

Climate Dominance

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I. INTRODUCTION

Climate change will define the spaces and the places we inhabit. It will influence systems of belief and principles of community. Climate change is our present and it is our future.¹ It will change our lives, sometimes slowly and sometimes in sudden, dramatic fashion. Climate change will ripple across the topography of human existence, revealing a vast diversity of cultural, economic, and geographical landscapes. These infinitely varied landscapes shape the risks and opportunities climate change will pose to different communities, how those risks will be experienced, and what tools (geographical, cultural, socioeconomic) will be available to respond to the changes.

This article is built upon the truism that although climate change will in some way affect everyone everywhere, we will not experience climate change in a uniform way. In the Northeastern United States, heat waves, heavy rains, and sea level rise will threaten the stability of infrastructure, agriculture, fisheries, and ecosystems.² The Midwest will similarly experience heavy downpours, but this will be coupled with extreme heat and inland flooding that will not only affect infrastructure and agriculture, but also human health, transportation, and air and water quality, including in the Great Lakes.³ Meanwhile, in the Northwest, changes in the timing of streamflow will lead to reduced water supplies and sea level rise, and communities will face erosion, inundation, wildfire, insect outbreaks, and widespread tree-die off.⁴

Even at a sub-regional level, there will be no uniform experience of climate change. Individual communities will face variable risks at different times and in different ways. Of course, there will be some commonalities. Coastal communities across the country, for instance, may face common challenges such as sea level rise, storm surge, erosion, flooding, and climate gentrification. However, massive variability in topography, population, culture, and socioeconomic systems will render these seemingly shared challenges highly disparate across different coastal communities. And while rural communities from the Southeast to the Midwest and the Great Plains may share a high level of dependency on climate-vulnerable natural resources, that commonality is superficial, given that natural

1. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2022: THE PHYSICAL SCIENCE BASIS, HEADLINE STATEMENTS FROM THE SUMMARY FOR POLICYMAKERS 1 (2022), <https://perma.cc/9U9K-735L> (“[i]t is unequivocal that human influence has warmed the atmosphere, ocean and land” and that human-induced climate change is “affecting many weather and climate extremes in every region across the globe” bringing about “changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones.”).

2. U.S. GLOB. CHANGE RESEARCH PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT: VOLUME II: IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, SUMMARY FINDINGS 28-31(2018), <https://perma.cc/P8WG-KZKV>.

3. *Id.* at 25-27, 29.

4. *See Id.* at 26-27.

resources, climate hazards, community norms, socioeconomic capacity, and management experience will vary, often tremendously.

Understanding the importance of difference in the climate change context means dismantling dominant paradigms that effectively silence or otherwise undervalue the histories and priorities of other people, places, and times. It means undermining the circular claims that a dominant perspective – not dominant because it is more accurate, but deemed more accurate because it is dominant – has an objective justification. It means recognizing that different perspectives – ones regarding economics, justice, race, class, gender, sexuality, or environment – are not less important simply because they are different but, in fact, might be consequential to the extent that they are appropriate in context. Ultimately, it means considering the benefits of undermining dominance as a means to facilitating climate adaptation.

Drawing inspiration from the work of Catharine MacKinnon and other critical feminist theorists, we employ the term dominance to examine how hierarchies of power construct “social reality and social perception” which, in turn “produces categorical distinctions, differences.”⁵ Difference is a climate change reality and dominance is pervasive. Efforts to identify the contexts in which dominance influences advantage and disadvantage are critical to understanding how our climate adaptation policies will create or maintain inequitable circumstances. A dominance analysis reveals inequities that pervade a system of law and economics, with express acknowledgment of privilege and unfair advantage that comes from history and location. We undermine dominance by advancing equitable access to opportunity and advantage. A critical approach to climate dominance thus allows us to lift difference to illustrate how climate-relevant differences manifest and matter. It allows us to understand the role that law can play in exposing and dismantling difference and dominance in order to facilitate more equitable systems of climate adaptation.

In this article, we examine the ways that differences are often instinctively cast as competitive, rather than as collaborative. We explore these differences through three related but distinct lenses: space, which illustrates the ways that location may determine one’s needs and advantages; place, which recognizes that the

5. CATHARINE A. MACKINNON, *Difference and Dominance: On Sex Discrimination, in FEMINISM UNMODIFIED (PIN)* (1987). For MacKinnon’s other works on dominance, see, e.g., CATHARINE A. MACKINNON, *Sexual Harassment of Working Women* 1-7 (1979); Catharine A. MacKinnon, *Reflections on Sex Equality Under Law*, 100 YALE L.J. 1281, 1281-1328 (1991). See also Marc Spindelman, *Gay Men and Sex Equality*, 46 TULSA L. REV. 123, 139-40 (2010) (exploring male social dominance and sexual privilege in the context of sexual orientation equality); Kimberlé Crenshaw, *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics*, 1 UNIV. CHI. LEGAL F. 139, 140 (1989) (critiquing how dominant structures within antidiscrimination theory fail to consider intersectionality, leading to a form of dominance where the focus is on “the most privileged group members,” which “marginalizes those who are multiply-burdened and obscures claims that cannot be understood as resulting from discrete sources of discrimination.”).

historical development of a community, together with a shared sense of place, brings with it a certain dependency on beliefs, predispositions, and prejudices; and time, through which we acknowledge that present actions have a real and measurable impact on future generations, particularly when we limit our priorities to values that serve our present needs.

Embracing the goal of bringing a climate dominance perspective to bear in legal thinking and scholarship, this paper proceeds in four parts. Parts II-IV takes up, in turn, each of the three related but distinct lenses of space, place, and time to expose climate dominance in context. Part II briefly explores notions of spatial dominance primarily as a backdrop for exploring how dominance manifests across our legal and political systems in ways that shape how we experience and respond to climate change. Here, we show the ways spatial dominance influences how we manage resources, value land, and create spaces of racial dominance. Part III then turns to the lens of place to explore how different beliefs, predispositions, and prejudices shape how we experience climate-related changes and how dominant ideas of place can crowd out other perspectives. We use climate migration as a tool to explore how notions of place will shape how different communities experience climate change. Part IV then turns to time. In this part, we examine how time dominance involves capturing the meaning of time to control how moments are valued and, thus, to dictate what matters in the past and future. In the context of climate change, time dominance results in decision-making that is dominated by values and expectations that have meaning in the present but will almost certainly lose their meaning in the future. That is, despite everything we know about the time horizon of climate change and the risks it will pose in the future, time dominance limits our ability to process and respond to these non-present considerations. Together, Parts II-IV demonstrate how climate dominance prevents us from seeing difference, engaging complexity, and deconstructing the idea of “intractable” problems in different contexts. Part V concludes by reiterating the urgent need to bring a critical dominance perspective to bear in our climate decision-making frameworks. Only by surfacing existing systems of dominance can we find equitable and effective pathways forward in a world wherein climate change is our present reality and our inevitable future.

II. LENS OF SPACE

As climate change alters our landscapes, it reshapes the spaces within which we live, work, and exist. The changes are big, and they are small. Globally, the tropics and the Sahara are expanding⁶ and we are increasingly pushing against our planetary boundaries.⁷ In the United States, flood zones fluctuate, the 100th

6. See Paul W. Staten et al., *Re-Examining Tropical Expansion*, 8 NATURE CLIMATE CHANGE 768 (2018), <https://perma.cc/HZF7-A7HE>.

7. See Johan Rockström et al., *A Safe Operating Space for Humanity*, 461 NATURE 472, 472 (2009).

Meridian line shifts east, and plant hardiness zones push farther north.⁸ The changes impact our spaces from the planetary scale right down to the soil beneath our feet. As our physical spaces shift so too does our sense of place, stability, and identity. As our landscapes change, we are forced to rethink who we are, where we belong, what we are capable of absorbing, and what we want to change.⁹

Critiquing climate dominance helps us do this work. Climate dominance, through the lens of space, allows us to see patterns of spacial dominance. It enables us to explore the contours of our geographic and temporal spaces and to explore both how climate change is altering the topography of our existence, and how it is creating opportunities to surface and disrupt persistent patterns of space-based power. Of course, there are many ways to exert control over space. Employing a lens of space reveals how topography and geography intersect with cultural differences to shape how and by whom spaces are controlled, who they are available to, and how they shape individual and community risk in a climate-changed world. It allows us to see how power can be relational to space and to detect and surface different forms of dominion over space (e.g., white spaces,¹⁰ redlining,¹¹ zoning,¹² control of ecosystem services,¹³ and property rights¹⁴). Moreover, applying a critical dominance framework to space allows us to interrogate and unravel existing hierarchies predicated on power and competition.

It is easy to fall into a trap when looking at geographical difference to think about various space-based differences in a hierarchical way, one that assumes the varying values and needs that derive from survival in a particular space are in *competition* for space, resources, and values. Yet a climate dominance lens

8. See, e.g., Nicola Jones, *Redrawing the Map: How the World's Climate Zones are Shifting*, YALE ENVIRONMENT 360, Oct. 23, 2018, <https://perma.cc/6MKE-MXQF>.

9. For a discussion of the different ways that the public perceives and responds to local versus global environmental threats, see David L. Uzzell, *The Psycho-Spatial Dimension of Global Environmental Problems*, 20 J. OF ENV'T PSYCH. 307 (2000) (demonstrating that “respondents are not only able to conceptualize problems at a global level, but an inverse distance effect is found such that environmental problems are perceived to be more serious the farther away they are from the perceiver. An inverse relationship was also found between a sense of responsibility for environmental problems and spatial scale resulting in feelings of powerlessness at a global level.”).

10. See Elija Anderson, *The White Space*, 1 SOCIOLOGY OF RACE AND ETHNICITY 10, 11 (2015).

11. See KEEANGA-YAMAHTTA TAYLOR, RACE FOR PROFIT: HOW BANKS AND THE REAL ESTATE INDUSTRY UNDERMINED BLACK HOMEOWNERSHIP 18-19 (UNC 2019).

12. See, e.g., Daniel R. Mandelker, *Racial Discrimination and Exclusionary Zoning: A Perspective on Arlington Heights*, 55 TEX. L. REV. 1217, 1218-19 (1977) (exploring the Court's decision in *Village of Arlington Heights v. Metropolitan Housing Development Corp.*, finding “that exclusionary zoning does not constitute state-imposed racial discrimination unless it is shown that a municipality initiated the zoning exclusion with a racially discriminatory motive or intent” and arguing that “this interpretation is inconsistent with a fair reading of the fourteenth amendment's prohibition of racial discrimination.”). See also Christopher Silver, *The Racial Origins of Zoning: Southern Cities from 1910-40*, 6 PLAN. PERSPECTIVES 189 (1991).

13. See Keith H. Hirokawa et al., *Mapping Ecosystem Benefit Flows to Normalize Equity*, 54 ARIZ. ST. L.J. 819 (2022).

14. See generally Keith H. Hirokawa, *Three Stories about Nature: Property, the Environment, and Ecosystem Services*, 62 MERCER L. REV. 541 (2011).

reminds us that it is critical to recognize that the parochial drive to think about differing needs as competitive is neither necessary nor illuminating. Resource advantages, situational risks and challenges, and governance priorities need not be thought of as driving towards a unitary, centralized program of values, or as a zero-sum game, or as competition between incommensurable values. Rather, we can look at resources in contextualized spaces and think about who values them and why and how these values might be broadened based on different perspectives and needs. For example, someone may not value the threats posed by tornadoes, earthquakes, floods, or wildfires when they are not experienced as a local threat. Yet while that may justify de-prioritizing the need for tornado preparation in Miami, such a conclusion should bear no weight on the cost or importance of preparing for tornadoes in the Midwest. Viewing space from a climate dominance framework allows us to avoid devaluing things we don't see or experience ourselves. At the moment, this form of thinking – spatially dominated thinking – is one of the main impediments to collective action on climate change.

A lens of space, which “is often characterized through occupation, decoration, celebration, use, and exclusion,”¹⁵ demands that we view location and topography as relevant circumstances to human survival in a climate changed world. It demands that we acknowledge that local knowledge and local systems matter, as do the social, economic, and environmental differences that make up communities. Yet everywhere we look, we find evidence of spacial dominance. A critical climate dominance lens enables us to surface hierarchies, patterns of power, and competitive perceptions so that these systems of spatial dominance can be interrogated in climate conversations. Left unaddressed, systems of spacial dominance intensify historical patterns of othering and exclusion along lines of race, gender, religion, sexuality, country of origin, and socio-economic status. Moreover, spatial dominance often operates particularly perniciously for those who straddle categories of historical exclusion.¹⁶ Absent efforts to the contrary, unfettered climate changes threaten to further deepen the subjugating and exclusionary tendencies of spatial dominance.

A. TOPOGRAPHICAL SPATIAL DOMINANCE

Topographical advantage over ecosystem resources shapes the lived experiences of communities across the country. Topography and geography intersect with cultural differences to shape how and by whom natural resources are controlled, who they are available to, and how they determine individual and community risk in a climate-changed world. Bringing a climate dominance framework to bear in the context of topographical advantage allows us to see how power can be

15. Keith H. Hirokawa, *Race, Space, and Place: Interrogating Whiteness Through a Critical Approach to Place*, 29 WM. & MARY J. OF RACE, GENDER, AND SOC. JUST. 279 (2023).

16. See, e.g., K-Sue Park, *This Land Is Not Our Land*, 87 U. CHI. L. REV. 1977, 2023 (2020 (book review)); Kimberlé Crenshaw, *supra* note 5, at 140.

relational to space and to detect and surface different forms of dominion over space.

The clearest example of spacial dominance in a topographical context might be found in the typical riparian corridor. Looking at spatial dominance in the context of a watershed allows us to interrogate and unravel how existing hierarchies of power create profound differences in who has access to and control over vital ecosystem services. Owners of upstream properties exert a significant amount of control over watersheds, as land use decisions upstream often determine whether downstream stakeholders will receive hydrological system benefits from the waterbody. Clearing in upland areas of vegetation, conversion of natural areas to agricultural uses, paving, construction, and so on, can impair ecosystem functionality. Impaired riparian areas may be unable to absorb storm surges, resulting in downstream flooding and impaired water quality that requires excess infrastructure investment to use. Land use changes impair the stream's ability to regulate water quality and quantity, lead to the loss of productive soils through erosion, degrades habitat, and prevents the recharge of drinking water aquifers. Moreover, because downstream water dependents have little or no recourse against the upstream exercise of property rights that result in disastrous land use changes, upstream property owners dominate watersheds. Thus, what becomes readily apparent when we look at spatial dominance in this context is that upstream water users and, in particular, upstream *property owners* have significant power over how riparian ecosystems will operate. Property ownership is the single most significant factor influencing the continuing receipt of ecosystem benefits by downstream users.¹⁷ Combined with the likelihood that property ownership within watersheds occurs outside of the jurisdiction where ecosystem services are needed (such as flood control), downstream users in watersheds are especially vulnerable to the preferences and privileges of the upstream property owners. Similar systems of topographical domination can be found in ecosystems all over the country (and world). This form of spatial dominance becomes particularly powerful – and dangerous – in a resource-constrained world, such as we envision under most climate change scenarios.

B. SPATIAL DOMINANCE & PROPERTY

Spatial dominance shapes how we value particular spaces.¹⁸ For instance, consider the competing constructions of vacant, unbuilt areas and shared spaces such as parks, forests, monuments, and wilderness areas. A frequently heard argument suggests that such areas are wasted, as indicated by their low market value in

17. For an illuminating exploration of property as power and dominance see K-Sue Park, *The History Wars and Property Law: Conquest and Slavery as Foundational to the Field*, 131 YALE L. J. 1062 (2022).

18. It should be noted that considering space in time provides a deeper illustration of time dominance. We explore time dominance in detail in Part IV.

non-use or non-economic use. Because such areas are not available to the market, they might be referred to as “empty areas” to reflect space “in which man, at any given time, is not visibly dominant.”¹⁹

Consider, for example, the intense debate over the establishment of the Bears Ears National Monument in Utah and how it revealed competing conceptions over the value of “unused” spaces. In 2016, after repeated requests by several tribes²⁰ and in recognition of the “area’s cultural importance to Native American tribes”, “the diversity of the soils and microenvironments in the . . . area [that] provide habitat for a wide variety of vegetation”, and general recognition that “the region is unsurpassed in wonders”, President Obama designated the “lands and interests in lands owned or controlled by the Federal Government to be the Bears Ears National Monument.”²¹ As Tsosie describes, the establishment of Bears Ears National Monument “recognize[d] the cultural value of the lands to the affiliated Indigenous Nations and established a method of cooperative governance that involves the tribal representatives, as well as the federal land manager.”²²

Designation of the new Monument, however, was not universally celebrated and, in fact, led to a “lot of [] anger over federal public land in rural Utah”²³ and elsewhere. Those opposed to designation of the Monument saw the act as constituting “unwanted federal interventions” that limited mining, fossil fuel extraction and other economic development opportunities in the area.²⁴ Thus, while many members of the Navajo Nation saw the designation of the monument “as crucial to protecting [sacred burial grounds] from vandalism and looting,” some locals described it as “nothing but a punishment”.²⁵ The varying responses to the establishment of Bears Ears National Monument reflect the different ways of valuing the spaces it embodies and, in particular, the protection it affords to non-economic uses – e.g., spiritual, cultural, and ecological uses – at the expense of economic uses.

These different ways of valuing space led to a tumultuous series of events. As Blumm and Pennock describe:

Within a year of Obama’s proclamation, the Trump administration used the Antiquities Act to reduce Bears Ears’ boundaries by more than eighty-five

19. Dennis Durden, *Use of Empty Areas, in* FUTURE ENVIRONMENTS OF NORTH AMERICA 479, (F. Fraser Darling & John P. Milton eds., 1966).

20. Michael C. Blumm & Lizzy Pennock, *Tribal Consultation: Toward Meaningful Collaboration with the Federal Government*, 33 COLO. ENV’T. L.J. 1, 31 (2022).

21. Proclamation No. 9558, 82 Fed. Reg. 1139 (Dec. 28, 2016).

22. Rebecca Tsosie, *Justice As Healing: Native Nations and Reconciliation*, 54 ARIZ. ST. L.J. 1, 21–22 (2022).

23. Kirk Siegler, *With National Monuments Under Review, Bears Ears Is Focus of Fierce Debate*, NPR ALL THINGS CONSIDERED (May 5, 2017), <https://perma.cc/NU8Z-9JKH>.

24. Carolyn Gramling, *Science and Politics Collide Over Bears Ears and Other National Monuments*, SCIENCE (April 27, 2017), <https://perma.cc/Z3ZK-HJ64>.

25. Siegler, *supra* note 23 (quoting Jami Bayles, founder of the Stewards of San Juan County).

percent. . . . In early 2020, the Trump Administration's Department of the Interior promulgated a management plan that would allow drilling, mining, and grazing on lands that the Administration had removed from protection.²⁶

By shrinking the size of the Monument, President Trump sought to expand the public land areas open to oil and gas leasing and to prioritize economic uses of the land – i.e., to reassert a form of spatial dominance premised on economic values. Within hours of President Trump issuing the proclamation to shrink Bears Ears, five Native American tribes filed a lawsuit in federal court in Washington, D.C., challenging the president's action. Other legal actions followed. While these cases were still pending, on his first day in office President Biden issued an executive order initiating a review of President Trump's monument rollbacks. Subsequently, in October 2021, President Biden issued a new proclamation that restored Bears Ears to the previous boundaries established by President Obama in 2016, pushing back against an economic use model of spatial dominance.

But this employment of economic value often dominates and, constructing a market-based system of spatial dominance fails to recognize that space can be used in a variety of ignored ways, with a variety of forgotten or non-quantifiable benefits. Hence, “while man may be currently absent from these areas, other life abounds there and they are prime habitats for other species. Though empty of man they are not empty of value to him.”²⁷ In other words, spacial dominance occurs in a variety of ways, often reflecting conventional hierarchies of economic and political power. It shapes how we construct spaces as valuable, worthy, important, or otherwise meaningful in ways that are legally or politically cognizable.

This form of dominance of space can be seen in the dispossession and displacement of Indigenous people from the land.²⁸ Lands that have been emptied of Indigenous people, where Indigenous occupation is known only in the past, often are not emptied of Indigenous artifacts, symbols, culture, and meaning.²⁹ They are not, in fact, empty even though, as Sarah Krakoff describes, the development of law and policy in the United States has “helped transform an all-indigenous landscape into a ‘blank space’ on the map.”³⁰ In an important sense, even if “empty” of people, such lands are occupied with the heritage and histories of peoples who once had a relationship with the land.³¹ Having the power to deny this

26. Blumm & Pennock, *supra* note 20, at 37.

27. Durden, *supra* note 19, at 479.

28. *See generally*, ROBERT A. WILLIAMS, *THE AMERICAN INDIAN IN WESTERN LEGAL THOUGHT: THE DISCOURSES OF CONQUEST* (1992); Felix S. Cohen, *Spanish Origin of Indian Rights in the Law of the United States*, 31 GEO. L. J. 1 (1942).

29. Ramin Skibba, *Race Against Time*, in NAUTILUS (Dec. 1, 2021), <https://perma.cc/2JHJ-BKN8>.

30. Sarah Krakoff, *Not Yet America's Best Idea: Law, Inequality, and Grand Canyon National Park*, 91 UNIV. COLO. L. REV. 559, 569 (2020).

31. Ignorance of such histories denies us of the local knowledge of indigenous adaptations to the land. But local knowledge matters: “Civilisations hold and utilize knowledge on the characteristics of

occupation is evidence of dominance of space.³² Exercising the power to deny this occupation is accomplished by objectifying the past and keeping it just beyond arm's reach.³³ Many such biases appear in law as imperatives deriving from Judeo-Christian traditions, such as in the reverence we afford to certain burial sites: "The place where the dead are buried is regarded generally, if not universally, as hallowed ground. . . . Their dust is sacred to us."³⁴ In the meantime, anthropologists of color continue to be unheard, unseen, and unacknowledged: "when subaltern anthropologists speak, many White anthropologists apparently cover their ears."³⁵ And the burial and sacred sites of many indigenous communities similarly remain invisible to the law as spaces that can be seen or protected. Think, for example, about the legal dispute over the Dakota Access Pipeline.³⁶

In July 2014, Energy Transfer Partners announced plans to construct a 1,172-mile pipeline transporting oil from the Bakken Formation in North Dakota to an oil terminal in Illinois.³⁷ Along the way, the pipeline, known as the Dakota

the landscapes on which they live, including knowledge on vegetation, climate, soils, topography and elevation. This provides information about which biophysical elements may require modification to create suitable conditions for living in general and for producing food in particular." Julio C. Postigo points out the fallacy of looking to indigenous practices as being adaptive only in the context of climate change: adaptation "results from the interactions between civilizations and environmental change and perturbations over centuries," and not just in response to climate change. Too narrow a focus on the value of local knowledge only in the context of climate change ignores the ways that local knowledge has driven civilization to adapt to a variety of environmental challenges over a long period of time, and as such, neutralizes the value of lived experience on the land and its critical role in adapting in a particular geographical setting. Julio C. Postigo, *Multi-temporal Adaptations to Change in the Central Andes*, in Giuseppe Feolo, et al., eds., *CLIMATE AND CULTURE: MULTIDISCIPLINARY PERSPECTIVES ON A WARMING WORLD* (Cambridge 2019) 117, 117-118.

32. See generally Krakoff, *supra* note 30 (offering a rich and grounded examination of how "law facilitated the violent displacement of indigenous peoples to construct 'empty' public land, when then became sites that perpetuated broader structures of economic and social inequality."); *Id.* at 562.

33. Hence, the entire field of "[a]rcheology has roots in racism and colonial violence, both of which, regardless of intent, are inherent in the methods and theories used in archeological research today." Alex Fitzpatrick, *Accountability in Action: How can Archeology Make Amends?*, in William Carruthers, et al., *Special Issue: Inequality and Race in the Histories of Archeology*, 31 *BULLETIN OF THE HISTORY OF ARCHEOLOGY* 14, 14 (2021). Researchers have interrogated history to understand how whiteness and colonialism have influenced interpretation. See, e.g., M. Gorsline, *An Archeology of Accountability: Recovering and Interrogating the "Invisible" Race*, in Matthews and McGovern, eds., *THE ARCHEOLOGY OF RACE IN THE NORTHEAST*, 291 (U. Press of Florida 2015).

34. Moore's Ex'r v. Moore, 25 A. 403, 405 (NJ Ch. 1892), quoted in Mary L. Clark, *Treading on Hallowed Ground: Implications for Property Law and Critical Theory of Land Associated with Human Death and Burial*, 94 KY. L. J. 487, 506-507 (2005-2006) (arguing that such reverence comes from Judeo-Christian traditions, but does not apply equally to burial sites of non-whites).

35. Michael L. Blakey, *Archeology under the Blinding Light of Race*, 61 *CURRENT ANTHROPOLOGY* S183, S186 (2000).

36. #NoDAPL is one of the highest profile Indigenous-led resistance movements in recent times, but it is also "simply another in a long line of civil resistance struggles Native communities have mobilized, often successfully, to claim their rights." Molly Wallace, *What Can be Learned From the Movement to Stop the Dakota Access Pipeline*, *OPEN DEMOCRACY* (Aug. 27, 2017), <https://perma.cc/NV5Z-UV43>.

37. For Energy Transfer Partners' framing of the pipeline, see *Moving America's Energy: The Dakota Access Pipeline*, ENERGY TRANSFER, <https://perma.cc/B7QU-RLQW> (last visited June 24, 2021).

Access Pipeline (DAPL), would cross through South Dakota and Iowa. After rejecting alternative routes, including one that would see the pipeline route pass near the (primarily white) town of Bismarck, North Dakota, Energy Transfer settled on a route that would direct the pipeline along the edge of the Standing Rock Sioux Indian Reservation in North Dakota.³⁸ This route takes the pipeline through sacred Dakota and Lakota lands, and “directly under Lake Oahe on the Missouri River, which is the Standing Rock Sioux Tribe’s main source of water for drinking, irrigation, and business uses.”³⁹ Against Tribal objection, in early 2016, the U.S. Army Corps of Engineers (Corps) granted Energy Transfer an easement that allowed the pipeline to pass under Lake Oahe and through other sacred grounds.⁴⁰ Pipeline construction began soon thereafter, leading to one of the largest mass gatherings of Indigenous activists and their allies in modern history.⁴¹ Over the next five years, the legal battle over DAPL⁴² “wound its way through myriad twists and turns.”⁴³ Ultimately, in 2021, the Court of Appeals⁴⁴ (and subsequently, the District Court) reversed an earlier decision to shut down the pipeline leaving oil free to flow.⁴⁵

38. See Carla F. Fredericks et al., *Social Cost and Material Loss: The Dakota Access Pipeline*, 22 N.Y.U. J. LEGIS. & PUB. POL’Y 563, 569 (2020) (“One of the proposed routes went ten miles north of Bismarck, the capital of North Dakota, which in 2017 had a population that was over ninety percent white. In the initial approval phase, USACE eliminated this route for several reasons, including its proximity to wellhead source water protection areas, which created a threat to Bismarck’s water supply. USACE did not show similar concern for the Tribe’s water source when they approved the route that went directly under Lake Oahe . . .”). See also *Background on the Dakota Access Pipeline*, LRINSPIRE (Aug. 15, 2016), <https://perma.cc/E8V4-ZXHP> (noting that the pipeline passes “less than one half mile from the Tribe’s reservation border, and thus the Tribe maintains a sovereign interest in protecting its cultural resources and patrimony that remain with the land. In addition, all along the route of the pipeline are sites of religious and cultural significance to our people – including burial sites of our ancestors. The pipeline would cross the Tribe’s traditional and ancestral lands and the construction of the pipeline jeopardizes many sacred places.”).

39. Fredericks et al., *supra* note 38.

40. U.S. Army Corps of Engineers’ Notice Regarding Recently Issued Public Documents, *Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers*, 255 F. Supp. 3d 101 (D.D.C. 2017) (No. 16-cv-1534).

41. See, e.g., John Paul Brammer, Opinion, *Latinos, We Are Indigenous, the #NoDAPL Fight is Ours as Well*, NBC NEWS (Oct. 10, 2016), <https://perma.cc/CZ43-UMW8>.

42. See *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs*, 255 F. Supp. 3d 101 (D.D.C. 2017); *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs*, 301 F. Supp. 3d 50 (D.D.C. 2018); *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs*, 440 F. Supp. 3d 1 (D.C. Cir. 2020), *aff’d sub nom. Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs*, 985 F.3d 1032 (D.C. Cir. 2021). For detailed discussions of the legal battles, see, e.g., Lee Wingard, *Back and Forth: The Continuous Legal Battle Over the Oil Flow in Dakota Access Pipeline*, 34 TUL. ENV’T L. J. 234 (2021); Chantal Carriere, *Federal Approval of Oil Pipelines and Indigenous Consultation in the United States After Standing Rock and Keystone XL: Lessons From Canada on the Limits of Industry-Indigenous Consultation*, 42 HOUS. J. INT’L L. 321, 369 (2020); Carla F. Fredericks & Jesse D. Heibel, *Standing Rock, the Sioux Treaties, and the Limits of the Supremacy Clause*, 89 U. COLO. L. REV. 477, 518 (2018).

43. *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs*, 540 F. Supp. 3d 45, 49 (D.D.C. 2021).

44. *Standing Rock Sioux Tribe*, 985 F.3d at 1039.

45. *Standing Rock Sioux Tribe*, 540 F. Supp. 3d at 49.

From a legal perspective, the Standing Rock Sioux failed to meet certain procedural burdens necessary to achieve injunctive relief.⁴⁶ But this procedural failure masks larger legal and political failures tied to spatial dominance. Ultimately, the DAPL litigation reveals the extent to which the law reflects a particular form of spatial dominance that fails to recognize and protect the interests of all people because the sacred grounds – the burial grounds and the waters – remained legally invisible to the law and thus did not provide any grounds for legal protection. Spatial dominance manifests in law in a way that means that the land and culture of certain non-dominant people – here the Sioux and the lands containing their sacred sites and sacred waters – remain invisible to the law.

Not surprisingly, the same sinister dominance of space applies when we think about the valuation of land. With few exceptions, land is valued as a function of the market: what a willing, but not obligated seller would take, and what a willing but not obligated buyer would pay. Kenneth Boulding has noted that while ecologists tend to view humans as only a part of a larger system, “economics. . . emerged out of the civilization, part of Western Europe, that was created largely by Christianity and which regarded man as the measure of all things in the universe as existing mainly for his pleasure and salvation.”⁴⁷ Boulding emphasizes the danger of dominant economic viewpoints towards nature, arguing that any species that cannot prove its worth to human flourishing has little value in the future:

it is one thing when a little care and conservation will preserve a nonhuman population, such as the whooping crane. It is quite another thing when the survival of another species must be paid for in human life. The question, therefore, becomes one almost of theological import. Is man going to conceive of himself as a steward of the planet, conserving a priceless heritage of germ-plasm and genetic code mature which, once lost, can never be replaced, so that like a good steward he is willing to sacrifice himself in order to preserve his charge; or is man in himself literally the only thing that matters, in which case we face the brutal fact that the future (and not really very distant future, at that), that in the absence of very stringent control of the human population, any species which cannot in some sense be domesticated is doomed.⁴⁸

46. See *id.* at 61.

47. Kenneth E. Boulding, *Economics and Ecology*, in *FUTURE ENVIRONMENTS OF NORTH AMERICA* 225, 230 (F. Fraser Darling and John P. Miltom, eds., The Natural History Press, 1966) [hereinafter Boulding, *Economics and Ecology*]. See also Clarence J. Glacken, *Reflections on the Man-Nature Theme as a Subject for Study*, in *FUTURE ENVIRONMENTS OF NORTH AMERICA* 355, 363 (F. Fraser Darling & John P. Miltom, eds., The Natural History Press, 1966) (suggesting that Economists thus tend to overlook that, “even if man to all appearances is at the apex of creation, it does not follow that all things were created in order to satisfy his wants; the earth with its plant and animal life might well have its own rationale, transcending its highest living form.”).

48. Boulding, *supra* note 47, at 231.

Spatial dominance, thus, pervades every aspect of how we conceptualize, legally recognize, and value land. It is the backdrop against which climate planning occurs. Climate dominance allows us to see these systems of spatial dominance – systems that are so pervasive and so imbedded in our system that they too often remain invisible in our decision-making processes.

C. RACIAL DOMINANCE OVER SPACE

Racial dominance of space is a contemporary reality. It shapes who can drive where,⁴⁹ who can birdwatch where,⁵⁰ who can jog where,⁵¹ and even who can sleep where.⁵² The contemporary tools of racial domination – including redlining, racial profiling, exclusion, and explicit and implicit bigotry – are regularly employed to maintain the white space. In this way, racism produces spaces marked with power disparities and structural inequities. Racial dominance shapes space and, thus, is an inevitable background shaping climate risk and climate difference. Racial dominance and, in particular, white privilege determines who enjoys opportunities to prepare for the economic, social, and environmental changes that accompany climatic shifts.

The environmental justice movement has centered concerns of racial dominance in environmental spaces for more than four decades. Prompted by growing awareness “that poor and of-color communities suffer from pollution more frequently and severely than their white counterparts,”⁵³ the environmental justice movement highlights the intersection between spatial dominance and environmental pollution.⁵⁴ The 2014-2015 Flint, Michigan Water Crisis demonstrates the persistence of these patterns. In one of the worst domestic environmental crises of modern times, a series of governmental failures, including the failure to

49. *Jamison v. McClendon*, 476 F. Supp. 3d 386, 392 (S.D. Miss. 2020).

50. Josephine Harvey, *White Woman Calls Cops on Black Man Over Dog Leash Dispute in Viral Footage*, HUFFPOST (May 25, 2020, 11:35 PM), <https://perma.cc/XY9B-LF2B>.

51. Mitchell S. Jackson, *Twelve Minutes and a Life: Ahmaud Arbery went out for a jog and was gunned down in the street. How running fails Black America*, RUNNER’S WORLD (June 18, 2020), <https://perma.cc/9JWC-4UB7>.

52. See Richard A. Oppel Jr., et al., *What to Know About Breonna Taylor’s Death*, N.Y. TIMES (Mar. 9, 2023), <https://perma.cc/WLF6-ZHJK>.

53. Maxine Burkett, *Just Solutions to Climate Change: A Climate Justice Proposal for a Domestic Clean Development Mechanism*, 56 BUFF. L. REV. 169, 188 (2008) [hereinafter Burkett, *Just Solutions*]. See also Tsosie, *supra* note 22, at 14; Robert R. Kuehn, *A Taxonomy of Environmental Justice*, 30 ENV’T. L. REP. News & Analysis 10681, 10688, 10693–94 (2000); ROBERT D. BULLARD, *DUMPING IN DIXIE: RACE, CLASS, AND ENVIRONMENTAL QUALITY* 116 (2d ed. 1994).

54. See Robert Bullard, *Anatomy of Environmental Racism and the Environmental Justice Movement*, in CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 15, 18 (Robert D. Bullard ed., 1993) [hereinafter Bullard, *Anatomy*]; *Toxic Waste and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities With Hazardous Waste Sites*, COMMISSION FOR RACIAL JUSTICE (1987), <https://perma.cc/X3CB-2LPC>. For an overview of the EJ movement in the Global South, see Usha Natarajan, *Environmental Justice in the Global South*, in THE CAMBRIDGE HANDBOOK OF ENVIRONMENTAL JUSTICE AND SUSTAINABLE DEVELOPMENT 39 (2021) (Sumudu A. Atapattu, Carmen G. Gonzalez & Sara L. Seck eds., 2021).

enforce the Safe Drinking Water Act for months after being made aware of violations, led to Flint's drinking water supply being contaminated with lead and bacteria.⁵⁵ Flint is a community where 50% of the population is Black and more than 40% of the residents live below the poverty line.⁵⁶ The long-term health impacts from the contaminated water are not yet known, but it is clear that they are extensive and disproportionately borne by already vulnerable and historically excluded populations.⁵⁷ Patterns of racial dominance of space created the conditions that made the Flint water crisis not just possible, but probable.

Moreover, there is now extensive scholarly work examining how climate change deepens inequality by disproportionately affecting members of society who already face higher levels of vulnerability.⁵⁸ Indeed, we are already witnessing the frustrations of the politically powerless that find themselves vulnerable to climate gentrification.⁵⁹ Climate gentrification refers to the:

general circumstances in which one of the forces that cause the displacement of people from a neighborhood is climate change. . . . Briefly, the empirical observation of climate gentrification through this research is established when real estate values of property under threat of sea-level rise (low-lying areas) appreciate at a lower rate than values of property at higher ground. At the same time, Keenan has observed that coastal properties' values have fallen.⁶⁰

Climate gentrification is already displacing racialized and low-income communities where the topography or other locationally-dependent advantages of such communities offer adaptive capacity. In Miami, Florida, for example, coastal property owners are retreating to inland, higher-elevation neighborhoods, a situation which unsurprisingly targets affordable neighborhoods and accompanies

55. See Nora Smithhisler, *The Safe Drinking Water Act and Flint, Michigan: How We Can Update Our Standards for Safe Drinking Water*, CORNELL POL'Y REV. (Lillian Gabreski ed., May 31, 2018), <https://perma.cc/G8GH-BNQR>; Lindsey J. Butler et al., *The Flint, Michigan Water Crisis: A Case Study in Regulatory Failure and Environmental Injustice*, 9 ENV'T JUST. 93, 93-97 (2016).

56. Michael Martinez, *Flint, Michigan: Did Race and Poverty Factor into Water Crisis?*, CNN NEWS (Jan. 28, 2016, 11:16 AM), <https://perma.cc/RZ4Q-NG65>.

57. See Laura Pulido, *Flint, Environmental Racism, and Racial Capitalism*, 27 CAPITALISM NATURE SOCIALISM 1, 1 (2016) ("[T]he people of Flint are so devalued that their lives are subordinated to the goals of municipal fiscal solvency. This constitutes racial capitalism because this devaluation is based on both their blackness and their surplus status, with the two being mutually constituted.").

58. See generally Alice Kaswan, *Climate Adaptation and Theories of Justice*, in PHILOSOPHY, LAW AND ENVIRONMENTAL CRISIS 97 (Alain Papaux & Simone Zurbuchen eds., 2016).

59. As noted by Keenan, et al., climate gentrification analysis is premised on "the need to promulgate a broader awareness of the processes shaping socioeconomic vulnerabilities and not just physical environmental exposure. Likewise, it highlights the dynamic and dependent relationships of elements of the built environment (e.g., housing, transportation, public facilities) that may either exacerbate vulnerabilities associated with climate change impacts or are themselves exacerbated by such impacts." Jesse M. Keenan, et al., *Climate Gentrification: From Theory to Empiricism in Miami-Dade County, Florida*, 13 ENV. RESEARCH LETTERS 054001, 054002 (2018), <https://perma.cc/YL8S-WMQY>.

60. Sue Trone and Ryan Shedd, City of Miami, *The City of Miami in the Context of Climate Change, Population Growth, and Development Pressure: Policy and Strategy Recommendations*, 5, (Nov. 2019), <https://perma.cc/CBD9-TE2R>.

infrastructure and other investments, all of which drives higher and unaffordable rents and displaces current residents.⁶¹ Robynne Boyd explains:

Much of the city sits just six feet above sea level, and many neighborhoods are vulnerable to the expected sea level rise of 14 to 34 inches by 2060. Former Florida senator Bill Nelson has called the city “ground zero” for climate change. Meanwhile, at higher elevations, many of the residents of Liberty City and other underserved black and Latino communities say they feel pressure from real estate developers to sell their homes.⁶²

Climate gentrification is a contemporary manifestation of the racial dominance of space. And it is one that will intensify as climate change progresses unless we find ways to surface and respond to forms of space-based power.

Here, we have shown how employing a lens of space reveals how topography intersects with legal, economic, and cultural differences to shape how and by whom spaces are dominated and the implications of these forms of domination in a warming world. In the section that follows, we employ the lens of place to further illustrate the extent to which existing hierarchies of power create differences that matter in the climate context.

III. THE LENS OF PLACE

Place provides a second platform for understanding climate dominance. As climate change reshapes the physical, political, cultural, and economic contours of communities, communities will reexamine both the physical and conceptual bases for community connectedness, identity, and belonging. Climate change will intersect with individual and community senses of place and shape how people create and define place, how they carry it with them, and how they reconstruct it amidst climate disruption. In some instances, climate migration will appropriately throw the continuity of place into flux, reflecting on the notion that diversity and difference will be critical tools in adaptation efforts. In contrast, dominance of place, which already creates otherness across a broad range of difference that includes gender, race, ethnicity and nationality, income and education, will have a problematic exclusionary impact and threaten adaptive capacity. Exposing climate dominance through the lens of place allows us to see how certain place-based ideals may be elevated and prioritized to the exclusion of alternative needs and perspectives.

61. Keenan, *supra* note 59, at 054002 (Climate gentrification “is based on a simple proposition: climate change impacts arguably make some property more or less valuable by virtue of its capacity to accommodate a certain density of human settlement and its associated infrastructure.”).

62. Robynne Boyd, *Has Climate Gentrification Hit Miami? The City Plans to Find Out*, NRDC (Mar. 11, 2019), <https://perma.cc/7WQR-DNP5>.

Employing a lens of place reveals how historical constructions of community reflect cultural differences and prioritize certain norms, perspectives, and ways of being. For instance, consider how place reconstructs tensions over climate migration. Climate-induced migration is inevitable. It is already happening. As slow and sudden-onset disasters wreak havoc in places such as Miami, Denver, New Orleans, and Kivalina, these communities will experience not just physical disruption, but disruption to their shared sense of community, to their means of livelihood, and to the beliefs, practices, and patterns that define ways of life. Because of deteriorating conditions, people will leave to seek better, safer places to live. People will be displaced from their homes and their communities solely because of where they live. They will be compelled to seek out new homes, new jobs, new communities. For some people, this will be much easier – or, at least achievable – than for others. By some estimates, climate change could generate more than 200 million migrants by 2050. Climate migration will have a physical impact on communities, but more importantly, we already see how vast flows of people within and across borders can challenge community stability and, in many cases, deconstruct and reconstruct central community concepts and ideals.

When we view the realities of climate migration through a dominance lens, we might recognize that communities that center nativism values or parochialist practices tend to cast their community values as being in competition with migrants. Nativism tends to result in increased tension and bigotry, aggravating existing concerns over stresses on limited resources and the perceived challenges to co-existence. Given how many communities are not preparing for – or open to – climate migrants, the nativist approach may well render some communities ill-equipped to handle the inevitable influx of migrants. As a result, communities rendered uninhabitable by climate change and communities that become climate havens will be affected.

In communities rendered uninhabitable by climate change, sense of place may transition from one of living and thriving to one of surviving. The displaced will face the well-chronicled physical, mental, and economic challenges of migrants. At every stage, from encountering climate extremes at one's home, through the difficult decision to abandon one's home, to the arduous process of finding a new place to live, climate-displaced people will experience extreme stress and trauma. Dominant voices tend to drown out place-based perspectives of the marginalized and disadvantaged communities, a problem that will be exacerbated by climate change. Communities that become climate havens will face different challenges. These communities might be wary of an influx of migrants, but while nativist communities try to erect barriers to migrants, inclusionary-minded cities will find ways to open their arms to climate-displaced peoples, seeing the influx of new people as a way to revitalize declining cities and an opportunity to deepen a sense of community. In both, the idea of place and the self-assessment that come with it will allow communities to decenter nativist concerns and recognize that migration is better understood not as a cultural distinction, but as a human situation;

reexamining place to identify climate domination allows us to see beyond nativism to humanism.⁶³

In this section we employ the lens of place to explore how the domination of an otherwise shared sense of place neutralizes the influence of different beliefs, predispositions, and prejudices that would shape how climate-related changes would be experienced. Employing the lens of place allows us to decenter dominant ideas and better account for how differences manifest and matter when it comes to understanding the risks and impacts of climate change.⁶⁴

To understand dominance of place in the climate context, we begin with a conversation about place before looking more closely at how place intersects with climate migration.

A. PLACE IN A CLIMATE-CHANGED WORLD

Place is never a fixed or universal concept.⁶⁵ Although place is always time- and space-contingent, places do not have geographic or temporal boundaries, nor do they have singular identities. Indeed, places are dynamic and often “full of internal conflicts.”⁶⁶ As Massey describes, “places are processes.”⁶⁷ Yet even as humans adapt space to make place, “so, too, do they fashion themselves.”¹⁵ We shape ourselves in relation to our spaces, even as we shape our spaces into places.

63. For further discussion of environmentally induced migration as a historic and contemporary means of adaptation to change (i.e., as a human situation contextualized in time), see Elizabeth Marino, *The Long History of Environmental Migration: Assessing Vulnerability Construction and Obstacles to Successful Relocation in Shishmaref, Alaska*, 22 *GLOBAL ENV'T CHANGE* 374, 375 (2012):

Human migration linked to environmental change has been a common migration trigger for much of human history. Significant archeological research links slow or abrupt changes in environmental conditions to some of the greatest migrations of humankind, including migrations out of Africa . . .

See also Norman Myers, *Environmental Refugees – Our Latest Understanding*, 357 *PHIL. TRANS. R. SOC. B* 609 (2001); Alice Kaswan, *Creating Home: Multilevel Governance Structures for Emerging Climate Migration*, 93 *TEMP. L. REV.* 735, 738-43 (2021); The Gov't Office for Sci., London, *Foresight: Migration and Global Environmental Change* 27-31 (2011), <https://perma.cc/F2MA-LGU7>; Katrina Miriam Wyman, *Responses to Climate Migration*, 37 *HARV. ENV'T L. REV.* 167, 216 (2013); Robert A. McLeman, *On the Origins of Environmental Migration*, 20 *FORDHAM ENV'T L. REV.* 403 (2009); Ofer Bar-Yosef & A. Belfer Cohen, *From Africa to Eurasia – early dispersals*, 75 *QUATERNARY INT'L* 19 (2001).

64. For an examination of notions of cosmopolitanism and disruption of place as a result of the “speeding up and spreading out” and “time-space compression” of modern society, *see* DOREEN MASSEY, *A Global Sense of Place*, in *SPACE, PLACE, AND GENDER* 146-56 (1994). *See also* EMILY JOHANSEN, *COSMOPOLITANISM AND PLACE: SPATIAL FORMS IN CONTEMPORARY ANGLOPHONE LITERATURE* (2014).

65. Miriam Kahn, *Your Place and Mine: Sharing Emotional Landscapes in Wamira, Papua New Guinea*, in *Senses of Place* 167, 168 (Steven Feld & Keith H. Basso eds., 1996) (“Because place is many things and speaks in many voices – individual biography, shared history, meaningful memory, and moral lesson, as well as euphemism – it is constantly shifting, emerging or receding, being accentuated or veiled.”); Tim Cresswell, *Place: An Introduction* 108 (2015) (“places are not like shoes or automobiles – they do not come out of a factory as finished products. Places . . . [a]re very much in process.”).

66. MASSEY, *supra* note 64, at 155.

67. MASSEY, *supra* note 64, at 155.

As climate change reshapes our world it challenges our sense of place, which is often context-dependent and comes from our lived experiences.⁶⁸ Hence, the attachment that one feels in place is what bell hooks calls “belonging.”⁶⁹

Sense of place is the foundation of how humans understand themselves in relation to the world. Place matters. Place reflects experiences, histories, values, and priorities. Place shapes how we understand and deploy ideas such as “here,” just as it imbeds a complex sense of what something means when it is “ours.” For those benefitting from a sense of place – insiders⁷⁰ – the reference to “here” invokes stories and values that are formed through interaction in a particular space, together with its inhabitants and history. Hence, the insider’s perspective and knowledge elude the outsider, as it is complemented by knowledge of behaviors, traditions, and culture that must be experienced.⁷¹ It is the particulars of place that are not revealed to the outsider. But an analysis of place reveals the values and priorities that have been imbued in a particular space.⁷²

Place is illustrated in the self-declarations that communities often use to distinguish themselves.⁷³ As humans find or create space in which they belong,⁷⁴ the resulting sense of place suggests intentionality.⁷⁵ Hence, a sense of place signals a locationally-dependent experience – one that has been lived, survived, and even conquered, and that comes to imprint particular values onto a particular space.⁷⁶

68. See Timothy Beatley & Richard C. Collins, *Americanizing Sustainability: Place-Based Approaches to the Global Challenge*, 27 WM. & MARY ENV’T. L. & POL’Y REV. 193, 213 (2002).

69. bell hooks, *BELONGING: A CULTURE OF PLACE* (2009).

70. Keith Hirokawa, *Environmental Law from the Inside: Local Perspective, Local Potential*, 47 ENV’T L. REP. NEWS & ANALYSIS 11048 (2017); Jonathan Rosenbloom & Keith H. Hirokawa, *Foundations of Insider Environmental Law*, 49 ENV’T L. 631, 633 (2019). It should be noted that what we refer to here as the “insider” and “outsider” perspectives are not intended to be normative categories. Insider refers to local knowledge and attachment to place. In contrast, terms such as “nativism” and “parochialism” typically refer to normative norms of exclusion.

71. *Id.* at 56-57 (Steven Feld & Keith Basso eds., 1996) (“When places are actively sensed, the physical landscape becomes wedded to the landscape of the mind, to the roving imagination, and where the mind may lead is anybody’s guess.”).

72. Keith H. Basso, *Wisdom Sits in Places: Notes on A Western Apache Landscape*, in *SENSES OF PLACE*, 56, 57 (STEVEN FELD & KEITH BASSO eds., 1996) (“[I]t is simply not the case... that relationships to places are lived exclusively or predominantly in contemplative moments of isolation. On the contrary, relationships to places are lived most often in the company of other people.”).

73. Hirokawa, *supra* note 15.

74. Tuan explains, “‘Space’ and ‘place’ are familiar words denoting common experiences. We live in space. There is no space for another building on the lot. The Great Plains look spacious. Place is security, space is freedom: we are attached to the one and long for the other. There is no place like home.” YI-FU TUAN, *SPACE AND PLACE: THE PERSPECTIVE OF EXPERIENCE* 3, 73 (1977). Tuan explains the relationship between the two: “When space feels thoroughly familiar to us, it has become place.” YI-FU TUAN, *SPACE AND PLACE: THE PERSPECTIVE OF EXPERIENCE*, 7 (1977).

75. hooks, *supra* note 69 (“Searching for a place to belong I make a list of what I will need to create firm ground. At the top of the list I write: ‘I need to live where I can walk. I need to be able to walk to work, to the store, to a place where I can sit and drink tea and fellowship. Walking, I will establish my presence, as one who is claiming the earth, creating a sense of belonging, a culture of place.’”).

76. YI-FU TUAN, *SPACE AND PLACE: THE PERSPECTIVE OF EXPERIENCE* 166 (1977) (“To the local people sense of place is promoted not only by their settlement’s physical circumscription and space; an

Moreover, in the development of a sense of place, humans learn critically important information about the challenges and opportunities of a particular space, what it takes to survive, and even what that space needs.⁷⁷ Hence, making place from space is the process of localizing knowledge and experience as one becomes part of the space.

As climate dominance threatens space, it simultaneously undermines the social, political, economic, and governance systems that form the foundations of sense of place. It doesn't destroy place; place is not static. Yet as Adger et al point out, sense of place is often explicitly or implicitly shaped by dominant perspectives:

In North America and Australia the idea of wilderness has deep resonance and great political power, at least for settler cultures. At the same time, human-dominated landscapes such as the terraced rice paddies of Bali, the Yorkshire Dales of England, and the forests and lakes of Sweden are highly valued as manifestations of the cultures that produced them. Equally, the built environments of cities such as New York and Tokyo are valuable not just as homes and nodes of power, but also as products of the cultures that create and recreate them.⁷⁸

Climate dominance erodes physical spaces and the associated roles that spaces play in constructing senses of stability and belonging. It threatens to distance individuals and communities from their spaces of shared history and beliefs. It changes the geography of social relations and puts pressure on shared understandings and ways of being. And it reveals the different meanings, predispositions, and prejudices that individuals and communities attach to place.

As climate dominance destabilizes place, it also calls into question the legitimacy of declarations of place. A critical approach reveals how and why different places are created and valued and operates to include or exclude others. Within this context of change, a climate dominance frame can reveal and decenter dominant perspectives to allow space for a greater diversity of people to discover a sense of place. Climate dominance allows us to explore different motivations for what people are looking for and what they find in a place.

Climate-induced migration poses one of the most disruptive threats to the continuity of place. Having discussed place, we now turn to climate migration as a

awareness of other settlements and rivalry with them significantly enhance the feeling of uniqueness and identity.”).

77. *Id.* (“To the local people sense of place is promoted not only by their settlement’s physical circumscription and space; an awareness of other settlements and rivalry with them significantly enhance the feeling of uniqueness and identity.”).

78. See, e.g., W. Neil Adger et al., *This Must Be the Place: Underrepresentation of Identity and Meaning in Climate Change Decision-making*, 11 GLOBAL ENV’T POL., 4 (2011). Moreover, dominant “worldviews and religious beliefs . . . inform what new knowledge is legitimate and can be absorbed into resource management practices.” *Id.* at 5.

potential disrupter of place and as a challenge that highlights the value of questioning climate dominance.

B. CLIMATE MIGRATION

Climate-induced migration is already occurring and will increase over time. The most recent IPCC report confirmed that climate change “is contributing to humanitarian crises” and that “[c]limate and weather extremes are increasingly driving displacement,”⁷⁹ with displacement and involuntary migration likely to increase over time.⁸⁰ As McAdam suggests, “migration can be a form of adaptation to environmental and climate change, and in many cases will be an extremely effective way to build long-term resilience,” but it will also disrupt the stability and sense of place of millions of people.⁸¹ A vast and diverse number of people will be affected, including those who are displaced and communities into which displaced people migrate. Climate migration will reshape coastal communities, farming communities, urban communities and more. People affected by climate migration will come from rich and poor communities, from different racial, religious, and political backgrounds.⁸² Those who are displaced will bring their sense of place with them and seek ways to reconstruct place in their new spaces. Some communities into which climate migrants move might use shared sense of place as a (actual or metaphorical) wall to try to keep climate migrants out or to limit climate migrants’ ability to find place in their new space. Other communities might hold themselves out as “climate havens” and attempt to conjure up a sense of place that welcomes climate migrants in.

Climate migration is driven by slow- and sudden-onset disasters, including sea level rise, increased frequency and intensity of extreme weather events, drought, and desertification.⁸³ As Robinson et al. describe:

79. Hans-O. Pörtner et al., eds., IPCC 2022: SUMMARY FOR POLICYMAKERS, CLIMATE CHANGE 2022: IMPACTS, ADAPTATION AND VULNERABILITY, B.1.7 (2022), <https://perma.cc/2EBK-TL4K> [hereinafter Summary for Policymakers].

80. *Id.* at B.4.7.

81. Jane McAdam, *Climate Change-Related Displacement of Persons*, in THE OXFORD HANDBOOK OF INTERNATIONAL CLIMATE CHANGE LAW 519, 520-21, (Cinnamon P. Carlarne et al. eds, 2016).

82. Climate change is already affecting millions of people around the world and those numbers will grow exponentially over time leading to increased flows of internal and external migration. “Human migration is a natural response to these climate change pressures and is one of many adaptation measures that people will take in response to climate change.” Caleb Robinson et al., *Modeling Migration Patterns in the USA Under Sea Level Rise*, PLOS ONE 15(1), (2020), <https://perma.cc/26S4-9JC4>, (“Human migration is a natural response to these climate change pressures and is one of many adaptation measures that people will take in response to climate change.”).

83. See Walter Kälin, *Conceptualising Climate-Induced Displacement*, in CLIMATE CHANGE AND DISPLACEMENT: MULTIDISCIPLINARY PERSPECTIVES 81, 84-86 (Jane McAdam ed., 2010) (using a five-fold typology of the drivers of climate change-induced displacement: “(i) Sudden-onset disasters such as flooding . . . [;] (ii) Slow-onset environmental degradation caused, inter alia, by sea level rise. . . droughts and desertification . . . [;] (iii) So-called ‘sinking’ small island states[;] (iv) [Governmental designation of] areas as high-risk zones too dangerous for human habitation[;] and] (v) . . . unrest seriously disturbing public order, violence or even armed conflict [resulting from resource scarcity].”).

Broadly speaking, migration processes can be characterized by three components: sources, destinations, and flows between them. Climate change will affect each of these components in different ways. For example, increased climate burden on agricultural regions can increase migrants to move to more urban spaces or to move to different towns, provinces or even different countries. Climate change can also induce conflict, thus increasing the number of refugees. Climate change can also affect destinations, for example by making cities less livable due to urban heat island effects or due to increased burden on services such as water and electricity.⁸⁴

Estimates vary for how many people will be displaced by climate-related impacts. Early assessments suggested that climate change might drive 200 million or more people to migrate by 2050.⁸⁵ More recent estimates range from between 25 million to 1 billion by 2050,⁸⁶ with the World Bank estimating that absent rapid and concerted climate action upwards of 216 million people could be forced to migrate internally alone by 2050.⁸⁷ Of course, it remains difficult to accurately predict future numbers of climate migrants due to uncertainty about the local impacts of climate change,⁸⁸ and a lack of empirical studies exploring the links between climate change and human migration patterns.⁸⁹ Moreover, future flows of climate migration are difficult to estimate because climate impacts are often not the sole cause of displacement⁹⁰ and because climate-induced migration is unlikely to follow historic migration patterns. As Robinson et al., describe:

[A] fixed proportion (3%) of the population of a U.S. county will migrate under normal circumstances. This will not hold under [sea level rise], for example, as the entire population in flooded areas will have to move or adapt in other ways. Importantly, in addition to direct inundation due to [sea level

84. Robinson, *supra* note 82.

85. Katrina Miriam Wyman, *Responses to Climate Migration*, 37 HARV. ENV'T L. REV. 167, 168 (2013).

86. Baher Kamal, *Climate Migrants Might Reach 1 Billion by 2050* INTER PRESS SERVICE (Aug. 21, 2017), <https://perma.cc/SJ5Z-V3YN>.

87. Viviane Clement et al., *Groundswell: Acting on Internal Migration Part II*, The World Bank (2021), <https://perma.cc/E33C-HEX2>, (predicting 216 million people could move within their own countries due to slow-onset climate change impacts by 2050. They will migrate from areas with lower water availability and crop productivity and from areas affected by sea-level rise and storm surges. Hotspots of internal climate migration could emerge as early as 2030 and continue to spread and intensify by 2050.”).

88. Wyman, *supra* note 85, at 171.

89. Robinson, *supra* note 82 (discussing the few studies that have taken place and noting the need to improve understanding of “how climate change driven migration will differ from ‘business as usual’ forms and motivations humans have to migrate.”).

90. McAdam, *supra* note 81 at 520 “[C]limate change will interact with a range of economic, social, and political drivers, which themselves affect migration. For this reason, it is conceptually sounder to view climate change-related movement as a part of global migration dynamics, rather than as a discrete, independent category. Climate change-related displacement is likely to take different forms, and will require a variety of responses at the local, national, regional, and international levels.”).

rise], climate migrants will be forced to move as climate change effects become more pronounced, directly through the exposure to “high-magnitude events” such as large scale flooding from hurricanes, or indirectly through the “cumulative contribution of ongoing localized events across regions” The dynamics of these environmentally induced migrations will not necessarily follow those of previously observed migrations.⁹¹

Most climate-induced movement of people will occur within countries rather than across international borders.⁹² Although future estimates remain uncertain, in 2021 alone, there were more than 23 million internal displacements due to weather-related disasters.⁹³ This included more than half a million Americans.⁹⁴ In the United States, climate impacts including sea level rise, droughts, and flooding will drive human migration,⁹⁵ leading to a “redistribution of population across the United States, as people choose to locate in regions less susceptible to extreme climate.”⁹⁶ Sea level rise alone poses risks to millions of Americans. In counties such as Tyrell, North Carolina, Monroe, Florida, and Hyde, North Carolina, between 82%–94% of the population reside in areas that are at risk of inundation with 1.8 meters of sea level rise. More populous counties such as:

Broward, Miami-Dade and Pinellas, Florida; San Mateo, California; and Jefferson and Orleans, Louisiana are projected to see more than 100,000 residents potentially impacted with a 0.9 m SLR. An additional 25 counties would have more than 100,000 impacted persons with a 1.8m SLR. Miami-Dade and Broward counties in Florida alone account for more than a quarter of the people impacted under the 1.8 m.⁹⁷

The scale of people at risk of displacement from sea level rise is difficult to conceptualize. Although there is widespread awareness that climate-related changes will displace millions of people in the United States, empirical research is lacking and there are many unknowns about when, where, and how many

91. Robinson, *supra* note 82.

92. For an in-depth discussion of the potential for climate-induced migration to be deeply destabilizing in the United States, particularly in a worst-case climate world see J.B. Ruhl & Robin Kundis Craig, 4 *C*, 106 *MINN. L. REV.* 191, 227-30 (2021). See also Jessica Owley, *Climate-Induced Human Displacement and Conservation Lands*, 58 *HOUS. L. REV.* 665 (2021) (exploring the possibility of using conservation lands to meet climate-migrant needs in the United States).

93. Internal Displacement Monitoring Center, *2021 Internal Displacements*, <https://perma.cc/29YY-MXHY>.

94. *Id.*

95. U.S. Glob. Change Research Program, *Fourth National Climate Assessment: Volume II: Impacts, Risks, and Adaption in the United States*, 335, 675, <https://perma.cc/RW2P-ZP33>.

96. Qin Fan, et al., *Climate Change, Migration, and Regional Economic Impacts in the United States*, 5 *J. OF THE ASS'N OF ENV'T. & RES. ECONOMISTS* 643 (2018). See also Mathew E. Hauer, *Migration Induced by Sea-Level Rise Could Reshape the US Population Landscape*, 7 *NATURE CLIMATE CHANGE* 321, 321–25 (2017) (estimating demand for relocation in the U.S. to be as high as 13 million people.)

97. Mathew E. Hauer et al., *Millions Projected to be at Risk from Sea-level Rise in the Continental United States*, 6 *NATURE CLIMATE CHANGE* 691, 692 (2016).

people will be displaced. Ongoing research seeks to fill this gap, but what is clear is that millions of people are at risk and past patterns of disaster-induced human migration suggest that the number of people displaced by climate-related events in the United States will be unprecedented.

Recent weather-related disasters bear this out. When Hurricane Katrina hit Louisiana in 2005, it displaced more than a million people. An estimated 100,000 displaced residents never returned to New Orleans.⁹⁸ More recently, in the wake of Hurricane Maria in 2017, almost a quarter of a million people migrated from Puerto Rico to Florida, New York, New Jersey, Pennsylvania, Connecticut, Illinois, and Massachusetts, with many migrants moving to Central Florida.⁹⁹ But it is not just extreme weather disasters that are driving migration. Louisiana loses “at least a football field’s worth of [coastal] land every 100 minutes,” prompting thousands of Louisianans to migrate from the state.¹⁰⁰ And a 2018 study estimated that “one in 12 Americans in the southern half of the country will relocate over the next 45 years due to slow-onset climate influences alone.”¹⁰¹

Increasing flows of climate migration will disrupt the sense of place and belonging for millions of Americans. Early experience with climate migration in the United States already suggests that “migrants’ perceptions of their new communities is a mixed bag.”¹⁰² Both migrants’ abilities to maintain social ties and receiving communities’ openness to accepting and integrating migrants varies.

If climate migration is inevitable, as it seems to be, viewing it through the lens of dominance of place allows us to better understand how existing notions of place will shape how different people experience climate migration. This lens provides a tool for identifying and undercutting dominant structures that may manifest as xenophobia,¹⁰³ nationalism, and parochialism in the face of climate-induced migration. Xenophobia and “anti-migrant hysteria” are sweeping the

98. See Allison Plyer, *Facts for Feature: Katrina Impact*, The Data Center (Aug. 26, 2016), <https://perma.cc/9L4S-BK4U>.

99. Anna Marandi & Kelly Leilani Main, *Vulnerable City, Recipient City, or Climate Destination? Towards a Typology of Domestic Climate Migration Impacts in US Cities*, 11 J. OF ENV’T STUD. & SCI. 465, 471 (2021), <https://perma.cc/6UNJ-2RTJ> [hereinafter *Vulnerable City, Recipient City, or Climate Destination?*].

100. Alex Domash, *Americans are Becoming Climate Migrants Before our Eyes*, THE GUARDIAN, Oct. 2, 2020, <https://perma.cc/UH85-AJAY>.

101. *Id.*

102. Carlos Martín, *Who Are America’s “Climate Migrants,” and Where Will They Go?*, URBAN WIRE (Oct. 22, 2019), <https://perma.cc/NQP4-ZQD7>. Future receiving communities have few incentives to prepare for, build capacity for, and integrate newcomers—especially while addressing their own climate-related resource gaps. Consequently, newcomers are perceived as competitors for jobs and housing—especially where these were already tight. Existing financial and health service providers become overwhelmed and often under resourced for the specific needs of the migrants. Particularly when newcomers differ by race and income, they are increasingly and inaccurately blamed for all kinds of problems. *Id.*

103. E. Tendayi Achiume, *Governing Xenophobia*, 51 VAND. J. TRANSNAT’L L. 333, 336-38 (2018).

world¹⁰⁴ and spreading “virulence, especially where refugees and other involuntary migrants are concerned.”¹⁰⁵ In the United States, battles over immigration have defined presidencies, sharpened political divides along nationalist and parochialist lines, and intensified “the anxieties of dealing with difference” leading to the “stigamiz[ation], penaliz[ation], and criminaliz[ation]” of migrants.¹⁰⁶

Even for internal migrants, anti-migrant sentiment and stigmatization of “otherness” will pose profound challenges, particularly for at-risk and historically excluded communities such as communities of color, low-income communities, and the elderly. Exploring the differential impacts of climate migration can improve understanding of how climate-induced migration might exacerbate existing patterns of racial, environmental, and socio-economic inequality.¹⁰⁷ This becomes especially important when we realize that at present there are very few studies of climate migration in the United States and minimal guidance is being provided for governments as to how to plan for climate migration.

C. MIGRATION, PLACE, & CLIMATE DOMINANCE

Pre-existing sentiments of otherness, systems of exclusion, and weak governmental preparedness define the context within which domestic climate migration is taking place. To better understand how differences manifest and matter in the climate migration context, we can begin by thinking about the different types of communities that will be affected by climate migration. Marandi and Main offer a helpful typology for categorizing US cities that will be affected by climate migration:

- (1) vulnerable cities—those that will suffer significant losses in population and tax revenue;
- (2) recipient cities—those that serve as unsuspecting or unwilling “receiving communities” from sudden-onset disasters without preparation;
- and (3) climate destinations cities seeking to rebrand their communities as “climate havens” that welcome displaced residents through equitable planning and preparation.¹⁰⁸

This is not an exhaustive picture of the range of communities that will be affected, but it is a helpful starting point for bringing a critical perspective to bear

104. César Cuauhtémoc García Hernández, *Crimmigration Realities & Possibilities*, 16 OHIO ST. J. CRIM. L. 1, 7 (2018).

105. E. Tendayi Achiume, *Governing Xenophobia*, 51 VAND. J. TRANSNAT'L L. 333, 333 (2018).

106. Ratna Kapur, *Travel Plans: Border Crossings and the Rights of Transnational Migrants*, 18 HARV. HUM. RTS. J. 107, 136 (2005). See also Anita Sinha, *Defining Detention: The Intervention of the European Court of Human Rights in the Detention of Involuntary Migrants*, 50 COLUM. HUM. RTS. L. REV. 176, 181 (2019). See also the rich body of law on crimmigration, e.g., César Cuauhtémoc García Hernández, CRIMMIGRATION LAW (2d ed. 2021); César Cuauhtémoc García Hernández, *Criminalizing Migration*, 150 Daedalus 106 (2021); Angélica Cházaro, *Challenging the “Criminal Alien” Paradigm*, 63 UCLA L. REV. 594 (2016).

107. *Vulnerable City, Recipient City, or Climate Destination?*, *supra* note 99, at 468.

108. *Vulnerable City, Recipient City, or Climate Destination?*, *supra* note 99, at 465.

to explore the differential effects of climate migration. We briefly look at each category in turn to illustrate the problems of climate dominance.

1. Vulnerable Communities

Vulnerable locales are those that will not only be hit hard by climate change but also will likely lose population.¹⁰⁹ Examples of such areas include New Orleans, Louisiana; Tyrell County, North Carolina; Staten Island, New York; Kivalina, Alaska; and Isle de Jean Charles, Louisiana. Many of these communities have already experienced outward migration because of past weather-related disasters.¹¹⁰ Many of those that have and are likely to be displaced are Indigenous people, and low-income and communities of color.

Consider New Orleans. On August 29, 2005, Hurricane Katrina struck New Orleans. The storm and the resulting levee failures inundated the city, displacing the majority of residents and causing almost 1000 deaths.¹¹¹ Of those who died in Orleans Parish, “the mortality rate among blacks was 1.7 to 4 times higher than that among whites.”¹¹² The high rate of mortality among black communities, in part, was due to poor disaster planning including “a failure of city officials to implement an evacuation plan that provided transportation for the 27 percent of residents, the majority black and poor, who lacked cars.”¹¹³

Katrina devastated New Orleans.¹¹⁴ The patterns of destruction intensified existing patterns of inequality.¹¹⁵ Katrina vividly demonstrated how “[d]uring disasters, poor people, people of color, and the elderly die in disproportionate numbers.”¹¹⁶ As a result, recovering from Hurricane Katrina was a slow process, especially for the most vulnerable members of society.¹¹⁷ And as noted, of the more than 1 million people displaced by Katrina, an estimated 250,000 of those people never returned to the city. Of those permanently displaced, a decade after

109. Other hard-hit areas, e.g., New York, Houston, and West Palm Beach, Florida might see continuing population growth, at least in the short term. Much of this depends on physical and economic infrastructure.

110. *Vulnerable City, Recipient City, or Climate Destination?*, *supra* note 99, at 468.

111. See Joan Brunkard et al., *Hurricane Katrina Deaths, Louisiana, 2005*, 2 *DISASTER MED. & PUBLIC HEALTH PREP.* 215, 215 (2008).

112. *Id.* at 213.

113. Katie Sinclair, *Water, Water Everywhere, Communities on the Brink: Retreat as a Climate Change Adaptation Strategy in the Face of Floods, Hurricanes, and Rising Seas*, 46 *ECOLOGY L.Q.* 259, 266 (2019).

114. See generally DOUGLAS BRINKLEY, *THE GREAT DELUGE: HURRICANE KATRINA, NEW ORLEANS, AND THE MISSISSIPPI GULF COAST* (2006).

115. See Troy D. Allen, *Katrina: Race, Class, and Poverty*, 37 *J. OF BLACK STUDIES* 466, 466 (2007); *Aftermath of Katrina: A Time of Environmental Racism*, ArcGIS, <https://perma.cc/MK95-PR88>.

116. Caroline Heldman, *Hurricane Katrina and the Demographics of Death*, *THE SOCIETY PAGES* (Aug. 29, 2011), <https://perma.cc/2EZB-4TVJ>.

117. See Larkin M. Moore, *Stranded Again: The Inadequacy of Federal Plans to Rebuild an Affordable New Orleans after Hurricane Katrina*, 27 *B.C. THIRD WORLD L.J.* 227, 223 (quoting James Dao, *Study Says 80% of New Orleans Blacks May Not Return*, *N.Y. TIMES*, Jan. 26, 2006, at A18).

the storm an estimated 96,000 fewer African Americans were living in New Orleans, meaning that almost 1 in 3 black residents had not returned to the city.¹¹⁸ The absence of planning that addresses the differential effect of storms on communities of color reflects a failure to bring a place-based lens to bear to understand the different ways that communities – particularly historically excluded communities – will be affected by weather-related disasters.

Louisianans will be hit hard by climate change.¹¹⁹ As described, the state is already rapidly losing coastal land to climate change. Rising sea levels and increased frequency and intensity of storms will intensify climate-related impacts and put hundreds of thousands of people at risk, including the risk of being forcibly displaced. A critical interrogation of climate dominance encourages adaptation and disaster-management planning that accounts for how place and community difference will result in highly differential effects for residents of Orleans Parish and elsewhere. A climate dominance lens allows us to see how certain ideas of place and certain members of the New Orleans community might be elevated and prioritized. It allows us to decenter climate planning that primarily assumes the prevalence of resources enjoyed by the dominant – e.g., residents with cars. It encourages seeing how climate impacts will have a cascade of differential effects within and across Orleans Parish. This, in turn, creates opportunities to minimize the ill effects of displacement, particularly how place can be weaponized through nationalistic or parochial dominance of place. In the meantime, this perspective can highlight the likelihood of increased patterns of climate-induced migration and advance understanding of how likely different communities are to be displaced; this, in turn, will create greater opportunities to “improv[e] the degree of choice under which migration decisions are made, ensuring safe and orderly movements of people.”¹²⁰

2. Receiving Communities

When Hurricane Katrina hit New Orleans, more than 250,000 people fled to Houston, Texas. Of those immediate evacuees, an estimated 22,500 households permanently settled in Harris County, Texas (home of Houston).¹²¹ When Hurricane Maria devastated Puerto Rico in 2017, nearly a quarter of a million

118. See Gary Rivlin, *White New Orleans has Recovered from Hurricane Katrina. Black New Orleans Has Not.*, TALK POVERTY (Aug. 29, 2016), <https://perma.cc/23QZ-2VKF>. For past and present demographic information for New Orleans, see *Who Lives in New Orleans and Metro Parishes Now?* The Data Center (July 28, 2021), <https://perma.cc/57FR-ZWWE>.

119. For another example of a Louisiana community that is already experiencing climate-induced migration, see Pearl’s description of Isle de Jean Charles. See M. Alexander Pearl, *Human Rights, Indigenous Peoples, and the Global Climate Crisis*, 53 WAKE FOREST L. REV. 713, 728–29 (2018).

120. Working Group II, *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers*, IPCC, 25 (Feb. 27, 2022), <https://perma.cc/Y5MN-YPUZ>.

121. *Hurricane Katrina Migration: Where Did People Go? Where are They Coming From Now?*, THE TIMES-PICAYUNE (Aug. 27, 2015; updated July 18, 2019), <https://perma.cc/2HXD-R37C>.

Puerto Ricans fled. Many of those households permanently resettled in Central Florida, including many in and around Orlando.¹²² Following the 2018 Camp Fire in Paradise, California, of the over 56,000 people that fled their homes, nearly 20,000 ended up in the nearby town of Chico, California. Within days of the Camp Fire, “20,000 evacuees and hundreds of emergency responders were staying at emergency shelters, hotels, rentals, or camped out in the Walmart and Target parking lots. Almost overnight, the college town saw growth not expected for an additional two decades.”¹²³ In Chico, like in Houston, Orlando and other cities experiencing dramatic inflows of evacuees and migrants, the city was ill-prepared to accommodate its new residents. In Chico, initial compassion for evacuees rapidly “devolved into resentment as rents rose and evictions increased.”¹²⁴

Similar patterns of ill-preparedness for climate-migrants manifesting in place-based resentments and push-back that frame community values, norms, and needs as being threatened by migrants can be seen all over the country. Despite growing awareness of the threats climate change poses to human stability and increased understanding of the social and political stresses that migration poses both to those who are displaced, and to the communities into which they flee, recipient cities are poorly understood. In particular, there is very “little awareness around the social, economic, and political implications on small- and mid-sized cities who are faced with significant demographic changes, often overnight.”¹²⁵ Yet these seemingly overnight shifts in population, and the resulting pressures on sense of place for both the incomers and the receiving communities, are precisely what we expect to see much more of in the short and long-term.

Further amplifying pressure on recipient cities, many – if not most – climate migrants will be fleeing to their nearest regional cities, rather than large urban centers. As Marandi and Main describe, these regional hubs tend to be:

smaller and mid-sized cities with their own share of social, economic, or environmental stressors. As a result, they are disproportionately impacted when large numbers of newcomers suddenly arrive, due to the subsequent strain on public, medical, and social services. These gaps in turn affect the city’s front-line communities—the elderly, communities of color, less-resourced or less socially connected residents, and non-English speaking communities.¹²⁶

There are dozens of potential recipient communities around the United States. Much learning is left to do about these communities – which communities fall

122. *Vulnerable City, Recipient City, or Climate Destination?*, *supra* note 99, at 471.

123. *Id.* at 470.

124. *Id.* at 471.

125. *Id.* at 470. (“further noting that [r]ecipient cities are often the nearest center to rural areas or other regional cities who face specific climate risks, but they are marginally less vulnerable to certain impacts than their neighboring communities.”).

126. *Id.* at 470.

into this category, their level of preparedness for climate change migrants, and how community values and norms regarding place might be mobilized to create opportunities or barriers to the ability of climate migrants to not only spaces to survive, but also places to thrive.

As climate related disasters intensify and drive migration, adapting to climate change will require much more than thinking about high level risks and infrastructure fixes in a one size fits all approach. A climate dominance lens helps us see that adapting to climate change requires not only understanding and improving disaster preparedness, mitigation, and response systems at every level, but doing so in a way that decenters dominant paradigms to consider the more widespread effects of climate change across and within communities. Interrogating climate dominance to consider climate migration aligns with disaster risk reduction¹²⁷ work that considers hazards, preparedness and vulnerability, and climate adaptation¹²⁸ work that incorporates community level vulnerability assessments.¹²⁹ But it also pushes us to see the kinds of losses and trade-offs we are making,¹³⁰ not only with reference to economics, infrastructure, and ecosystems, but also with respect to communities and sense of place, particularly for those whose perspective is masked or underrepresented by domination of place.¹³¹

127. Disaster Risk Reduction (DRR) is “the concept and practice of reducing disaster risks through systematic efforts to analyze and reduce the causal factors of disasters. Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events are all examples of DRR.” UNISDR, *What is Disaster Risk Reduction?*, <https://perma.cc/4ESC-32F>.

128. Notably, although climate adaptation work has proliferated, there are still both significant gaps in building adaptive strategies and studying and learning from the adaptive strategies that are being employed around the world. See, e.g., David L. Markell, *Emerging Legal and Institutional Responses to Sea-Level Rise in Florida and Beyond*, 42 COLUM. J. ENV'T L. 1, 51–52 (2016):

As a backdrop to their survey of Florida communities’ adaptation efforts, Butler et al. suggest that a lack of foundational information exists nationally in understanding and tracking the adaptation activity that is occurring or on the drawing board at each of these three stages: “published studies provide little insight into the quality and rigor of vulnerability assessments, the specific adaptation strategies deployed, or the extent to which communities have committed to monitoring and evaluating the efficacy of their initiatives or the effects of ongoing climate change. (citing William H. Butler et al., *Low-Regrets Incrementalism: Land Use Planning Adaptation to Accelerating Sea Level Rise in Florida’s Coastal Communities*, 36 J. PLAN. EDUC. & RES. 319, 329 (2016).

129. See Exec. Order No. 13,653, § 5, 6 C.F.R. at 330, 333 (2014).

130. See Robin Kundis Craig, “Stationarity Is Dead” - *Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENVTL. L. REV. 9, 69 (2010) (discussing the “acceptance of loss” in the adaptation context).

131. See, e.g., Emma L. Tompkins & W. Neil Adger, *Does Adaptive Management of Natural Resources Enhance Resilience to Climate Change?*, 9 ECOLOGY & SOC’Y 1, 2 (2004), <https://perma.cc/3F5Q-45GE> (describing how existing adaptation efforts fall short with respect to understanding heterogeneity and discussing the role of community engagement):

Although not a panacea, community engagement may offer a means of reducing vulnerability to the natural hazards associated with climate change. Critiques of how participatory planning is applied have highlighted its frequent lack of consideration for ecosystem heterogeneity and intra-community dynamics as well as the differential access to resources inherent in some community-based management.

3. Climate Havens

“Climate-proof Duluth” welcomes you!¹³² At least some of you.

The last scenario worth considering from a climate dominance perspective is the self-styled “climate haven.” Cities such as Duluth, Minnesota; Buffalo, New York; and Cincinnati and Cleveland, Ohio are branding themselves as good places to live in a climate changed world – cities that seek to be “climate-proof” and are eager to welcome new folks in. Although there is no shared definition, these climate destinations tend to have common characteristics, including:

- (1) More manageable climate impacts, namely, are not prone to sea level rise or wildfires and prolonged heat waves;
- (2) ready access to fresh water supply;
- (3) high vacancy rates or abundance of affordable housing;
- (4) post-industrial, legacy cities with high infrastructural capacity (originally designed to support several thousand more residents than currently live there);
- (5) an expressed desire to grow and be welcoming; and
- (6) history of or interest in improving adaptive capacity through sustainability or resilience efforts.¹³³

The idea of climate havens is still a new one and is unexplored in the scholarly literature, but “there is growing discussion among scholars, think tanks, news outlets, and local elected officials”¹³⁴ on the role that climate havens might play as climate impacts intensify. As previously desirable locations such as the Pacific Northwest and the urban Northeast suffer disproportionately from climate impacts – for example, fires and droughts on the West Coast and sea level rise and storms on the East coast – struggling post-industrial cities see climate change as an opportunity to attract new residents and revitalize declining economies.

Climate havens represent an inclusionary mindset. But what will this inclusion look like in practice? Who will these cities welcome and how equipped are they to accommodate different kinds of climate migrants? Will the emphasis be on attracting voluntary migrants whose privilege allows them the opportunity to move to a safe environment, such as those “100 million young adults who aren’t sure where their next job will be or which places will be ecologically stable,”¹³⁵ or will it be on providing inclusive and welcoming environments for those people who are displaced by climate-related disasters and “may have limited resources to relocate or rebuild”?¹³⁶ Mobility is power and power is dominance. As Massey

132. Dan Kraker, *Climate-proof Duluth? Why the City is Attracting ‘Climate Migrants’*, MPR NEWS (Oct. 4, 2021), <https://perma.cc/PY5N-VCSS>.

133. *Vulnerable City, Recipient City, or Climate Destination?*, *supra* note 99, at 472.

134. *Id.* (“The term ‘climate haven’ first made headlines in a New York Times article that featured Professor Jesse Keenan, entitled “Want to Escape Global Warming? These Cities Promise Cool Relief.” Since then, a significant amount of media attention has been given to the potential of legacy cities like Duluth, MN; Buffalo, NY; and Cincinnati, OH, to absorb climate migrants from less hospitable places of the country in the coming decades.”).

135. Parag Khanna & Susan Joy Hassol, *America’s Next Great Migrations are Driven by Climate Change*, SCIENTIFIC AMERICAN (Oct. 14, 2021), <https://perma.cc/RK97-LFBD>.

136. Kraker, *supra* note 132.

suggests, “mobility, and control over mobility, both reflects and reinforces power. It is not simply a question of unequal distribution, that some people move more than others, and that some have more control than others. It is that the mobility and control of some groups can actively weaken other people.”¹³⁷ Thus, even as we consider the promise and possibility of climate havens, climate dominance encourages us to consider how existing structures of power shape the ability of these cities to appreciate and respond to the risks and impacts of climate change for different communities of residents, both present and future.

Perceiving the future development of climate havens through a climate dominance lens focuses attention on whether and how these destination cities can be welcoming not only to different types of climate migrants, but also to their existing citizens. As one member of the Duluth-adjacent Fond du Lac Band of Lake Superior Chippewa tribe said, “[f]rom my perspective we haven’t even figured out how to interact in a positive way with our indigenous people.” Unless and until the work is done by the climate haven cities to identify how the historical development of a community brings with it varying dependency on beliefs, predispositions, and prejudices that shape how climate-related changes will be experienced by different individuals and communities, it will be impossible for these cities to “truly be a place where migration and immigration are seen as being strength and vitality and growth” for all, including existing non-dominant citizens and both voluntary and forced migrants.¹³⁸

For climate havens, “climate migrants may present growth opportunities, but strategies for embracing newcomers must take adequate measures to protect existing residents and create equitable, well-integrated communities.”¹³⁹ Employing the lens of place allows us to decenter dominant ideas and better account for how differences manifest and matter when it comes to understanding the impacts of climate change and climate migration on existing communities and the communities the cities hope to attract. Centering these different senses of community and place is central to climate resilience. This is the work of climate dominance.

137. MASSEY, *supra* note 64, at 150.

138. Kendra Pierre-Louis, *Want to Escape Global Warming? These Cities Promise Cool Relief*, N.Y. TIMES (Apr. 15, 2019), <https://perma.cc/576R-ZSMP>.

139. *Vulnerable City, Recipient City, or Climate Destination?*, *supra* note 99, at 474. There will be additional equity questions to consider in the context of internal climate migration, including questions related to existing patterns of wealth and demographics. This might include, for example, considerations related to how patterns of movement from coastal regions to inland regions of the country will intersect with existing patterns of economic inequality related to concentrations of wealth in coastal states. *See, e.g.*, NOAA, Office for Coastal Management, *Economics and Demographics*, <https://perma.cc/H3SP-GR46>.

IV. LENS OF TIME

A third lens that we use to explore climate dominance is time. Time dominance largely involves capturing the meaning of time to control how moments are valued. In other words, time dominance comes with the power to dictate what matters in the past and future. Like space and place, time is a contingency that is, from a power perspective, worth dominating. As Benjamin Richardson notes, how we think of time in social ordering and policymaking is determinative: “the preferred viewpoints about time will influence what becomes privileged or downplayed.”¹⁴⁰ Conflict over interpreting the past illustrates the many inconsistent and incommensurable different histories that are guided by, but not converging on moments of influence, association, power, need, and demand.¹⁴¹ Moreover, in many cases, law provides an effective mechanism to ensure time’s domination. By examining the uses of time in environmental law, including climate mitigation and adaptation actions across time, it becomes clear that our decisions are typically (if not exclusively) centered on the present. Indeed, the manner in which time is processed in law forces us to understand new observations according to existing legal constructs – ones that may have made sense in the past (in light of the knowledge limitations of the time), but fail to accommodate our new insights.

As the discussion in this section illustrates, time in the climate change context has been dominated by values and expectations that have meaning in the present but will almost certainly lose their meaning in the future. In the climate change context, we tend to use time to identify benchmarks of change. For example, rising sea levels pose a significant threat to coastal communities over time. The global mean sea level has risen faster since 1900 than during any other century in at least 3000 years. Between 1901 and 2018, global mean sea level rose by .2 meters, and sea levels will continue to rise over the 21st century, with estimates ranging from .28-2 meters.¹⁴² Hazards associated with sea level rise include flooding, coastal erosion, land submergence, destruction of coastal ecosystems, saltwater incursion, and poor drainage. Coastal communities such as Miami, where seas levels are projected to rise by more than 15 inches in the next 30 years,

140. BENJAMIN J. RICHARDSON, *TIME AND ENVIRONMENTAL LAW: TELLING NATURE’S TIME* 31 (Cambridge 2017).

141. Colonization literature in particular illustrates the role that time played for colonial governance. See, e.g., Renisa Mawani, *Law as Temporality: Colonial Politics and Indian Settlers*, 4 U.C. IRVINE L. REV. 65, 74 (2014) (“Colonizing time was crucial to Britain’s acquisition and control over territory and to its modalities of colonial legality and governance. The imposition of a single, Western, and secular time has a dense and lengthy history of its own, unfolding over centuries, ushered in through the movements and expansion of Christianity via developments in classical physics and through advancements in technology, including the invention of the mechanical clock.”).

142. See, e.g. NOAA, 2022: GLOBAL AND REGIONAL SEA LEVEL RISE SCENARIOS FOR THE UNITED STATES: UPDATED MEAN PROJECTIONS AND EXTREME WATER LEVEL PROBABILITIES ALONG U.S. COASTLINES (2022), <https://perma.cc/7BEP-WFFL>.

already face serious challenges. By the end of the century, Miami and other low-lying coastal communities will face even more extreme conditions.

In Miami-Dade County today, rising sea levels are resulting in tidal flooding and storm surge that erodes beaches, inundates homes and businesses, engulfs roads, blocks sewer systems, and threatens drinking water supplies. There is an increasingly urgent need to contain the rising waters, forcing the community to make tough decisions. Conversations focus on how to protect real estate investments, sewer systems, drinking water, and coastal lifestyles. Options for responding to sea level rise include fortifying sewer plants and critical infrastructure, elevating roads, homes, and businesses (especially the beachfront ones – the valuable ones), investing in green infrastructure, or building a massive seawall. Yet here we see an emphasis on the present: the overriding focus of Miami's preparation is on preserving present interests and ways of being. This is how we monumentalize time.¹⁴³

In 2100, Miami-Dade County will look drastically different. Extreme heat and rising sea levels will fundamentally alter what the region looks and feels like. In 2100, the focus will no longer be on protecting early 21st century infrastructure (which by then will be degraded or gone). Needs and interests will be different and will reflect changed values, priorities, and perspectives. Interests might center around how to keep Miami habitable, or they might focus on creating pathways for migrating to more climate-friendly locales. We may not know the exact contours of future differences, but we know they will exist. And we know that our current approaches to decision-making in Miami (and elsewhere) focus almost exclusively on preserving present interests into the near future. Time (along with space and place) determines a community's needs and interests, but time and future differences are not typically accommodated in the decisions we make about climate change.

In what follows, this section introduces the idea of time and its uses, then discusses the ways that time dominance tends to focus on moments in time. The discussion includes an analysis of time dominance of the present, past and future, exposing the damage that time dominance can do to our capacity to adapt to oncoming climatic changes.

143. Reference to “momentalization” in this article is akin to Tremmel’s use of the term, “presentism,” the idea that values and events in future and past are subsumed with the perspectives and values of the present, effectively transforming the present into a tenseless moment. Joerg Chet Tremmel, *The Four-Branches Model of Government: Representing Future Generations*, INTERGENERATIONAL JUSTICE IN SUSTAINABLE DEVELOPMENT TREATY IMPLEMENTATION: ADVANCING FUTURE GENERATIONS RIGHTS THROUGH NATIONAL INSTITUTIONS 754, 756 (Marie-Claire Cordonier Segger et al. eds., 2021). As Tremmel notes, “democracies are skewed in favour of presentism.” which in reality serves both a politically constraining and protective purpose. *Id.* Yet there is more: we use the term “momentalism” to provide deeper insight into the ways that such practices tend to freeze events in time as a moment in which clarity comes at the expense of past and future, as discussed throughout this article.

A. THE DISCONNECT BETWEEN TIME IN NATURE AND TIME IN LAW

Time is a complicated subject: “the passage of time is intimately familiar; the idea of time is strangely elusive.”¹⁴⁴ We mark certain periods of scholarly reflection, schools of thought and eras in which particular ideas held prominence.¹⁴⁵ We may think of time as inversely correlated to what we can remember,¹⁴⁶ as a crucial factor in our ontological identity,¹⁴⁷ or as teleological in orientation.¹⁴⁸ We also recognize that time plays a crucial role in defining relationships to one another, to belonging in a particular place,¹⁴⁹ and even to the land.¹⁵⁰ Time can also be seen as a product of racial dominance and white supremacy.¹⁵¹

144. J. Fraser, *TIME THE FAMILIAR STRANGER 1* (Amherst: University of Massachusetts Press, MA, 1987) (1923). See also RICHARDSON, *supra* note 140, at 20 (observing that time can denote a continuation of past, present, and future, can denote a rhythmic quality, can refer to speed, cyclical processes, or collective elements.).

145. See, e.g., J.M. Landis, *Essays on Research in the Social Sciences*, 45 HARV. L. REV. 601, 603 (1935) (“This is, indeed, a bold claim, for one suspects that the other disciplines have been doing a little thinking of their own ere this, and concepts, though of course not legal concepts, would seem to have played some part in their development, if not in Aristotle’s time surely by that of Adam Smith.”).

146. Frank E. Stevenson, *Texas Tech University School of Law Commencement Speech*, 50 TEX. TECH L. REV. 623, 623 (2018) (noted, in the context of the Rule Against Perpetuities, “Even though the individual authorship of that and the myriad other zany legal concepts you’ve learned is now lost in the mists of time, we can be sure of one thing—the learned lunatics who minted them were English, since the intellectual elite of that country supplied so much of America’s legal system and, thus, much of the law school curriculum you’ve just endured.”).

147. MARTIN HEIDEGGER, *BEING AND TIME* 168 (John Macquarrie & Edward Robinson trans., Harper & Row, Publishers (1962)(1927).

148. Renisa Mawani, *Law as Temporality: Colonial Politics and Indian Settlers*, 4 U.C. IRVINE L. REV. 65, 71 (2014) (“Law’s pasts are teleological in orientation, reflecting both a continuity and a break with what came before, and often refracted through its promises for social betterment and progress in a future that is yet to be realized.”).

149. Martiin Stronks, *Locked in Temporality: The European Governance of Refugees by Means of Time*, 47 YALE J. INT’L L. ONLINE 34, 34 (2022) (“The amount of time a migrant has spent within a state’s territory can also be an argument for inclusion and stronger residence entitlements. Such inclusion is often based on principles of “rootedness”—that is, the idea that people put down roots in the places where they live.”).

150. Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 476-477 (1897) (“Let me now give an example to show the practical importance, for the decision of actual cases, of understanding the reasons of the law, by taking an example from rules which, as far as I know, never have been explained or theorized about in any adequate way. I refer to statutes of limitation and the law of prescription. The end of such rules is obvious, but what is the justification for depriving a man of his rights, a pure evil as far as it goes, in consequence of the lapse of time? . . . I would suggest that the foundation of the acquisition of rights by lapse of time is to be looked for in the position of the person who gains them, not in that of the loser. Sir Henry Maine has made it fashionable to connect the archaic notion of property with prescription. But the connection is further” back than the first recorded history. It is in the nature of man’s mind. A thing which you have enjoyed and used as your own for a long time, whether property or an opinion, takes root in your being and cannot be torn away without your resenting the act and trying to defend yourself, however you came by it.).

151. Anthony Paul Farley, *Johnnie Cochran’s Panther: An Essay on Time and Law*, 33 THURGOOD MARSHALL L. REV. 51, 53 (2007) (“White time is the deferral of black freedom dreams. Each dream deferred is an interval of white time. Law is the measure of white time.”).

In law, time marks the period in which rights can be enforced,¹⁵² ensures timely prosecution of claims,¹⁵³ determines the age at which a person can exercise rights or is subjected to the care of others,¹⁵⁴ defines the duration that must pass after notice to enable people to prepare to defend their claims,¹⁵⁵ and so on. In law, the role of time is often underappreciated¹⁵⁶ and is not always transparent or even perceptible;¹⁵⁷ indeed, laws can have the (intended) effect of manipulating our perception of the passage of time from one of anticipation to one of remembrance.¹⁵⁸ These examples show a fairly one-dimensional concept, where time measures the duration of entitlement or expectation. Moreover, against the uses of time in the law we find the critique that legal and social notions of time diverge from time that we encounter in nature.¹⁵⁹

An insightful way of understanding time was offered by Stephen Jay Gould, who distinguishes Time's Arrow from Time's Cycle.¹⁶⁰ On one hand, time can be thought of as an arrow, moving from the past, to the lived present, and into an undeniably vague future, more or less in a linear way (when viewed from the point of origin, rather than historically). In this construction, "history is an irreversible sequence of unrepeatable events. Each moment occupies its own distinct position in a temporal series, and all moments, considered in proper sequence, tell a story of linked events moving in a direction."¹⁶¹ Alternatively, time can also be understood as returning and repeating, referred to by Gould as time's cycle. In

152. See Fed. R. Civ. P. 6.

153. See U.S. CONST. amend. VI.

154. See Fed. R. Civ. P. 17.

155. See Fed. R. Civ. P. 12.

156. Renisa Mawani, *Law as Temporality: Colonial Politics and Indian Settler*, 4 U.C. IRVINE L. REV. 65, 69 (2014) ("Although time is crucial to the spectacular and quotidian expressions of law—to its force and legitimacy, and its onto-epistemology—in legal scholarship, law's time has too often been assumed rather than problematized.").

157. RICHARDSON, *supra* note 140, at 302 (Slow-moving, cumulative environmental impacts are barely perceptible in many cases: "unlike some natural calamities such as Hurricane Katrina, this slow environmental violence often remains obscured because it lacks the explosive that sensational qualities that we commonly expected of a 'disaster.'").

158. See, e.g., Anthony Paul Farley, *Johnnie Cochran's Panther: An Essay on Time and Law*, 33 THURGOOD MARSHALL L. REV. 51, 63-64 (2007) ("The Middle Passage is the navel of the dream. In the navel of the dream, time ceases to approach us cyclically. Time seems instead to proceed with linearity. Time, in other words, seems to pass, not arrive. Time, however, only seems to pass. We are always inside of 1619.").

159. RICHARDSON, *supra* note 140, at 399 ("The failure to tell nature's time is rooted deeply in the cultural, economic, and institutional fabric of human society, sourced in practices and attitudes such that changes to regulations or international treaties alone will not be sufficient to overcome it."). Richardson identifies "timescape" as "a temporal equivalent of landscape, linking together the diverse and complex dimensions of time in socio-environmental contexts in order not to understand 'what time is but what we do with it and how time enters our system of values.'" *Id.* at 21 (quoting Barbara Adam, *The Temporal Gaze: The Challenge for Social Theory in the Context of GM Food*, 51 BRITISH J. OF SOC. 125, 137 (2000)).

160. STEPHEN JAY GOULD, *TIME'S ARROW, TIME'S CYCLE: MYTH AND METAPHOR IN THE DISCOVERY OF GEOLOGICAL TIME* (1987).

161. *Id.* at 10-11.

this construction, “events have no meaning as distinct episodes with causal impact upon a contingent history. Fundamental states are immanent in time, always present and never changing. Apparent motions are part of repeating cycles, and differences of the past will be realities of the future. Time has no direction.”¹⁶²

Neither linear nor cyclical time are inherently place-based, although Gould considers the possibility that linear time is the product of Western imperialism.¹⁶³ Gould argues against the idea that one or the other – time’s arrow or time’s cycle – can make an exclusive claim to capture the essence of time, just as he argues that the two are not inherently competitive: “Arrows and cycles, after all, are only categories of our invention, devised for clarity of insight. They do not blend, but dwell together in tension and fruitful interaction.”¹⁶⁴ He argues that to make the concept of time intelligible,¹⁶⁵ we are required to recognize both, at least because “nature says yes to both.”¹⁶⁶ In this pragmatic accommodation of the metaphors, we avoid momentalizing time: “Each moment of the [cycle] is similar as a reflection of timeless principles, and different because time’s wheel has moved forward.”¹⁶⁷

We can witness time dominance when one of nature’s time constructs is prioritized over the other, instead of recognizing that nature needs both. For instance, in the contemporary attack on Critical Race Theory, an approach that focuses on moments allows one to alleviate personal responsibility: we often hear, “I didn’t

162. *Id.* at 11. Gould further explains: “The metaphor of time’s cycle captures those aspects of nature that are either stable or else cycle in simple repeating (or oscillating) series because they are direct products of nature’s timeless laws, not the contingent moments of complex historical pathways. The geometry of space regulates how spheres of different sizes may fill a volume in arrangements of regular repetition – and the taxonomy of molecular order in minerals represents a compendium of these possibilities. . . . Organisms follow time’s arrow of contingent history; minerals, time’s cycle of immanent geometrical logic.” Gould, at 196.

163. *Id.* at 12-13 (“Most cultures have recoiled from a notion that history embodies no permanent stability and that men (by their actions of war), or natural events (by their consequences of fire and famine) might be reflecting the essence of time – and not an irregularity subject to repeal or placation by prayer and ritual. Time’s arrow is the particular product of one culture, now spread throughout the world, and especially ‘successful,’ at least in numerical and material terms.”). *See also*, RICHARDSON, *supra* note 140, at 28-30 (describing the relevance of cyclical time in ancient cultures such as the Incas and Myers, as well as the Maori, and its displacement by Western societies and Modernity: “Modernity ‘relocated’ the relationship between the past and future, bringing the future closer through an accelerating social tempo powered by the prospect of attaining utopian fulfillment.”).

164. *Id.* at 199-200.

165. *Id.* at 191 (“We often try to cram our complex world into the confines of what human reason can grasp, by collapsing the hyperspace of true conceptual complexity into a single line, and then labeling the ends of the line with names construed as polar opposites – so that all richness reduces to a single dimension and contrast of supposed opposites. All these dichotomies are false (or incomplete) because they can capture but a fraction of actual diversity, but one might be better (or at least more productive) than another because the limited axis of its particular contrast might express something more fundamental, more extensive in implication, or more in harmony with concerns of the actual debaters.”).

166. *Id.* at 200.

167. *Id.*

cause racial discrimination, because I didn't own slaves." Besides the obvious concern that the statement misses the point on neo-slavery and segregation, white privilege, and racial justice, the statement makes clear that thinking in cyclical terms helps us understand why current circumstances illustrate the convergence of past discrimination and the lack of will to reverse historical patterns of discrimination.

Likewise, we see hyper-vigilant defenses of property rights ("I can do what I want, it's my property") that pay no regard for the historical shifts and variation in the content of property, including the momentalization of such rights into perpetuity.¹⁶⁸ On the other hand, we see efforts to contain the duration of responses to historical patterns of racial discrimination: Justice O'Connor stated, in *Grutter v. Bollinger*,¹⁶⁹ "race-conscious admissions policies must be limited in time. This requirement reflects that racial classifications, however compelling their goals, are potentially so dangerous that they may be employed no more broadly than the interest demands." The temporal horizon on using race in admissions programs was predicted by Justice O'Connor to be a mere generation away: "We expect that 25 years from now, the use of racial preferences will no longer be necessary to further the interest approved today."¹⁷⁰ Obviously, the *fin de siècle* for racial discrimination did not occur in actuality, suggesting that the court's abandonment of its anti-racist promises merely harkened in a new age of racism.¹⁷¹ Yet, this seeming eradication of cyclical time in favor of a linear timeline has been criticized as "the high-water mark of the Court's temporal imperialism," an observation that centers on the judicial effort to subsume time within the confines of law to control its linear direction.¹⁷²

168. Sarah Harding, *Perpetual Property*, 61 FLA. L. REV. 285 (2009) (examining the emergence of perpetual property as a consequence of cultural preferences on linear time).

169. 539 U.S. 306, 342 (2003).

170. *Id.* at 343.

171. Michael L. Blakey, *supra* note 35 ("By 1968-1980 there would be a 'second Reconstruction' of governmental programs (including affirmative action) to rectify continuing consequences of prolonged White privilege. It would be curtailed after a dozen years (like the first Reconstruction) by a mythology that White privilege had suddenly ceased (the 'level playing field') enabling the fallacious logic that efforts to end White discrimination and privilege (whose notice was delegitimized as 'playing the race card') constituted racism ('reverse racism'). Now, falsely anchored in the new imprimatur of antiracism, all racial discourse (including race-based correctives) were stymied by Whites (and their intellectual allies like economist William Julius Wilson). They returned to Blumenbach's handle as the sole exemplars of normal, individual people, racially unmarked (in their own imaginary), American, universal, objective, unhyphenated 'Caucasians' irrelevance to structural racism. Thus, a new white supremacy rose against the presumed ethnically and racially marked, subjective, hyphenated, abnormal other, of questionable rational endowments and national entitlement. Most Whites (including the Republican Party) insisted, metaphorically, on continuing and identity as entitled occupiers – distinguishable from, rather than part of, national 'diversity' – protecting their structurally ill-gotten 'ranches' with propagandistic ideology, police force, and military at 'the wall.' American archaeology was created in this White society.").

172. Alison L. LaCroix, *Temporal Imperialism*, 158 U. PA. L. REV. 1329, 1372 (2010) ("Prospectivity is the method; teleology is the theory; and the Court is the sole arbiter of when that goal has been reached.").

We also see varying approaches to time in the climate change context. In an argument against the notion that uncertainties in the future deliver a fatal blow against planning for climate change, Partridge points out that we can distinguish human *needs* from human *preferences*, and even if human preferences for particular goods, values, and lifestyles may be uncertain, human needs (food, water, shelter, etc.) do not change.¹⁷³ This argument illustrates reliance on time's cycles, but perhaps without due consideration of linear time. Likewise, the position of many ecologists that climate change poses a "no analog future"¹⁷⁴ can be understood as a skepticism about time's cycles in favor of the linear understanding of time; climate change presents humanity with the circumstance of us having boarded the train and left the station, with little understanding of where we will go, but with certainty we will not return.

The effect of momentalizing time is to reject either or both of Time's Arrow and Time's Cycle, further distancing ourselves from how time is reflected in natural processes. Turning now to specific examples of momentalizing time as a maladaptation to climate change, the following sections examine the dominance of the present, the past, and the future.

B. DOMINANCE OF THE PRESENT — MOMENTALIZING VALUES BY STOPPING TIME

Dominance of the present is not a unique idea: think, for example, "[t]he speed with which the law facilitates economic development contrasts with its slowness in redressing its environmental and social fallout."¹⁷⁵ Moments in time encapsulate those frozen instances in which values, priorities, challenges, and defects can be depicted in a one-dimensional, frozen space. Moments effectively take the movement of time out of the equation: in the moment, we look at one (or few) actions or events in a concretized, understandable instance. A particular moment in time might be significant, such as the moment of a release of hazardous materials into the environment, the moment a judicial decision is announced that confers or eliminates rights, the moment an endangered species is "taken," the moment that floodwaters breached a protective structure, and so on. Such moments allow for gathering information, understanding an event, or comparing an event to a different moment in time.

173. See Ernest Partridge, *Introduction, in Responsibilities to Future Generations* 1, 2 (Ernest Partridge ed., 1981) ("the very enormity of the changes that are projected, or imminent, may render a finely tuned science of forecasting somewhat irrelevant. For whatever their tastes in music or poetry, or whatever their preferences in sports and other amusements, our descendants will need croplands and watersheds to supply their food and water . . .").

174. Douglas Fox, *Back to the No-Analog Future?*, 316 *SCIENCE* 823, 823 (2007); Diana Stralberg et al., *Re-Shuffling of Species with Climate Disruption: A No-Analog Future for California Birds?*, 4:9 *PLoS ONE* e6825, (2009), <https://perma.cc/6REL-9EA6>. However, this interpretation might be a little simplistic, especially given that this construction also posits that climate change is resulting from a disruption of nature's cycles; nature has abandoned us, but anthropogenic changes have disrupted the otherwise predictable cycles of nature in time.

175. RICHARDSON, *supra* note 140, at 302.

What we lose by focusing on moments includes a whole picture of nature's time and our relations to it: how we got here and where we are going; the events leading to the moment, the decisions avoided, and alternatives ignored; the meaning and significance of the event; and, of course, the predictability of the event. As Richardson notes, "to reduce time to a tenseless unreality would appear to fail to account for its significance in human scale phenomena, reducing the passage of time and our changing world to just labels that connote events in the universe that has only one 'now.'"¹⁷⁶ Hence, a focus on time's moments makes invisible historical influences and cumulative impacts of circumstances such as climate change. In the climate change context, this means we struggle to swim out of flood waters or retreat from rising tides, but remain altogether surprised by the storms that keep coming.

Momentizing time in law especially undermines our ability to recognize contingency, particularly as we look to the ever-approaching future. Collapsing time (past, present, and future) into a moment interferes with opportunities to realize identity, knowledge, and community. Such an understanding benefits from neither linear time (by ignoring the past as relevant to understanding the present and by contesting earth's future) nor cyclical notions of time (by disrupting natural cycles that are meaningful outside of a moment).

Because of the inevitability of interpretation in law, one might conclude that legal evolution exhibits both linear and cyclical time.¹⁷⁷ As Alan Hutchinson notes, "The law is not simply there in its object-like presence, but is always waiting to be apprehended and fixed by the active crafting of its judicial interpreters and legal artisans."¹⁷⁸ Yet legal interpretation may best be understood as the effort to capture the power of time: the ensuing path dependency and associated doctrine of *stare decisis* indicate the domination of time by one position or another, and not because the position is any better. As noted by Justice Brandeis, "*stare decisis* is usually the wise policy, because in most matters it is more important that the applicable rule of law be settled than that it be settled right."¹⁷⁹ Even environmental law, with its focus on human well-being, "often fails to acknowledge changes in the natural world and is complicit in the Anthropocene."¹⁸⁰ As a result, often "the law is too temporally one-dimensional, and indeed quite static, often lacking the adaptive flexibility to adjust to new circumstances and unwilling to acknowledge past losses."¹⁸¹ Insult is added to injury when we observe that

176. *Id.* at 23.

177. For an insightful explanation of this idea, see Karrigan S. Børk, *An Evolutional Theory of Administrative Law*, 72 SMU L. REV. 81 (2019).

178. Alan Hutchinson, *In the Park: A Jurisprudential Primer*, 48 OSGOODE HALL L. J. 337, 352 (2010).

179. *Burnet v. Coronado Oil and Gas Co.*, 285 U.S. 393, 406 (1932).

180. RICHARDSON, *supra* note 140, at 7.

181. *Id.*

courts and legislators have locked in temporal bias, based on the presumption that such laws are “timeless” and “natural.”¹⁸²

C. DOMINANCE OF THE PAST BY MOMENTALIZING HISTORY

We might think of history (and more generally, the past) as being available as an understandable, knowable, and objective account of events that have already occurred. Of course, there may be different perspectives of a past event: Sally’s story might differ from Jim’s, because she heard the gunshot but Jim did not. However, by thinking of the past as objectively knowable – or better yet, as an object for study, for celebration, for inspiration, and so on – we inevitably momentalize the past. Momentalizing the past is a form of time domination.

Dominance of the past illustrates the way that objectification of history enables its momentification, and the consequence involves the erasure of history and the identities of those whose histories succumb. When we think of the past for purposes of history, we freeze events in time – like taking a picture of a moment – that can be easier captured and objectified. Focusing on moments allows the conclusion that some historical facts did not occur, did not matter, or are otherwise irrelevant due to their remoteness. It allows one to manipulate the moment from a distant perspective or to imbue the moment with any variety of outside values.

As a result of the momentalization of history, cultural heritage questions often arise in complicated conflicts between the exercise of property rights and the effort to recapture and preserve the cultural history of peoples who have been displaced, dispossessed, and disinherited. The battle is imbalanced, in large part because of the ways that law has created the legal constructs that confer superior rights-as-title (the symbolic representation of rights conferred in this manner). As decided in *Johnson v. M’Intosh*,¹⁸³ and later confirmed in *Tee-Hit-Ton Indians v. U.S.*,¹⁸⁴ for example, rights that might be conferred through Indigenous occupation are inferior and, in the absence of governmental recognition, are not even protected by the Fifth Amendment.¹⁸⁵ Instead, such claims may be extinguished by the wave of a gun, aggressive displacement of land occupants, or even through the complicated legal term, “discovery.” Notwithstanding Joseph Singer’s appeal to recognize privilege as a continuation of racial injustice (“If those who benefit from this history of injustice claim a vested right to its benefits, they should be aware that what they claim is a right to the benefits of a system of racial hierarchy.”),¹⁸⁶ non-white cultural values and claims are systematically found in competition with a dominant historical construction, and as such, are found unintelligible under the law.

182. Robert W. Gordon, *Critical Legal Histories*, 36 STAN. L. REV. 57, 59 (1984).

183. *Johnson v. M’Intosh*, 21 U.S. (8 Wheat.) 543, 568-570 (1823).

184. *Tee-Hit-Ton Indians v. United States*, 348 U.S. 272, 279-280 (1955).

185. *Id.*

186. Joseph Willian Singer, *Sovereignty and Property*, 86 NW. U. L. REV. 1, 17 (1991-1992).

Consistent with this dominance-driven momentalization of history, the entire story of American archaeology – which creates the backbone of our shared stories of cultural history and evolution – is one of racial dominance.¹⁸⁷ As Penny English describes, archaeology plays a distinct role in defining identity across time:

Archaeology sits at precisely this conjunction of the spatial, temporal, and social dimensions. It's connection with both time and space is clear. . . . archaeological sites. . . have a significance which goes beyond that deriving from their scientific value as evidence of the history of the human relationship with the landscape in the past. Whether they are used as symbols of national identity and recognized as such as 'national monuments,' help create a sense of local community and local distinctiveness, or are perceived as having an ongoing sacred significance and purpose, this is a meaning which is created in the present.¹⁸⁸

Archaeology thus is used as a tool for understanding history and identity; it defines our “discovered” histories and identities in ways that momentalize particular moments in history and particular markers of identity. However, as English suggests, when we dig up our history in a “systematic and disinterested” way in order to display it and momentalize it, it is just “a small step from this to erasure of the past.”¹⁸⁹ That is, when we momentalize the past we ignore or even erase the moments that we fail to freeze.

This, therefore, is the starting place for our inquiry into dominance of the past: America was “discovered.” JC Niala and Sherry Davis point out the irony of the term:

The word discovery is both seductive and misleading. Within its meaning is this sense that something is happening for the first time. It places huge import (usually) on one person, rendering what is claimed to be a universal worldview through a singular lens. And for most of the archaeological work carried out in Kenya and published in euro–American journals during the 20th century, that lens was overwhelmingly white and male. This point matters because ‘the production of discovery is fundamentally social.’ The process through which so-called discoveries are made begins well before any archaeological dig happens and are not objective. They are subject not just to what Bourdieu describes as the ‘habitus’ of the archaeologist (the unconscious embodied way of forming knowledge) but also to cultural and political forces that shape the interpretation

187. Michael L. Blakey, *Archeology under the Blinding Light of Race*, 61 CURRENT ANTHROPOLOGY S183, S183 (2000) (“Mainstream (White) American anthropology (Northern or Southern) legitimized slavery and gave it moral cover. . . . US physical anthropology, founded at the Smithsonian, was definitely eugenicist, patriarchal, and White supremacist in the first half of the twentieth century.”).

188. Penny English, *Space and Time: The Genius Loci of Ancient Places*, in LAW AND GEOGRAPHY, CURRENT LEGAL ISSUES, Vol. 5 at 465 (Jane Holder and Carolyn Harrison, eds.) (citing K. Walsh, *The Representation of the Past: Museums and Heritage in the Postmodern World* 12 (1992)).

189. *Id.* at 467.

of what is ‘found.’ Knowledge cannot be separated from the societies in which it was created, and ways of knowing are the results of process of socialization, inculcation, and training.¹⁹⁰

The claimed “universal worldview” that supports archeological discoveries and, thus, our shared stories and our sense of place and culture, is shaped by bias and perspective from the start. The knowledge such discoveries impart is filtered: when we forget that the histories we read are, at best, drawn from limited perspectives, we fail to acknowledge that these stories are, at worst, evidence of time dominance.

The story of time dominance plays out not only with respect to how we identify our “discoveries,” but also to what we deem worthy of protecting for present and future generations. As English notes, in the legal process of protecting spaces of social and cultural importance, we identify them as important in history, which “changes their relationship with their context and environment.”¹⁹¹ Such an identification is a process of objectification, a process that helps focus on what is studied and protected, but meanwhile “tends to remove them from a continuing role in the present.”¹⁹² Once altered and dislocated, the past is open to interpretation, perception, and domination.¹⁹³

Moreover, what was once the shortsightedness of historians and archaeologists has become normalized in law: the objectification of the past has resulted in its commodification and, ultimately, its location on the political battlefield that extends even into the classrooms of children. Capturing the right to determine what constitutes an historical fact has become, for some, the contingency on which identity uncomfortably rests.

D. DOMINANCE OF THE FUTURE BY MOMENTALIZING THE NEXT GENERATION’S VALUES AND CHOICES

At this point in time, it seems uncontested that the future of climate change is the human circumstance. As noted by Rebecca Solnit:

Climate change is everything, a story and calamity much bigger than any other. It’s the whole planet for the whole foreseeable future, then entire atmosphere, all the oceans, the poles; it’s weather and crop failure and famine and tropical disease heading north and desertification and the uncertain fate of a great majority of species on Earth.¹⁹⁴

190. JC Niala and Sherry Davis, *The Missing Link: Community Contribution and Absence in Archeology in East Africa*, in SPECIAL ISSUE: INEQUALITY AND RACE IN THE HISTORIES OF ARCHEOLOGY, 31 *Bulletin of the History of Archeology* 1, 3 (William Carruthers ed., 2021).

191. English, *supra* note 188, at 466.

192. *Id.*

193. *Id.* at 468 (“A past without a foundation in a diachronic ordered narrative lays itself open to plunder and endless recombination. . . . The temporal chain connecting the past and present having been broken, all that remains is the present.”).

194. Rebecca Solnit, *Are We Missing the Big Picture on Climate Change?*, N. Y. TIMES MAG. (Dec. 2, 2014), <https://perma.cc/M4TX-TXBN>.

Solnit warns about the problems we encounter by relying on the human ability to grasp facts and ideas outside of our immediate purview, where “stories about individual birds can distract us from the slow-motion calamity that will eventually threaten every bird.”¹⁹⁵ In this sense, “distraction” is a mechanism that facilitates dominance of the future. Domination of the future is accomplished through a variety of distractions, including legal entitlements such as property rights (such as vested rights and conservation easements), regulatory mechanisms that appear intended to prevent effective considerations of future circumstances (such as the “speculation” limitation in environmental impact considerations under NEPA), and subjecting decisions to an economic framework to mask the momentalization of values and opportunities.

Like dominance of the past, at issue in the dominance of the future is . . . everything. The future holds potential and promise, a time to belong, an opportunity to avoid human suffering, and the promise of human flourishing. Moreover, because the future has not, in a sense, come to pass yet, and those who will occupy the future may be unborn, the demands of future generations come to us as a moral obligation.¹⁹⁶ In this context, and with such high stakes, a critical approach to time dominance focuses on variation across time, space and place: as E.O. Wilson noted, “What is good for you and me at this moment might easily sour within ten years, and what seems to be ideal for the next two decades could ruin future generations.”¹⁹⁷

Dominance of the future occurs through momentalizing our understanding of human needs, ecological processes and environmental baselines in the present. However, unlike domination of the past, domination of the future often occurs through the sinister tools of distraction, deflection, and confusion. In this section, we explore three examples of such tools, including claims of scientific uncertainty to dispute predictions of future circumstances, the economic tool of discounting to undermine the value of functioning ecosystems in the future, and various legal tools that create legal constructs of nature that diverge from ecological processes and deny us of both the will and capacity to prepare for climatic changes.

195. *Id.*

196. Edward O. Wilson, *The Conservation Ethic*, in *BIOPHILIA* 119, 121 (1984) (“preparing for future generations is an expression of the highest morality of which humans are capable.”). *But see*, Hans Jonas, *THE IMPERATIVE OF RESPONSIBILITY* 22 (1984) (explaining the argument against moral responsibility toward future generations: “only *present* interests make themselves heard and felt and enforce their consideration. It is to them that public agencies are accountable, and this is the way in which concretely the respecting of rights comes about (as distinct from their abstract acknowledgment). But the *future* is not represented, it is not a force that can throw its weight into the scales. The nonexistent has no lobby, and the unborn are powerless. Thus, accountability to them has no political reality behind it in present decision-making, and when they can make their complaint, then we, the culprits, will no longer be there.”).

197. Wilson, *supra* note 196, at 120.

1. The Future is Unknowable: Weaponizing Scientific Uncertainty to Ignore the Future

Time is always relevant to identity: “The environmental needs of future generations are not uniform across time and place, as they may change over time and with geographic locations.” To meet this uncertainty, “the balancing framework needs to be responsive to different types of uncertainty in the underlying scientific information.”¹⁹⁸ However, difference across time is at once obvious and elusive. Moreover, uncertainty is a politically malleable concept that is frequently used to advance dominant policy choices and perspectives.¹⁹⁹ This is particularly true in contexts, such as environmental law, where legal and political strategies depend heavily on the interplay between science and policy, making uncertainty easily weaponized.

As an illustration, consider the political manipulation of uncertainty as a tool in the development of whaling law, where scientific uncertainty has been manipulated multiple times over the decades to define and redefine present and future interests in whales.²⁰⁰ The history of international whaling law is long and sordid and involves a gradual shift from regulating whales as a purely economic commodity to thinking about whales from both an economic and a conservation perspective. Differences across time and space as to the use (and misuse) of uncertainty are the one common thread.

In the 1940s and 1950s, during the heyday of international whaling, industry interests – that is, fishing interests – were the dominant perspective.²⁰¹ Although concerns were growing during this time about the sustainability of whaling, there was considerable scientific uncertainty about whale numbers, ages, and reproduction rates. Existing uncertainties were unfailingly used by the whaling industry to validate continuing high levels of commercial whaling. Scientists voicing concerns about dwindling whale numbers were largely ignored and undermined. Economic interests were the dominant perspective and controlled the uncertainty narrative.

Following excessive whaling during the 1940s and 1950s, however, the dominant perspective began to change due to a combination of scientific, economic,

198. Katalin Sulyok, *Scientific Uncertainty as a Key Obstacle in Efficient Legal Protection of the Environmental Interests of Future Generations*, in *Intergenerational Justice in Sustainable Development Treaty Implementation: Advancing Future Generations Rights through National Institutions* 295, 305 (Marie-Claire Cordonier Segger et al. eds., 2021).

199. See generally *id.* Sulyok presents a taxonomy of sources of scientific uncertainty, which includes natural variation across space and time, environmental system complexity, the uncertainties inherent in models designed to simplify and predict, errors in measurement, ambiguities of the data generated from these studies, and linguistic and value-based uncertainties that contribute to decision-making future.

200. Cinnamon Carlarne, *Climate Change-the New “Superwhale” in the Room: International Whaling and Climate Change Politics-Too Much in Common?*, 80 S. CAL. L. REV. 753, 755-56 (2007).

201. *Id.* at 759.

and social factors. Scientific evidence of declining whale stocks, coupled with rapidly declining industrial catch levels changed the economic equation around whaling. By the 1960s, the whaling industry was becoming less profitable and scientific evidence was pointing more strongly toward the dire condition of many whale stocks. The most noticeable change, however, was that as whale stocks declined, the costs of whaling increased, and the profits decreased. As a result, fewer states participated in the whaling industry and fewer states adamantly supported active commercial whaling. As the economic justifications for whaling faded, the political environment surrounding whaling began to change. Fewer states had a vested interest in whaling and fewer members of civil society supported whaling, making it much more politically acceptable for policymakers to change their minds about whaling policy.

A parallel shift was taking place in how scientists and policymakers viewed and interpreted scientific uncertainty in the whaling context. As whaling became less of a core economic activity and less vital to state interests, scientific uncertainty shifted from being used to the advantage of pro-whaling forces to being used to the advantage of advocates for restricting commercial whaling. At the same time, the reputation and role of the scientific advisors to the IWC was improving. Once considered charlatans, scientists were now called upon to advise policymakers, and where there was scientific uncertainty concerning the status of whale stocks, the benefit of the doubt shifted from favoring the industry to favoring the scientists.²⁰²

Bolstering the shifting paradigm, the environmental movement was growing rapidly. As societal environmental awareness grew, whales became an emblem of the environmental movement – the victims of human excess and environmental mismanagement. As the thinking around whales shifted, so too did perspectives on scientific uncertainty. Where scientific uncertainty about whale stock numbers was once used to argue vehemently for the continuation of commercial whaling, by the 1970s and 1980s uncertainty was used to advocate for antiwhaling positions, notably for a moratorium on all commercial whaling. Scientific uncertainty was once again weaponized; this time, however, it was being used to advocate for a precautionary approach to whaling – one that would err on the side of precaution and protecting whales for future generations.

The whaling example illustrates both the inevitability of uncertainty in environmental decision-making and the inherent malleability of uncertainty, particularly as a tool of dominance. It also supports the argument Sulyok has made that “pervasive uncertainty does not in any way legitimize practices that would use ambiguity in science as a reason for challenging its epistemic authority and would entail a wholesale rejection of scientific warnings.”²⁰³ That is, from a time

202. *Id.* at 760.

203. Sulyok, *supra* note 198, at 303.

dominance perspective uncertainty is an inevitability, but should not be used as a tool of distraction or deflection to avoid considering future interests.

In a sense, the argument about future uncertainties says too much. Indeed, although we can be sure that future preferences will diverge from those of the present, we can also be certain that the basic human needs of future generations will be consistent with those of today: people will continue to need food, shelter, water, and community.²⁰⁴ That is not to say that a focus on basic human needs alleviates our concern about future uncertainties. Indeed, the need/preference distinction does little to resolve questions about the long-term impacts of specific resource decisions. For instance, we can imagine that a present determination of converting a culturally significant forest to agricultural uses advances (or puts at risk) both the need to establish food production infrastructure for the future, but at the expense of the need of identity and preservation of one's cultural heritage.²⁰⁵

It is not as if we cannot imagine the nature of humanity's challenges in the future, even if we cannot know them with certainty:

Futures thinking might sound like something that falls between astrology and analyzing probabilities, but it is an essential practice if we are to meet the challenges facing our future generations. Thinking generations ahead is the norm for some cultures. The Iroquois, for example, are urged to live and work for the benefit of seven generations into the future (approximately a 140-year time span).²⁰⁶

Climate change is our future and future thinking means avoiding distractions and deflections that allow us to continue momentalizing our present understanding of human needs, ecological processes and environmental baselines.

2. The Time is Now: Economic Momentalization and Discounting as Dominance

Consideration of the future is critical in the climate change era, in which the global, climatic changes we are experiencing (and will continue to experience)

204. See Partridge, *supra* note 173, at 2.

205. See Joerg Chet Tremmel, *The Four-Branches Model of Government: Representing Future Generations*, in Marie-Claire Cordonier Segger, et al., Eds., INTERGENERATIONAL JUSTICE IN SUSTAINABLE DEVELOPMENT TREATY IMPLEMENTATION: ADVANCING FUTURE GENERATIONS RIGHTS THROUGH NATIONAL INSTITUTIONS 754, 772 (2021) (discussing a conflict of future needs faced to by the Hungarian Ombudsman for Future Generations between cultural sites and renewable energy production).

206. Future Generations Commissioner for Wales, *Future Generations Report 2020*, Executive Summary at 4 (2020), <https://perma.cc/V223-E7LC>. Likewise, Benjamin Richardson points to the Iroquois practices for its constructive effect, noting that such practices evidence an acknowledgment of "the need to support, not sacrifice, posterity; the ancient 'seventh generation' principle of the Native American Iroquois behooved individuals to consider how their actions might affect their descendants seven generations to come." RICHARDSON, *supra* note 140, at 1.

are making a different planet than the one for which present decisions are made. As Dan Farber notes, “Young people face a very different reality in terms of the impact of climate change on their lives,”²⁰⁷ and that reality is largely determined by the opportunities that the future is allowed by the present generation to enjoy. This insight—that climate change poses an existential threat to present and future generations resounds throughout the youth climate movement,²⁰⁸ as well as through international efforts to recognize that climate change threatens fundamental rights.²⁰⁹ As Farber further suggests, “at the core [of these movements] is a powerful insight. The government really does have an obligation to preserve our lands and sea for the benefit of all Americans—including future generations. And climate change really is a dire threat to the future.”²¹⁰

One way to exert control over the future, of course, is to make sure the next generations are not presented with a planet to inhabit – that is, to engage in the “willful destruction” of the planet.²¹¹ The gradual degradation of our planet has been happening for decades through the process of economic momentalization.²¹² The impact of economic momentalization, in which we engage in “detaching time from its organic cycles and sequences” is summarized by Richardson:

Forests and fisheries have dissipated for short-term economic gains that prevent nature’s capital from fully regenerating. Some species have gone extinct, shearing from the tree of life some of its branches of evolutionary potential. Agriculture has become dependent on massive artificial inputs, such as petrochemicals, to enable production to ‘defy’ nature’s potentialities. Nonbiodegradable plastics designed for durability litter the oceans in ever-greater gyres, resistance to natural decay. And greenhouse gas emissions have accumulated to the point at which Earth’s climate threatens to shift abruptly, beyond natural perturbations.²¹³

Commodification of natural resources through harvest, extraction and transformation – exchanging nature’s value in-place for the value of those resources in the marketplace – is a choice to take advantage of the momentary value of nature as goods based on the assumption that the momentary value is a relevant proxy

207. Dan Farber, *Climate Perspectives Across the Generations*, 60 NAT. RES. J. 293, 294 (2020).

208. See Cinnamon P. Carlarne, *Climate Courage: Remaking Environmental Law*, 41 STANFORD ENVIRONMENTAL LAW JOURNAL 125 (2022).

209. See, e.g., ‘Human Rights and Climate Change’ (OHCHR), <https://perma.cc/3W2U-XKV3> (last visited Apr. 10, 2023).

210. Daniel Farber, *What’s Wrong with Juliana (and What’s Right)*, LegalPlanet (Jan. 21, 2019), <https://perma.cc/J2TQ-WT4R>.

211. *Juliana v. United States*, 947 F.3d 1159, 1175 (9th Cir. 2020) (Judge Staton, in dissent, denounced political and judicial inaction on climate change and declared that the young peoples’ suit was necessary “to enforce the most basic structural principle embedded in our system of ordered liberty: that the Constitution does not condone the Nation’s willful destruction.”).

212. See Johan Rockström et al., *supra* note 7, at 472-73.

213. RICHARDSON, *supra* note 140, at 2.

for predicting value or wealth in the future.²¹⁴ In this value-laden approach,²¹⁵ commodification sacrifices the long-term and continual benefits of ecosystem services and forecloses considering evolving perceptions of values in future legal and economic systems.

One illustration of the preference for present priorities and preferences is aptly demonstrated by the practice of discounting future benefits or costs to reflect the present value of an investment or other action (such as regulation).²¹⁶ Discounting the future can be understood as follows:

Discounting is the calculation of the present value of a future benefit or cost. The calculation of the present value of a benefit is accomplished by applying a fixed discount rate to the benefit one expects eventually to receive, over the period of time one must wait before one receives the benefit. The temporal analysis offered in this article undermines both the practicability of discounting and its theoretical underpinnings.²¹⁷

Lisa Heinzerling has argued persuasively that the foundations of discounting lies amidst confusions and miscalculations.²¹⁸ She argues that the perception “that people systematically prefer remote to immediate risks is in considerable tension with the evidence which reveals that citizens reserve a special dread for hazards posing latent risks and risks to future generations.”²¹⁹ In the meantime, Heinzerling points out that the level of stationarity assumed in discounting opportunity costs is fatal to the calculation: “The argument from absurdity is this: unless we discount the future benefits of life-saving regulation, we will postpone

214. Boulding, *supra* note 47, at 233 (“Economists, and indeed mankind generally, have tended to treat the economic system as if it could enter into continuous exchange with an infinite reservoir of nature. Thus, we have regarded the atmosphere and the oceans as if they were infinite reservoirs which we could pollute indefinitely and from which we could draw indefinite supplies of what they had to offer.”).

215. Frank Ackerman, *Cost-Benefit Analysis of Climate Change: Where it Goes Wrong*, in David M. Driesen, ed., *ECONOMIC THOUGHT AND U.S. CLIMATE CHANGE POLICY* 61 (David M. Driesen ed., 2010).

216. See WILLIAM J. BAUMOL & ALAN S. BLINDER, *ECONOMICS: PRINCIPLES AND POLICY* 386-87 (6th ed. 1994).

217. Lisa Heinzerling, *Environmental Law and the Present Future*, 87 *GEO. L. J.* 2025, 2069 (1999).

218. *Id.* at 2072 (“Two arguments have been especially prominent in support of discounting. The first sounds in preferences: most people, the argument goes, prefer postponed harm to immediate harm, and discounting simply reflects this common preference. The second sounds in opportunities: if we do not discount future harms, we will miss opportunities to achieve the same beneficial results with less money, or even better results with the same amount of money.”). Another of Heinzerling’s primary arguments relates to the temporality of the harms we avoid through environmental regulation. Many such harms, Heinzerling argues, are not future harms but present ones. See generally Lisa Heinzerling, *Discounting Our Future*, 34 *LAND & WATER L. REV.* 39 (1999). In general, Heinzerling argues against the economist’s “claim that if only we put the future in its proper place, demoting it in importance relative to the present, we would see that many of the things we now try to avoid—like radioactive waste and hazardous air pollution—do not make much of a difference to our lives, and that some of the things we sometimes ignore—like fire safety—could greatly improve our lives in the here and now.” Heinzerling, *supra* note 217, at 2025-2026.

219. Heinzerling, *supra* note 217, at 2072.

all life-saving indefinitely, because we will always be able to argue that the sum of money we might spend today will only grow with time, and therefore can be put to greater use the further into the future our regulation is delayed.”²²⁰ Hence, in Heinzerling’s estimation, discounting misunderstands both future preferences and the otherwise ignored costs of delaying present action.

Underlying Heinzerling’s objection is the framework for understanding climate dominance presented in this article: uncertainty as to future conditions, circumstances, and preferences (economic or otherwise) is not justification for ignoring them or using present values as a proxy for voices of the future. As Heinzerling states, “For the most part, discounting in the context of life-saving environmental regulation has been accomplished to date by assuming that environmental regulation confers one benefit (the saving of quantified human lives) which accrues at one moment (the moment when a life-threatening illness would otherwise have become manifest).”²²¹ What we find in discounting approaches is the apparent preference for present values to play a significant role in calculating future costs and benefits. Indeed, we tend to fill the lacuna of future uncertainty with present preferences, even if only to understand them. But it would be folly to think that future values will mimic present ones. This is time’s dominance at play.

As Sir Nicholas Stern suggests, the way in which economic assessments of the climate crisis have been done using flawed discounting methods fails to take account of the “immense risks and potential loss of life” that could occur and “grossly undervalue[s] the lives of young people and future generations who are most at threat from the devastating impacts of climate change.”²²² Discounting has been applied, Stern suggests “in such a way that it is effectively discrimination by date of birth.”²²³ This is time’s dominance working in the climate context.

Economics, which has proven an effective tool in momentalizing the impacts of so many environmental decisions, may be humanity’s undoing.²²⁴ It lends itself to the oddest of repeated behaviors, such as the way that we freely stroll into socio-economic traps²²⁵ (an illustration of the tragedy of the commons²²⁶), particularly the so-called “gilded trap” scenarios, in which “the perceived lucrative

220. *Id.* at 2073.

221. *Id.* at 2070.

222. Damian Carrington, *Climate Crisis: Economists ‘Grossly Undervalue Young Lives’, Warns Stern*, THE GUARDIAN (Oct. 25, 2021), <https://perma.cc/J5TQ-LKD3>.

223. *Id.* (further declaring that the climate crisis is the biggest market failure in history” and that “the theory of discounting had not been related to its ethical foundations . . . or allowed for the risk that global heating will make future generations poorer”).

224. Boulding, *supra* note 47, at 232-233 (“In his pursuit of purely human values, the economist may easily be running mankind itself into grave dangers. . . . Man is beginning to inhabit a pretty small and overcrowded spaceship, destination unknown, and the possibility that he may ruin it in himself in the process is by no means negligible.”).

225. See, e.g., Adam Herron, *Climate Change and the Water Trap: Considering Western Water Policy Through Socio-Ecological Trap Theory*, 85 ALBANY L. REV. 2 (2022).

226. See generally Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

value of a natural resource drives stakeholders and managers to overlook risks of its unexpected decline and the associated negative social and ecological consequences.”²²⁷ Bringing a climate dominance framework to bear to unearth these forms of time dominance is imperative to finding pathways towards a safer and more equitable climate future.

3. Laws that Facilitate Future Dominance

a. Water

We can find examples of time dominance at play across fields of law that shape our ability to respond to climate change. An example of the dominance of economic viewpoints on resource use is illustrated in our water allocation systems. Water rights doctrine, especially the doctrine of prior appropriation that governs water use in the West, is ill-equipped to accommodate adaptation needs and too inflexible to meet the scarcity scenarios of climate change.²²⁸ Laws often construct procedures and presumptions that tend to distract us from understanding the past, present, and future circumstances of the planet.²²⁹ However, problems arising in water use illustrate the drive to maximize development of the resource, both to serve existing needs but also in the ways we have committed to using water in the future.²³⁰

To perfect a water right under the prior appropriation system, for example, users must divert or otherwise use water. Vesting a water right entails the protection for the means and location of the diversion, the volume of water diverted and uses to which the water is put, as of the date the water is first used. A perfected water right is protected against “junior” water rights, which refers to water uses that are perfected later-in-time. Western water allocation not only allows for “beneficial uses” of water in the present, but encourages more water use than the watershed actually has water: today, the majority of water bodies in the West are

227. R.S. Steneck et al., *Creation of a Gilded Trap by the High Economic Value of the Maine Lobster Fishery*, 25 CONSERVATION BIOLOGY 904, 906 (2011).

228. Robin Kundis Craig, *Drought and Public Necessity: Can a Common Law “Stick” Increase Flexibility in Western Water Law?*, 6 TEX. A&M L. REV. 77, 80 (2018). See also A. Dan Tarlock, *Western Water Law, Global Warming, and Growth Limitations*, 24 LOY. L.A. L. REV. 979, 983 (1991). See generally Chennat Gopalakrishnan, *The Doctrine of Prior Appropriation and its Impact on Water Development: A Critical Survey*, 32 AM. J. ECON. SOC. 61, 63 (1973).

229. See, e.g., RICHARDSON, *supra* note 140, at 15 (“In trying to explain the aetiology of environmental decline, we tend to look at temporally proximate causes, when the real cause may be much older. Loss of biodiversity might be attributed to the presence of the new invasive species, when in fact historic climate shifts, which enable such intruders to thrive, may also informed the explanation.”).

230. See Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENV'T L. 919, 921-22 (1998).

over-appropriated,²³¹ a circumstance that reflects poorly on our preparedness as we find ourselves in an emerging megadrought.²³²

Climate change is expected to drive a “more extreme trend toward megadrought,” including in the Southwest of the United States.²³³ While definitions of megadroughts vary they “generally refer to multidecade drought events that contained periods of very high severity and were longer lasting than any event observed in the 19th or 20th centuries.”²³⁴ In 2020 in *Science*, Williams et al. suggested that “global warming has pushed what would have been a moderate drought in southwestern North America into megadrought territory.”²³⁵ By 2022, in a new study published in *Nature Climate Change*, Williams et al., concluded that the megadrought in southwestern North American was the worst drought since the late-1500s, that is the worst drought in at least 1200 years.²³⁶

Evidence of this megadrought is visible across the West. By February 2022, “95 percent of the western United States was experiencing drought conditions. And in summer 2021, according to the U.S. Bureau of Reclamation, two of the largest reservoirs in North America—Lake Mead and Lake Powell, both on the Colorado River—reached their lowest recorded levels since tracking began.”²³⁷ Water levels in Lake Mead are dropping so low bodies from the 1970s are turning up in barrels in newly exposed shoreline.²³⁸ Rural California is running dry.²³⁹ The Colorado River is running so dry and the levels in Lake Powell are so low that Arizona may have to draw on its “liquid piggy bank” of stored water to meet basic needs.²⁴⁰

Megadrought, thus, is now the background condition for understanding water use and water rights in the American west. Yet our systems of water right remain

231. *Id.* at 960.

232. A. Park Williams, et al., *Large Contribution from Anthropogenic Warming to an Emerging North American Megadrought*, 368 *SCIENCE* 314, 314 (2020). See also Cheng Zhang & Greg Shirah, *Megadrought in U.S. West Projected to be Worst of the Millennium* (visualization), NAT'L AIR & SPACE ASS'N (Nov. 23, 2016), <https://perma.cc/N2UZ-B7JT>.

233. Williams et al., *supra* note 232 at 314.

234. *Id.* See also Chelsea Harvey, *Climate Change Has Helped Fuel a Megadrought in the Southwest: Data from Tree Rings Suggest this Drought is the Worst in the Region in 500 Years*, *SCIENTIFIC AMERICAN* (April 17, 2020), <https://perma.cc/3CBB-49Y5>.

235. A Williams et al., *supra* note 231 at 314. See also Emma Rose, *A Sinking World: A Model Framework for Climate Change Adaptation Measures in Coastal Cities*, 53 *VAND. J. TRANSNAT'L L.* 367, 370–71 (2020).

236. A. Park Williams et al., *Rapid Intensification of the Emerging Southwestern North American Megadrought in 2020–2021*, 12 *NATURE CLIMATE CHANGE* 232, 232 (2022).

237. *Megadrought in Southwest is Now the Worst in at least 1200 Years, Study Confirms*, COLUMBIA CLIMATE SCHOOL (Feb. 14, 2022), <https://perma.cc/EF59-V8GT>.

238. Rain Jordan, *Another Body Found in Lake Mead as Water Levels Continue to Drop*, *NATURE WORLD NEWS* (May 13, 2022), <https://perma.cc/2UFV-4TPQ>.

239. Rachel Ramirez, *As California's Big Cities Fail to Rein in their Water Use, Rural Communities are Already Tapped Out*, *CNN* (June 6, 2022), <https://perma.cc/CAY4-2SN4>.

240. Jennifer Yachnin, *Arizona Prepares to Open its Water Bank*, *E&E NEWS* (June 7, 2022), <https://perma.cc/MPD2-GE93>.

largely static and constrained by notions of stationarity. Stationarity is “the idea that natural systems fluctuate within an unchanging envelope of variability” and it serves as a foundational concept both in natural resource disciplines and in law. Yet stationarity presumes characteristics of nature that simply do not exist since nature is dynamic and constantly in motion, thus contradicting the presumption of stationarity.²⁴¹ Prior appropriation rights illustrate the problem of stationarity.

California’s Department of Water Resources contextualized stationarity as a climate change problem:

In water resources planning, it is often assumed that future hydrologic variability will be similar to historical variability, which is an assumption of a statistically stationary hydrology. This assumption no longer holds true under climate change where the hydrological variability is non-stationary. Recent scientific research indicates that future hydrologic patterns are likely to be significantly different from historical patterns, which is also described as an assumption of a statistically non-stationary hydrology.²⁴²

The ongoing megadrought in the southwestern part of North America confirms the California’s Department of Water Resources’ understanding that rights-based systems grounded in idea of stationarity do not reflect present or future realities. Adhering to patterns of water use and systems of water rights grounded in past practice proved ill-fitting with present and future realities is future dominance.

b. Vested Rights

Land use planning seems equipped to situate human needs and values within a vision of time that is built upon the past, continuous, and always becoming future.²⁴³ Yet the doctrine of vested rights illustrates the ways we use the development process to evade the passage of time.²⁴⁴ The vested rights doctrine freezes development regulations to the moment that a property owner does enough to legitimize the expectation to complete the development. By freezing applicable development regulations, the property owner is shielded from most changes in the law, such as changes to zoning regulations, subdivision regulations, and local environmental laws. In this process, vested rights are thought to promote “fairness” by allowing the property owner to anticipate the costs and form of

241. P.C.D. Milly, et al., *Stationarity is Dead: Whither Water Management?*, 319 SCIENCE 573 (2008).

242. Francis Chung, et al., *Using Future Climate Projections to Support Water Resources Decision Making in California, A Report from: California Climate Change Center* (2009) at 24.

243. Joann Carmin et al., *Progress and Challenges in URBAN CLIMATE ADAPTATION PLANNING: RESULTS OF A GLOBAL SURVEY 4* (2012) (“Traditionally, urban planning draws on past trends as a basis for decision-making. In contrast, climate adaptation planning accounts for changes that are projected to take place in the future.”).

244. See *Union Oil Co. v. City of Worthington*, 405 N.E.2d 277 (Ohio 1980); *Mercer Enter. v. City of Bremerton*, 611 P.2d 1237 (Wash. 1980).

development projects, at least in so far as those issues are influenced by changes in the law.

By removing development rights from the passage of time, vested rights casts an individual property owner's land-use preferences as contrary to, and in competition with the ability of the community and its government to respond to changing circumstances.²⁴⁵ Somewhat ironically, vested rights concurrently result in an entitlement of the property owner to build in ways that are contrary to her own interests: one could acquire vested rights to build an apartment building on a coastline, even after the local government learns of rising sea levels and the eventual but certain destruction of the proposed structure by significant storm events. But law protects this right anyway. This is time dominance enshrined in law.

c. Speculation Under NEPA

Finally, dominance of time occurs in what might seem an unlikely place: informational laws. At first glance, our national environmental and natural resource policies do not appear to engage in time dominance. However, on closer look, the work that environmental laws are doing to preserve the planet and opportunities for future generations is often mired in present values, cultural biases, and economics. For instance, momentalizing under the National Environmental Policy Act (NEPA)²⁴⁶ by limiting the time horizon for analysis of environmental effects walls off agencies' ability to think in terms of nature's time, while allowing agencies to ignore what are undoubtedly the most severe, irreversible impacts from a given project.²⁴⁷ This is especially problematic under NEPA, which plays a significant role in identifying and understanding the impacts of our actions on the environment.

In NEPA, Congress recognized the "profound impact of man's activity on the interrelations of all components of the natural environment" and committed the federal government "to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."²⁴⁸ To accomplish this feat, NEPA established an information-gathering process designed to ensure informed decision-making. In this scheme, agencies are required to assess the probable, adverse environmental impacts that will occur from governmental action.

245. *Avco Cmty. Devs. v. South Coast Reg'l Comm'n*, 553 P.2d 546 (Cal. 1976) (refusing to accept an early date of vesting to avoid "a serious impairment of the government's right to control land use policy.").

246. 42 U.S.C. § 4331.

247. RICHARDSON, *supra* note 140, at 15 ("When damage accretes gradually, the present generation may also not appreciate the extent of past losses and thus the consequences of further degradation. Declines in fisheries, for instance, may seem worrying from the vantage of recent decades, but disastrous from a longer timeframe of over a century.").

248. 42 U.S.C. § 4332.

What is unclear is the depth of analysis that might be necessary. Agencies are required only to analyze foreseeable, and not speculative impacts.²⁴⁹ However, if the goal of NEPA analysis is to understand the legacy of development and pollution being left for future generations, it seems reasonable to assume that the agency should consider the direct, indirect, and cumulative impacts from the project, as well as how the present project effectively commits to actions in the future. Indeed, the court has held that “even if a foreseeable, future action is not a proposed action such that it does not need to be analyzed and decided in the same EIS, the cumulative impacts of this foreseeable action nevertheless must be analyzed in the EIS.”²⁵⁰

In *City of Shoreacres v. Waterworth*,²⁵¹ plaintiffs challenged the Army Corps’ approval of a marine terminal construction in the port of Houston. Plaintiffs alleged that the Corps failed to disclose and analyze the impacts of additional dredging in the future. This challenge seemed reasonable given that the final EIS for the project predicted such action, finding that “widening/deepening of the HSC and its connecting channels would likely be necessary”²⁵² based on a projected increase in marine traffic of 165%.²⁵³ Nevertheless, the Corps refused to consider future dredging needs on grounds that “the distant possibility that deepening the channel may be required thirty years down the road is not a ‘reasonably foreseeable action’” that should be addressed in the FEIS.²⁵⁴ Despite the agency’s acknowledgement that the project would stimulate such changes, the court found that future needs resulting from the project were speculative, thus outside of consideration under NEPA.²⁵⁵

249. 40 C.F.R. § 1508.1; *Sabine River Auth. v. United States Dep’t of Interior*, 951 F.2d 669, 680 (5th Cir.1992).

250. *Tex. Comm. on Natural Res. v. Van Winkle*, 197 F. Supp. 2d 586, 617 (N.D. Tex. 2002).

251. *City of Shoreacres v. Waterworth*, 332 F. Supp. 2d 992 (S.D. Tex. 2004).

252. *Id.* at 1006.

253. *Id.*

254. *Id.* at 1006-07. Likewise, in challenging the approval of an application to export liquefied natural gas (LNG), Sierra Club argued that the Department of Energy failed to “sufficiently examine the indirect effects of LNG exports, such as the effects related to the likely increase in natural gas production and usage that will result from the export authorization.” *Sierra Club v. United States Dep’t of Energy*, 867 F.3d 189, 192 (2017). The federal respondents argued that any such increases could not be predicted and so were speculative. Of course, under NEPA, the lead agency is required to consider the “cumulative impact[s]” on the environment, meaning “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 867 F.3d at 193, citing 40 C.F.R. § 1508.7.

255. *But see* *Bronx Comm. For Toxic Free Schs. v. NYC Sch. Constr. Auth.*, 20 N.Y. 3d 148 (2012) (holding that post-remediation plans for maintenance and monitoring must be disclosed and assessed in an Environmental Impact Statement, even though such plans would be contingent upon post-remediation site circumstances); *Citizens for a Healthy Cmty. v. United States Bureau of Land Mgmt.*, 377 F. Supp. 3d 1223 (D. Colo. 2019) (finding that Defendants failed to consider the reasonably foreseeable indirect impacts from the combustion of oil and gas that would result from the project, despite difficulties in assessing such impacts).

In the abstract, authority to label a particular environmental concern as too “speculative” to justify consideration appears as a practical recognition of the difficulty in predicting the consequences of events that we do not fully comprehend. In practice, however, it seems fair to note that agencies label impacts as speculative not when they are beyond knowability, but simply when they are not presently known.

Given that NEPA is the central tool in federal environmental planning, that the Council on Environmental Quality has determined that greenhouse gas emissions and climate impacts are relevant – and must be considered – as part of the NEPA analysis,²⁵⁶ and that climate science provides ample evidence of the potential scale of future impacts in the United States, rendering NEPA impotent as a tool to consider the future effects of climate change is a distressing form of time dominance.

What we have offered here are just a few examples of the countless ways that time dominance pervades law and culture. In the context of climate change, time dominance drives forms of decision-making that are dominated by present values and preferences and that fail to process and respond to the non-present considerations that define our climate future. A climate dominance framework allows us to reveal the hold that time dominance exerts over our thinking and decision-making. It creates opportunities to loosen the grip of time dominance in order to discover pathways forward towards a more livable future for all.

V. CONCLUSION

Is it possible that future generations will look back at the decision-making frameworks of today and appreciate the focus on economic development, resource extraction, and construction of suburban neighborhoods – instead of habitat and biodiversity enhancement, cultural heritage protection, racial justice, and water conservation?²⁵⁷ In an exercise of imagining forward so that we can look back,²⁵⁸ we might conclude that future generations will understand their own present as a consequence of our history of climate denial and distraction as well as our collective unwillingness to challenge time’s domination.

256. See *Council on Environmental Quality, Guidance on Consideration of Greenhouse Gases*, NEPA.GOV, <https://perma.cc/MHL4-V6DF>.

257. This is not a new observation. See, e.g., Gerardo Budowski, *Middle America: The Human Factor*, in *FUTURE ENVIRONMENTS OF NORTH AMERICA* 144, 145-46 (F. Fraser Darling & John P. Milton eds., 1966) (“From the physical and biological angle of the most disruptive effects have been the tremendous impact on soils, natural vegetation, water regime, and wild animals. Productive areas are being depleted of fast rates and converted sterile lands. Water resources are being mismanaged so as to make them unusable for the future. Immense genetic reservoirs of valuable plants and animals have been or are being destroyed. Even worse, this loss of biologically indispensable material is often irreplaceable, since it involves an irreversible trend.”).

258. See Emily Eliza Scott, *Archives of the Present-Future: On Climate Change and Representational Breakdown*, in *THE AVERY REVIEW* 130 (James Graham, et al., eds.), *CLIMATES: ARCHITECTURE AND THE PLANETARY IMAGINARY* (2016).

In large part, a focus on dominance sheds light on the ways hierarchies of power lead us to allocate and use resources today as if we have no regard for what will be left for future generations. Such a system emerges and thrives when we prioritize economic values over all others. Examining differences through the lenses of space, place, and time allows us to contemplate the ways we prioritize present ways of life, values, and resources to the exclusion of what the values and needs of the underrepresented communities of the present and future might be; it enables us to recognize that we see contemporary interests through dominance lenses and we use a present-day perspective even in determining what impacts might occur in the future. We make decisions that favor particular values and needs over whatever values may emerge from non-dominant perspectives.

Here, we have suggested that a climate dominance framework provides an essential tool for shaping the rule of law around climate change. A climate dominance approach allows us to expose how climate change will be experienced differently by different communities over different timeframes. To put it simply, a climate dominance framework can reveal how pre-existing vulnerabilities and existing social, political, economic, and legal system premised on present forms of power and privilege will shape how people experience climate change. As noted by Jackson, Miss. Mayor Chokwe Antar Lumumba, “Extreme heat is not an equal opportunity threat.”²⁵⁹ In particular, efforts to identify the contexts in which dominance influences advantage and disadvantage are critical to understanding how our climate adaptation policies will create or maintain inequitable circumstances. Moreover, once we surface dominance, we can disrupt it. Disrupting climate dominance can lead to better climate planning and better climate law – better because it is more equitable and, ultimately, more effective at saving lives and sustaining essential natural and human systems.

This is work we are setting out to do.²⁶⁰ To illustrate disruption of climate dominance, in ongoing work, we are exploring climate planning taking place in cities across the United States to interrogate how different places are, and are not, seeing and responding to dominance. These differences, which we will explore from Providence, to Albany, to Fort Collins, to Austin and beyond, reveal the importance of a dominance lens and begin the process of discovering what tools we can use to disrupt social, economic, and environmental dominance and improve climate law. This work will necessarily be iterative and ongoing. The work is daunting, and the timeline is indefinite. But a climate dominance framework makes it possible and climate change makes it necessary.

Today, tomorrow, and for the foreseeable future, climate change is our reality. It will be everyone’s lived experience, and climate dominance is the context

259. Rocky Kistner, *How We Respond, Mississippi Heat: How Jackson is Planning for a Dangerously Hot Future* (July 2021), <https://perma.cc/KD4A-J89H>.

260. See Cinnamon P. Carlame & Keith H. Hirokawa, *Disrupting Climate Dominance* (forthcoming CONN. L. REV. (2023)).

within which we will each experience climate change. Climate dominance is a circumstance of the past and present that will have certain and significant impacts on the adaptive capacity of communities as we confront climate change. Ignoring dominance now will result in policies that further entrench inequities and exacerbate disparities throughout our social, economic, and ecological systems. By identifying and centering dominance, we can begin to illuminate a path to a more equitable and just climate future. Doing so requires that we interrogate the values, rights, and responsibilities that influence our policies to determine whether climate decision-making frameworks (particularly policies that seem so obvious and unquestionable from a dominant perspective) might do more harm than good. In the final analysis, addressing climate dominance will (finally) force us to consider outcomes that reflect a need to prioritize equity and inclusivity across space, place, and time in our emerging rule of law around climate change.