of color and those earning lower incomes are exposed to air pollution in their homes and schools at higher rates,¹⁷² they are more likely to have conditions such as asthma, chronic airway diseases, and cardiovascular disease, that render them more vulnerable to health harms induced by climate change.¹⁷³

168. See, e.g., Yunqian Zhang, Qianqian Xiang, Yong Yu, Zhiying Zhan, Kejia Hu & Zan Ding, *Socio-Geographic Disparity in Cardiorespiratory Mortality Burden Attributable to Ambient Temperature in the United States*, 26 ENV'T SCI. & POLLUTION RSCH. 694, 694 (2019), <https://link.springer.com/article/10.1007/s11356-018-3653-z> [<https://perma.cc/9DTG-AZR9>] (observing that “higher vulnerability” to cardiorespiratory deaths due to ambient temperature “appeared in locations with higher urbanization level, more aging population, less White race, and lower socioeconomic status”).

169. See, e.g., Jia Coco Liu, Ander Wilson, Loretta J. Mickley, Keita Ebusu, Melissa P. Sulprizio, Yun Wang, Roger D. Peng, Xu Yue, Francesca Dominici & Michelle L. Bell, *Who Among the Elderly Is Most Vulnerable to Exposure to and Health Risks of Fine Particulate Matter from Wildfire Smoke?*, 186 AM. J. EPIDEMIOLOGY 730, 730 (2017) (finding that “increased risks of respiratory admissions from wildfire smoke [were] significantly higher for women than for men (10.4% vs. 3.7%), [and for B]lacks than [W]hites (21.7% vs. 6.9%)”); Ian P. Davies, Ryan D. Haugo, James C. Robertson & Phillip S. Levin, *The Unequal Vulnerability of Communities of Color to Wildfire*, PLOS ONE 1 (Nov. 2, 2018), <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0205825&type=printable> [<https://perma.cc/VD7G-LTUV>] (concluding that “wildfire vulnerability is spread unequally across race and ethnicity, with census tracts that were majority Black, Hispanic or Native American experiencing a 50% greater vulnerability to wildfire compared to other census tracts”).

170. Clare Heaviside, Helen Macintyre & Sotiris Vardoulakis, *The Urban Heat Island: Implications for Health in a Changing Environment*, 4 CURRENT ENV'T HEALTH REPS. 296, 296–97 (2017).

171. See Thomas A. Arcury, Taylor J. Arnold, Sara A. Quandt, Haiying Chen, Gregory D. Kearney, Joanne C. Sandberg, Jennifer W. Talton, Melinda F. Wiggins & Stephanie S. Daniel, *Health and Occupational Injury Experienced by Latinx Child Farmworkers in North Carolina, USA*, INT'L J. ENV'T RSCH. & PUB. HEALTH 10 (Dec. 30, 2019), <https://www.mdpi.com/1660-4601/17/1/248> [<https://perma.cc/BJ2K-GB8G>] (“Almost half (45.5%) of the child farmworkers experienced heat-related illness while working over the past 12 months.”) Undocumented women are also at greater risk in climate disasters. See Michael Méndez, Genevieve Flores-Haro & Lucas Zucker, *The (In)visible Victims of Disaster: Understanding the Vulnerability of Undocumented Latino/a and Indigenous Immigrants*, 116 GEOFORUM 50, 51 (2020).

172. See, e.g., Jonathan Colmer, Ian Hardman, Jay Shimshack & John Voorheis, *Disparities in PM_{2.5} Air Pollution in the United States*, 369 SCI. 575, 575 (2020); Jayajit Chakraborty & Paul A. Zandbergen, *Children at Risk: Measuring Racial/Ethnic Disparities in Potential Exposure to Air Pollution at School and Home*, 61 J. EPIDEMIOLOGY & CMTY. HEALTH 1074, 1074 (2007); Eric B. Brandt, Andrew F. Beck & Tesfaye B. Mersha, *Air Pollution, Racial Disparities, and COVID-19 Mortality*, 146 J. ALLERGY & CLINICAL IMMUNOLOGY 61, 62 (2020) (“Lower income communities of color are more likely to have historical exposures to higher levels of air pollution.”).

173. See *Climate Change and the Health of Socially Vulnerable People*, U.S. ENV'T PROT. AGENCY (Dec. 27, 2023), <https://www.epa.gov/climateimpacts/climate-change-and-health-socially->

Climate change-driven higher average temperatures, more frequent heat waves, and fires undermine key elements of reproductive justice including a person's ability to safely carry a fetus to term, through delivery and the earliest days of life, and to raise children without threats to their physical and mental development.

2. Impaired Air Quality

Air pollution interferes with child-rearing due to its impact on children's health. Warmer temperatures, which come with higher atmospheric concentrations of greenhouse gases, increase ground-level ozone.¹⁷⁴ Ground-level ozone is created through a "photochemical reaction between nitrogen oxides, volatile organic compounds, heat, and sunlight."¹⁷⁵ It causes difficulty breathing, coughing, and shortness of breath,¹⁷⁶ and it contributes to respiratory-related deaths.¹⁷⁷

Children are at heightened risk from air pollution harms because they have higher respiratory rates and developing organs and vital systems.¹⁷⁸ Childhood exposure to air pollutants, such as ozone and particulate matter, is associated

vulnerable-people [<https://perma.cc/7GGT-Z87G>] (finding "[s]ocially vulnerable groups" are disproportionately vulnerable to climate change because "[t]hey can have greater rates of existing medical conditions, such as physical disabilities, poor mental health, kidney disease, diabetes, asthma, or heart disease, which can be worsened by climate change impacts"); Alique G. Berberian, David J. X. Gonzalez & Lara J. Cushing, *Racial Disparities in Climate Change-Related Health Effects in the United States*, 9 CURRENT ENV'T HEALTH REPS. 451, 458 (2022) (discussing heightened and specific susceptibility of children "to climate-related health impacts like allergies, asthma, infectious diseases, PTSD, malnutrition, and poor perinatal outcomes").

174. Neal Fann, Christopher G. Nolte, Patrick Dolwick, Tanya L. Spero, Amanda Curry Brown, Sharon Phillips & Susan Anenberg, *The Geographic Distribution and Economic Value of Climate Change-Related Ozone Health Impacts in the United States in 2030*, 65 J. AIR & WASTE MGMT. ASS'N, 570, 570 (2015) (indicating the ways in which "[c]limate change can affect air pollutant concentrations" through various "[m]eteorological factors, such as temperatures, cloudiness, precipitation frequency and intensity"); I.S.A. Isaksen, C. Granier, G. Myhre, T.K. Berntsen, S.B. Dalsøren, M. Gauss, Z. Klimont, R. Benestad, P. Bousquet, W. Collins, T. Cox, V. Eyring, D. Fowler, S. Fuzzi, P. Jöckel, P. Laj, U. Lohmann, M. Maione, P. Monks, A.S.H. Prevot, F. Raes, A. Richter, B. Rognerud, M. Schulz, D. Shindell, D.S. Stevenson, T. Storelvmo, W.-C. Wang, M. van Weele, M. Wild & D. Wuebbles, *Atmospheric Composition Change: Climate-Chemistry Interactions*, 43 ATMOSPHERIC ENV'T 5138, 5141 (2009).

175. Ander Wilson, Brian J. Reich, Christopher G. Nolte, Tanya L. Spero, Bryan Hubbell & Ana G. Rappold, *Climate Change Impacts on Projections of Excess Mortality at 2030 Using Spatially Varying Ozone-Temperature Risk Surfaces*, 27 J. EXPOSURE SCI. & ENV'T EPIDEMIOLOGY 118, 119 (2017).

176. *Health Effects of Ozone Pollution*, U.S. ENV'T PROT. AGENCY (May 24, 2023), <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution> [<https://perma.cc/6WJU-9CAL>].

177. Wilson et al., *supra* note 175, at 120 (modeling ozone-related mortality due to projected changes in climate conditions).

178. Heather L. Brumberg & Catherine J. Karr, *Ambient Air Pollution: Health Hazards to Children*, PEDIATRICS 1, 5, (June 01, 2021), <https://publications.aap.org/pediatrics/article/147/6/e2021051484/180283/Ambient-Air-Pollution-Health-Hazards-to-Children?autologincheck=redirected> [<https://perma.cc/84FK-5395>].

with respiratory issues including reduced lung function and new onset asthma,¹⁷⁹ cognitive and developmental disorders such as autism and attention-deficit/hyperactivity disorder,¹⁸⁰ and asthma-related hospitalizations.¹⁸¹ Air quality impairments thus present short- and long-term dangers over the course of a developing child's respiratory health.¹⁸² In short, poor air quality deprives people of the right to raise their children in safe and healthy environments and therefore catalyzes reproductive injustice.

3. Storms

Storms and flooding threaten aspects of reproductive justice when they restrict access or compound barriers to medical treatment. That treatment might include abortion care.¹⁸³ It might also include obstetric and neonatal care, ultimately threatening the lives of people capable of sustaining pregnancies and their newborns.¹⁸⁴ Virulent storms fueled by climate change¹⁸⁵ pose severe risks, especially for under-resourced communities. A study examining hospital

179. See G. D'Amato, L. Cecchi, M. D'Amato & G. Liccardi, *Urban Air Pollution and Climate Change as Environmental Risk Factors of Respiratory Allergy: An Update*, 20 J. INVESTIGATIONAL ALLERGOLOGY & CLINICAL IMMUNOLOGY 95, 97–98 (2010); Kelly Moore, Romain Neugebauer, Fred Lurmann, Jane Hall, Vic Brajer, Sianna Alcorn & Ira Tager, *Ambient Ozone Concentrations Cause Increased Hospitalizations for Asthma in Children: An 18-Year Study in Southern California*, 116 ENV'T HEALTH PERSPS. 1063, 1063, 1069 (2008).

180. See, e.g., Oddvar Myhre, Marit Låg, Gro D. Villanger, Bente Oftedal, Johan Øvrevik, Jørn A. Holme, Heidi Aase, Ragnhild E. Paulsen, Anna Bal-Price & Hubert Dirven, *Early Life Exposure to Air Pollution Particulate Matter (PM) as Risk Factor for Attention Deficit/Hyperactivity Disorder (ADHD): Need for Novel Strategies for Mechanisms and Causalities*, 354 TOXICOLOGY & APPLIED PHARMACOLOGY 196, 206 (2018); Andrea L. Roberts, Kristen Lyall, Jaime E. Hart, Francine Laden, Allan C. Just, Jennifer F. Bobb, Karestan C. Koenen, Alberto Ascherio & Marc G. Weisskopf, *Perinatal Air Pollutant Exposures and Autism Spectrum Disorder in the Children of Nurses' Health Study II Participants*, 121 ENV'T HEALTH PERSPS. 978, 980–83 (2013).

181. See, e.g., Moore et al., *supra* note 179, at 1069 (concluding that authors' analyses "support and extend other observations that ambient O₃ (highly oxidant, ambient, warm-season environments) causes increases in hospital admissions in children with asthma"); Katherine M. Shea, *Global Climate Change and Children's Health*, 120 PEDIATRICS e1359, e1362 (2007).

182. Frederica P. Perera, *Multiple Threats to Child Health from Fossil Fuel Combustion: Impacts of Air Pollution and Climate Change*, 125 ENV'T HEALTH PERSPS. 141, 142–46 (2017).

183. See, e.g., Leyser-Whalen et al., *supra* note 29, at 1113–14.

184. See, e.g., Hector Mendez-Figueroa, Suneet P. Chauhan, Mary C. Tolcher, Alireza A. Shamsirsaz, Haleh Sangi-Haghpeykar, Ryan M. Pace, Derrick M. Chu & Kjersti Aagaard, *Peripartum Outcomes Before and After Hurricane Harvey*, 134 OBSTETRICS & GYNECOLOGY 1005, 1005–06, 1014–15 (2019) (observing that pregnant "patients delivering after landfall by Hurricane Harvey had a significantly higher likelihood of adverse outcomes as did their neonates"). See also Berberian et al., *supra* note 173, at 457 ("[A] New York study found that Black and Hispanic women had the highest percentage increases (20.9% and 25.4%, respectively) in pregnancy-related ED visits associated with power outages following Hurricane Sandy as compared to Whites and non[-]Hispanics (5.6% and 11.8%, respectively)."); see *supra* note 134 and supporting text.

185. See Jeff Berardelli, *How Climate Change is Making Hurricanes More Dangerous*, YALE CLIMATE CONNECTIONS (July 8, 2019), <https://yaleclimateconnections.org/2019/07/how-climate-change-is-making-hurricanes-more-dangerous/> [https://perma.cc/ERZ7-4YTH] (summarizing studies discussing the extent to which climate change produces stronger, more frequent, or more damaging hurricanes).

databases in Houston found that, before and after Hurricane Harvey, “maternal morbidity increased by 27% (11.5% [compared to] 14.7%[)],” with this finding correlated to lower socioeconomic status.¹⁸⁶ Additionally, “neonatal morbidity increased by 50% (7.8% [compared to] 11.9%[)].”¹⁸⁷

Reproductive injustices persist beyond a storm. The lasting consequences to parents, children, and families have both mental and physical components. Scientists have begun tracking temperament in children who experienced prenatal exposure to disaster-related maternal stress. They observe that climate change-fueled storms, like Superstorm Sandy on the East Coast, are associated with pre- and post-natal trauma and lingering mental health and cognitive challenges for children.¹⁸⁸ As storms displace families and communities, childhood education is also harmed. Following hurricanes in 2022, for example, Louisiana closed the Pointe-Aux-Chenes Elementary School which served Indigenous populations already experiencing educational and transportation inequities.¹⁸⁹

Storms, flooding, and the associated barriers they impose to obstetric medical treatment also affect areas far beyond those subject to hurricanes. In July 2023, extreme flooding inundated Vermont such that the National Oceanic and Atmospheric Administration (NOAA) Weather Prediction Center issued a rare “4 out of 4 ‘high risk’” of excessive rainfall for the first time in that location.¹⁹⁰ New analyses suggest that across areas as diverse as the Northeast, northwestern California, the Ohio River Basin, Texas Gulf Coast, and the Mountain West, rainfall amounts that were once considered a one-in-one hundred-year event could happen as frequently as every five to ten years.¹⁹¹ As the virulence, frequency, and geographic scope of storms and floods increase due to climatic

186. Mendez-Figueroa et al., *supra* note 184, at 1005.

187. *Id.*

188. See, e.g., Jessica Buthmann, Jacob Ham, Katherine Davey, Jackie F *Infant Temperament: Repercussions of Superstorm Sandy-Related Maternal Stress*, 50 CHILD PSYCHIATRY & HUM. DEV. 150, 155–60 (2019); Wei Zhang, Khushmand Rajendran, Jacob Ham, Jackie Finik, Jessica Buthmann, Kei Davey, Patricia M. Pehme, Kathryn Dana, Alexandra Pritchett, Holly Laws & Yoko Nomura, *Prenatal Exposure to Disaster-Related Traumatic Stress and Developmental Trajectories of Temperament in Early Childhood: Superstorm Sandy Pregnancy Study*, 234 J. AFFECTIVE DISORDERS 335, 341–43 (2018).

189. See Apps Mandar Bichu, *Native American Schools on Louisiana Gulf Coast Struggle to Reopen in Wake of Hurricane Ida*, NW. UNIV. MEDILL SCH. OF JOURNALISM: MEDILL REPS. CHI. (Apr. 1, 2022), <https://news.medill.northwestern.edu/chicago/native-american-schools-on-louisiana-gulf-coast-struggle-to-reopen-in-wake-of-hurricane-ida/> [<https://perma.cc/4JTQ-CLXJ>] (discussing temporary closures of coastal schools serving majority Indigenous populations following Hurricane Ida).

190. Jennifer Gray, *Vermont Faces a Rare High Risk for Flooding. Here’s Why These Days Are So Deadly and Devastating*, CNN (July 10, 2023), <https://www.cnn.com/2023/07/10/weather/vermont-flooding-high-risk-new-york/index.html> [<https://perma.cc/E3EV-PAY2>].

191. Ella Nilsen, *Extreme Floods Are Happening Way More Often Than Federal Data Would Suggest, Analysis Shows*, CNN (June 27, 2023), <https://www.cnn.com/2023/06/26/us/extreme-flood-risk-first-street-federal-data-climate/index.html> [<https://perma.cc/K65E-9P23>] (explaining and visualizing data from “First Street Foundation, a non-profit focused on weather risk research”).

changes in temperature and precipitation, so too the threats to autonomy over whether to have and how to raise children.

4. Mosquito-Transmissible Diseases

Over the last several decades, climate change has enlarged the range of multiple mosquito species, facilitating the spread of disease into the United States and putting maternal health, fetal development, and young children at risk. Rising temperatures and altered rainfall patterns have, among other forces, fueled an expanded range for mosquitos, including those that carry viruses such as dengue.¹⁹² “[M]osquitos are ectotherms that depend upon water sources to complete their life cycles, so temperature, precipitation, and humidity play critical roles in the mosquito-vectored arbovirus transmission cycle.”¹⁹³

Accordingly, physicians attribute the rising prevalence of mosquito-borne illnesses such as Zika—which causes fetal neurological complications and birth defects including microcephaly—to increasing ambient temperatures and new variability in rainfall.¹⁹⁴ In fact, there were no reported local transmissions of Zika within the United States until 2016.¹⁹⁵

The United States is now also susceptible to dengue, another mosquito-borne illness¹⁹⁶ once confined to equatorial areas. Outbreaks have now occurred in Hawaii, Florida, and “along the Mexico-Texas border.”¹⁹⁷ The territory

192. See, e.g., Ilija Rochlin, Dominick V. Ninivaggi, Michael L. Hutchinson & Ary Farajollahi, *Climate Change and Range Expansion of the Asian Tiger Mosquito (Aedes Albopictus) in Northeastern USA: Implications for Public Health Practitioners*, PLOS ONE 1 (Apr. 2, 2013), <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0060874&type=printable> [<https://perma.cc/9K8Q-3YPN>].

193. Michael A. Robert, Anna M. Stewart-Ibarra & Elizabeth L. Estallo, *Climate Change and Viral Emergence: Evidence from Aedes-borne Arboviruses*, 40 CURRENT OP. VIROLOGY 41, 41 (2020).

194. *Id.* at 41–44. See, e.g., *Microcephaly & Other Birth Defects*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/zika/healtheffects/birth_defects.html [<https://perma.cc/7XM6-A5YB>].

195. Nathan D. Grubaugh, Jason T. Ladner, Moritz U.G. Kraemer, Gytis Dudas, Amanda L. Tan, Karthik Gangavarapu, Michael R. Wiley, Stephen White, Julien Thézé, Diogo M. Magnani, Karla Prieto, Daniel Reyes, Andrea Bingham, Lauren M. Paul, Refugio Robles-Sikisaka, Glenn Oliveira, Darryl Pronty, Carolyn M. Barcellona, Hayden C. Metsky, Mary Lynn Baniecki, Kayla G. Barnes, Bridget Chak, Catherine A. Freije, Adrienne Gladden-Young, Andreas Gnirke, Cynthia Luo, Bronwyn MacInnis, Christian B. Matranga, Daniel J. Park, James Qu, Stephen F. Schaffner, Christopher Tomkins-Tinch, Kendra L. West, Sarah M. Winnicki, Shirlee Wohl, Nathan L. Yozwiak, Joshua Quick, Joseph R. Fauver, Kamran Khan, Shannon E. Brent, Robert C. Reiner Jr., Paola N. Lichtenberger, Michael Ricciardi, Varian K. Bailey, David I. Watkins, Marshall R. Cone, Edgar W. Kopp IV, Kelly N. Hogan, Andrew C. Cannons, Reynald Jean, Andrew J. Monaghan, Robert F. Garry, Nicholas J. Loman, Nuno R. Faria, Mario C. Porcelli, Chalmers Vasquez, Elyse R. Nagle, Derek A.T. Cummings, Danielle Stanek, Andrew Rambaut, Mariano Sanchez-Lockhart, Pardis C. Sabeti, Leah D. Gillis, Scott F. Michael, Trevor Bedford, Oliver G. Pybus, Sharon Isern, Gustavo Palacios & Kristian G. Andersen, *Genomic Epidemiology Reveals Multiple Introductions of Zika Virus into the United States*, 546 NATURE 401, 401–02 (2017).

196. Robert et al., *supra* note 193, at 42 (observing an expansion of dengue in the last twenty years).

197. *Id.*

inhabited by the mosquito species that carries dengue has now grown to encompass the Southeast and a significant portion of the southwestern United States.¹⁹⁸ Dengue can be passed to a fetus during pregnancy or at birth, and can result in fetal loss, “low birth weight, and premature birth.”¹⁹⁹

In June 2023, malaria resurfaced in Florida and Texas, with the Centers for Disease Control and Prevention (CDC) confirming the first locally acquired U.S. cases in twenty years.²⁰⁰ Malaria symptoms are particularly dangerous for pregnant people, fetuses, and infants, and include “maternal anemia, fetal loss, premature delivery, intrauterine growth retardation, and delivery of low birth-weight infants.”²⁰¹ As temperatures continue to rise across America, the range of environments suitable for disease-carrying species grows,²⁰² amplifying this and the broader set of climate change-induced threats.²⁰³

C. Reproductive Justice as Environmental Justice

The pursuit of reproductive justice ideals, such as women’s education and empowerment, reproductive autonomy, and voluntary family planning, also promotes environmental justice. Founders of the environmental justice movement articulated among the 17 Principles of Environmental Justice the rights to “self-determination” and “to participate as equal partners at every level of decision-making.”²⁰⁴ Campaigns advancing the rights of women to maintain autonomy over the decision to become a parent and how to parent support these principles.

Further, the disparate impacts of the climate crisis’s various environmental injustices are compounded by long-standing systems of power that fail to attend to women’s knowledge, particularly that of women of color, and fail to include them in positions of influence.²⁰⁵ Through its aim to uplift women’s voices and

198. See *Potential Range of Aedes Mosquitoes*, CTRS. FOR DISEASE CONTROL & PREVENTION (June 27, 2023), <https://www.cdc.gov/mosquitoes/mosquito-control/professionals/range.html> [<https://perma.cc/375F-RDPN>].

199. *Dengue During Pregnancy*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/dengue/transmission/pregnancy.html> [<https://perma.cc/6UFC-PQE7>] (Oct. 31, 2019).

200. Sharon Bernstein, *First U.S. Malaria Cases Diagnosed in Decades in Florida and Texas*, REUTERS (June 28, 2023), <https://www.reuters.com/business/healthcare-pharmaceuticals/first-us-malaria-cases-diagnosed-decades-florida-texas-2023-06-27/> [<https://perma.cc/4VN9-YYFM>].

201. *Intermittent Preventive Treatment of Malaria in Pregnant Women (IPTp)*, CTRS. FOR DISEASE CONTROL & PREVENTION (July 23, 2018), https://www.cdc.gov/malaria/malaria_worldwide/reduction/iptp.html#:~:text=Malaria%20infection%20during%20pregnancy%20can,a%20risk%20factor%20for%20death [<https://perma.cc/A47X-9QVW>].

202. See Rochlin et al., *supra* note 192, at 6–8.

203. See Samantha Ahdoot & Susan E. Pacheco, *Global Climate Change and Children’s Health*, 136 PEDIATRICS e1468, e1474 (2015) (discussing how climate influences the spread of various “vector[-]borne diseases . . . including malaria, dengue fever, West Nile virus, Chikungunya, Lyme disease, Rocky Mountain spotted fever, plague, hantavirus pulmonary syndrome, and Chagas disease”).

204. DELEGATES TO THE FIRST NATIONAL PEOPLE OF COLOR ENVIRONMENTAL LEADERSHIP SUMMIT, *supra* note 67.

205. See *supra* Part I.B and *infra* Part III.B.

autonomy, reproductive justice also buoys efforts to correct power imbalances and can ultimately mitigate harms to people and the planet.

Accordingly, as environmental justice advocates develop positions and priorities, a key component should be support for the reproductive justice pillars of women’s autonomy, education, and inclusion. Evidence is emerging that when women are in leadership roles in corporate decision-making and international governance, they are more likely to consider climate issues and better climate outcomes are more likely to result.²⁰⁶ Although these observations²⁰⁷ require continued empirical testing, the hypotheses are unsurprising. Indigenous women, for example, are the keepers of Traditional Knowledge not only regarding obstetrics but also ecosystems and living in harmony with nature for the next generation.²⁰⁸

206. See, e.g., Zhike Lv & Chao Deng, *Does Women’s Political Empowerment Matter for Improving the Environment? A Heterogeneous Dynamic Panel Analysis*, 27 SUSTAINABLE DEV. 603, 603, 609–10 (2019) (finding that women’s political empowerment, particularly in developing countries, can reduce CO₂ emissions); Sigita Strumskyte, Sara Ramos Magaña & Helene Bendig, *Women’s Leadership in Environmental Action* 9–11 (Org. for Econ. Co-operation & Dev., Environment Working Paper No. 193, 2022), [https://one.oecd.org/document/ENV/WKP\(2022\)5/en/pdf](https://one.oecd.org/document/ENV/WKP(2022)5/en/pdf) [<https://perma.cc/8BFH-GM63>] (summarizing climate benefits from women’s leadership); *Are Companies with Female CEOs More Likely to Be Environmentally Friendly?* CERTIFIED SUSTAINABLE, <https://certified-sustainable.co.uk/are-female-ceos-more-environmentally-friendly/> [<https://perma.cc/SLR6-7PPM>] (discussing the results of three global studies indicating that female CEOs are more likely to be “environmentally friendly”); Cathy Curtis, Opinion, *Op-ed: The Future of Socially Responsible Investing Is in Female Hands*, CNBC (Nov. 10, 2021), <https://www.cnbc.com/2021/11/10/op-ed-the-future-of-socially-responsible-investing-is-in-female-hands.html> [<https://perma.cc/ADY5-7EYR>] (indicating that women are driving the record growth in environmental, social, and corporate governance (ESG) investing); THE WORLD BANK GRP., GENDER AND CLIMATE CHANGE: THREE THINGS YOU SHOULD KNOW 2 (2011), <https://documents1.worldbank.org/curated/en/274081468183862921/pdf/658420REPLACEMENT00Box374367B00PUBLIC0.pdf> [<https://perma.cc/UM2S-YAY9>] (noting the “mounting evidence at the country level that improving gender equality contributes to policy choices that lead to better environmental governance”).

207. For example, some research indicates that “nations with a high representation of women in their administrations are more likely to ratify international environmental treaties.” Lindsey Jean Schueman, *Why Women Are Key to Solving the Climate Crisis*, ONE EARTH (Sept. 15, 2023), <https://www.oneearth.org/why-women-are-key-to-solving-the-climate-crisis/> [<https://perma.cc/2E3R-YPR7>] (citing Kari Norgaard & Richard York, *Gender Equality and State Environmentalism*, 19 GENDER & SOC’Y 506 (2005)); see also *Climate Justice and Gender Justice: An Essential Pairing to Get Resilience Right*, NAT’L DEMOCRATIC INST. (May 5, 2021), <https://www.ndi.org/our-stories/climate-justice-and-gender-justice-essential-pairing-get-resilience-right> [<https://perma.cc/EPN6-J6JZ>] (summarizing research demonstrating that “[a]t the national and international level, countries with more women parliamentarians are more likely to ratify environment treaties and set aside more land for conservation”). I do not assume causality here but rather correlation in government composition and policy.

208. See, e.g., Ashley Hayward and Jaime Cidro, *Indigenous Birth as Ceremony and a Human Right*, 23 HEALTH & HUM. RTS. J. 213, 216–17, 218–221 (2021) (discussing, for example, “the water ceremony” where “ceremonies in birth [also] show a connection to the land”). Further, though only 5 percent of the world’s population, Indigenous Peoples have rights to approximately 25 percent of the world’s land surface and 80 percent of the world’s remaining biodiversity. Mirian Masaquiza Jerez, U.N. Dep’t of Econ. & Soc. Affs., UN/DESA Policy Brief #101: Challenges and Opportunities to Indigenous Peoples’ Sustainability (Apr. 19, 2021), <https://www.un.org/development/desa/dpad/>

It is also true that support for voluntary family planning and women's education will lower the total volume of pollutants produced by a country. Because the average American creates an environmental footprint orders of magnitude larger than most people in other continents,²⁰⁹ voluntary family planning, education, economic opportunity, and prosperity are important arrows in the climate strategies quiver. Across the globe, facilitating empowerment and education enables women to captain their reproductive journeys: Project Drawdown, a global leader in climate solutions, opines that “[a]ccess to education can lead to . . . delayed onset of marriage, and delayed childbearing. Education, and particularly education around climate change, can help to encourage sustainable consumption choices and spur climate action.”²¹⁰ Some climate organizations and women climate justice activists from the Global South center these ideas within a framework of human rights, empowerment, and a larger concern for the role that gender plays in issues of self-determination.²¹¹

However, this Article does not identify reproductive justice's primary assistance to the environmental justice movement within a population reduction framework. Doing so might detract from addressing the most significant sources of greenhouse gas emissions: extractive economies with unsustainable transportation, agricultural, and industrial practices.²¹² Further, it could risk

publication/un-desa-policy-brief-101-challenges-and-opportunities-for-indigenous-peoples-sustainability/ [https://perma.cc/9YSL-XX3Z].

209. See, e.g., *U.S. Environmental Footprint*, UNIV. OF MICH. CTR. FOR SUSTAINABLE SYS. (2022), https://css.umich.edu/sites/default/files/2022-09/Environmental%20Footprint_CSS08-08.pdf [https://perma.cc/WE5Y-9YNX] (demonstrating that, in 2018, the average American generated 4.9 pounds of waste a day as compared to rates of 2.20 in Sweden, 2.98 in the United Kingdom, and 3.71 in Germany); *How to Help: Calculate Your Carbon Footprint*, NATURE CONSERVANCY, <https://www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/> [https://perma.cc/R6LD-U9ML] (noting that “[t]he average carbon footprint for a person in the United States is” about four times the global average).

210. *Family Planning and Education*, PROJECT DRAWDOWN, <https://drawdown.org/solutions/family-planning-and-education> [https://perma.cc/SFY5-YVW2] (opining that when access to education is “accompanied by quality sexual and reproductive health services, including family planning, it can contribute to significant declines in maternal and child morbidity and mortality rates, unintended pregnancies, and unsafe abortions”).

211. See, e.g., *id.* Ugandan climate-justice activist Vanessa Nakate has also observed that “[g]irls who have been to school grow up to be empowered women. They are not forced into early marriage, and they tend to have healthier, smaller families, reducing emissions well into the future.” Vanessa Nakate, *Vanessa Nakate: How Educating Girls Will Help Combat the Climate Crisis*, TIME (Apr. 14, 2021), <https://time.com/5953417/vanessa-nakate-educate-girls-climate/> [https://perma.cc/4DJC-NEQ3]. See also William J. Ripple, Christopher Wolf, Thomas M. Newsome, Phoebe Barnard & William R. Moomaw, *World Scientists' Warning of a Climate Emergency*, 70 BIOSCIENCE 8, 11 (2020) (“There are proven and effective policies that strengthen human rights These policies make family-planning services available to all people, remove barriers to their access and achieve full gender equity, including primary and secondary education as a global norm for all, especially girls and young woman.”).

212. One study found that 52% of cumulative carbon emissions can be attributed to the richest 10% of people around the world, while the poorest 50% of the global population is responsible for just 7% of emissions. TIM GORE, MIRA ALESTIG & ANNA RATCLIFF, *CONFRONTING CARBON INEQUALITY: PUTTING CLIMATE JUSTICE AT THE HEART OF THE COVID-19 RECOVERY 2* (2020),

undermining the goal of this Article by perpetuating the historical situating of solutions for the benefit of society on the shoulders of women who are least culpable for the antecedent ills. Multiple examples of socially and state-sanctioned control over women's reproduction (especially women of color) in the name of broader social needs stain American history. Professor Dorothy Roberts has tracked this subjugation from the need to maintain the slave economy to eugenics-based forced sterilizations.²¹³ Some environmental researchers repurposed this destructive practice in service of claimed planetary benefit by focusing on a reduction in the global population.²¹⁴ Thus, this Article locates its call for movement collaboration chiefly in the desire to jointly foster dignity, human rights, and self-determination over bodily integrity, reproductive capacity, and the health of future generations.

A final question about the environmental and reproductive justice intersection follows from the very lacuna this Article identifies. Put simply, what joint effects on environmental justice and reproductive justice are we unaware of because not enough people are looking? For instance, how will forced climate migration affect socio-legal approaches to reproductive autonomy? How might expansion of insurance coverage for health workers like doulas create birthing populations more resilient to and informed about climate threats?²¹⁵ The many intersections identified above stem largely from an environmental justice lens—scholars and activists from other disciplines, including reproductive justice, would undoubtedly identify many others. This Article joins the voices calling for

<https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621052/mb-confronting-carbon-inequality-210920-en.pdf> [https://perma.cc/STS3-Q9ZL].

213. See ROBERTS, *supra* note 82, at 24–29, 56. See generally VICTORIA F. NOURSE, IN RECKLESS HANDS: *SKINNER V. OKLAHOMA* AND THE NEAR TRIUMPH OF AMERICAN EUGENICS (2008) (describing the broader history of forced sterilization in the United States).

214. An example is Garrett Hardin's Tragedy of the Commons. See Matto Mildenerger, *The Tragedy of the Tragedy of the Commons*, SCI. AM. (Apr. 23, 2019), <https://blogs.scientificamerican.com/voices/the-tragedy-of-the-tragedy-of-the-commons/> [https://perma.cc/23P4-8U2U]. More modern studies continue to probe the connection between global reproduction and climate change. See, e.g., Aalok Ranjan Chaurasia, *Population Effects of Increase in World Energy Use and CO₂ Emissions: 1990-2019*, 5 J. POPULATION & SUSTAINABILITY 87, 102–03 (2020) (“[R]educing and ultimately achieving zero population growth can contribute significantly towards environmental sustainability by considerably decelerating the increase in energy use and CO₂ emissions in the world.”); Paul A. Murtaugh & Michael G. Schlax, *Reproduction and the Carbon Legacies of Individuals*, 19 GLOB. ENV'T CHANGE 14, 14–15, 18 (2009) (“[A]n individual's reproductive choices can have a dramatic effect on the total carbon emissions ultimately attributable to his or her genetic lineage.”).

215. The Department of Health and Human Services, when announcing a \$4.5 million investment in community birth workers such as doulas, did not discuss any specific training on climate or weather disaster preparedness such as exposures to wildfire smoke and weather evacuation or access to medical services. Yet many doulas serve critical roles supporting patients through climate-related pregnancy challenges. See Press Release, U.S. Dep't of Health & Hum. Servs., Health Resources and Services Administration Announces Availability of New Funding to Support Community-Based Doulas (Apr. 1, 2022), <https://www.hhs.gov/about/news/2022/04/01/hrsa-announced-the-availability-of-4-million-for-hiring-training-certifying-compensating-community-based-doulas.html> [https://perma.cc/34J3-GQJ9]; Hannah Docter-Loeb, *Doulas Are Frontline Climate Workers*, NEXUS MEDIA NEWS (Dec. 19, 2022), <https://nexusmedianews.com/doulas-frontline-climate-workers/> [https://perma.cc/3VT8-YAM7].

interdisciplinary research across science, law, and sociology to explore other aspects of climate-related environmental and reproductive injustices, thereby creating the foundation upon which advocates can pursue legal change in ways we have yet to anticipate.

III.

DE-SILOING ENVIRONMENTAL AND REPRODUCTIVE JUSTICE

The preceding Section detailed the nexus of environmental and reproductive justice in the context of climate change. Still, the mere existence of that nexus does not render merging all environmental and reproductive justice concerns and action the necessary solution. Nor is that what this Article proposes. Instead, this Section begins the nuanced analysis required to identify appropriate topics and strategies for coordinated mitigation of climate-related injustices. The concept of bridging historically siloed movements is instructive.

This Section first offers design considerations, identifying *what* types of bridges to build while acknowledging potential challenges in collaboration. Then it suggests *why* they should be constructed using a ground-up approach rooted in community power building. Finally, the Section provides examples of *how* to build these bridges. Here, I offer legal and policy strategies from the environmental justice perspective given my research focus. These prescriptions intentionally leverage existing legal tools to facilitate efficient coordination between the movements and lower the barriers to near-term collective progress. The proposed approaches touch upon community empowerment strategies, federal and state environmental enforcement, and the distribution of climate and environmental justice-related funding. Through these proposals, this Section unpacks how advocates can repurpose familiar legal and policy tools to promote multidisciplinary goals.

A. Building Bridges: Opportunities and Obstacles

Facilitating cross-movement cooperation and mutual advancement will require structural and substantive evolutions. Interprofessional collaboration has the potential to foster structural alignment in relatively short order. Legal, public health, and social scientists can jointly study; write about; and host panels, conferences, and convenings on the intersection of environmental and reproductive justice. Major public interest legal organizations such as the Equal Justice Works, the National Women's Law Center, the Environmental Law Institute, and If/When/How could also create sponsored postgraduate fellowships to highlight the importance of this nexus and to offer writing competitions for law students to spur novel, creative thoughts from those entering the legal working world.²¹⁶

216. For example, Equal Justice Works currently permits candidates to apply for the "Design-Your-Own Fellowship program." See *Design-Your-Own-Fellowship*, EQUAL JUST. WORKS,

Generating a cross-disciplinary knowledge base within the federal and state governments may require incrementally more time and resources. Depending on the administration, cooperation mandated through executive orders could hasten integration. Options in the federal sphere could include holding congressional hearings; creating new positions within the EPA, CDC, FEMA, NOAA, Department of Health and Human Services (HHS), and the Department of Justice (DOJ); and establishing an interagency task force to routinize collaboration and standardization across offices. Nonprofit organizations might also serve as watchdogs and create agency scorecards. Expert advisors to agencies, such as the Clean Air Scientific Advisory Committee which advises EPA on various clean air initiatives,²¹⁷ should include members with medical expertise on the intersection of environmental and reproductive justice. As explored in Part III.B, government consultation with communities, grassroots organizations, and others with firsthand expertise will be necessary to establish durable progress.

Movement-based collaboration between individual leaders and organizations will be the most important yet challenging aspect of the proposed coordination. Reproductive justice advocates may harbor concerns about climate-related missions being rooted in the historical population control frame critiqued in Part II.C. Kristen Patterson, a longtime advocate at the intersection of reproductive health and environmental conservation, has discussed the lingering “strong hesitancy” among advocates within the reproductive and climate justice movements to align, even in 2021.²¹⁸ She traces some of that hesitancy to countries that employed “coercive policies that forced contraceptive use” rather than voluntary family planning to “address the ‘population problem.’”²¹⁹ Patterson acknowledges that accordingly, “to this day, some [reproductive justice] advocates believe that any linkages with . . . sectors such as environmental conservation or climate change . . . are tantamount to blaming women in the developing world for climate change.”²²⁰

<https://www.equaljusticeworks.org/opportunities/design-your-own-fellowship/> [https://perma.cc/2CW D-8XSW]. However, environmental and reproductive justice intersectional issues may be more likely to be addressed if projects are affirmatively designed by public interest organizations rather than depending on student-led interest.

217. *Clean Air Scientific Advisory Committee (CASAC)*, U.S. ENV’T PROT. AGENCY, https://casac.epa.gov/ords/sab/r/sab_apex/casac/home [https://perma.cc/9883-THUL].

218. Kristen Patterson, *Linking Reproductive Rights and Climate Solutions Is the Only Way Forward*, MS. MAG. (May 8, 2021), <https://msmagazine.com/2021/05/08/linking-reproductive-rights-and-climate-solutions-is-the-only-way-forward/> [https://perma.cc/3H22-L5QT].

219. *Id.*; see also Ahmed, *supra* note 104 (“[Climate change’s] dramatic effects may also tempt countries down the path of population control—a coercive and punitive approach that does nothing to solve the root cause of the crisis.”).

220. Patterson, *supra* note 218; see also Rachel L. Zacharias, *Fewer of Whom? Climate-Based Population Policies Infringe Marginalized People’s Reproductive Autonomy*, 25 U. PA. J.L. & SOC. CHANGE 81, 81 (2021) (arguing that certain climate policies targeted at reducing reproduction “derive from eugenics” and “could be dangerous to marginalized people’s reproductive autonomy if they do not account for the broader conditions that impair people’s autonomous choice to limit their reproduction”).

From the environmental justice sphere, some may argue that melding certain work streams within two movements will dilute organizational identity, distracting focus and funders from what might otherwise be a more discrete mission. Currently, environmental justice organizations receive a fraction of the grant funding awarded to the largest conventional environmental organizations.²²¹ Further, cross-movement cooperation will render environmental organizations the target of anti-abortion groups. For example, the Life Issues Institute published a list of what it labels “environmental groups [that] also push abortion” based on statements supportive of women’s education, reproductive justice, and autonomy.²²² Movement mutualism could also encounter challenges from climate advocates that “prioritize ‘urgency’ in their focus.”²²³ There are indeed interim efficiencies to maintaining course and focus rather than leaning into education and coalition building, all of which demand time to develop trust, as well as financial and emotional investments.²²⁴

However, mutually beneficial advocacy and strategic coordination do not require fully fusing ideologies or abandoning specific goals. They require identifying and considering the complex, multifaceted inputs shaping the legal and social dynamics of both climate change and reproductive justice. In the context of climate change, Professor Richard Lazarus and others have detailed the physical, chemical, and temporal aspects which produce a ‘super wicked problem.’²²⁵ Lazarus describes the near impossibility of “isolat[ing] a single, discrete cause” of ecological injury—especially concerning climate change.²²⁶ He also observes that without a holistic, multidisciplinary view of the problem, approaches are likely to be “at best ineffective and at worst unwittingly destructive because of unanticipated consequences.”²²⁷ So too for the intersectionality of environmental and reproductive injustices. Without consideration of inputs related to both environmental and reproductive justice when trying to address climate harms, proposed remedies may fail to mitigate or

221. DORCETA E. TAYLOR & MOLLY BLONDELL, EXAMINING DISPARITIES IN ENVIRONMENTAL GRANTMAKING: WHERE THE MONEY GOES 7 (2023) (“Funding to organizations was so lopsided that several environmental organizations obtained more funding than all the environmental justice organizations combined. For instance, the Sierra Club received more than \$200 million in grants, almost five times what all the environmental justice organizations combined received.”).

222. *Environmental Groups that Support Abortion*, LIFE ISSUES INST., <https://web.archive.org/web/20230830183941%20/https://lifeissues.org/environmental-groups-big-fans-planned-parenthood/> [<https://perma.cc/2D6J-ZSPH>].

223. See PATTERSON & SASSER, *supra* note 24, at 13.

224. See *id.* at 13–15 (advising that organizational coordination between movements will benefit from relationship building, less scientific jargon in communication, exploring an independent role for Indigenous Peoples whose sovereign identities can be lost under “umbrella[]” terminology, and more).

225. Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1159–84 (2009) (discussing the characteristics of environmental problems, including the scientific and political dimensions of climate change, that make durable lawmaking particularly difficult).

226. *Id.* at 1181.

227. See *id.*

at worse exacerbate injustices to women and children.²²⁸ In sum, for these social movements and legal frames to continue on individual paths is to disaggregate climate and environmental injustices from their impacts on the way women live out some of the most important aspects of their lives.

The following Section explains why affected populations should and how they can helm the identification of environmental and reproductive injustices within the climate context and associated advocacy strategies and solutions.

B. Centering Community Power and Women's Voices

To design strategies addressing the intersection of environmental and reproductive justice, this Section proposes what I term a movement-cooperative, community-empowered, women-led approach while acknowledging critiques and barriers to implementing such a strategy. The movement-cooperative, community-empowered, women-led approach envisages strategic collaboration between those with lived and learned expertise.²²⁹ As environmental and reproductive justice activists and advocates imagine their collaboration, an intentional aspect should be community empowerment. Community power can be understood as a community's capacity to "develop, sustain, and grow an organized base of people who act . . . to shift public discourse, set proactive agendas, influence who makes decisions, and cultivate ongoing relationships of mutual accountability with decision makers that change systems and advance health equity."²³⁰

Facilitating collective action grounded in community engagement and participatory parity is necessary to cultivate long-term success. Dr. Manuel

228. These types of critiques apply in the context of managed retreat or forced climate displacement without community-led design and a resulting loss of culture and community. See A.R. Siders and Idowu Ajibade, *Introduction: Managed Retreat and Environmental Justice in a Changing Climate*, 11 J. ENV'T STUD. & SCI. 287, 287–89 (2021) (discussing the challenges of cultural preservation in the face of "multigenerational displacement" resulting from managed retreat). They have also arisen in the context of climate change-focused building codes driving home and rent prices out of reach for low-wage earners – an issue that could present heightened challenges for women. See, e.g., Paula Ebben, *New Building Codes to Fight Climate Change Could Make Massachusetts Homes Even More Expensive*, CBS NEWS (June 28, 2023), <https://www.cbsnews.com/boston/news/massachusetts-building-codes-climate-change-home-prices-study-mit-wentworth/> [<https://perma.cc/G7L7-K66B>]; see also Brooker, *supra* note 51 (observing differential in percentage of women and men living below the poverty line and noting that women head "80 percent of single-parent households").

229. This approach is informed by two of the "methodological moves" for movement law scholars. See Amna A. Akbar, Sameer M. Ashar & Jocelyn Simonson, *Movement Law*, 73 STAN. L. REV. 821, 821, 822, 859–70 (2021) (describing movement law scholars as "shift[ing] their epistemes away from courts and siloed legal expertise and toward the stories, strategies, and histories of social movements" and "embody[ing] an ethos of solidarity . . . rather than a hierarchical . . . relationship" with social movements).

230. Manuel Pastor, Paul Speer, Jyoti Gupta, Hahrie Han & Jennifer Ito, *Community Power and Health Equity: Close the Gap Between Scholarship and Practice*, NAT'L ACAD. MED. PERSPS. 3 (June 13, 2022), https://nam.edu/wp-content/uploads/2022/06/Community-Power-and-Health-Equity_FINAL.pdf [<https://perma.cc/MQ8J-ZWMQ>] (describing community power and its utility to surmount "structural inequity").

Pastor, a sociologist and Director of the USC Equity Research Institute, has argued that “community power building is . . . durable” and can “transform[] local community conditions and advance[e] health and racial equity.”²³¹ This research suggests that centering impacted communities is important not just from a normative perspective but from a strategic one as well.²³²

Building community power should involve methods that elevate *community-derived* insights, and that offer education and empowerment from local organizations so that community members can identify their own environmental and reproductive justice-related concerns, develop solutions, and participate in government decision-making.²³³ As Pastor observed, “embracing community power building as a strategy requires acknowledging that community members are themselves experts of their own experiences and conditions. As such, they should drive the design, implementation, and protection of policies and reforms that improve their day-to-day lives.”²³⁴ Power building also involves what community organizers designate as “base building” and, separately, mobilization.²³⁵ In the context of environmental and reproductive justice, examples could include the following: bringing people affected by reproductive losses or traumas during a climate event in dialogue with one another; organizing discussions around environmental determinants of health and climate risks to women and children; creating toolkits on how to participate in local zoning, permitting, and other administrative challenges, or on how to collect and submit data on community conditions or violations; and facilitating workshops for community members to learn how they might be at risk from disparities in environmental quality and climate instability.

231. *Id.* at 1.

232. *See id.* at 1, 3–4; *see, e.g.*, Victor Saucedo, *The Power of Lived Experience*, CODE FOR AM. (Apr. 27, 2021), <https://codeforamerica.org/news/the-power-of-lived-experience/> [<https://perma.cc/F3AE-MKV2>] (“[L]ived experience means that a person has lived through the problem that is going to be solved. People who have been closest to the problem have the most experience with it, can elevate real concerns, devise the most pointed solutions, and engage community support.”).

233. Because the causes and effects of climate change span the planet, proposing community-oriented actions may seem ineffectual. However, this Article is not focused on mitigating the fossil fuel emissions driving global climate change but rather on identifying compounding climate and reproductive justice impacts and potential solutions to such harms. These types of harms are felt locally. And many solutions can be generated, implemented, and experienced on a local level. Take land use and zoning changes that could result in more green space in urban areas, for example. Despite these being local-focused environmental justice interventions, they can address climatic threats to the ability to safely birth and care for infants. Lowering temperatures degree by degree in neighborhoods experiencing the urban heat island effect would have critical consequences for the risk of infant mortality. *See, e.g.*, Jodi Heckel, *How Can Cities Use Green Spaces to Mitigate the Effects of Extreme Heat on Vulnerable Residents?*, U. ILL. URBANA-CHAMPAIGN NEWS BUREAU (July 25, 2023), <https://news.illinois.edu/view/6367/1061563184> [<https://perma.cc/P2HS-DLKE>]; Schinasi et al., *supra* note 151, at 192 (finding that the “risk of infant mortality increased by 22.4% . . . for every 1°C increase in temperature above 23.9°” and concluding that this finding of “a higher risk of infant mortality in association with higher daily temperatures” was “consistent with past research”).

234. Pastor et al., *supra* note 230, at 4.

235. *See id.*

Although these avenues of environmental and reproductive justice advocacy can work in tandem with top-down efforts, the primacy of ground-up methods is intentional. A top-down approach would position federal government actors and agencies as leaders with the goal of swifter, more wide-ranging actions targeting the intersection of environmental and reproductive justice. While those ambitions may succeed in the short term, this approach has two drawbacks. First, people without learned experience tend to be the architects of law and policy in a top-down approach, but they are better suited as co-authors alongside those with lived experience. Second, the potentially significant gains derived through a top-down approach are susceptible to a change in administration that would result in reduced environmental and health focus and spending, a shift sometimes referred to as federal retrenchment.²³⁶ Rather, applying a ground-up method, such as building a cadre of informed and activated cohorts on a subnational level, can enhance top-down efforts when they occur while also sustaining progress against the uncertainty of federal administration changes and burgeoning judicial barriers.²³⁷

Still, elevating and engaging with community expertise within legal systems is challenging. Information asymmetries and limitations on time due to other work and family obligations will persist.²³⁸ Further, the voices of those impacted by systems of oppression are often met with conscious and subconscious skepticism or tokenization.²³⁹ Women's expertise has been discounted historically, including around midwifery, a service often provided by

236. See David E. Adelman & Kirsten H. Engel, *Adaptive Federalism: The Case Against Reallocating Environmental Regulatory Authority*, 92 MINN. L. REV. 1796, 1841 (2008) (describing rollbacks of federal environmental regulatory scope or weakening of environmental policies or their substantive application as “federal retrenchment”).

237. See, e.g., William W. Buzbee, *Federalism Hedging, Entrenchment, and the Climate Challenge*, 2017 WIS. L. REV. 1037, 1046-57, 1112-13 (2017) (detailing the importance of subnational cohorts in the face of federal rollbacks and judicial resistance in climate regulation).

238. See, e.g., Wyatt G. Sassman, *Community Empowerment in Decarbonization: NEPA's Role*, 96 WASH. L. REV. 1511, 1551 (2021) (discussing proposals to reform the National Environmental Policy Act of 1969 to “affirmatively require that agencies . . . engag[e] communities of color and low-income communities and, where necessary, provid[e] these communities with expertise and resources”); FED. EMERGENCY MGMT. AGENCY, *A GUIDE TO SUPPORTING ENGAGEMENT AND RESILIENCY IN RURAL COMMUNITIES* 7 (2020) (indicating that rural Americans face numerous barriers to community engagement including childcare, employment, and religious obligations, among others).

239. See, e.g., Ngozi Okidegbe, *Discredited Data*, 107 CORNELL L. REV. 2007, 2008 (2022) (using examples from the criminal law context to argue that data and information from communities has been “discredited and excluded” in legal systems); Pedram Rashidi, Kristen Lyons & K.J. Walker, *Indigenous Knowledge Systems Are Vital to the Design of Solutions to Climate Change — so Why Are Indigenous Voices So Rarely Included in Deliberations?*, ABC RELIGION & ETHICS (Nov. 24, 2021), <https://www.abc.net.au/religion/why-exclude-indigenous-knowledge-from-climate-solutions/13631548> [<https://perma.cc/9HGN-JX8S>] (“[M]eaningful and equal Indigenous participation is hindered by the narrow criteria that defines who counts as an ‘expert.’”); see also Lauren Farrell, Mel Langness & Elsa Falkenburger, *Community Voice Is Expertise*, URB. INST. (Feb. 19, 2021), <https://www.urban.org/urban-wire/community-voice-expertise> [<https://perma.cc/PHJ6-2387>] (calling on federal agencies to “[e]xpand[] the definition of ‘expert’” to “[e]nsure community members are not tokenized and that their contributions substantively guide the priorities and day-to-day work”).

Black women prior to the Civil War.²⁴⁰ Even women's and girls' descriptions of their own sensations of pain are minimized or dismissed. Studies conclude that women's pain is taken less seriously than men's and is frequently treated as psychological,²⁴¹ especially when reported by women or children of color.²⁴² Whether animated by sexism, racism, or potentially biased medical training,²⁴³ as in the latter instance, women's learned expertise and lived experiences are too often devalued.

Accordingly, as advocates, organizations, and agencies design new legal partnerships and staff offices, women—particularly women of color—must be in leadership roles. As previewed in Section II.C, although female leadership can cultivate climate progress, both the knowledge and professional contributions of women are systematically undervalued and excluded.²⁴⁴ Women are underrepresented in places of power and decision-making concerning climate and energy policy, broader environmental decision-making, and state or national resilience planning.²⁴⁵ Systemic change will require correcting these entrenched power imbalances.

240. Michele Goodwin, *The Racist History of Abortion and Midwifery Bans*, ACLU NEWS & COMMENT (July 1, 2020), <https://www.aclu.org/news/racial-justice/the-racist-history-of-abortion-and-midwifery-bans> [<https://perma.cc/X5VE-PVMD>] (describing how, after the Civil War, midwives became competition for White male gynecologists, who “viewed themselves as elite [professionals] with . . . [access to] the modern convenience of hospitals, which excluded Black and Indigenous women from practice within their institutions”).

241. See, e.g., Univ. of Mia., *Womens' Pain Not Taken as Seriously as Mens' Pain*, SCIENCEDAILY (Apr. 6, 2021), <https://www.sciencedaily.com/releases/2021/04/210406164124.htm> [<https://perma.cc/3YXG-VGSP>]; Anke Samulowitz, Ida Gremyr, Erik Eriksson & Gunnel Hensing, “*Brave Men*” and “*Emotional Women*”: A Theory-Guided Literature Review on Gender Bias in Health Care and Gendered Norms Towards Patients with Chronic Pain, PAIN RSCH. & MGMT. 9–10 (2018), <https://downloads.hindawi.com/journals/prm/2018/6358624.pdf> [<https://perma.cc/BZH8-35CZ>]; Katz Inst. for Women's Health, *Gaslighting in Women's Health: No, It's Not Just in Your Head*, NORTHWELL HEALTH <https://www.northwell.edu/katz-institute-for-womens-health/articles/gaslighting-in-womens-health> [<https://perma.cc/83RJ-98MV>].

242. See, e.g., Consumer Reps., *Is Bias Keeping Female, Minority Patients from Getting Proper Care for Their Pain?*, WASH. POST (July 29, 2019), https://www.washingtonpost.com/health/is-bias-keeping-female-minority-patients-from-getting-proper-care-for-their-pain/2019/07/26/9d1b3a78-a810-11e9-9214-246e594de5d5_story.html [<https://perma.cc/R4RX-R2S6>] (summarizing studies where physicians dismissed the pain of women and people of color); Brian D. Earp, Joshua T. Monrad, Marianne LaFrance, John A. Bargh, Lindsey L. Cohen & Jennifer A. Richeson, *Featured Article: Gender Bias in Pediatric Pain Assessment*, 44 J. PEDIATRIC PSYCH. 403, 412-13 (2019); Rachel Rabkin Peachman, *Pain in Children Is Often Ignored. For Children of Color, It's Even Worse*, N.Y. TIMES (Feb. 8, 2023), <https://www.nytimes.com/2022/08/16/well/pain-management-children-race.html> [<https://perma.cc/EV8K-J7DV>].

243. The vast majority of pain studies have been conducted on men. See *Women and Pain: Disparities in Experience and Treatment*, HARV. HEALTH PUBL'G (Oct. 9, 2017), <https://www.health.harvard.edu/blog/women-and-pain-disparities-in-experience-and-treatment-2017100912562> [<https://perma.cc/4U5R-TC5T>].

244. See, e.g., Strumskyte et al., *supra* note 206, at 11, 17; THE WORLD BANK GRP., *supra* note 206, at 2.

245. See Graham Pilgrim, Donna-Jean Nicholson, Nick Johnstone & Aloys Nghiem, *Women in Senior Management Roles at Energy Firms Remains Stubbornly Low, but Efforts to Improve Gender Diversity Are Moving Apace*, INT'L ENERGY AGENCY (May 20, 2021), <https://www.iea.org/>

Turning to the “how” of bridge building, the next Section explores unclaimed opportunities in legal and policy landscapes to further environmental and reproductive justice within the climate context.

C. Implementing Environmental and Reproductive Justice-Informed Strategies

The following sub-Sections sketch potential blueprints for collective action through environmental justice lawyering processes and legal strategies. Each builds on a foundation of community empowerment and can amplify environmental and reproductive justice-related lived experience and expertise in climate-oriented decision-making.

1. Leveraging Integrative Lawyering to Serve Community Goals

Lawyers still have roles to play in a community-empowered vision of collective environmental and reproductive justice advocacy. Various formulations of community lawyering have offered key support within environmental justice strategies. “Integrative [l]awyering,” as invoked in the community lawyering literature and described by Sheila Foster and Brian Glick, refers to a framework wherein local groups and communities, as clients, *determine* goals and *direct* lawyers’ actions in service of movement building and empowerment.²⁴⁶ Integrative lawyering can involve “functional integration[:]. . . whereby the constitutive parts of the organization, as well as its community constituents, collectively decide how legal strategies and expertise fit into its overall mission and best advance community efficacy efforts.”²⁴⁷

Following this model, attorneys, as well as law school environmental and health justice clinics, could partner with communities in these subject areas. For example, communities might work with the growing number of medical-legal partnerships, “wherein legal services are embedded into the health system, allow[ing] providers and lawyers to collaborate . . . to identify and address the

commentaries/women-in-senior-management-roles-at-energy-firms-remains-stubbornly-low-but-efforts-to-improve-gender-diversity-are-moving-apace [https://perma.cc/8RDV-BLXU] (noting that out of “2500 firms classified in energy-related sectors, women make up just under 14% of senior managers”); Strumskyte, *supra* note 206, at 11–23 (summarizing data and studies on gender balance in environmentally-related “public governance,” “environmentally-sensitive industries,” and “environmental leaders in civil society”). Importantly, organizations attempting to analyze gender data have struggled to derive an accurate summary from environmental organizations because of inconsistency in reporting and because some organizations only provide binary gender identity categories. *See, e.g.*, GREEN 2.0, 2022 NGO AND FOUNDATION TRANSPARENCY REPORT CARD 175 (2022), <https://diversegreen.org/wp-content/uploads/2023/03/2022-ngo-foundation-transparency-report-card.pdf> [https://perma.cc/BQ9R-5LE2].

246. *See* Sheila R. Foster & Brian Glick, *Integrative Lawyering: Navigating the Political Economy of Urban Redevelopment*, 95 CALIF. L. REV. 1999, 2053–72 (2007).

247. *Id.* at 2066.

underlying social or environmental causes of a patient's health issue."²⁴⁸ By listening to clients, lawyers and healthcare professionals can "then advocate for long-term system solutions, promoting population wellness and structural justice."²⁴⁹ Based on their client and patient interactions, attorneys and their medical colleagues could determine region-specific, climate-related health harms that affect pregnant people, infants, and children. The attorneys could then assist clients in pursuing remedies such as heat adaptation from landlords, or outdoor labor practices to abate risks from wildfire smoke exposure or mosquitos.

In addition, attorneys could collaborate with community and organizational clients to ensure municipal and state climate plans confront issues related to race and gender; concerns such as shelter safety protocols to prevent assaults and abuse; and how to continually access reproductive services during climate disasters such as storms, floods, and fires.²⁵⁰ Lawyers with lobbying experience could assist reproductive and environmental justice organizations or affected communities in advocating for the passage of legislation, such as the Protecting Moms and Babies Against Climate Change Act as part of the set of bills known as the Black Maternal Health Omnibus Act.²⁵¹ The Protecting Moms and Babies Against Climate Change Act establishes grant programs through HHS to address climate change-related health risks for vulnerable groups, including pregnant individuals and young children.²⁵²

These and other lawyering options around environmental and reproductive justice goals in the climate crisis should be community informed. Community-based, integrative lawyering is a mainstay of the legal branches of many social justice movements, especially environmental justice. Luke Cole's enduring formulation of this idea was "lawyers on tap, not on top."²⁵³ A lawyer himself,

248. Emily A. Benfer, Emily Coffey, Allyson E. Gold, Mona Hanna-Attisha, Bruce Lanphear, Helen Y. Li, Ruth Ann Norton, David Rosner & Kate Walz, *Health Justice Strategies to Eradicate Lead Poisoning: An Urgent Call to Action to Safeguard Future Generations*, 19 YALE J. HEALTH POL'Y L. & ETHICS 146, 191 (2020) (advocating for the use of medical-legal partnerships to combat lead poisoning and describing how one such partnership led to federal rulemaking on housing conditions).

249. Yael Zakai Cannon, *Medical-Legal Partnership as a Model for Access to Justice*, 75 STAN. L. REV. ONLINE 73, 79 (2023).

250. See *supra* Parts II.A. and II.B (chronicling climate disasters' impact on reproductive justice); cf. R. Dean Hardy, Richard A. Milligan & Nik Heynen, *Racial Coastal Formation: The Environmental Injustice of Colorblind Adaptation Planning for Sea-Level Rise*, 87 GEOFORUM 62, 62, 69 (2017) (discussing how "colorblind adaptation planning is likely to perpetuate . . . the 'slow violence' of environmental racism, characterized by policies that benefit some populations while abandoning others").

251. The Black Maternal Health Omnibus Act is a package of 13 bills aimed at mitigating the disproportionately high rates of Black maternal mortality rates, which includes a climate bill. *Black Maternal Health Omnibus*, U.S. HOUSE OF REPRESENTATIVES BLACK MATERNAL HEALTH CAUCUS, <https://blackmaternalhealthcaucus-underwood.house.gov/Momnibus> [https://perma.cc/YG9M-6LYZ].

252. See S. 423, 117th Cong. (2021).

253. See, e.g., Ingrid Brostrom & Marybelle Nzegwu, *Luke Cole, Social Justice Visionary*, 16 HASTINGS W.-NW. J. ENV'T L. & POL'Y 241, 243-44 (detailing Cole's approach to and apprehension about lawyering in the environmental justice context).

Cole nonetheless “argued that lawyers are not the means to achieving community power” but by working “alongside” communities, lawyers could contribute to the movement without disempowering communities.²⁵⁴ Transitioning, now, from the application of an integrative lawyering lens to substantive strategy, the following two sub-Sections propose ideas that can be implemented in the near term under current policies and standards.

2. *Advancing Solutions through Environmental Enforcement Remedies*

The environmental enforcement process, whereby officials impose penalties and pursue compliance and corrective action for violations of law, can advance environmental and reproductive justice.²⁵⁵ Although the U.S. environmental enforcement system involves a complex mix of actors across different governments and legal forums,²⁵⁶ its aims are straightforward: protect public health and natural resources through deterrence, punishment, and prevention of economic enrichment from violations of environmental laws.²⁵⁷

Under current policies, communities may influence certain remedial components of a settlement by advocating for forms of relief that would mitigate risk from climate hazards in ways that bolster environmental and reproductive justice. This is possible at both the federal and state level because the vast majority of enforcement matters across jurisdictions end in settlement rather than protracted litigation over liability, remedy, and penalties.²⁵⁸

The new enforcement policies at DOJ and EPA provide a powerful lever for this strategy. As an initial matter, the enforcement branch of EPA is set to receive an infusion of funds, personnel, and renewed focus.²⁵⁹ Further, in 2022, DOJ—EPA’s partner in significant enforcement matters—released a Comprehensive Environmental Justice Enforcement Strategy (EJ Enforcement Strategy). The strategy deploys enforcement resources towards disparate pollution burdens and aims to “provide timely remedies for systemic environmental violations.”²⁶⁰ Enforcement-initiating events, such as inspections,

254. *See id.* at 243.

255. I detail the environmental enforcement process at length including the categories of enforcers, the legal bases for their authority, the typical relief sought, and the process from identification of a violation through judicial or administrative resolution in Sara A. Colangelo, *Forging Complete Justice: Equitable Relief in Environmental Enforcement*, 46 HARV. ENV’T L. REV. 315, 322–26 (2022).

256. Environmental enforcement involves multiple players—federal and state agencies, Tribes, and “citizen” enforcers, in addition to multiple forums including “administrative, civil, and criminal” contexts. *Id.* at 322–23 n.27.

257. *Id.* at 322.

258. *Id.* at 325 n.43.

259. Kevin Bogardus, *EPA Nominee: 200 Enforcement Jobs ‘Will Be Restored,’* E&E NEWS PM (June 20, 2023), <https://www.eenews.net/articles/epa-nominee-200-enforcement-jobs-will-be-restored/> [<https://perma.cc/RKR8-ALFA>].

260. Memorandum from the Assoc. Att’y Gen. to Heads of Dep’t Components & U.S. Att’ys 1 (May 5, 2022) [hereinafter Environmental Justice Enforcement Strategy Memo], https://www.justice.gov/d9/pages/attachments/2022/05/05/02._asg_strategy_memorandum.pdf [<https://perma.cc/X4HL-2YLE>]; *see also* Exec. Order No. 14008 §§ 219, 222(c)(ii), 86 Fed. Reg. 7619, 7629, 7631 (Jan. 27,

will therefore be more frequently pursued by EPA inspectors in overburdened communities.²⁶¹

The types of relief that the federal government must now attempt to garner within a settlement include mitigation and supplemental environmental projects (SEPs).²⁶² Mitigation redresses or offsets illicit pollution, and the government can seek mitigation in both settlements and litigation because it is “rooted in the inherent equitable power of courts.”²⁶³ SEPs are projects that a defendant voluntarily agrees to undertake only through settlement. SEPs “obtain environmental and public health . . . benefits that may not otherwise have occurred in the settlement of an enforcement action.”²⁶⁴ As relevant here, EPA specifically envisions the inclusion of SEPs in enforcement matters as advancing its “mission to protect public health and the environment, which includes, but is not limited to, protecting children’s health, ensuring environmental justice, . . . and addressing climate change.”²⁶⁵ SEPs must possess a “sufficient nexus” to an alleged violation, which means there must be a close “relationship between the violation and the proposed project.”²⁶⁶ DOJ and EPA included SEPs in enforcement matters for decades, but under President Obama, EPA first memorialized their utility for communities with environmental justice concerns.²⁶⁷ However, their use was optional and included no requirement for community consultation.²⁶⁸

2021) (detailing the Biden Administration’s commitment to advancing environmental justice while “spur[ing] economic opportunity for disadvantaged communities”).

261. See Environmental Justice Enforcement Strategy Memo, *supra* note 260, at 2.

262. *Id.* at 4–5, 4 n.2; see also Sara A. Colangelo, *Environmental Enforcement 2021: The Likely Resurgence of Tools Targeting Environmental Justice*, 52 ABA TRENDS (2021) (highlighting the “likely resurgence of these tools” following the Trump administration). Citizen enforcement suits have also secured these types of relief. See, e.g., *Holding Polluters Accountable*, CONSERVATION LAW FOUND., <https://www.clf.org/strategies/environmental-enforcement/> [<https://perma.cc/DY7R-J8NN>] (describing effort to incorporate SEPs into private enforcement).

263. Colangelo, *supra* note 262.

264. U.S. ENV’T PROT. AGENCY, SUPPLEMENTAL ENVIRONMENTAL PROJECTS POLICY 2015 UPDATE 1 (2015), <https://www.epa.gov/sites/default/files/2015-04/documents/sepupdatedpolicy15.pdf> [<https://perma.cc/B494-8FFS>].

265. *Id.* at 3.

266. See *id.* at 7–8.

267. See *id.* at 2–5 (indicating that the 2015 Policy would supersede previous SEP policies from 1991, 1995, and 1998 and observing the specific benefits of SEPs to communities with environmental justice concerns and children affected by violations of environmental laws).

268. Environmental Justice Enforcement Strategy Memo, *supra* note 260, at 4–5. During the Trump administration, political appointees limited and ultimately prohibited SEPs in government agreements through a series of memoranda that were withdrawn in February 2021. See Memorandum from Jean E. Williams, Deputy Assistant Att’y Gen., to Section Chiefs & Deputy Section Chiefs, U.S. Dep’t of Just. Env’t & Nat. Res. Div. (Feb. 4, 2021), <https://www.justice.gov/enrd/page/file/1364716/download> [<https://perma.cc/QNB9-ZKZA>]; see also Hana Vizcarra & Laura Bloomer, *DOJ Phases Out Supplemental Environmental Projects in Environmental Enforcement*, ENV’T & ENERGY L. PROGRAM (Aug. 6, 2020), <https://eelp.law.harvard.edu/2020/08/doj-phases-out-supplemental-environmental-projects-in-environmental-enforcement/> [<https://perma.cc/7EDA-LHF6>] (detailing the history of SEP policies, as well as the Trump-era guidance and memoranda prohibiting most SEP use in settlements).

The new EJ Enforcement Strategy mandates that, in addition to considering the use of mitigation and SEPs, attorneys must develop and implement a “community outreach plan.”²⁶⁹ In practice, community expertise, and data curated to evidence climate-related environmental and reproductive injustices could now inform settlements covering a variety of violations, such as those under the Clean Air Act.²⁷⁰ A recent enforcement settlement is illustrative: EPA’s settlement with BP Whiting requires the violator to “undertake a \$5 million [SEP] to reduce diesel emissions in the communities surrounding its” refinery, with “[a] citizens’ advisory group in each community . . . help[ing to] identify the projects.”²⁷¹

Thus, by building community power and leveraging integrative lawyering, people and organizations in locations hard hit by climate disasters could be equipped to participate in enforcement actions against emitters of fossil fuels.²⁷² They would engage with the government enforcer and in some cases the defendant too—sharing information about various climate-linked impacts described in Part II—to select targeted SEP or mitigation options that would be responsive to climate threats to the right to have children, not have children, and raise children in healthy communities.

For example, SEPs that fund the hardening of critical infrastructure like hospitals or require provision of mobile medical care units would mitigate the risk of obstetric and other medical care becoming inaccessible during climate disasters. Additionally, SEPs that mandate greenhouse gas emitting violators—such as plants in Texas emitting methane—pay for climate resilience planners to hire experts to design safer evacuation and shelter options for women and children could reduce threats to autonomy over pregnancy and childrearing

269. Environmental Justice Enforcement Strategy Memo, *supra* note 260, at 6–7.

270. *See, e.g.*, Colangelo, *supra* note 255, at 356–60 (discussing the necessity but also the challenges of community engagement in government enforcement matters). *See generally* Melissa A. Hoffer, *Closing the Door on Private Enforcement of Title VI and EPA’s Discriminatory Effects Regulations: Strategies for Environmental Justice Stakeholders After Sandoval and Gonzaga*, 38 NEW ENG. L. REV. 971, 1000–02 (2004) (describing the benefits of public participation in environmental decision-making).

271. U.S. DEP’T OF JUST. ENV’T & NAT. RES. DIV., COMPREHENSIVE ENVIRONMENTAL JUSTICE ENFORCEMENT STRATEGY ANNUAL REPORT 13 (2023), <https://www.justice.gov/d9/2023-10/comprehensive-environmental-justice-enforcement-strategy-annual-report.pdf> [<https://perma.cc/F9MC-HZXX>].

272. Some scholar practitioners like Patrice Simms refer to these types of community derived projects as “SEP community empowerment partnerships.” *See* Patrice L. Simms, *Leveraging Supplemental Environmental Projects: Toward an Integrated Strategy for Empowering Environmental Justice Communities*, 47 ENV’T L. REP. 10511, 10526–27 (2017) (proposing a framework and funding structure to “(1) help to identify ongoing or anticipated environmental enforcement cases in which communities might participate; (2) identify and engage potentially affected stakeholder communities through regional partnerships; (3) provide or facilitate technical assistance to community organizations in the formulation of SEP proposals; and (4) assist with engagement and advocacy as appropriate (and as consistent with the community’s desires) in connection with specific environmental enforcement proceedings or initiatives”).

during storms.²⁷³ Many types of projects that would address environmental and reproductive justice harms from climate change could arguably fall under what EPA categorizes as “public health,” “environmental restoration and protection,” or “emergency planning and preparedness” SEPs.²⁷⁴

Although state enforcement analogs to SEPs (sometimes called “Environmental Benefit Projects”) exist across the country,²⁷⁵ state enforcement policies, guidance, or regulations differ on community participation. In some states, such as Montana and California, the enforcement guidance promotes or requires community consultation in developing an SEP, whereas it does not in others, including New York.²⁷⁶ Where community consultation is mandated or encouraged, the type of organizational capacity building and community empowerment discussed previously will be critical to effective participation. And states without mandatory community input for SEP development should become the focus of mutual environmental and reproductive justice advocacy to amend enforcement guidelines or regulations.

Employing participation strategies to shape environmental enforcement remedies is not without its challenges. I have detailed the time, resources, and effort it takes across the spectrum of participants in the enforcement process to execute community engagement strategies.²⁷⁷ Further, for many communities of

273. See, e.g., Michael Espiritu, Uday Pati, Hannaise Cruz, Arpit Gupta, Heideh Matterson, Yang Kim, Martha Caprio & Pradeep Mally, *Evacuation of a Neonatal Intensive Care Unit in a Disaster: Lessons from Hurricane Sandy*, 134 PEDIATRICS e1662, e1666–68 (2014); Redlener & Reilly, *supra* note 131, at 2270–71; see also Leyser-Whalen et al., *supra* note 29 at 1118; North, *supra* note 126.

274. U.S. ENV’T PROT. AGENCY, *supra* note 264, at 12, 13, 16 (“Public health projects include those that provide diagnostic, preventative and/or health care treatment related to the actual or potential harm to human health caused by the violation. This includes, but is not limited to, epidemiological data collection and analysis, medical examinations of potentially affected persons, collection and analysis of blood/fluid/tissue samples, medical treatment and rehabilitation therapy. Examples of public health SEPs include blood lead level testing, asthma screening and treatment and mobile health clinics. Public health SEPs may also include projects such as mosquito eradication programs or donation of antimicrobial products to assist in natural disaster situations.”).

275. See, e.g., PUB. LAW RSCH. INST. & AM. BAR ASS’N SEC. OF INDIVIDUAL RTS. & RESPS., SUPPLEMENTAL ENVIRONMENTAL PROJECTS: A FIFTY STATE SURVEY WITH MODEL PRACTICES 13 (Steven Bonorris ed., 2007), <https://www.hklaw.com/-/media/files/insights/publications/2007/03/state-settlement-policies-offer-flexibility-and-po/48292.pdf> [<https://perma.cc/RH4W-25YM>] (listing thirty-two states with SEP “legislation, executive agency regulation or guidelines” as of 2007).

276. See MONT. DEP’T OF ENV’T QUALITY, ENFORCEMENT PROGRAM: SUPPLEMENTAL ENVIRONMENTAL PROJECTS POLICY 11 (2017) https://deq.mt.gov/files/DEQAdmin/ENF/Documents/SEP_Policy_Final.pdf [<https://perma.cc/8C7D-4E6S>] (“Although the Department will not seek public review of SEP proposals, proposed projects that perform well on this factor will have been developed taking into consideration input received from the affected community. No credit should be given for this factor if the defendant/violator did not actively participate in soliciting and incorporating public input.”); *Supplemental Environmental Project Guidance*, CAL. ENV’T PROT. AGENCY (2018), https://calepa.ca.gov/wp-content/uploads/sites/6/2018/06/CalEPA_SEP_Guidance-June-2018.pdf [<https://perma.cc/U3CV-KCM2>]; CP-37 / *Environmental Benefit Projects (EBP) Policy*, N.Y. STATE DEP’T OF ENV’T CONSERVATION, <https://www.dec.ny.gov/regulations/64596.html> [<https://perma.cc/9WLX-M4XQ>].

277. See Colangelo, *supra* note 255, at 356–61 (urging more significant involvement of communities in government enforcement matters and providing public engagement strategies).

color there is a deeply rooted mistrust toward local, state, and federal governments based on historical exploitation.²⁷⁸ In other communities experiencing environmental and reproductive climate-related injustices, physical access and communication present significant obstacles to robust collaboration. For example, at the forefront of climate-induced displacement, Native Alaskan Villages are extremely remote²⁷⁹ and Indigenous Peoples throughout the country lag behind their White counterparts in internet access.²⁸⁰ Finally, participation in the settlement process without party status cannot guarantee a community or organization that their input will be embodied in the final agreement. Still, participation in these processes, especially at the state level, can provide opportunities for engagement on remedial action even through future administration changes.

3. Pursuing Climate-Related Funding to Mitigate Intersectional Harms

Another advocacy strategy to address multiple intersectional harms examined in Part II is organizing around streamlined processes to apply and access funding for climate-related projects. This sub-Section addresses conventional funding options and then describes the novel opportunities in the Bipartisan Infrastructure Law and the Inflation Reduction Act.

For decades, financial and administrative barriers have prevented communities from accessing the funds they need for climate-change-necessitated restoration. Federal and state programs often require cost sharing, where the recipient pays for part of the project, which most communities cannot afford. In addition, the complexity of hazard mitigation grant programs and the necessity for technical assistance preclude many disadvantaged communities from successfully applying.²⁸¹ The funds may also be out of reach due to agency

278. See e.g., Darcell P. Scharff, Katherine J. Mathews, Pamela Jackson, Jonathan Hoffsummer, Emeobong Martin & Dorothy Edwards, *More than Tuskegee: Understanding Mistrust About Research Participation*, 21 J. HEALTH CARE FOR POOR & UNDERSERVED 879, 879, 885–86 (2010) (summarizing results of focus groups that reveal widespread mistrust of the federal government among Black communities).

279. E.g., Robin Bronen, *Climate-Induced Community Relocations: Using Integrated Social-Ecological Assessments to Foster Adaptation and Resilience*, ECOLOGY & SOC'Y (2015), <https://ecologyandsociety.org/vol20/iss3/art36/> [<https://perma.cc/Y9LZ-B4EB>] (discussing Quinhagak, Alaska as being “only accessible by air or water” and “home to approximately 700 primarily Yup'ik Eskimo residents whose . . . critical community infrastructure,” including a health clinic, was in danger of imminent failure due to climate change induced “[e]rosion, river flooding, coastal storm surge, and thawing permafrost”).

280. See Maria Curi, *Native Americans Long 'Left Out' from Broadband Push for Equity*, BLOOMBERG GOV. (Oct. 25, 2022), <https://about.bgov.com/news/native-americans-long-left-out-from-broadband-push-for-equity/> [<https://perma.cc/T23P-B6SU>] (quantifying gaps in broadband access and speed, as well as noting historical reasons for disparity).

281. See e.g., Aleksandra “Sasha” George Ruiz, *A Call from Communities to Remove Barriers to Access EPA's EJ Grants*, STATE ENERGY & ENV'T IMPACT CTR. (Apr. 27, 2023), <https://stateimpactcenter.org/insights/a-call-from-communities-to-remove-barriers-to-access-epas-ej-grants> [<https://perma.cc/CFK8-EQNA>] (addressing the burden of cost sharing and need for technical assistance for communities); DIANE P. HORN, CONG. RSCH. SERV., R46989, FEMA HAZARD

standards that disadvantage under-resourced communities. For example, eligibility for U.S. Army Corps of Engineers (the Corps) assistance requires that a projects' benefits outweigh its costs.²⁸² The Corps operates flooding and erosion response programs and funds associated infrastructure projects.²⁸³ Congress authorized the Corps to fund "cost-shared projects" through their Continuing Authorities Programs.²⁸⁴ This is a primary federal assistance program for erosion and flooding damage prevention and response.²⁸⁵ But, for certain remote or under-resourced communities of color, climate-related disaster remediation seldom meets the Corps' cost-benefit analysis.²⁸⁶ Low property values and the "high cost of construction" in remote communities can preclude a projects' qualification for these funds where residents need them most.²⁸⁷ Beyond demonstrating that a project could satisfy cost-benefit requirements, communities seeking assistance would also need to cover "between 25 to 50 percent of project planning and construction costs," which could nullify the availability of this funding for many under-resourced communities.²⁸⁸ To amend these regulations, reproductive and environmental justice organizations and communities, using an integrative lawyering approach, could target the Corps' funding protocol through a petition for rulemaking under the Administrative Procedure Act.²⁸⁹

The diversity and complexity of government funding introduces an additional complication by placing the burden of locating applicable funding sources on affected populations. Applicants must contend with multi-agency programs to receive financial and logistical support.²⁹⁰ Yet, communities and

MITIGATION: A FIRST STEP TOWARDS CLIMATE ADAPTATION 26 (2022), <https://crsreports.congress.gov/product/pdf/R/R46989> [<https://perma.cc/DMT7-8TAG>].

282. U.S. GOV'T ACCOUNTABILITY OFF., GAO-04-142, ALASKA NATIVE VILLAGES: MOST ARE AFFECTED BY FLOODING AND EROSION, BUT FEW QUALIFY FOR FEDERAL ASSISTANCE 3 (2003) [hereinafter GAO 2003] (observing that this requirement results in denials of assistance to many communities on the frontlines of forced climate displacement because "with few exceptions, ... project costs usually outweigh expected benefits" and "[e]ven villages that meet the Corps' cost/benefit criteria may still fail to qualify if they cannot meet cost-share requirements for the project").

283. *Id.* at 12, 19–20.

284. ANNA E. NORMAND, CONG. RSCH. SERV., IF11106, ARMY CORPS OF ENGINEERS: CONTINUING AUTHORITIES PROGRAMS (2023), <https://crsreports.congress.gov/product/pdf/IF/IF11106> [<https://perma.cc/22YT-TCQK>].

285. GAO 2003, *supra* note 282, at 19–20.

286. *Id.* at 22; *see also* OFF. OF THE DEPUTY SEC'Y OF THE ARMY, U.S. ARMY, COST BENEFIT ANALYSIS GUIDE 47 (2018), <https://www.asafm.army.mil/Portals/72/Documents/Offices/CE/US%20Army%20Cost%20Benefit%20Analysis.pdf> [<https://perma.cc/8XPF-954S>] (defining a narrow list of quantifiable benefits that focuses on cost-reduction).

287. GAO 2003, *supra* note 282, at 22.

288. *Id.* at 23, 44 (noting the cost sharing requirements and the hardship they present for communities seeking assistance from the Corps' program).

289. *See* 5 U.S.C. § 553(e).

290. *See, e.g.*, Press Release, FEMA Awards \$6.7 Million for Native Village of Newtok Relocation Efforts (Mar. 20, 2024), <https://www.fema.gov/press-release/20240320/fema-awards-67-million-native-village-newtok-relocation-efforts> [<https://perma.cc/S87W-QTD9>] (outlining the sources of funding for relocation received by the Newtok Native Village from FEMA, the Department of the

many environmental or reproductive justice organizations likely lack experience with this fragmented funding system. Or they may lack the resources and time to methodically wade through this quagmire, thereby missing funding opportunities. For instance, while FEMA provides significant disaster relief and response assistance, it is difficult for communities to access. To receive funding from FEMA's Hazard Mitigation Grant Program, which funds mitigation measures after a recent disaster, states, federally recognized Tribes, and local governments must develop and adopt "hazard mitigation plans,"²⁹¹ which are complex and time-intensive to generate.²⁹² Competition for the grants serve as an additional barrier. A recent example is the Building Resilient Infrastructure and Communities Grant Program that FEMA began implementing in fiscal year 2020, authorized by the Disaster Recovery Reform Act of 2018.²⁹³ In 2021, FEMA approved a total of \$814.96 million in funding for eighty-seven grantees across the country, but just \$1.135 million for only five grantees in Louisiana.²⁹⁴

Interior, and the Denali Commission). The Denali Commission is an independent federal agency that funds Alaskan infrastructure projects and focuses on remote communities, including Alaska Native villages (ANVs). GAO 2003, *supra* note 282, at 12, 47. President Obama tasked the Commission with aiding ANVs with climate change adaptation strategies, yet did not provide funding. The Commission ultimately financed "relocation coordinators" for ANVs at risk of climate forced displacement. Elizaveta Barrett Ristroph, *Navigating Climate Change Adaptation Assistance for Communities: A Case Study of Newtok Village, Alaska*, 11 J. ENV'T STUD. & SCIS. 329, 332–33 (2021).

291. *Hazard Mitigation Grant Program (HMGP)*, FED. EMERGENCY MGMT. AGENCY (Nov. 2, 2023), <https://www.fema.gov/grants/mitigation/hazard-mitigation> [<https://perma.cc/VEY2-J4SY>]. Individuals seeking disaster assistance face equally daunting and opaque systems of recovery assistance. A recent GAO report noted that "over 30 federal entities [are] involved in disaster recovery." U.S. GOV'T ACCOUNTABILITY OFF., GAO-23-106544 DISASTER ASSISTANCE: ACTION NEEDED TO IMPROVE RESILIENCE, RESPONSE, AND RECOVERY 2 (2023), <https://www.gao.gov/assets/820/818199.pdf> [<https://perma.cc/2UE2-GMJS>]. I am grateful to my clinical student attorneys Elizabeth Goldstein, Jack Schnettler, and Emma Schwartz as well as Clinical Fellow Lindsay Bailey for raising many of these issues in and informing this analysis.

292. U.S. GOV'T ACCOUNTABILITY OFF., GAO-21-140, DISASTER RESILIENCE: FEMA SHOULD TAKE ADDITIONAL STEPS TO STREAMLINE HAZARD MITIGATION GRANTS AND ASSESS PROGRAM EFFECTS 21 (2021).

293. DIANE P. HORN, CONG. RSCH. SERV., IN11515, FEMA PRE-DISASTER MITIGATION: THE BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC) PROGRAM 1 (2023), <https://crsreports.congress.gov/product/pdf/IN/IN11515> [<https://perma.cc/JFC5-S4UH>]. FEMA receives hundreds of applicants for this funding. In fiscal year 2022, FEMA "received 803 subapplications totaling more than \$4.6 billion from 55 states, territories, and the District of Columbia Through the National Competition, FEMA selected 124 competitive projects . . ." *Building Resilient Infrastructure and Communities Grant Program FY2022 Subapplication and Selection Status*, FED. EMERGENCY MGMT. AGENCY (Mar. 5, 2024), <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/after-apply/fy22-status#status> [<https://perma.cc/2F4Q-NBA9>]. However, many coastal Tribes at the center of forcible climate displacement are not federally recognized, so several funding programs exclude them. See *American Indians in Louisiana*, NAT'L PARK SERV. (Nov. 28, 2022), <https://www.nps.gov/jela/learn/historyculture/native-americans-in-louisiana.htm> [<https://perma.cc/NW6K-G9RA>]; Kezia Setyawan & Carly Berlin, *Without Federal Recognition, Coastal Tribes Struggle to Access FEMA Aid After Ida*, HOUMA TODAY (Nov. 23, 2021), <https://www.houmatoday.com/story/news/2021/11/23/without-federal-recognition-coastal-tribes-struggle-access-fema-aid-after-hurricane-ida/8719585002/> [<https://perma.cc/Y588-LJJ7>].

294. See *Building Resilient Infrastructure and Communities FY2021 Subapplication and Selection Status*, FED. EMERGENCY MGMT. AGENCY (Mar. 5, 2024), <https://www.fema.gov/grants/>

This indicates that funds are not reaching people at the most acute intersection of climate-driven environmental and reproductive injustices.

Lawyers, organizations, and academic institutions can offer value by assisting communities and small groups apply for federal and state funding for disaster relief. These groups could liaise with technical experts to draft hazard mitigation plans and navigate administrative processes regarding which grants to apply to and how. They could further engage in collective advocacy using the evidence offered herein seasoned with personal testimonials to underscore why a particular population's needs are so pressing.

Across the country, various legal institutions are mobilizing to help organizations and communities access funding from the Bipartisan Infrastructure Law²⁹⁵ and the Inflation Reduction Act.²⁹⁶ Together these laws create, among other ambitions, a framework of funding, along with incentives to increase resilience to climate change and de-escalate environmental disparities across several fronts.²⁹⁷ The Bipartisan Infrastructure Law gives EPA approximately \$60 billion over five years and the Inflation Reduction Act (IRA) more than \$40 billion.²⁹⁸ As relevant here, the sets of funding include various investments in public transit; transportation equity and hardening; and climate resilience for power, school, and infrastructure.²⁹⁹ Much of the funding is comprised of grants,

mitigation/building-resilient-infrastructure-communities/after-apply/fy-2021-subapplication-status#subapplications [https://perma.cc/7PV3-6EAP].

295. The law is formally titled the Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021) (codified as amended in scattered sections of the U.S.C.).

296. Pub. L. No. 117-169, 136 Stat. 1818 (2022).

297. See *Bipartisan Infrastructure Law*, U.S. SENATE COMM. ON ENV'T & PUB. WORKS, <https://www.epw.senate.gov/public/index.cfm/bipartisan-infrastructure-law> [https://perma.cc/TJSJ4-7DBF]; Press Release, The White House, The Bipartisan Infrastructure Law Advances Environmental Justice (Nov. 16, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/16/the-bipartisan-infrastructure-law-advances-environmental-justice/> [https://perma.cc/4L8P-8PJB].

298. See ENV'T PROTECTION AGENCY, BIPARTISAN INFRASTRUCTURE: LAW FUNDING OPPORTUNITIES (2023), <https://www.epa.gov/system/files/documents/2023-12/epa-bil-ira-program-overview-flyer.pdf> [https://perma.cc/33YS-QL57] (summarizing Congressional appropriations to EPA under each act and previewing funding opportunities); Press Release, U.S. Env't Prot. Agency, EPA Celebrates Two Years of Progress Under President Biden's Bipartisan Infrastructure Law (Nov. 15, 2023), <https://www.epa.gov/newsreleases/epa-celebrates-two-years-progress-under-president-bidens-bipartisan-infrastructure-law#:~:text=The%20Bipartisan%20Infrastructure%20Law%2C%20which,environmental%20cleanups%2C%20and%20clean%20air> [https://perma.cc/BU6C-SMLQ] (explaining that “[t]he Bipartisan Infrastructure Law . . . provides EPA with over \$60 billion . . . for a wide range of programs,” including \$50 billion for drinking water projects, \$5 billion to decarbonize the national school bus fleet, \$5 billion towards waste management, and \$100 million for the “Pollution Prevention Program”); Hannah Perls, *Breaking Down the Environmental Justice Provisions in the 2022 Inflation Reduction Act*, HARVARD L. SCH. ENV'T & ENERGY L. PROGRAM (Aug. 12, 2022), <https://eelp.law.harvard.edu/2022/08/ira-ej-provisions/> [https://perma.cc/U9LB-7SVE] (conveying expert estimates “that the IRA includes \$40 billion in direct benefits for communities with EJ concerns”).

299. See Press Release, The White House, FACT SHEET: Inflation Reduction Act Advances Environmental Justice (Aug. 17, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/08/17/fact-sheet-inflation-reduction-act-advances-environmental-justice/> [https://perma.cc/9S8V-YW4Y]; Press Release, The White House, *supra* note 298. As discussed in

such as the “Climate and Environmental Justice Block grants[, which] support community-led projects in disadvantaged communities and address disproportionate environmental and public health harms related to pollution and climate change,” including “boosting the resilience of Tribal and Native Hawaiian communities.”³⁰⁰

Several organizations have offered analyses³⁰¹ and critiques of the Bipartisan Infrastructure Law and the Inflation Reduction Act, opining on their potential to meet stated goals.³⁰² Although those debates are beyond the scope of this sub-Section, two aspects of the laws are considered here. First is the unprecedented expenditures related to issues at the intersection of environmental and reproductive justice. Second is the methodology government agencies are developing to render the funding options more accessible to less conventional applicants. Distribution methods aimed at facilitating transparency and prioritizing community-led initiatives offer critical progress from the historical funding pathways critiqued above, such as grants.

For example, EPA has advanced transparency around what types of grants are available, who is eligible to apply, deadlines, and the like. The Agency’s charts, extensive compilation of information in plain language, and outreach should enable significant improvements in organizational and community applications.³⁰³ Further, EPA, “in partnership with the U.S. Department of

II(A)(2), the resilience of transportation during climate emergencies facilitates access to time-critical obstetric medical care.

300. Press Release, The White House, *supra* note 299.

301. See, e.g., *Inflation Reduction Act (IRA) Summary: Energy and Climate Provisions*, BIPARTISAN POL’Y CTR. (Aug. 4, 2022), <https://bipartisanpolicy.org/blog/inflation-reduction-act-summary-energy-climate-provisions/> [<https://perma.cc/XNH9-B54W>]; *The Inflation Reduction Act’s Implications for Biden’s Climate and Environmental Justice Priorities*, HARV. L. SCH. ENV’T & ENERGY L. PROGRAM (Aug. 12, 2022), <https://eelp.law.harvard.edu/2022/08/ira-implications-for-climate-ej-priorities> [<https://perma.cc/6HBU-VV4E>].

302. For example, the Indigenous Environmental Network and the Black Hive – The Movement for Black Lives (M4BL) argue the Inflation Reduction Act on balance will not advance environmental and climate justice due to provisions they posit may incentivize investments in protracted use and development of fossil fuels. See *The Inflation Reduction Act of 2022 is NOT a Climate Bill*, INDIGENOUS ENV’T NETWORK, <https://www.ienearth.org/the-inflation-reduction-act-of-2022-is-not-a-climate-bill/> [<https://perma.cc/47E6-7R JL>]; *The Black Hive @ The Movement for Black Lives’ Statement on the Inflation Reduction Act (IRA)*, MOVEMENT FOR BLACK LIVES, <https://m4bl.org/statements/the-black-hive-the-movement-for-black-lives-statement-on-the-inflation-reduction-act-ira/> [<https://perma.cc/C4WQ-YLRQ>]; see also *Issue Brief: Estimating the Greenhouse Gas Impact of the Federal Infrastructure Investments in the IJA*, GEORGETOWN CLIMATE CTR. (Dec. 16, 2021), <https://www.georgetownclimate.org/articles/federal-infrastructure-investment-analysis.html> [<https://perma.cc/MR44-HDJS>] (“[The Bipartisan Infrastructure Law] could be an important part of the U.S. response to climate change. Or it could lead to more greenhouse gas pollution than the trajectory we are currently on. [The] outcome . . . will depend on the decisions made by state, federal, and local governments about how to spend the money made available by [the Bipartisan Infrastructure Law].”).

303. See *EPA Funding Announcements from the Bipartisan Infrastructure Law and the Inflation Reduction Act*, U.S. ENV’T PROT. AGENCY (Mar. 13, 2024), <https://www.epa.gov/invest/epa-funding-announcements-bipartisan-infrastructure-law-and-inflation-reduction-act> [<https://perma.cc/3MDQ-FFJA>].

Energy,” created 16 Environmental Justice Thriving Communities Technical Assistance Centers” (TCTACs).³⁰⁴ The TCTACs’ goal is to “remove barriers and improve accessibility for communities with environmental justice concerns.”³⁰⁵ “Each . . . will receive . . . at least \$10 million to[wards] . . . providing training and other assistance “to build capacity for navigating federal grant application systems, developing strong grant proposals, and effectively managing grant funding.”³⁰⁶ The TCTACs will also offer “guidance on community engagement, meeting facilitation, and translation and interpretation services for limited English-speaking participants.”³⁰⁷

These TCTACs could play a transformative part in the community empowerment goals discussed herein. By preparing communities and organizations for and assisting with grant identification and applications, TCTACs offer short-term gains and support for long-term education and capacity building.

D. Bracing for Judicial Barriers to Environmental and Reproductive Justice in the Climate Crisis

Looming over potential joint environmental and reproductive justice advocacy is a different threat multiplier, the Supreme Court. This Article intentionally intervenes at a separate point from scholars addressing the merits of *Dobbs*³⁰⁸ or *West Virginia v. Environmental Protection Agency*,³⁰⁹ for example. But it is necessarily influenced by recent opinions that retract rights and protections, and that repudiate congressionally delegated executive authority to regulate for human health and the environment. The following decisions’ cumulative effect will likely chill progressive federal action, influencing the contours of the proposals in this Article for inter-movement coordination.

In overruling *Roe v. Wade* and *Planned Parenthood of Southeastern Pennsylvania v. Casey*, the Court has forced both “strategy and mindset[s] to confront a new [reproductive rights] environment without a tether to federal constitutional protection.”³¹⁰ On the ground, Southern and Midwestern states

304. *The Environmental Justice Thriving Communities Technical Assistance Centers Program*, U.S. ENV’T PROT. AGENCY (Dec. 21, 2023), <https://www.epa.gov/environmentaljustice/environmental-justice-thriving-communities-technical-assistance-centers> [https://perma.cc/4C9F-Y429].

305. *Id.*

306. *Id.*

307. *Id.* For example, WE ACT will serve as the lead organization for the EPA Region 2 TCTAC. *WE ACT’s EPA Region 2 Thriving Communities Technical Assistance Center*, WE ACT FOR ENV’T JUST., <https://www.weact.org/tctac/> [https://perma.cc/2BZL-R6BB].

308. *Dobbs v. Jackson Women’s Health Org.*, 597 U.S. 215 (2022) (overruling *Roe v. Wade*, 410 U.S. 113 (1973) and *Planned Parenthood of Se. Pa. v. Casey*, 505 U.S. 833 (1992)).

309. 597 U.S. 697 (2022).

310. David S. Cohen, Greer Donley & Rachel Rebouche, *Rethinking Strategy After Dobbs*, 75 STAN. L. REV. ONLINE 1, 1 (2022). Of note, for many women, *Roe* and *Casey* did not guarantee access to abortion. Structural, financial, and transportation barriers discussed throughout this Article existed pre-*Dobbs* and continue to plague access to reproductive care. *See, e.g.*, NAT’L P’SHP FOR WOMEN &

banning abortion completely or starting at six weeks have experienced a swift closure of their remaining clinics: by one accounting, in the thirty days following *Dobbs*, forty-three of the seventy-one clinics across those eleven states shuttered.³¹¹ Accordingly, in the context of this Article, *Dobbs* is a conspicuous element of a larger, deeper array of structural and physical sources of reproductive oppression. In short, *Dobbs* and the escalating indicia of the climate crisis fuel the currents of urgency in this Article.

The Court’s approach to the “major questions doctrine” in *West Virginia v. EPA* will further hinder climate action and reproductive justice. In *West Virginia v. EPA*, issued the same week as *Dobbs*, the Court limited the EPA’s ability to regulate carbon dioxide emissions from power plants under the Clean Air Act by reaching out to strike down a specter Obama-era regulation the Biden EPA did not plan to revive.³¹² In practical effect, the decision limits the ways EPA can regulate carbon dioxide emissions from power plants. But the opinion also formally articulated the “major questions doctrine.”³¹³ According to the conservative supermajority of justices, in instances of what a court may deem “extraordinary” agency action, “[t]he agency . . . must point to ‘clear congressional authorization’ for the power it claims.”³¹⁴ The vague standard invites capacious anti-regulatory interpretation and amasses power to judges to decide what actions are “extraordinary.”³¹⁵ Examples abound wherein states and parties brandish the major questions doctrine to challenge action intersecting with climate and reproductive justice. Professor Lisa Heinzerling observes that “motivated parties have had little trouble characterizing agency decisions as

FAMS., BLACK WOMEN EXPERIENCE PERVASIVE DISPARITIES IN ACCESS TO HEALTH INSURANCE (2019), <https://nationalpartnership.org/wp-content/uploads/2023/02/black-womens-health-insurance-coverage.pdf> [<https://perma.cc/ZR2S-5PQY>] (documenting disparities in health insurance coverage for Black women).

311. See, e.g., Michelle Kirstein, Rachel K. Jones & Jesse Philbin, *One Month Post-Roe: At Least 43 Abortion Clinics Across 11 States Have Stopped Offering Abortion Care*, GUTTMACHER INST. (July 28, 2022), <https://www.guttmacher.org/article/2022/07/one-month-post-roe-least-43-abortion-clinics-across-11-states-have-stopped-offering> [<https://perma.cc/28J6-YJNT>]; see also Geoff Mulvihill, Kimberlee Kruesi & Claire Savage, *A Year After Fall of Roe, 25 Million Women Live in States with Abortion Bans or Tighter Restrictions*, AP NEWS (June 21, 2023), <https://apnews.com/article/abortion-dobbs-anniversary-state-laws-51c2a83899f133556e715342abfcface> [<https://perma.cc/Q4GY-N4EU>] (detailing the landscape on access to abortion one year post-*Dobbs*).

312. *West Virginia*, 597 U.S. at 699, 700–01.

313. *Id.* at 700; see also Nat’l Fed’n of Indep. Bus. v. Dep’t of Lab., Occupational Safety & Health Admin., 595 U.S. 109, 117 (2022) (per curiam) (quoting *Alabama Ass’n of Realtors v. Dep’t of Health & Hum. Servs.*, 141 S. Ct. 2485, 2489 (2021) (per curiam)) (“We expect Congress to speak clearly when authorizing an agency to exercise powers of vast economic and political significance.”).

314. See 597 U.S. at 702, 723.

315. See Lisa Heinzerling, *How Government Ends*, BOSTON REV. (Sept. 28, 2022), <https://www.bostonreview.net/articles/how-government-ends/> [<https://perma.cc/4QBJ-KPKZ>] (describing the Court’s “roll[] out” of the major questions doctrine over three cases and why the doctrine limits both agency and Congressional power and noting “it would be historically obtuse not to conclude that the new conservative legal radicalism will tend to cut *against* ambitious regulatory action—and *toward* ever greater power for the unelected justices on the Supreme Court”).

‘major’—and thus illegitimate” in numerous lawsuits, including matters related to climate change and gender identity-based discrimination.³¹⁶

In May 2023, the Supreme Court also reinterpreted the scope of federal Clean Water Act jurisdiction over wetlands, eliminating longstanding water quality protections and jettisoning decades of administrative practice. In *Sackett v. Environmental Protection Agency*, the Court vitiated federal protection by reimagining the definitional bounds of wetlands “adjacent” to traditionally covered waters.³¹⁷ In his majority opinion, Justice Alito essentially transmuted “adjacent” to a narrower descriptor, “adjoining”—a reinterpretation untethered from the text, structure, and purpose of the Act, and flouting the conservative justices’ interpretive canons.³¹⁸

Here, *Sackett* landed a one-two punch. First, the holding excluded from Clean Water Act jurisdiction millions of wetland acres that offer vital safeguards for flood-prone areas.³¹⁹ Under-resourced communities and communities of color remain disproportionately concentrated in those areas.³²⁰ Simultaneously, climate change is *increasing* the risk of flooding,³²¹ which may necessitate family relocation and heighten the risk of displacement from time-sensitive obstetric services, among other threats to reproductive justice.³²²

Second, the Court’s methodology advanced its deregulatory cannons of construction. Now federal actions potentially enlarging “the power of the government over private property” must be justified by “exceedingly clear language” from Congress.³²³ What will satisfy this “exceedingly clear” bar remains to be seen. The threshold is presumably quite high.³²⁴ Because

316. *Id.*

317. *See* 598 U.S. 651, 676–79 (2023). Protected wetlands are now only those with “a continuous surface connection” to a navigable body of water with “no clear demarcation” between the two. *See id.* at 678–79 (2023). 33 U.S.C. §§ 1311(a), 1362(12), 1342, 1344, 1362(7). For a detailed description of the jurisdictional reach of the Clean Water Act before and after *Sackett* see Richard J. Lazarus, *Judicial Destruction of the Clean Water Act: Sackett v. EPA*, 2023 U. CHI. L. REV. ONLINE **1, 3–7 (2023) (concluding that “[t]he environmental impact of [the *Sackett*] reduction in geographic jurisdiction is massive”).

318. *See Sackett*, 598 U.S. at 716 (Kavanaugh, J., concurring in the judgment) (opining that Justice Alito’s reinterpretation “departs from the statutory text, from 45 years of consistent agency practice, and from th[e] Court’s precedents”).

319. The continental United States has “approximately 75.5 million acres” of wetlands. Off. For Coastal Mgmt., *Land Cover Change*, NAT’L OCEANIC ATMOSPHERIC ADMIN., <https://coast.noaa.gov/states/fast-facts/land-cover-change.html> [<https://perma.cc/F6CD-MYXU>]. Most estimates place the likely loss of protection under the *Sackett* opinion at millions to tens of millions of acres. *See, e.g., Wetlands Most in Danger After the U.S. Supreme Court’s Sackett v. EPA Ruling*, EARTHJUSTICE (June 21, 2023), <https://earthjustice.org/feature/sackett-epa-wetlands-supreme-court-map> [<https://perma.cc/T9WB-KRLR>].

320. *See supra* Part I.D.

321. *Climate Change Increases Risk of Flooding*, NAT’L FLOOD INS. PROGRAM, <https://www.floodsmart.gov/climate-change> [<https://perma.cc/VF4H-GF5W>].

322. *See supra* Part II.A.2.

323. *Sackett*, 598 U.S. at 679.

324. *See* William Buzbee, *The Supreme Court’s Sackett v. EPA Bender*, CTR. FOR PROGRESSIVE REFORM (May 25, 2023), <https://progressivereform.org/cpr-blog/the-supreme-courts-sackett-v-epa->

environmental regulations can affect private property, progressive federal action on water or air resources, or climate change, may be stifled.

Finally, the Supreme Court recently deemed race-conscious admissions in higher education unconstitutional in *Students for Fair Admissions, Inc. v. President and Fellows of Harvard College* and its companion case against the University of North Carolina.³²⁵ The decision has the potential to raise several barriers to advancing environmental and reproductive justice. First, it presents an invitation to those eager to challenge government actions aimed at ameliorating racial disparities concerning pollution burdens and climate impacts, among others. Second, the decision may impede the call within this Article for the elevation of diverse women to leadership roles in environmental and energy spheres because of the foundational role education plays in that charge. The University of Michigan's amicus brief in *Students for Fair Admission* contextualizes this concern: following Michigan's 2006 prohibition on considering race in admissions, the University experienced a 44 percent drop in enrollment of students identifying as Black and a 99 percent drop for students with Indigenous heritage.³²⁶

Further, it remains to be seen how the decision might disrupt the emerging focus on environmental justice and Black maternal health, including race- and gender-conscious programs across governments and agencies. The decision's implications may unsettle approaches accounting for racial data in decision-making, such as the allocation of environmental burdens and benefits, facility permitting, and the like.³²⁷ What is certain is that it will force decisions steeped in racial dynamics to be "unmoored from critical real-life circumstances," as Justice Jackson lamented in dissent.³²⁸ And it may prevent policymakers in the

bender/ [https://perma.cc/SHT9-FUVH] (discussing loss of wetland protection and function, offering a comprehensive critique of the Court's "anti-regulatory, anti-federal interpretive presumptions," and identifying a host of implementation questions).

325. See *Students for Fair Admissions, Inc. v. President & Fellows of Harvard Coll.*, 600 U.S. 181, 230–31 (2023).

326. Brief for the University of Michigan as *Amicus Curiae* in Support of Respondents, *Students for Fair Admissions, Inc. v. President & Fellows of Harvard Coll.* at 3, 6, 600 U.S. 681 (2023) (No. 20-1199), https://record.umich.edu/wp-content/uploads/2022/08/220804_AmicusBrief.pdf [https://perma.cc/2QDG-AWLY].

327. For example, Massachusetts's Environmental Justice Policy contains race-based considerations regarding permitting decisions. MASS. EXEC. OFF. OF ENERGY & ENV'T AFFS., ENVIRONMENTAL JUSTICE POLICY OF THE EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 6, 13 (2021), <https://www.mass.gov/doc/environmental-justice-policy6242021-update/download> [https://perma.cc/Y2N4-5559]. Massachusetts' Executive Office of Energy and Environmental Affairs also released a draft environmental justice strategy factoring race into environmental justice. See EXEC. OFF. OF ENERGY & ENV'T AFFS., ENVIRONMENTAL JUSTICE STRATEGY 51 (2022), <https://www.mass.gov/doc/eea-environmental-justice-strategy-english/download> [https://perma.cc/2YMY-THG6] ("Environmental justice has been recently defined in Massachusetts law in Chapter 8, Section 56, of the Acts of 2021. In this law, environmental justice populations are defined as neighborhoods meeting one or more or a [sic] combination of census criteria based on income, race, and English language proficiency.").

328. See *Students for Fair Admissions, Inc.*, 600 U.S. at 410 (2023) (Jackson, J., dissenting).

environmental or health arenas from naming race for what it is—the single most influential factor on a person’s cumulative pollution exposure and predictor of reproductive oppression.³²⁹

These decisions, coupled with the potential for a presidential administration change, portend federal retrenchment. They underscore the importance of ground-up, community-empowered strategies to fuel continued progress at the local and state levels to serve as a bulwark against a tide of intersecting injustices and its incessant rise.

CONCLUSION

Mohawk midwife and women’s health advocate Katsi Cook has described environmental and reproductive justice as “intersect[ing] at the nexus of woman’s blood and voice . . . at the very center of woman’s role in the processes and patterns of continuous creation.”³³⁰ Cook’s words—blood and voice—suggest both the corporeal and communicative: how a body, and what some might diminish as merely a vessel, interacts with the physical world and a metaphysical set of laws designed to constrain or support its role in communities and families.

This Article builds upon the invocation of Cook and others that people should be unrestricted by reproductive and environmental injustices and their compounding effects. Climate change increasingly exacerbates disparities and injustices undermining women’s ability to control not only their bodies but their communities and the generations to follow. It threatens key elements of reproductive justice, including the right to reproductive self-governance, equitable prenatal care and outcomes, and the ability to raise children in healthy, sustainable communities.

Nowhere is this felt more acutely than in the lives of women of color in under-resourced communities. Yet contending with the environmental and reproductive justice nexus from single-discipline perspectives will secure only “partial victories”³³¹ and miss opportunities for systemic change. Put simply, legal and policy solutions to intersectional harms require collaborative approaches. This Article suggests that a sustained focus on the intersection of environmental and reproductive justice can create a constellation of strategies that collectively advance health and dignity in the face of a destabilizing climate and warming world.

329. See *supra* Sections I–II.

330. Katsi Cook, *Environmental Justice: Woman Is the First Environment*, in REPRODUCTIVE JUSTICE BRIEFING BROOK: A PRIMER ON REPRODUCTIVE JUSTICE AND SOCIAL CHANGE 62, 62.

331. Bridges, *supra* note 33, at 369.