JULIANA AND THE POLITICAL GENERATIVITY OF CLIMATE LITIGATION

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Introduction

Climate change litigation is on the rise.[1] The lawsuits do not necessarily share doctrinal moorings—climate litigation spans multiple areas of the law and causes of action. Rather, climate change lawsuits share a connection to the impacts or harms of climate change.[2] Climate litigation has emerged and multi-

* J.D. Candidate, Harvard Law School, Class of 2019. Many thanks go to the editorial team of the *Harvard Environmental Law Review*, and in particular, to Michael Mitchell and Tanmay Shukla for their invaluable advice, edits, and encouragement. Special thanks go to Anna Tarshish for many helpful conversations and support.

1. Searching on Westlaw with the following query—"climate /3 chang! /3 litigat!"—on February 17, 2019, yielded 1,037 results in the "Law Reviews & Journals" category. The "/*n*" operator searches for terms on either side of the operator within *n* words of each other. The "!" operator returns search terms with any number of characters in the place of "!". Of the 1,037 results, 888 law review articles have been published on or after January 1, 2008, and 256 in the last four years. Although this is an imperfect research metric at best, it helps gauge changes in the use of certain rhetorical framings in scholarly discourse, like "climate change litigation."

2. The climate litigation phenomenon is not well-suited to a rigid definition, but its contours are clear. It is, however, important to recognize that there are two general kinds of climate lawsuits. This Article speaks only of the first when it talks about climate litigation. The first category—which could be termed pro-regulatory or environmentalist—includes cases in which plaintiffs seek to minimize greenhouse gas emissions, mitigate the impact of climate

plied roughly during the same era—the last twenty-five to thirty years—in which Congress has failed to enact any major new legislation to regulate greenhouse gas emissions.[3] President Trump's deregulatory agenda in the area of environmental law has also hastened the rise of climate litigation. Environmental non-profit organizations, state and local governments, and others seeking to advance (or maintain) environmental protections have resorted to the courts to block deregulatory action.[4]

Not all climate litigation is cut from the same cloth. Of recent climate lawsuits, perhaps the most prominent—at least beyond the legal community—is the Our Children's Trust litigation, commonly referred to as *Juliana*,[5] which is ongoing as of the time of the writing of this Note. The twenty-one named teenage plaintiffs in the case claim a right to a stable atmosphere enshrined in the Fifth Amendment Due Process Clause and guaranteed by the public trust doctrine. They also seek an injunction ordering the federal government to stop violating that right and directing the government to develop a plan to reduce

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change, or compel courts to hold either governments or corporations responsible for the effects of climate change. The second category—anti-regulatory, in short—includes cases brought by parties seeking to challenge or stall governments' climate mitigation or adaptation actions.

3. *See* Richard J. Lazarus, *Judicial Missteps, Legislative Dysfunction, and the Public Trust Doctrine: Can Two Wrongs Make It Right?*, 45 ENVTL. L. 1139, 1149 (2015) ("Congressional paralysis continues today unabated, twenty-five years since the Clean Air Amendments of 1990, effectively forcing federal agencies to try to address today's pressing problems with statutory language often ill-suited to that task. Congress has proven unable to pass climate legislation notwithstanding the compelling need for such legislation.") (citing Jody Freeman & David B. Spence, *Old Statutes, New Problems*, 163 U. PENN. L. REV. 1, 63–79 (2014) and Richard J. Lazarus, *Environmental Law Without Congress*, 30 J. LAND USE & ENVTL. L. 15, 30–31 (2014)).

4. *See* DENA P. ADLER, SABIN CTR. FOR CLIMATE CHANGE LAW, COLUMBIA LAW SCHOOL, U.S. CLIMATE CHANGE LITIGATION IN THE AGE OF TRUMP: YEAR ONE i, iii–iv, 27 (2018) (summarizing eighty-two cases pending or decided during the first year of the Trump presidency that "explicitly discuss GHG emissions or climate change impacts in relation to their claims"); Damian Carrington, *Can Climate Litigation Save the World?*, GUARDIAN (Mar. 20, 2018), https://perma.cc/D3SN-99T6 ("More and more climate cases are being filed, with lawyers suggesting a range of factors, from the election of Donald Trump to more extreme weather events, to revelations about what fossil fuel companies knew about climate change dangers, and a growing awareness of the urgent need to act.").

5. For a catalog of developments at every procedural stage of the litigation—and there have been many—see *Details of Proceedings*, OUR CHILDREN'S TRUST, https://perma.cc/6UM8-4DGV. Thus far, the litigation has yielded one judicial opinion that recognizes the plaintiffs' standing and addresses the merits of the claims. *See* Juliana v. United States, 217 F. Supp. 3d 1224 (D. Or. 2016). As of late April 2019, the suit is set to be argued on interlocutory appeal before the United States Court of Appeals for the Ninth Circuit. *See Details of Proceedings*, *supra*. On a different note, it bears mention that not all the plaintiffs are teenagers any longer, though all were when they first brought the lawsuit in 2015. *See Meet the Youth Plaintiffs*, OUR CHILDREN'S TRUST, https://perma.cc/YRH9-D6LP; *Details of Proceedings*, *supra*.

carbon dioxide ("CO_2") emissions.[6] In light of how ambitious the lawsuit's theories are and the deliberate decision to foreground the identities and personal stories of its twenty-one minor plaintiffs, it should not be surprising that the suit has generated extensive media coverage.[7]

This Note makes the case that novel climate lawsuits like *Juliana* can—*win or lose*—lead to constructive legal and political responses to climate change. Insights from behavioral psychology and economics offer valuable foundations for a theory of how novel climate lawsuits can pave the road toward new environmental lawmaking or enhance the likelihood that future suits will prevail. The theory of "availability cascades," which Professors Timur Kuran and Cass Sunstein first proposed in a 1999 article, is especially relevant. Unlike other concepts that Professor Sunstein and colleagues have developed by applying behavioral science to law and policy—nudges, for example—the notion of availability cascades has generated fairly little consideration within and beyond legal scholarship.[8] However, the theory of availability cascades explains how groups of people can quickly come to hold the same views about something, especially risks.

The availability cascade theory has two main pieces. The first is the availability *heuristic*. The availability heuristic explains individual belief formation. It is "a mental shortcut by which an individual judges the probability of an event by his or her ability to conjure up examples of that event."[9] Events that are easier to conjure up are more cognitively "available." The second piece focuses on "the social mechanisms through which risk perceptions are propagated."[10] Focusing on social mechanisms explains why a certain risk perception or idea would be more available for an individual than a different risk perception. Prac-

6. *Juliana*, 217 F. Supp. 3d at 1233, 1248–61.

7. For lists of hundreds of instances of coverage in national outlets, niche publications, local news stations, and other media, see *Written Media Coverage*, OUR CHILDREN'S TRUST, https://perma.cc/9RY9-VHTG; *Video & Radio Coverage*, OUR CHILDREN'S TRUST, https://perma.cc/69G6-C92W.

8. *See* Jennifer Schuessler, *Cass Sunstein Wins Holberg Prize*, N.Y. TIMES (Mar. 14, 2018), https://perma.cc/NT4S-7T89 ("Mr. Sunstein . . . has had direct influence in the world of politics and policy. He scored a best-seller in 2009 with 'Nudge: Improving Decisions About Health, Wealth and Happiness,' written with Richard H. Thaler, which has been consulted by policymakers around the world."). Further, several of Sunstein's law review articles are far more highly cited than the article on availability cascades. A 2012 analysis found that three of his articles are among the 100 most highly cited articles ever. *See* Fred R. Shapiro & Michelle Pearse, *The Most-Cited Law Review Articles of All Time*, 110 MICH. L. REV. 1483, 1489–92 (2012). The same study identifies four other Sunstein articles among the top five most highly cited articles in their year of publication between 1990 and 2009. *See id.* at 1492–97.

9. Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STAN. L. REV. 683, 685 (1999).

10. *Id.*

tically, availability cascades have the capacity to quickly move certain risks to the top of policymakers' agendas.

The availability cascade theory has a special relationship to environmental law. In their article, Sunstein and Kuran identified availability cascades at work in the information and political environments that gave rise to a new environmental statute, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA," or the Superfund law),[11] and to EPA's decision to seek changes to laws concerning pesticides in the Alar scare of 1989.[12] Certainly, confronting the climate crisis will require greater lawmaking efforts than those that led up to CERCLA's passage and EPA's response to anxiety about Alar.[13] Nevertheless, availability cascades could still play a significant role.

This Note proceeds in two parts. Part I delves into the theory of availability cascades. First, this Part describes how the theory of availability cascades, complemented by other insights from behavioral psychology, suggests a blueprint for information campaigns that can influence political agenda-setting. Then, Part I adds to the literature on availability cascades and environmental law, respectively, by wedding analyses of availability cascades in particular episodes of environmental lawmaking with historical narratives that explain how and why environmental law has developed over time. The analysis of these episodes highlights how availability cascades have worked short-term legal changes through, for example, new legislation or changes to a regulatory regime. I argue here that availability cascades can, working separately and in tandem, also lay the groundwork for long-term change by entrenching new, widely shared beliefs. The emergence of modern environmental law illustrates the general contours of this phenomenon.

Part II applies the preceding ideas to *Juliana*, and argues that legal losses (on the merits or otherwise) could yield usable tools for those seeking to mobilize support for future climate change litigation or new legislative proposals. In particular, Part II argues that judicial determinations that plaintiffs lack standing could clarify the outer limits of standing doctrine, which could lay the groundwork for subsequent climate change cases that keep constitutional and public trust rights in public view. In addition, advocates could shine a light on judicial language about standing in public messaging campaigns, highlighting just how out of touch the law is with the most prevalent risk perceptions concerning climate change. Through either avenue, losses in this case could further

11. 42 U.S.C. §§ 9601–9628 (2012).

12. Kuran & Sunstein, *supra* note 9, at 698–702.

13. *See infra* notes 58–60 and accompanying text; *see also* R. Henry Weaver & Douglas A. Kysar, *Courting Disaster: Climate Change and the Adjudication of Catastrophe*, 93 NOTRE DAME L. REV. 295, 296 (2017) ("Climate change challenges the capacity of law.").

entrench public belief in the inadequacy of the status quo, and, fast or slow, generate a cascade toward climate solutions.

I. Looking Back: Availability Cascades and the History of Environmental Lawmaking

This Part lays two necessary foundations. First, it introduces the theory of availability cascades and offers a new perspective on the role that availability cascades played in the history of environmental lawmaking. Availability cascades were influential, but not only for their short-term effects on political agenda-setting. The long-term, cumulative effects of multiple availability cascades contributed to the background process of collective belief formation that paved the way for watershed legislation.

Kuran and Sunstein's theory of availability cascades extended a growing legal scholarly movement to incorporate insights from behavioral psychology and economics. The theory neatly weds different ideas from the behavioral sciences to explain how ideas about risks can spread quickly through a society, with implications for how policymakers ought to regulate risk. Moreover, availability cascades are not limited to a particular policy domain. They are observable across multiple areas, from #metoo/timesup[14] to conspiracy theories.[15] As Kuran and Sunstein illuminated, availability cascades have had a particularly important hand in shaping particular episodes of environmental lawmaking and policy changes.

A. Availability Cascades: The Theory

To examine availability cascades in action during history, one must first define what they are—and what they are not. The latter is important because the theory is susceptible to oversimplification by way of overgeneralization.[16] Without enough mooring in details, the theory loses its power to serve as a useful tool for policy change. On the other hand, an overly technical explana-

14. *See generally* Cass R. Sunstein, #MeToo as a Revolutionary Cascade (Nov. 7, 2018) (Working Paper), https://perma.cc/J9U3-RZVM.

15. *See* Zach Beauchamp, *Twitter's CEO Doesn't Get How Conspiracy Theories Work*, Vox (Aug. 9, 2018), https://perma.cc/HQ9E-4N6J (using the concept of availability cascades to explain the spread of conspiracy theories on Twitter).

16. Professor Molly Wilson and Megan Fuchs give an example of one such oversimplified characterization published in an Alabama newspaper: "The simple definition of availability cascade is when we read and hear in the media about an issue so much that we accept it as reality." Molly J. Walker Wilson & Megan P. Fuchs, *Publicity, Pressure, and Environmental Legislation: The Untold Story of Availability Campaigns*, 30 Cardozo L. Rev. 2147, 2155 n.43 (2009) (citing Jim Blasingame, *Avoid Dangers of Availability Cascade*, Times-Daily.com (Jan. 18, 2008), https://perma.cc/QM2V-8JVA).

tion would also make the theory less useful for elected officials, activists, lawyers, and other advocates without a background in behavioral psychology.

In that spirit, here is an original (albeit imperfect) distillation. During an availability cascade, information about a particular topic becomes increasingly prominent—that is, available—over a period of time. It is not possible to specify the temporal bounds of a cascade. The important idea is that a cascade is rapid rather than incremental or gradual. Critical, too, is that the information comes with a point of view. It is not just that debate or deliberation about a given issue becomes more prominent; rather, a particular position quickly comes to saturate the discourse. People who are unsure of their own stance on the issue become more likely to embrace the increasingly available viewpoint. At the same time, as more people publicly embrace that point of view, those who privately harbor doubts grow more reluctant to publicly express those doubts for fear of funny looks or more serious forms of social sanction.

Professor Grow Sun explains the behavioral underpinning of the phenomenon:

> [A]n availability cascade [i]s a self-reinforcing process of collective belief formation by which an expressed perception triggers a chain reaction that gives the perception increasing plausibility through its rising availability in public discourse. More simply, an availability cascade results from the interaction of the 'availability heuristic'—a mental shortcut by which an individual judges the probability of an event by his or her ability to conjure up examples of that event—and the social mechanisms through which risk perceptions are propagated.[17]

As this summary indicates, availability cascades are about the two-way interaction between public discourse and private beliefs. "these two sets of influences . . . form a circular process. Public discourse shapes individual risk judgments, risk preferences, and policy preferences; and the reshaped personal variables then transform the public discourse that contributed to their own transformations."[18]

Availability cascades can quickly move certain risks to the top of policymakers' agendas. As the collective belief in the danger posed by *Risk A* grows, advocates pressure policymakers to take action against *Risk A*. Policymakers, who are themselves not immune to cascades, come to believe in the urgency of regulating *Risk A*, even if empirical studies suggest *Risk A* is no greater a public threat than *Risk B*. As Kuran and Sunstein put it, "[o]ne risk may gain salience, receive an enormous amount of attention, and become the object of tight regu-

17. Lisa Grow Sun, *Disaster Mythology and Availability Cascades*, 23 DUKE ENVTL. L. & POL'Y F. 73, 77 (2012) (internal quotations omitted).

18. Kuran & Sunstein, *supra* note 9, at 712.

lation, while another risk, which experts deem equivalent, is treated as 'part of normal life.'"[19]

Contrary to some scholars' claims, the theory of availability cascades is primarily a positive theory, not a normative one. Kuran and Sunstein do not make an inflexible claim about whether the policy change that results from a cascade is necessarily good or bad. Although they do conclude that availability cascades have a particular capacity to lead to "unnecessarily stringent regulation . . . based on unrealistic fears,"[20] fundamentally, their theory identifies a particular dynamic through which certain issues rise to the top of the lawmaking agenda—which entrepreneurial advocates can consciously harness to their advantage.

The following section argues that availability cascades were important to multiple watershed moments in environmental lawmaking—not to the exclusion of other forces, but alongside and among them.[21]

B. Availability Cascades in the Emergence of Environmental Law

This section makes two claims about the role of availability cascades in the history of environmental lawmaking. The first is that various episodes of environmental lawmaking, especially those preceded by intense public controversy, outrage, or organized protest, bear the marks of availability cascades. Each of

19. *Id.*

20. Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1176 (2009) (citing Kuran & Sunstein, *supra* note 9, at 742–46).

21. It is worth acknowledging that the theory of availability cascades is not the only social science theory that tries to explain why environmental lawmaking has unfolded in bursts. At least one such theory—the theory of "punctuated equilibrium"—complements, if not strengthens, that of availability cascades. Academics in the fields of political science and environmental studies use the phrase "punctuated equilibrium" to refer to an observed cycle in environmental policy (and other policy realms) that consists of extended periods of stasis followed by short bursts of activity. *See* Robert Repetto, *Introduction*, *in* PUNCTUATED EQUILIBRIUM AND THE DYNAMICS OF U.S. ENVIRONMENTAL POLICY 6–10 (Robert Repetto ed., 2006) [hereinafter "PUNCTUATED EQUILIBRIUM"]. In short, the idea is that the bursts of activity occur abruptly, driven by momentum that gathers around strong and widespread support for a particular policy position. *See id.*; *see also* Frank R. Baumgartner, *Punctuated Equilibrium Theory and Environmental Policy*, *in* PUNCTUATED EQUILIBRIUM, *supra*, at 37. The spark, unsurprisingly, is not supplied by the action of a single leader or individual. Rather, the spark flares somewhere in the thick of a "social cascade" in which decision-makers act at the same time based on their beliefs about others' expectations. *See id.* at 44. (Notably, however, Baumgartner does not define "social cascade.") Such cascades, the proponents of the punctuated equilibrium theory argue, are delicate things, difficult to predict—let alone engineer. Consequently, they emphasize the importance of flexibility and coalitions among advocates. *Id.* At a minimum, the concept of punctuated equilibrium aligns with that of availability cascades, and underscores the usefulness of further studying how cascades spark change.

the examples of availability cascades connected to environmental law considered in this section had to do with some kind of disaster. This observation should not surprise us.

Second, this section suggests that the theory of availability cascades can also help explain the intellectual and rhetorical paradigm shifts integral to the explosion in pollution control legislation in the 1970s. The contemporary federal pollution control regimes stand atop a foundation of statutes that Congress enacted between the late 1960s and early 1990s. The enactment of landmark pieces of legislation like the Clean Air Act of 1970 ("CAA") and the Federal Water Pollution Control Act Amendments of 1972 (the Clean Water Act, or "CWA") resulted from a fundamental change in how lawmakers, judges, and Americans generally thought about the relationship of human activity and industrial activity to time and space. Collectively, people came to recognize that the harmful downstream effects of industry extended over longer time horizons and more expansive geographic areas than previously believed (or perhaps even imagined). This process of collective belief formation can be understood as a meta-cascade of sorts, woven together and supported by a series of smaller availability cascades, including those triggered by individual environmental disasters.

1. Instances of availability cascades in environmental law

Availability cascades have a special relationship with disaster, and disaster has a special relationship with environmental law. Certainly, disaster is not the only catalyst for new environmental lawmaking or regulatory action. But disasters have the capacity to quickly make certain broad environmental issues more cognitively available. As Rahm Emanuel said of the crisis facing the car industry in 2008 and 2009, "Never allow a crisis to go to waste. They are opportunities to do big things."[22] In the environmental context, disasters—especially those with directly observable and evocative manifestations[23]—make the underlying policy issues more cognitively available. Such disasters need not only arise from unusual events, however. An enterprising advocate can "shine light on otherwise ordinary events . . . to help engineer a sense of crisis."[24] To illustrate,

22. Lisa Grow Sun & Brigham Daniels, *Externality Entrepreneurism*, 50 U.C. DAVIS L. REV. 321, 379 (2016) (quoting Jeff Zeleny, *Obama Reviewing Bush's Use of Executive Powers,* N.Y. TIMES (Nov. 10, 2008), https://perma.cc/3B45-HQUA).

23. *See, e.g.*, Jonathan Lovvorn, *Climate Change Beyond Environmentalism Part I: Intersectional Threats and the Case for Collective Action*, 29 GEO. ENVTL. L. REV. 1, 61 (2016) (describing how the Oil Pollution Prevention Act of 1990 was "enacted in the wake of the Exxon Valdez disaster, and fueled by images of helpless birds and marine mammals, covered in oil, struggling and dying on Alaskan beaches").

24. Grow Sun & Daniels, *supra* note 22, at 380.

the following paragraphs briefly describe some modern environmental disasters and explain how they generated availability cascades, and in turn, new law.

Deadly smog and the enactment of early air pollution statutes. Between the 1940s and the 1960s, intense smog descended on large and small U.S. cities. In October 1948, an episode of severe air pollution caused by "inversion"[25] in the town of Donora, which is in the heart of Pennsylvania steel country, brought a dark, gray cloud so thick that people could not drive. The smog stayed for a week and was responsible for the deaths of at least twenty residents[26] and fears that hundreds more might die.[27] The White House was "alarmed."[28] Lethal smog strikes were not part of normal life; the fear and alarm made the issue highly cognitively available to area residents and leaders, as well as federal government officials. Once these smog crises became widely cognitively available at a national level, the broader issue of air pollution became more available to various players across the federal government, especially the administrative agencies. The agencies, in turn, began to entrench air pollution in their institutional public health and proto-environmentalist agendas. The following year, the Public Health Service called for further research into the causes of air pollution, and one year after that the United States Department of the Interior convened a conference on the topic.[29] Although no federal legislation immediately followed, President Eisenhower signed the first federal air pollution statute in 1955 (weak though it was compared to its successors).[30] Further, the mid-century smog strikes were far from over, and some that followed dwarfed Donora's in size and severity. For example, a similar severe air pollution episode hit New York City in 1953, reportedly resulting in at least two hundred deaths.[31] Legal scholars have linked these highly visible, fear-inducing episodes to the evolution of air pollution legislation throughout the 1950s and 1960s, culminating in the landmark CAA of 1970.[32]

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25. Inversions "occur when a layer of hot air warmed by the water exists above cooler ground-level air and traps smoke and particulate matter under the warmer air." Arnold W. Reitze, Jr., *A Century of Air Pollution Control Law: What's Worked; What's Failed; What Might Work*, 21 ENVTL. L. 1549, 1575 (1991).

26. *See id.* at 1585; Ann Murray, *Smog Deaths in 1948 Led to Clean Air Laws*, NPR (Apr. 22, 2009), https://perma.cc/G7CZ-2NLN.

27. KARL BOYD BROOKS, BEFORE EARTH DAY: THE ORIGINS OF ENVIRONMENTAL LAW, 1945-1970, at 62 (2009).

28. *Id.*

29. Reitze, Jr., *supra* note 25, at 1585.

30. *Id.*

31. RICHARD J. LAZARUS, THE MAKING OF ENVIRONMENTAL LAW 52 (2004).

32. *See* Reitze, Jr., *supra* note 25, at 1586–90 (1991) (discussing a series of severe smog events in the United States in the early 1960s that spurred President Kennedy's recommendation for new air pollution legislation in 1963, and subsequent smog events later in the decade that generated media attention and informed the legislative debates that led up to the passage of

In California, smog did not strike so much as stay and accumulate, and, like its counterparts in the east, it led to bursts of lawmaking. In Los Angeles, the regional economy doubled in size in the nine years following World War II, and commuters became intimately acquainted with the "smog-choked San Fernando Valley" and the smog that obscured mountain ranges forty times a year.[33] California passed a pioneering air pollution statute in 1947, but persistent public health concerns continued to "galvanize[]" grassroots political action.[34] That action led to the development of a sophisticated regional regulatory regime for Southern California built atop the floor established by the California statute.[35] Political debates about air pollution in California "both previewed and shaped the ultimate nationalization of air pollution law."[36]

Silent Spring and the banning of DDT. Silent Spring, Rachel Carson's 1962 book, is one of the icons of the environmentalist movement. Writing in the wake of Carson's death, historian and writer Jill Lepore remarked that *Silent Spring* "launched the environmental movement. . . . The number of books that have done as much good in the world can be counted on the arms of a starfish."[37] Robert Gottlieb has attributed "a new decade of rebellion and protest" for the environmentalist movement, at least in part, to the book's publication.[38] The monumental political, historical, and symbolic value of *Silent Spring* is undisputed. Less discussed, however, is how the book's intense and immediate impact was made possible in part by the increasing cognitive availability of the manifestations and harms of environmental degradation. In his account of the untold history of environmental law during the mid-twentieth century, Karl Boyd Brooks explains how environmental advocates and policymakers were primed to act swiftly on Dichloro-Diphenyl-Trichloroethane ("DDT"), whose harms *Silent Spring* documented, because of growing awareness of environmental threats in the post-war years.[39] One trend responsible for increased cognitive availability of environmental degradation among conservationist and environmentalist organizations and magazines was growth in outdoor recreation. The number of federal fishing and hunting licensees grew much faster than the rate of population growth; similarly, between 1945 and 1955, the total number of

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the CAA); LAZARUS, *supra* note 31, at 52 ("By the 1960s, Congress was ready and able to enact a series of new environmental statutes.").

33. BROOKS, *supra* note 27, at 64–65.

34. *Id.* at 63, 65.

35. *Id.* at 65, 69–70 (discussing the creation by state statute in 1948 of California's first Air Pollution Control District, and the "vast quantity of new environmental law" that District produced).

36. *Id.* at 63.

37. Jill Lepore, *The Right Way to Remember Rachel Carson*, NEW YORKER (Mar. 26, 2018), https://perma.cc/MTR4-J52J.

38. ROBERT GOTTLIEB, FORCING THE SPRING: THE TRANSFORMATION OF THE AMERICAN ENVIRONMENTAL MOVEMENT 121 (2005).

39. BROOKS, *supra* note 27, at 93–109.

visitors to national forests grew by 250 percent.[40] At the same time, suburbanization and population growth conditioned lawmakers to be more attuned to the public health and safety concerns of the suburban middle class, especially those concerning the food supply.[41] By the time that primetime television was covering *Silent Spring*'s reporting on DDT in 1963, the general availability of environmental risk and degradation was like kindling waiting to ignite.

In *Silent Spring*, Carson famously "indict[ed] the unrestrained chemical use on crops, trees, and even humans."[42] The book's revelations alarmed the public and "pushed congressional committees and presidential commissions into new action."[43] It took ten years to reach a federal ban on DDT for crop uses,[44] but that ban came atop a stream of government investigations, regulatory actions, and litigation. DDT had gained regulatory approval in 1945, proceeded to enter widespread use, and was hailed as a "miracle" pesticide.[45] After 1962 (but before the creation of EPA), the Department of the Interior and the Department of Agriculture repeatedly narrowed the permitted uses of the pesticide.[46] Before EPA assumed responsibility for much federal pesticide regulation and announced the DDT ban in 1972 (which exempted certain public health uses), the agency faced pressure in the courtroom from environmental nonprofit organizations.[47]

Love Canal and the enactment of CERCLA. Although Love Canal may not be as much of a household name as *Silent Spring*, it comes close for students of environmental law. Love Canal was a site in western New York State where toxic waste had been deposited in the 1940s and early 1950s.[48] The cascade began with a state government report of the effects of the toxic waste site on fish populations, followed by sensationalist local news coverage.[49] That baseline level of risk availability set the stage for ardent area residents to intensify focus on the issue, first statewide and then nationally, through door-knocking campaigns, petitions, and exhortations to report any and all apparent health abnormalities to public officials.[50] Two years later, President Carter declared Love Canal an emergency.[51] Two years after that, in 1980, Congress passed CER-

40. *Id.* at 97.
41. *Id.* at 111–12.
42. *Id.* at 93.
43. *Id.* at 117.
44. *See DDT Regulatory History: A Brief Survey (to 1975)*, EPA, https://perma.cc/YU7E-H9L4.
45. Wilson & Fuchs, *supra* note 16, at 2185–87.
46. *See DDT Regulatory History: A Brief Survey (to 1975)*, *supra* note 44.
47. Wilson & Fuchs, *supra* note 16, at 2186–87.
48. *See* Kuran & Sunstein, *supra* note 9, at 691.
49. *Id.* at 691–98.
50. *Id.* at 691–94.
51. *Id.* at 691–96.

CLA, which sought to incentivize cleanup of toxic waste sites by establishing a liability regime for certain responsible parties.[52] The publicity that attended Love Canal, in the form of magazine cover stories and network documentaries, swiftly opened a window for political action on toxic waste sites, which EPA had already been contemplating out of the limelight. As Kuran and Sunstein relate:

> Even before the 1978 news blitz, the EPA had worked on drafting an ambitious new law to address contamination problems. But publicity about Love Canal was crucial to this law's passage in 1980. Love Canal, and its attendant publicity, was a watershed event that crystallized public concern about toxic waste sites. In that year, Time magazine made the topic of waste sites a cover story, and new network documentaries followed suit. Polls conducted at the time showed that all this publicity dramatically influenced the views of Americans about industrial wastes: Eighty percent favored prompt federal action to identify and clean up potentially hazardous abandoned waste sites. Congress responded quickly with the Superfund statute, which called for $1.6 billion in expenditures over five years.[53]

CERCLA established a sweeping liability regime in which private parties could bring suit against owners of waste sites, past owners and operators, parties who transported hazardous waste to the sites, and even those who "arranged" for the transportation, treatment, storage, and disposal of hazardous waste at the sites.[54] The law thus changed the incentives of businesses involved with the hazardous waste trade, putting them on notice of the consequences of "not taking every possible measure to guard against liability based on future activities," an impact that Professor Lazarus calls both "immediate and far-reaching."[55]

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52. LAZARUS, *supra* note 31, at 108–10.

53. Kuran & Sunstein, *supra* note 9, at 696.

54. LAZARUS, *supra* note 31, at 108–10.

55. LAZARUS, *supra* note 31, at 110. Note, though, that Kuran and Sunstein use the case of CERCLA's passage to illustrate the negative features of availability cascades. They argue that research later showed that anxiety about Love Canal was disproportionate to the threat that the site actually posed to nearby residents. Kuran & Sunstein, *supra* note 9, at 697. They further point out that throughout the 1980s and into the early 1990s, polling data showed that Americans perceived hazardous waste sites to be among the most pressing environmental problems, if not the most pressing. *Id.* at 696. The combination of the Love Canal crisis and the political response that followed thus made hazardous waste sites a more cognitively available example of environmental risks than others. Consequently, resources invested in enforcing the law could have had greater public health benefits if directed toward other risks. For Kuran and Sunstein, the CERCLA cascade, together with the others featured in the article, show why it is important to build safeguards into the legislative process that prevent Congress from devoting undue resources to a given risk. *Id.*

The list could go on. It would include the Bhopal Disaster and the passage of the Emergency Planning and Community Right to Know Act of 1986,[56] and the Exxon Valdez oil spill and the passage of the Oil Pollution Act of 1990.[57]

Climate change, however, challenges historical paradigms of environmental disasters. Climate change is a larger and more complex phenomenon than a single spill or localized concentrations of severe air pollution.[58] Climate change manifests in, but is not reducible to, individual extreme weather events.[59] Admittedly, then, the obstacles to generating an availability cascade on climate change are different from those that environmentalist activists and advocates of earlier eras faced—but not entirely so. As belief in and worry about climate change grows,[60] so does popular perception of the connection between the complex, background process of global warming and individual extreme weather events. According to a nationally representative survey conducted by researchers from George Mason University and Yale University during November and December 2018,[61] "[h]alf of Americans think global warming made several extreme weather events in 2018 worse," and over a quarter of the population thinks that global warming made wildfires in the western United States as well as Hurricanes Florence and Michael "a lot worse."[62] Relatedly, one-third of respondents in a nationally representative Gallup poll conducted in early March 2019 reported experiencing "atypical winter weather" (temperatures that were either colder or warmer than usual) that they attributed to "human-induced climate change."[63] In recent years, the proportion of those reporting experiencing atypical winter weather in annual Gallup surveys who attribute the variation

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As discussed earlier, however, the availability cascade theory enables more than just a negative critique of the federal policymaking process. Fundamentally, the theory shines a light on how the availability heuristic functions at scale in a modern society, and how those social effects can quickly move a particular risk to the top of policymakers' agendas.

56. *See* LAZARUS, *supra* note 31, at 110–11.

57. *See* Wilson & Fuchs, *supra* note 16, at 2200–05.

58. *See generally* Lazarus, *supra* note 20, at 1161–73 (describing the distinct scientific features of climate change that "render lawmaking especially difficult").

59. *See* David Reidmiller et al., *Overview*, *in* FOURTH NATIONAL CLIMATE ASSESSMENT: IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES 33–71 (2018), https://perma.cc/2B4A-AX8K ("The impacts and costs of climate change are already being felt in the United States, and changes in the likelihood or severity of some recent extreme weather events can now be attributed with increasingly higher confidence to human-caused warming.").

60. *See* Maggie Koerth-Baker, *Americans Were a Lot Less Worried About Climate Change Before Trump Took Office*, FIVETHIRTYEIGHT (Feb. 6, 2019), https://perma.cc/B7JJ-JKUA.

61. ANTHONY LEISEROWITZ ET AL., YALE PROGRAM ON CLIMATE CHANGE COMMC'N, CLIMATE CHANGE IN THE AMERICAN MIND: DECEMBER 2018 (2019), https://perma.cc/3A8W-RAEF.

62. *Id.* at 23.

63. Lydia Saad, *One-Third in U.S. Blame Unusual Winter Temps on Climate Change*, GALLUP (Mar. 19, 2019), https://perma.cc/X38R-8S49.

to climate change has increased rapidly.[64] One takeaway from these data is that we need not confine ourselves to a rigid conception of environmental disaster for the purpose of thinking about what manifestations of climate change might portend for politics and policy. The term "disaster" is not indispensable, either. The close association that more and more Americans are making between anthropogenic climate change and severe weather events is keeping climate change highly available in national consciousness, ripening conditions for policy change.

2. Multiple availability cascades and collective belief formation

The significant growth in environmental law in the late 1960s and 1970s would not have been possible but for changes in collective beliefs, or background understandings, about the two-way relationship between human society and the natural world. This process of collective belief formation that occurred in the mid-twentieth century followed a series of availability cascades on environmental issues like those highlighted in the section above. Each successive cascade strengthened and accelerated the process of collective belief formation. Shared beliefs made conditions ripe for new environmental lawmaking. Availability cascades often supplied the necessary spark.

The enactment of the major environmental statutes in the late 1960s and early 1970s was a watershed, but also an outgrowth of early state and federal forays into environmental regulation, themselves spurred by outcries about environmental disasters like the lethal smog that hit Donora, Pennsylvania, and New York City. Multiple accounts establish this point. As Professors Donald Elliot, Bruce Ackerman, and John Millian explain, "In pointing to the extraordinary nature of the environmental statutes of the 1970s, we do not mean to suggest that there were no precursors. On the contrary . . . we believe that statutes such as the Clean Air Act of 1970 were a natural outgrowth of a lawmaking process which began at least a decade earlier at the state level."[65] Although Elliot, Ackerman, and Millian focus on the ways in which environmental lawmaking took a "dramatic plunge forward" in the early 1970s,[66] this observation makes the simple but important point that the sparks that ignited change would not have occurred but for earlier advances. Other historical accounts of the emergence of modern environmental law make the point even more strongly.[67]

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64. *Id.*

65. E. Donald Elliot, Bruce A. Ackerman, & John C. Millian, *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. Econ. & Org. 313, 318 (1985).

66. *Id.*

67. Karl Boyd Brooks has argued that the histories of environmental law typically downplay the importance of the postwar period up until the ferment of the late 1960s:

In his historical account, Professor Lazarus has argued that a profound process of collective belief formation underlay the evolution of environmental law. The process entailed changing background understandings of how industrial activity affects public health over longer time horizons and broader geographical expanses than previously known. Lazarus neatly characterizes the belief formation process as one of changing conceptions of time and space.[68] Judge Skelly Wright of the D.C. Circuit Court of Appeals, who famously (and self-consciously) used his opinions to open the floodgates of environmental litigation,[69] captured the changing collective beliefs when he wrote that "[m]an's ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations."[70]

Compare *Silent Spring* with another revelatory work that led to public safety legislation some fifty years prior. In 1906, the muckraker Upton Sinclair published *The Jungle*, "a socialist screed aimed at revealing the plight of immi-

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> Environmental law did not appear in a revolutionary moment of intense national creativity after 1969. A slower, more complicated, evolutionary process of legal change laid down environmental law's foundation before the first Earth Day. By using various lawmaking methods in diverse settings millions of Americans had already established modern environmental law's basic principles by 1970. Environmental law emerged steadily, over more than a quarter-century, in the most ordinary, commonplace ways, its birth less spasmodic than episodic. Its makers were citizens seeking desired outcomes to actual disputes, lawyers representing clients, judges deciding cases, and representatives expressing constituents' views.

BROOKS, *supra* note 27, at 6–7.

Professor Lazarus's narrative of the emergence of modern environmental law surveys the social and legal developments of the twentieth century that led up to the explosion of lawmaking in the late 1960s and 1970s. In his account, one important set of developments was the growth of the conservation movement and its impact on the development of natural resources law. Over time, leaders on natural resources policy with strong conservationist convictions advocated for new legislation, like the Wilderness Act of 1964, and linked conservation to a broader environmentalist perspective. Another important strand in the evolution of environmental law was the wave of protest movements and advocacy campaigns focused on public health risks, especially those in cities. Urban reformers in the early twentieth century tried to tackle problems like noise pollution, waste disposal, air pollution, and water quality. Further, the first wave of pollution control statutes in the 1960s, which saw the passage of the antecedents of the modern CWA and CAA, occurred alongside a burst of congressional lawmaking on consumer protection. Gallup polls show that the percentage of Americans who "saw pollution/ecology as an important problem" grew by twenty-five percent between 1960 and 1970. LAZARUS, *supra* note 31, at 49–53 (internal quotations omitted).

68. *See* LAZARUS, *supra* note 31, at 54–66.

69. *See* Richard J. Lazarus, *Judging Environmental Law*, 18 TUL. ENVTL. L.J. 201, 208 (2004) ("[Judge Skelly Wright] intuitively appreciated the necessity for a 'flood' of litigation.") (quoting Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n, 449 F.2d 1109, 1111 (D.C. Cir. 1971)).

70. LAZARUS, *supra* note 31, at 65–66 (quoting Ethyl Corp. v. EPA, 541 F.2d 1, 6 (D.C. Cir. 1976) (en banc)).

grants and the working poor in advanced industrial capitalism."[71] However, the book had a larger impact on food safety law than on anti-capitalist politics.[72] The descriptions of filthy floors where carcasses lay stacked, unwashed tables for cutting meat, and rotting boxes for packing meat caused a public outcry and led to the passage of the 1906 Pure Food and Drug Act and the 1907 Federal Meat Inspection Act, each the first of its kind.[73] Reframed from the behavioral psychological perspective, *The Jungle* catalyzed an availability cascade about fear of industrial food production. More generally, the cascade changed public understanding of the downstream effects of certain kinds of industrial activity. Eating a steak cut and packaged at a filthy slaughterhouse could make the eater sick. Fifty years later, thanks to works like Rachel Carson's *Silent Spring*, people came to believe that the harmful downstream effects of industrial activities extended over even longer time horizons and larger geographic areas. Unlike the steak from the filthy slaughterhouse that affects only those who eat it, ubiquitous but harmful chemicals like DDT (a pesticide) and phosphates (used in laundry detergents at the time) travel throughout the human ecosystem and remain there for the course of entire lifetimes.[74] As the reasoning underlying this claim spread, the public "grew more concerned about permanence or irreversibility of some harms and the never-ending persistence of many environmental risks," creating the conditions for the ambitious pollution control statutes of the 1970s.[75]

In the history of environmental law, availability cascades have thus had two interacting but distinct effects. First, availability cascades—especially those rooted in particular disasters or public health crises—have led to policy change in the short- or medium-term. The main accounts of environmental disasters—from deadly smog strikes to Love Canal to the Exxon Valdez spill—do not typically analyze these episodes from a behavioral psychology lens. But each bears the trappings of availability cascades. The theory thus helps explain more deeply the forces at work in familiar stories of major environmental events. But the availability cascade theory also enriches the familiar historical accounts of environmental law in one other way. The theory complements traditional historical and social scientific accounts of how beliefs in and conceptions of the environment change over time. As the above discussion of *Silent Spring* highlighted, Rachel Carson's work entered the national limelight at a time when two historical trends—massive growth in outdoor recreation and the emergence of the middle-class, suburban family as a political constituency—had made the perception of risks from environmental degradation and contamination more

71. Jacob E. Gersen et al., Food Law: Cases and Materials 176 (1st ed. 2019).

72. *Id.*

73. *Id.*

74. Lazarus, *supra* note 31, at 58.

75. *Id.* at 58–60.

cognitively available. The cascade that *Silent Spring*'s release set off harnessed the background conditions of risk perception and initiated a new chapter in environmental risk regulation. So too, however, did the book's publication shape a new context of background beliefs—what Professor Lazarus refers to as conceptions of time and space—that lay the foundation for the next crisis or cascade to come along. The same is true of the other crises and corresponding cascades discussed in this Part. Each cascade has contributed to changes in understandings of environmental risk and to the increased cognitive availability of the complex, downstream costs of industrial activity.

II. Taking Stock and Looking Ahead: Climate Litigation as a Pathway to Availability Cascades

If availability cascades have a strong presence in the history of environmental law and a track record of leading to new, laudable lawmaking, then the natural question (and opportunity) that follows is, how can that success be replicated in the context of climate change? This question could lead down many different valuable research paths. For example, even in the brief historical narrative sketched above, the link between crisis and cascades is clear. Scholars of disaster studies and environmental policy, along with professionals and activists who practice the craft of political communication, might benefit from incorporating the availability cascade theory into their much richer studies of how disaster creates windows of political opportunity. Alternatively, any of the instances of cascades mentioned above could be plumbed further to produce more detailed case studies. Mixed research methods would be especially useful for such a project. Combining legal analysis of any court decision or government action involved in a case with both quantitative and qualitative analysis of the media environment could be fruitful.[76] This kind of a mixed-methods approach could also be applied to developing case studies of more recent examples of environmental lawmaking to assess whether, or to what degree, cascades in public or political consciousness played a role.

76. For a pioneering example of research that includes robust quantitative analysis of activity on a given set of issues in the media ecosystem, see Yochai Benkler et al., Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics (2018). The book, co-authored by three academics affiliated with the Berkman Klein Center for Internet & Society at Harvard University, "shine[s] a light on the right-wing media ecosystem," its internal structure, and the role it played in influencing political beliefs and attitudes in the lead-up to election. Jeffrey Toobin, *A New Book Details the Damage Done by the Right-Wing Media in 2016*, The New Yorker (Aug. 28, 2018), https://perma.cc/DE63-N74S. The data analysis underpinning the book consisted of an analysis of the "linking, tweeting, and sharing of just under four million political stories from over 40,000 online news sources" conducted with the open Media Cloud research platform. Benkler et al., *supra*, at 46.

Here, however, this Note shifts away from a discussion of the theory and toward a novel object of related research: climate change litigation. Climate change litigation has developed, and continues to develop, at the bleeding edge of law, politics, social change, and of course, ecological change. The phenomenon thus presents fertile ground for testing theories that can explain how climate litigation reflects and shapes collective belief formation about the environment and the political distribution of responsibility for dealing with catastrophic change. As argued in Part I.B, the availability cascade thesis is ripe for application to such a project, as it can help make sense of bursts of activity in environmental law(making) as well as the relationship of high-profile events to less visible processes, like incremental collective belief formation. Further, as coverage of climate litigation becomes increasingly more available—depending, of course, on the waters you swim in and the parts of the Internet you move through—a theory of the most novel or ambitious lawsuits, especially those whose fates remain uncertain, becomes increasingly more valuable.

A. Insights from Scholarship on Law and Social Movements

Scholarship on civil rights and on law and social movements has much to offer students and scholars of environmental law. The former is especially useful for offering perspective and analytical tools for assessing the impacts and the meaning of climate litigation. The most important, foundational insight is that the value of a lawsuit is not found in its disposition alone. Win or lose in court, impact litigation can still advance the goals or interests of its constituencies. Although it is beyond the scope of this Note to map the landscape of the literature on law and social movements, this Note identifies some discrete takeaways relevant to the climate litigation context. If nothing else, this insight from Professor Depoorter is vital: "As has been recognized in the literature on social movements, litigation can play a unique role in stimulating public discussion. As one commentator described it, 'a 20-page complaint and a temporary injunction are worth more than a 300-page report in the media.'"[77]

First, the process of litigation, like the judicial decisions it can yield, has expressive or symbolic value, especially when it seeks the recognition or vindication of constitutional rights. This insight is important for establishing a framework for assessing the meaning and potential significance of climate litigation, not because it is novel, but because it is basic. Within the law and social movement landscape, the notions of democratic constitutionalism and demos-

77. Ben Depoorter, *The Upside of Losing*, 113 COLUM. L. REV. 817, 833 (2011) (citing JOEL F. HANDLER, SOCIAL MOVEMENTS AND THE LEGAL SYSTEM: A THEORY OF LAW REFORM AND SOCIAL CHANGE 233 (1978)).

prudence in particular have focused on the productive possibilities of the expressive value of litigation.[78]

Second, litigation loss can have indirect or underappreciated effects that can benefit the movement it serves. Professor NeJaime has identified two categories in the law and social movement literature: internal and external benefits. The former include "raising consciousness, mobilizing constituents, and documenting an alternative understanding of rights," which can help cohere movement narrative and identity.[79] NeJaime highlights a study of the political aftermath of the Supreme Court's *Bowers v. Hardwick* decision, which upheld the constitutionality of Georgia's anti-sodomy statute.[80] The study found that the "*Bowers* defeat [for the LGBT-rights movement] increased grassroots mobilization, fundraising, and organizational founding, all of which proved vital to a stronger LGBT-rights movement."[81] Years later, in a related context, losses for the marriage equality movement in some state supreme courts yielded similar effects for organizations like Lambda Legal.[82]

What NeJaime terms the external benefits of litigation loss have to do with how litigation changes a social movement's relationship to other state actors and to the public. Other state actors include courts in different jurisdictions, as well as the political branches. Sticking with the *Bowers* example,

78. *See* Douglas NeJaime, *Winning Through Losing*, 96 IOWA L. REV. 941, 945–46 (2011) (citing Lani Guinier, *Foreword: Demosprudence Through Dissent*, 122 HARV. L. REV. 4 (2008); Robert Post & Reva Siegel, Roe *Rage: Democratic Constitutionalism and Backlash*, 42 HARV. C.R.-C.L. L. REV. 373 (2007); Gerald Torres, *Legal Change*, 55 CLEV. ST. L. REV. 135, 139 (2007)). NeJaime explains the theories as follows:

> Reva Siegel and Robert Post's theory of democratic constitutionalism and Lani Guinier and Gerald Torres's theory of demosprudence conceptualize law and social change as a complex, interactive process in which social movements influence, and are influenced by, constitutional interpretations. Both theories carve out roles for ordinary citizens and courts in constitutional meaning-making. As citizens, often through social movements, offer competing interpretations of constitutional principles, courts respond as part of the dialogue.

Id. at 965–66. For another recent work that draws on those schools of thought to develop an analytical framework for evaluating movement litigation, and the value of loss in litigation, see Scott L. Cummings, *Empirical Studies of Law and Social Change: What is the Field? What are the Questions?*, 2013 WIS. L. REV. 171, 175 (2013). Of course, these scholars are by no means the first to theorize the expressive value of litigation. For two examples especially relevant to the topic of this Note, see Robert R.M. Verchick, *Culture, Cognition, and Climate*, 2016 U. ILL. L. REV. 969, 1019 (2016) ("More than a means of resolving individual disputes, litigation has long been valued for its expressive value.") (citing Martha L. Minow & Elizabeth V. Spelman, *Passion for Justice*, 10 CARDOZO L. REV. 37, 39 (1988); and Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2022–24 (1996)).

79. NeJaime, *supra* note 78, at 954–55.

80. 478 U.S. 186 (1986).

81. NeJaime, *supra* note 78, at 985.

82. *Id.* at 986.

NeJaime observes that after the loss in the Supreme Court, the LGBT-rights movement made gains in state legislatures and especially in state courts: "Of the eleven states that decriminalized sodomy after *Bowers,* eight, including Montana, did so through the courts. Not only did state-court activism result in on-the-ground victories, but it also laid the groundwork for *Lawrence v. Texas*," in which the Supreme Court overruled *Bowers*.[83] To illustrate how loss can change a movement's relationship to the (voting) public, NeJaime offers the case of the conservative movement against marriage equality. After the California Supreme Court ruled in May 2008 that the state's statutory prohibition on marriage for same-sex couples was unconstitutional, advocates on the Christian right framed the decision as counter-majoritarian and as "underhanded and elitist, seeking to reorder California society without popular support."[84] The advocates then deployed messaging with that framing to great effect over the following five months in the campaign for Proposition 8, a referendum that appeared on the ballot in November 2008 and amended the California constitution to include a prohibition on the marriage of same-sex couples.[85]

Overall, scholarship on law and social movements teaches that affirmative litigation can benefit the social movements the suits serve in three under-appreciated ways. Litigation has expressive power and, consequently, the capacity to inspire and mobilize. Affirmative litigation can raise consciousness and motivate donations, especially after a loss in court. Finally, the experience of a lawsuit in one forum can inform strategies or arguments to be deployed in other legal or political fora. Going forward, legal scholars and social scientists should consider developing in-depth case studies of some climate lawsuits and their relationship to broader advocacy or activist agendas on the front lines of the climate issue. Such case studies would facilitate a richer comparison of the role of litigation—including losing litigation—in the civil rights and climate change contexts.

B. Evaluating Recent and Current Climate Change Litigation

1. General trends in climate litigation

As noted at the outset, not all climate litigation is cut from the same cloth. Commentators have taken different approaches to creating a taxonomy of suits within the diffuse category of climate litigation. Generally, though, commentators have divided the pro-regulatory or environmentalist climate change lawsuits into at least two groups. (The category of pro-regulatory or environmentalist suits excludes suits brought by industry or regulated entities.)

83. *Id.* at 992.

84. *Id.* at 1006.

85. *See id.* at 1003–11.

Identifying bright lines dividing the groups is less important than observing how centrally climate change factors into the framing of legal arguments and judicial opinions.[86]

One simple (though crude) way to subdivide the pro-regulatory or environmentalist lawsuits is to separate those with statutory causes of action from those with common law or constitutional causes of action. For example, one analysis of a selection of 664 entries in the Sabin Center database of lawsuits brought by environmental non-profits between 1990 and 2016[87] found that 430 cases (sixty-five percent) had a federal statutory cause of action, 184 (twenty-eight percent) had a state-law cause of action, and the remaining seven percent of cases asserted claims sounding in common law, the Constitution, or the public trust doctrine.[88] Alternatively, a 2018 Sabin Center report analyzing climate change cases brought during the first year of the Trump Administration identified four categories of pro-regulatory lawsuits. The first includes suits that aim to defend Obama Administration climate policies, which rely primarily on the Administrative Procedure Act[89] and theories moored in environmental statutes.[90] The second includes suits that use Freedom of Information Act ("FOIA")[91] requests, and requests under FOIA's state counterparts, to shine a light on climate-change denial, the suppression of climate science, and industry capture in the Trump Administration.[92] The third category of lawsuits heavily features challenges brought under the National Environmental Policy Act,[93] the

86. *See* Jacqueline Peel, Hari Osofsky & Anita Foerster, *Shaping the 'Next Generation' of Climate Change Litigation in Australia*, 41 MELB. U.L. REV. 793, 801 n.27 (2017) ("There is no one agreed definition of climate change litigation but in general commentators point to the need for a specific framing of arguments, motives or the judgment in climate change terms.") (citing David L. Markell & J.B. Ruhl, *An Empirical Survey of Climate Change Litigation in the United States*, 40 ENVTL. L. REP. 10,644, 10,647 (2010); Chris Hilson, *Climate Change Litigation in the UK: An Explanatory Approach (or Bringing Grievance Back In)*, *in* CLIMATE CHANGE: LA RISPOSTA DEL DIRITTO 421, 422 (Fabrizio Fracchia & Massimo Occhiena eds., 2010)).

87. Entries include more than just decisions in cases. *See* SABIN CTR. FOR CLIMATE CHANGE LAW, *About*, CLIMATE CHANGE LITIGATION DATABASES, https://perma.cc/V3PX-YW5K.

88. Sabrina McCormick et al., *Strategies in and Outcomes of Climate Change Litigation in the United States*, 8 NATURE CLIMATE CHANGE 829, 831 tbl.3 (2018).

89. Pub. L. No. 79-404, 60 Stat. 237 (1946) (codified as amended at 5 U.S.C. §§ 551, 553–559, 701–706 (2012)).

90. *See* ADLER, *supra* note 4, at 29–30, 41–44.

91. 5 U.S.C. § 552 (2012).

92. *See* ADLER, *supra* note 4, at 29–30, 41–44.

93. Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321–4347 (2012)).

Endangered Species Act,[94] and similar statutes to compel government actors to better integrate climate change into environmental decision-making.[95]

The fourth and final category of environmentalist lawsuits is a residual bucket for the remainder of cases. The common thread linking these cases eludes easy description. These cases include common law claims seeking money damages from fossil fuel companies; statutory claims against fossil fuel companies for failing to adapt their infrastructure to foreseeable effects of climate change (namely, sea-level rise and flooding), thereby endangering nearby communities (commonly called adaptation suits);[96] and constitutional claims against the federal government seeking injunctions and court-ordered remedies for greenhouse gas mitigation plans.[97] Overall, these suits rely on the most novel causes of action or seek unprecedented remedies.

The *Juliana* litigation is one of the most high-profile climate change lawsuits in recent years. The twenty-one named teenage and youth plaintiffs claim a right to a stable atmosphere enshrined in the Fifth Amendment Due Process Clause and guaranteed by the public trust doctrine. They seek an injunction ordering the federal government to stop violating that right and directing the government to develop a plan to reduce CO_2 emissions.[98] The suit has generated extensive media coverage.[99] In contrast, a similar action brought by two minor plaintiffs and the Clean Air Council against the federal government in the U.S. District Court for the Eastern District of Pennsylvania, which sounded in similar themes, appears to have generated (or cultivated) less attention.[100] On February 19, 2019, Judge Diamond of the U.S. District Court for the Eastern District of Pennsylvania dismissed the case for lack of subject matter jurisdiction, concluding that the plaintiffs lacked standing and failed to state a claim.[101]

That *Juliana* differs from other climate change lawsuits is at this point a cliché. As Judge Aiken stated in her denial of the government's motion to dis-

94. Pub. L. No. 93-205, 87 Stat. 884 (1973) (codified as amended in scattered sections of 7 and 16 U.S.C.).

95. ADLER, *supra* note 4, at 48–52.

96. *See generally* Jacqueline Peel & Hari M. Osofsky, *Sue to Adapt?*, 99 MINN. L. REV. 2177 (2015) (describing the origins, emergence, and landscape of adaptation litigation).

97. *See* ADLER, *supra* note 4, at 53–54, 98–100.

98. Juliana v. United States, 217 F. Supp. 3d 1224, 1233, 1248–61 (D. Or. 2016).

99. *See Video & Radio Coverage*, *supra* note 7; *Written Media Coverage*, *supra* note 7.

100. As of the time of this writing, an Internet search using the case name, Clean Air Council v. United States, or variations on it yields many fewer news articles than does a search for *Juliana*, and fewer articles than are shown on the media coverage pages of the Our Children's Trust website, *see supra* note 7.

101. Clean Air Council v. United States, Civ. No. 17-4977, 2019 WL 687873 (E.D. Pa. Feb. 19, 2019); *see also* Seth Jaffe, *Citizen Plaintiffs Lose a Climate Suit — Let Me Count the Ways*, LAW & ENV'T (Feb. 20, 2019), https://perma.cc/4VP5-4H5G (providing a brief summary of the claims and grounds for disposition).

miss, "[t]his is no ordinary lawsuit."[102] What is exceptional, in Judge Aiken's view, is that the youth plaintiffs challenge policy decisions that the president and several federal agencies have made "across a vast set of topics" relating to the regulation of greenhouse gas emissions and the fossil fuel industries.[103] The *Juliana* claims on their own are undisputedly ambitious. But part of what makes the case atypical, and even more worthy of study, is the credence that a U.S. district court judge lent to those claims. Judge Aiken determined that she had jurisdiction to hear the plaintiffs' extraordinary claims on the grounds that the plaintiffs had standing and that the claims did not present a non-justiciable political question.[104] The *Juliana* district court further concluded that the pleadings alleged sufficient factual specificity to survive a motion to dismiss, and in so doing, offered dicta that gestured to the merits of the substantive due process and public trust claims.[105] Even if *Juliana* ultimately loses on standing, let alone on the merits, the district court opinion offered movement lawyers, climate change activists, and even lawmakers a source of inspiration and, more importantly, a usable tool.

As the scholarship on affirmative litigation and movement lawyering teaches, however, victories on the merits should not—and often do not—fully determine the value of the litigation.[106] The mere process of litigating a case can have myriad indirect effects, such as building or strengthening coalitions and raising awareness about the legal and policy issues at the center of the litigation. Even a loss on the merits in court can yield breadcrumbs that social movements can use to inform future lawsuits or legislative advocacy efforts.[107] Harnessing the energy around climate litigation to develop support for bold legislative action could be one of the litigation's best possible outcomes. Given the enormity and complexity of the problem, new statutes rivalling the scale and importance of the landmark environmental statutes of the early 1970s are vital.[108]

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102. *Juliana*, 217 F. Supp. 3d at 1234.

103. *Id.*

104. *Id.* at 1235–48.

105. *Id.* at 1262 ("A deep resistance to change runs through defendants' and intervenors' arguments for dismissal: they contend a decision recognizing plaintiffs' standing to sue, deeming the controversy justiciable, and recognizing a federal public trust and a fundamental right to climate system [sic] capable of sustaining human life would be unprecedented, as though that alone requires its dismissal. This lawsuit may be groundbreaking, but that fact does not alter the legal standards governing the motions to dismiss.").

106. *See, e.g.*, Alexander A. Reinert, *Screening Out Innovation: The Merits of Meritless Litigation*, 89 IND. L.J. 1191, 1201 (2014) (arguing that "meritless [litigation] and unsuccessful litigation are distinct"); *see also* Cummings, *supra* note 78, at 180.

107. *See* NeJaime, *supra* note 78, at 975–83, 998–1002.

108. As Professor Lazarus wrote ten years ago:

> [G]iven the enormity of the undertaking necessary to address climate change, the passage of federal climate change legislation will rival in historic significance one of the nation's greatest lawmaking moments—the passage in the 1970s of a series of

2. Juliana *and the dispute over standing*

The novelty of the *Juliana* plaintiffs' standing argument corresponds to that of its constitutional and public trust claims. A favorable decision from the Ninth Circuit on standing could certainly pave the way for future constitutional climate change suits. As this section argues, however, even a loss on standing could yield language that the climate movement could use to its advantage in the political arena.

Procedural posture. The next phase of the litigation commences on June 4, 2019, the scheduled date for oral argument before the Ninth Circuit. Until now, the lawsuit has gone through various procedural postures. The development of the litigation has been cataloged in great detail elsewhere.[109] For present purposes, it suffices to note some of the key developments.

In 2015, the youth plaintiffs brought suit against the United States, the president, and various agencies with constitutional and public trust claims. Plaintiffs sought a declaration that the federal government has, through all of its policies—including but not necessarily limited to those concerning energy production, natural resource extraction, and greenhouse gas emissions—violated plaintiffs' due process and equal protection rights as well as their unenumerated rights under the Ninth Amendment, and violated "their duties as trustees [of the public trust] by failing to protect the atmosphere, water, seas, seashores, and wildlife" from climate change.[110] They further asked the court to enjoin the federal government from further violating their rights and to direct it to develop a plan to reduce CO_2 emissions.[111]

In November 2016, Judge Aiken of the U.S. District Court for the District of Oregon denied defendants' motion to dismiss. Judge Aiken held that plaintiffs had standing; that the political question doctrine did not preclude the court from exercising jurisdiction; and that plaintiffs' constitutional and public trust claims passed legal muster enough and were pleaded with sufficient factual specificity to survive a motion to dismiss and proceed to trial.[112] Defendants then petitioned the Ninth Circuit for a writ of mandamus, which the court denied on March 7, 2018.[113] Over the nine months that followed, defendants twice petitioned the U.S. Supreme Court for relief. The first petition, which

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> extraordinarily demanding and sweeping pollution control and natural resource conservation laws.

Lazarus, *supra* note 20, at 1155. That was true then, and is only more so now.

109. *See, e.g.*, *Juliana v. United States*, CLIMATECASECHART.COM, https://perma.cc/4ZZ8-5JV3 [hereinafter *Juliana* on Climate Case Chart].

110. Juliana v. United States, 217 F. Supp. 3d 1224, 1233–34, 1248 n.6, 1255 (D. Or. 2016).

111. *Id.* at 1233.

112. *Id.* at 1224–25.

113. United States v. U.S. Dist. Court (*Juliana*), 884 F.3d 830 (9th Cir. 2018).

was for a stay, was denied on July 30, 2018, without prejudice.[114] Then, two weeks before the scheduled start of a ten-week trial, defendants petitioned for a writ of mandamus and for a stay of discovery and trial pending resolution of the writ of mandamus.[115] The Supreme Court denied the application for a stay on November 2, 2018.[116] Then, on November 21, Judge Aiken granted the Government a stay and permission to pursue interlocutory appeal in the Ninth Circuit;[117] about a month later, the Ninth Circuit panel voted two-to-one to grant interlocutory appeal.[118] Judge Friedland dissented from the order, arguing that "[i]t is also concerning that allowing this appeal now effectively rewards the Government for its repeated efforts to bypass normal litigation procedures . . . . If anything has wasted judicial resources in this case, it was those efforts."[119] As of the time of writing, briefing before the Ninth Circuit is complete and oral arguments are due to take place on June 4.

Potential applications of the parties' arguments concerning standing. Of course, the outcome of this next phase of litigation could lend credence to novel constitutional claims—or tear them apart. And the Supreme Court could reject any constitutional theories the Ninth Circuit vindicates. But for the purpose of bearing out this Note's claim that the litigation could bear fruit for the broader social movement for legal and political action on climate change, it is not necessary to consider all conceivable ways that the Ninth Circuit or Supreme Court could rule. Even focusing on the narrower issue of Article III standing is helpful. For example, a ruling that plaintiffs satisfy the constitutional requirements for standing could strengthen future movement-based climate litigation. A contrary ruling, though detrimental to future climate litigants seeking to challenge a sweeping set of federal actions with constitutional claims, could still serve an expressive purpose that could embolden climate activists to heighten the pressure on lawmakers in the political arena.

Constitutional standing requires injury-in-fact, causation, and redressability. The following paragraphs address the parties' arguments about each element in turn.

(1) Injury-in-fact. With respect to injury, in the current round of Ninth Circuit briefing, the core of the dispute between the parties concerns the appropriate level of granularity for viewing plaintiffs' climate-change-related injuries.

114. United States v. U.S. Dist. Court (*Juliana*), 139 S. Ct. 1 (2018).

115. Petition for a Writ of Mandamus and Emergency Motion for a Stay Of Discovery and Trial under Circuit Rule 27-3, United States v. U.S. Dist. Court (*Juliana*), 895 F.3d 1101 (9th Cir. 2018) (No. 18-71928).

116. *In re* United States, 139 S. Ct. 452 (Nov. 2, 2018).

117. Juliana v. United States, No. 6:15-CV-01517-AA, 2018 WL 6303774 (D. Or. Nov. 21, 2018).

118. Juliana v. United States, No. 18-80176 (9th Cir. Dec. 26, 2018) (order granting interlocutory appeal), https://perma.cc/CU97-WPYA.

119. *Id.* (Friedland, J., dissenting) (internal quotations omitted).

The Government contends that Plaintiffs' injuries are "universally shared and generalized," and thus do not satisfy the requirement that plaintiffs' injury be imminent and concrete and particularized.[120] Even if Plaintiffs have individualized experiences of climate change's effects, those experiences are inextricably bound up in a harm that is "global and universal" and thus "beyond the ken of Article III courts. . . . The constitutional structure cannot be ignored because Plaintiffs have identified individual manifestations of obviously universal impacts."[121] Plaintiffs reply that the injuries are not generalized, "but rather deeply personal and actualized."[122] To illustrate, the reply brief briefly recounts the examples of injury from the record, such as how two of the youths have experienced repeated physical and emotional trauma after enduring the flooding of their homes, schools, and communities, all predicted to worsen over time.[123] More fundamentally, Plaintiffs counter that so long as individualized injury exists, for purposes of standing it is not important how large the incidence of that injury is or how broad the phenomenon to which it is connected.

Plaintiffs are demanding that the court recognize what the law might otherwise regard as categorically impossible: that constitutional injury can be at once both intimately personal and individualized and part and parcel of an invisible scientific process beyond the scale of human comprehension. Siding with Plaintiffs on the injury issue (and on the other standing elements) could pave the way for future constitutional climate change suits. But rejecting Plaintiffs' reasoning could still enable climate activists to make the political argument that constitutional law—or at least those empowered to interpret and apply it—is ill suited to make sense of the harms of climate change, making new regulation or statutory causes of action all the more important.

(2) Causation. The dispute about causation is similarly focused on how broad or narrow a lens courts are permitted to apply to the facts under the standing doctrine. The Government accuses Plaintiffs of mounting a "boundless theory of causation" that aggregates innumerable and unspecified U.S. government and third-party actions and attributing them to the executive branch.[124] In reply, Plaintiffs emphasize instead the importance of systemic causes and patterns of conduct.[125] Plaintiffs analogize their case to civil rights cases in which courts recognized that plaintiffs satisfied the causation requirement by showing sufficient evidence of "systemic" practices by school districts, police departments, and other government entities.[126]

120. Brief for Appellant at 13, Juliana v. United States, No. 18-36082 (9th Cir. Feb. 1, 2019).

121. *Id.* at 15.

122. Brief for Plaintiffs-Appellees at 10, *Juliana*, No. 18-36082 (9th Cir. Feb. 1, 2019).

123. *Id.* at 11–12.

124. Brief for Appellant, *supra* note 120, at 21.

125. Brief for Plaintiffs-Appellees, *supra* note 125, at 16–17.

126. *Id.* at 22 n.14.

Climate activists could make productive use of a ruling on causation, whatever the outcome, in the same ways that they could apply a ruling on injury-in-fact. Further, they could make the political argument to their constituencies and to lawmakers that the courts are unwilling to recognize that the U.S. government bears *any* responsibility for climate change, even before a ruling on the merits of plaintiffs' claims. Such an argument could emphasize the gap between the responsibility that the government has a moral and material duty to embrace and what the courts are willing to entertain.

(3) Redressability. Finally, the gap between the two sides is perhaps widest with respect to redressability. The Government devotes relatively little space to this element, arguing that plaintiffs have failed to cite "any legal authority that would permit such an unprecedented usurpation of legislative and executive authority by an Article III court, essentially placing a single district court in Oregon . . . in charge of directing American energy and environmental policy."[127] Ever looking to shine a light on the actual people and experiences behind the lawsuit, plaintiffs reply by returning to a discussion of injury, restating examples of injuries they have suffered to argue that such injuries are redressable.[128] Strikingly, plaintiffs also argue—or, perhaps, concede—that to demonstrate standing, they need not convince the court that the Government is capable of completely solving the problem of global climate change. Rather, they need only show that the Government can make a dent in the problem—or, even, that "a *judicial* declaration of the unlawfulness of governmental climate destruction will help protect the mental wellbeing of these young people."[129] This line could easily be included in a speech, manifesto, or fundraising email as well as another litigation brief. Should plaintiffs lose on standing, climate activists could well highlight in the political arena that the courts are unwilling to entertain the possibility that the government has the capacity, let alone the responsibility, to assure its young people that life in an era of environmental catastrophe is not reason to despair.

Conclusion

Political consciousness of the urgency of political action on climate change is growing. Both the buzz and controversy around the Green New Deal[130] and the global youth climate strike of March 15, 2019—in which an estimated 1.4

127. Brief for Appellant, *supra* note 120, at 23.

128. Brief for Plaintiffs-Appellees, *supra* note 122, at 24–25.

129. *Id.* at 24 (emphasis added).

130. *See, e.g.*, Lisa Friedman & Emily Cochrane, *McConnell to Put Green New Deal to Test Vote in First of Many Showcases*, N.Y. Times (Mar. 25, 2019), https://perma.cc/F5FA-5V5N; David Roberts, *The Green New Deal, Explained*, Vox (Mar. 30, 2019), https://perma.cc/B2Y9-7YNU.

million youth participated[131]—suggest growing demand for action congealing in Congress and in the streets, not just in the courts. Deliberately broad and ambitious,[132] the Green New Deal is an open invitation for ideas that can translate principles into policy. As co-sponsor Representative Alexandria Ocasio-Cortez tweeted: "Think of the GND Res as a 'Request for Proposals.'"[133] While lawmakers and policy wonks continue fleshing out the details, agitators, activists, and advocates ought to continue to pressure Congress for a suite of bold, new laws on climate change. *Juliana* can lend fuel to that fire. *Juliana* is part of the current political moment, in which advocates are engaging in direct action and creative litigation while climate change slowly makes its way onto Congress's agenda.

Thoughtful and committed advocates might be able to accelerate Congress's development of the climate agenda by parlaying *Juliana*—whatever the outcome—into political messaging and communications designed to rapidly move climate to the top of policymakers' to-do lists. The insights of the availability cascade theory can aid legal scholars as well as practitioners in studying or designing such campaigns. Incorporating insights from the study of movement lawyering into environmental litigation could help enrich the synergies between litigation and politics. Detailed case studies that deploy both sets of insights by studying the relationship between a climate change lawsuit's lifecycle and the broader media and political landscapes would benefit scholars and practitioners.

Finally, and perhaps most importantly, even if *Juliana* does not obviously catalyze a cascade that yields new climate legislation in the next one, two, or even three years, it will inform the background process of collective belief formation about environmental risk that will set the stage for the next cascade that does generate new law—whatever the trigger for that cascade might be.

131. Eliza Barclay & Kainaz Amaria, *Photos: Kids in 123 Countries Are on Strike to Protect the Climate*, Vox (Mar. 25, 2019), https://perma.cc/JZ4J-YV8K.

132. *Green New Deal*, New Consensus, https://perma.cc/P3AW-YBL9.

133. Alexandria Ocasio-Cortez (@AOC), Twitter (Feb. 10, 2019, 11:05 AM), https://perma.cc/2WUY-9VV9.