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Atmospheric Trust Litigation and the Constitutional Right to a Healthy Climate System: Judicial Recognition at Last

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ATMOSPHERIC TRUST LITIGATION AND THE CONSTITUTIONAL RIGHT TO A HEALTHY CLIMATE SYSTEM: JUDICIAL RECOGNITION AT LAST

Mary Christina Wood* & Charles W. Woodward, IV[◇]

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I. INTRODUCTION

Amidst now common reports of global heating, glacier melt, sea level rise, ocean acidification, species extinction, persistent droughts, and other consequences of human greenhouse gas (GHG) emissions, the 2015 United Nations Conference on Climate Change brought unprecedented international media attention to the planet’s climate crisis. Although the resulting accord ultimately fell short of presenting an adequate and substantive response, the Conference of Parties held in Paris (COP21) underscored the urgency at hand.¹ Scientists have been predicting staggering damage to our lives and environment from climate change for some time.² A recent report of the U.S. Global Climate Change Research Program says unequivocally: “Climate change, once considered an issue for a distant future, has moved firmly into the present. . . . Precipitation patterns are changing, sea level is rising, the oceans are becoming more acidic, and the frequency and

1. For a declaration of climate urgency by scientists, see Brief for Scientists as Amici Curiae Supporting Plaintiffs-Appellants Seeking Reversal at 15–16, Alec L. *ex rel.* Looz v. McCarthy, No. 13–5192, 2014 WL 3013301 (D.C. Cir. June 5, 2014) [hereinafter Brief for Scientists], <http://ourchildrenstrust.org/sites/default/files/FiledScienceAmicus.pdf> (“Effective action remains possible, but delay in undertaking sharp reductions in emissions will undermine any realistic chance of preserving a habitable climate system, which is needed by future generations no less than by prior generations.”).

2. See U.S. GLOBAL CHANGE RESEARCH PROGRAM, OVERVIEW: CLIMATE CHANGE IMPACTS IN THE UNITED STATES, U.S. NATIONAL CLIMATE ASSESSMENT 4 (2014), <http://nca2014.globalchange.gov/highlights/overview/overview>.

intensity of some extreme weather events are increasing.”³ The year 2015 closed as the hottest year on record.⁴ The failure of international climate negotiations to adequately address climate disruption presents an unsettling backdrop for the ever-increasing clarion calls from the scientific community urging robust, decisive action. As Dr. James Hansen, former Director of NASA’s Goddard Institute for Space Studies, stated: “[F]ailure to act with all deliberate speed in the face of the clear scientific evidence of the danger functionally becomes a decision to eliminate the option of preserving a habitable climate system.”⁵

This Article spotlights a recent Washington case, *Foster v. Washington Department of Ecology*, which breaks new judicial ground in forcing governments to control dangerous GHG emissions. The case is part of an urgent global litigation campaign known as Atmospheric Trust Litigation (ATL). The Article begins by summarizing the actions deemed necessary by scientists to avert climate catastrophe, and describes the ATL campaign that formed in response. Part II explains the public trust framework, which provides the legal foundation for this climate litigation. Part III examines the three stages of atmospheric trust cases and describes the litigation up until the *Foster* decision. Finally, Part IV analyzes the *Foster* decision for its path-breaking role and potential effect on the ATL climate campaign as a whole.

3. *Id.* See also Brief for Scientists, *supra* note 1, at 15–16 (“Amici Scientists warn of climate change impacts including . . . floods, storms, fires, and droughts.”); KOKO WARNER ET AL., IN SEARCH OF SHELTER: MAPPING THE EFFECTS OF CLIMATE CHANGE ON HUMAN MIGRATION AND DISPLACEMENT iv, 2 (2009), <http://ciesin.columbia.edu/documents/ClimMigr-rpt-june09.pdf> (discussing the effects of climate change on human migration globally).

4. See Dwayne Brown & Michael Cabbage, *NASA, NOAA Analyses Reveal Record-Shattering Global Warm Temperatures in 2015*, NASA (Jan. 20, 2016), <http://www.nasa.gov/press-release/nasa-noaa-analyses-reveal-record-shattering-global-warm-temperatures-in-2015>. Earth has already warmed about 0.8°C over the past century. James Hansen et al., *Assessing “Dangerous Climate Change”: Required Reduction of Carbon Emissions to Protect Young People, Future Generations, and Nature*, 8 PLOS ONE e81648, 4 (2013) [hereinafter *Climate Prescription*], <http://www.plosone.org/article/fetchObject.action?uri=info:doi/10.1371/journal.pone.0081648&representation=PDF>.

5. Brief for Dr. James Hansen as Amici Curiae Supporting Plaintiffs-Appellants at 7, *Alec L. v. Jackson*, No. C–11–2203 EMC, 2011 WL 8583134 (N.D. Cal. Nov. 14, 2011) [hereinafter Hansen, *Amici Curiae* Brief], <https://ourchildrenstrust.org/sites/default/files/Hansen%20Amicus%20.pdf>.

A. *Climate Crisis and the Scientific Prescription to Restore Balance*

Carbon dioxide pollution not only disrupts the planet's climate system but also imperils the world's oceans. The oceans operate as natural carbon "sinks" absorbing carbon dioxide (CO₂). This absorption causes a series of chemical reactions in marine water and results in ocean acidification.⁶ In fact, since the Industrial Revolution, about one-third of human carbon emissions have been absorbed by the oceans, and unsurprisingly, the oceans are now thirty percent more acidic.⁷ Ocean acidification threatens biodiversity, fisheries, and aquaculture, undermines the food security of millions of people, and jeopardizes tourism and other sea-related economies.⁸

Atmospheric energy imbalances also warm the oceans. In the annual 2014 State of the Climate Report, United States' government scientists reported record warming on the surface and upper levels of the oceans, with the Pacific Ocean registering four to five degrees Fahrenheit above normal.⁹ The oceans absorb more than ninety percent of man-made heat energy driving global warming. The rate of heat absorption has doubled since 1997.¹⁰ To put the matter into staggering perspective, half of the approximately 300ZJ¹¹ of total heat energy absorbed by the planet since 1865 is attributable to the

6. For a discussion of the ocean's acidification process, see *A Primer on pH*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <http://pmel.noaa.gov/co2/story/A+primer+on+pH> (last visited Feb. 2, 2016). See also *What is Ocean Acidification?*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <http://oceanservice.noaa.gov/facts/acidification.html> (last visited May 12, 2016).

7. See *What is Ocean Acidification?*, *supra* note 6 (percent increase in ocean acidity).

8. See The Ocean Portal Team, *Ocean Acidification*, SMITHSONIAN NAT'L MUSEUM NAT. HISTORY, <http://ocean.si.edu/ocean-acidification> (last visited May 12, 2016).

9. See Suzanne Goldenberg, *Warming of Oceans Due to Climate Change is Unstoppable, Say US Scientists*, THE GUARDIAN (July 16, 2015), <http://www.theguardian.com/environment/2015/jul/16/warming-of-oceans-due-to-climate-change-is-unstoppable-say-us-scientists>.

10. See Seth Borenstein, *The Amount of Man-Made Heat Energy Absorbed by the Seas has Doubled Since 1997, a Study Released Monday Showed*, U.S. NEWS & WORLD REPORT (Jan. 19, 2016), <http://www.usnews.com/news/politics/articles/2016-01-19/study-man-made-heat-put-in-oceans-has-doubled-since-1997>.

11. One zettajoule (ZJ) is the equivalent of one billion terajoules (TJ) or 278 billion megawatt hours (Mwh).

last eighteen years.¹² Associated Press reporter Seth Borenstein makes this analogy: in the last eighteen years alone, “Earth’s oceans have absorbed man-made heat energy equivalent to a Hiroshima-style bomb being exploded every second for seventy-five straight years.”¹³

This marine warming brings devastating consequences for coral reefs, the oceans’ “rainforests.”¹⁴ In 2015, half of the corals in the Caribbean Sea died after warming waters sparked a massive bleaching event, and U.S. scientists predict that the warm temperatures of 2016 will cause an additional six-percent loss of coral reefs worldwide in that year alone.¹⁵ A survey conducted in early 2016 of Australia’s Great Barrier Reef reinforces the U.S. scientists’ predictions, finding that ninety-three percent of Australia’s reefs are already bleached, with the northern reefs suffering nearly fifty percent coral death.¹⁶

More recently, scientists have discovered significant oxygen depletion as a result of this heating.¹⁷ Overall, with each degree increase in ocean temperature, the oxygen concentration in the water decreases by two percent.¹⁸ Additionally, higher water temperatures decrease the rate of ocean circulation, causing stratification where the oxygen-rich upper layers mix less with the oxygen-depleted deeper layers.¹⁹ Over the past ten years, oxygen levels in the deep waters off the southern coast of California have decreased by twenty

12. See Borenstein, *supra* note 10. By comparison, two ZJ is the equivalent of detonating an atomic bomb (the size dropped on Hiroshima) every single second for a full year. *Id.*

13. *Id.*

14. See Karl Mathiesen, *15,000 sq. km of Coral Reef Could be Lost in Current Mass Bleaching, Say Scientists*, THE GUARDIAN (July 7, 2015), <http://www.theguardian.com/environment/2015/jul/07/six-percent-of-worlds-coral-could-be-lost-in-current-mass-bleaching-say-scientists>.

15. *Id.*

16. See Chris Mooney, *‘And Then We Wept’: Scientists Say 93 Percent of the Great Barrier Reef Now Bleached*, WASH. POST (April 20, 2016), https://www.washingtonpost.com/news/energy-environment/wp/2016/04/20/and-then-we-wept-scientists-say-93-percent-of-the-great-barrier-reef-now-bleached/?tid=hybrid_experimentrandom_1_na.

17. See Niina Heikkinen, *Ocean’s Oxygen Running Low, ‘Sobering’ Study Finds*, CLIMATE WIRE (May 2, 2016), <http://www.eenews.net/climatewire/2016/05/02/stories/1060036547>.

18. *Id.*

19. *Id.*

percent.²⁰ While higher temperatures slow the rate of ocean circulation, the warmer waters also boost the metabolism of marine life, increasing their need for oxygen, and thereby further exacerbating the devastating effects of the warming ocean on marine ecology.²¹

Because humans today are both increasing carbon emissions into the atmosphere and also destroying the planet's natural carbon sinks, the forests and oceans, the Earth's climate system has lurched into a perilous imbalance.²² The dual, worsening crises of climate disruption and dying oceans cannot find relief without slashing greenhouse gas emissions across the globe. Though considerable climate harm is irrevocably underway, many leading scientists say it is still possible to restore climate equilibrium over the long term. Such an effort requires reducing atmospheric carbon dioxide levels to 350 parts per million (ppm), the uppermost level to limit total average planetary heating to a safe zone of one degree Celsius.²³ In 2010, recognizing the need to quantify—for policymakers, judges, and citizens—the emissions reduction necessary to stay within the safe zone, NASA's chief climate scientist, Dr. James Hansen, convened an international team of scientists to create a climate prescription for the planet.²⁴

The resulting prescription addresses both carbon emissions and the planet's natural carbon absorption mechanisms, as they are inextricably linked. The first part of the climate prescription calls for a dramatic slash of carbon emissions well beyond those targeted at COP21. The prescription presents a

20. *Id.*

21. *Id.*

22. See The Ocean Portal Team, *supra* note 8.

23. See *Climate Prescription*, *supra* note 4, at 13. In defining such a zone, the team aimed for carbon levels present during the Holocene period in which human civilization developed. See *id.* at 8 (“Warming of 1°C relative to 1880–1920 keeps global temperature close to the Holocene range, but warming of 2°C, to at least the Eemian level, could cause major dislocations for civilization.”); *id.* at 5 (discussing 350 target); *id.* at 10 (“keeping global climate close to the Holocene range requires a long-term atmospheric CO₂ level of about 350 ppm or less”). Other research institutions refer to a 1.5°C trajectory as the most cautionary path that remains technically feasible. See PAUL BAER ET AL., STOCKHOLM ENV'T INST., THREE SALIENT GLOBAL MITIGATION PATHWAYS ASSESSED IN LIGHT OF THE IPCC CARBON BUDGETS (2013), http://sei-us.org/Publications_PDF/SEI-DB-2013-Climate-risk-emission-reduction-pathways.pdf (comparing the risks associated with a 1.5°C increase, a 2.0°C increase, and the increase outlined at the G8 conference of 2009).

24. See *Climate Prescription*, *supra* note 4.

trajectory, or “glidepath,” of annual emissions reduction towards an ultimate goal of near-zero emissions.²⁵ The team stated that global emissions reduction of six percent annually, beginning in year 2013, was required to reach 350 ppm by the end of the century.²⁶ Delaying reduction in carbon emissions sharply increases the level of necessary yearly reductions—to a point at which the reductions ultimately become too steep to plausibly salvage a habitable planet.²⁷ For example, the Hansen team estimated that, had concerted action started in 2005, emissions reduction of just 3.5% a year could have restored equilibrium by the end of the century, yet in just eight years of inaction, that figure climbed to six percent a year.²⁸ The scientists project that, if emissions reduction is delayed until 2020, society would need to reduce emissions by fifteen percent a year.²⁹ At some point, the necessary cuts become too drastic for global society to accomplish. As the Hansen team emphasized: “[I]t is urgent that large, long-term emissions reductions begin soon.”³⁰

Moreover, it is important to understand that reducing emissions alone is not adequate to restore climate equilibrium. Because approximately forty percent of emissions persist in the atmosphere for over a thousand years at present removal rates, any planetary atmospheric rescue effort must also focus on removing much of the carbon dioxide that has already

25. *Id.* at 9. *But see* PAUL BAER ET AL., *supra* note 23, at 3 (noting reductions of 6% per year only have a 50% chance of holding the global warming under 2°C, while more aggressive reductions, 9% per year, increase the chance of staying under 2°C to 66%). The BAER ET AL. assessment does not account for the drawdown of CO₂ contemplated in the Climate Prescription. *See, Climate Prescription, infra* note 32, and accompanying text.

26. *See Climate Prescription, supra* note 4, at 10.

27. *See* PAUL BAER ET AL., *supra* note 23, at 1 (“The 1.5°C marker pathway is defined as the most challenging mitigation pathway that can still be defended as being technologically achievable.”).

28. *Climate Prescription, supra* note 4, at 18.

29. *Id.* at 10 (“These results emphasize the urgency of initiating emissions reduction. As discussed above, keeping global climate close to the Holocene range requires a long-term atmospheric CO₂ level of about 350 ppm or less, with other climate forcing similar to today’s levels. If emissions reduction had begun in 2005, reduction at 3.5%/year would have achieved 350 ppm at 2100. Now the requirement is at least 6%/year. Delay of emissions reductions until 2020 requires a reduction rate of 15%/year to achieve 350 ppm in 2100.”).

30. *Id.*

accumulated in the atmosphere.³¹ Accordingly, the second part of the scientific climate prescription addresses the “drawdown” of carbon dioxide through massive reforestation (because trees naturally absorb carbon dioxide) and improved agricultural measures (because soil also absorbs carbon dioxide). The Hansen team calculated that a full-scale massive restoration program consisting of reforestation and soil measures can draw down about 100 gigatons of carbon dioxide from the atmosphere, an amount key to restoring atmospheric carbon levels to 350 ppm.³²

The global challenge of CO₂ emissions reduction finds unprecedented urgency due to nature’s own “tipping points”—thresholds beyond which dangerous feedback processes are triggered. Such feedbacks can unleash uncontrollable, irreversible, “runaway” heating capable of destroying the balance of the planet’s climate system.³³ Such tipping points form the crux of the scientific community’s call for urgent action. Recognizing this danger, the Ninth Circuit Court of Appeals stated in one climate case: “Several studies also show that climate change may be non-linear, meaning that there are positive feedback mechanisms that may push global warming past a dangerous threshold (the ‘tipping point’).”³⁴ Once fully

31. See William Moomaw, *From Failure to Success: Reframing the Climate Treaty*, THE FLETCHER FORUM OF WORLD AFFAIRS (Feb. 10, 2014), <http://www.fletcherforum.org/2014/02/10/moomaw/>. Only by restoring the Earth’s natural ability to remove carbon can overall atmospheric levels drop. As Professor William Moomaw explained, “We must not only turn off the faucet that is filling the atmosphere with heat trapping gases, but we must also unplug the drain that is removing them.” *Id.*

32. *Climate Prescription*, *supra* note 4, at 10 (“[I]t is not impossible to return CO₂ to 350 ppm this century. Reforestation and increase of soil carbon can help draw down atmospheric CO₂”). If the drawdown from reforestation is less, the amount of carbon emissions reduction necessary to achieve 350 ppm increases substantially. *Id.* While the team admits that the forest and soil storage of 100 GT is ambitious, they point out that the strategy includes beneficial externalities, including increased resilience to climate change, improved productivity in agriculture, and further protection of ecosystem function. *Id.*

33. See generally FRED PEARCE, WITH SPEED AND VIOLENCE: WHY SCIENTISTS FEAR TIPPING POINTS IN CLIMATE CHANGE xxiv–vi (2007) (describing “unstoppable planetary forces” beyond tipping points and the end of climatic stability); Leslie McCarthy, Goddard Institute for Space Studies, *Research Finds that Earth’s Climate is Approaching ‘Dangerous’ Point*, NASA, http://www.nasa.gov/centers/goddard/news/topstory/2007/danger_point.html (May 30, 2007) (discussing thresholds of global temperatures and atmospheric carbon dioxide that trigger dangerous interference with the climate system).

34. *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 508 F.3d 508, 523 (9th Cir. 2007).

triggered, these feedback loops continue despite any subsequent carbon reductions achieved by humanity.³⁵

Though the precise threshold of atmospheric CO₂ that represents the point-of-no-return is unknown,³⁶ the global concentration of CO₂ in the atmosphere has surpassed 400 ppm.³⁷ Already, some dangerous feedback loops are manifestly in motion. Vast areas of melting permafrost now release huge amounts of CO₂ and methane (both of which are greenhouse gasses) into the atmosphere,³⁸ and melting polar ice caps intensify the heating, because less ice remains to reflect heat away from Earth—a dynamic known as the albedo effect.³⁹ Gus Speth, the former Dean of the Yale School of Forestry, warns that if we maintain our largely inadequate course of action, the world “won’t be fit to live in” by mid-century.⁴⁰

B. Atmospheric Trust Litigation: The Planet on the Docket

With such feedback loops looming, a rapid and decisive response to the planet’s atmospheric crisis is paramount to overcoming an existential threat to global civilization. As an indicator of the growing international recognition of climate danger, the recent COP21 talks in Paris produced an accord aiming to limit planetary heating to 1.5°C.⁴¹ Despite this

35. Scientists warn that continued carbon pollution will trigger feedback loops that would lead to irreversible, uncontrollable global warming. See Nafeez Ahmed, *James Hansen: Fossil Fuel Addiction Could Trigger Runaway Global Warming*, THE GUARDIAN: EARTH INSIGHT (July 10, 2013), <http://www.theguardian.com/environment/earth-insight/2013/jul/10/james-hansen-fossil-fuels-runaway-global-warming>.

36. *Id.* See also Bill McKibben, *The Tipping Point*, YALE ENV’T 360 (June 3, 2008), http://e360.yale.edu/feature/the_tipping_point/2012/ (discussing the changing scientific consensus about the tipping point as it has been adjusted from 550 parts per million to 350 parts per million since the mid-1990s).

37. See Adam Vaughn, *Global Carbon Dioxide Levels Break 400ppm Milestone*, THE GUARDIAN (May 6, 2015), <http://www.theguardian.com/environment/2015/may/06/global-carbon-dioxide-levels-break-400ppm-milestone>.

38. See Nafeez Ahmed, *Seven Facts You Need to Know About the Arctic Methane Timebomb*, THE GUARDIAN: EARTH INSIGHT (Aug. 5, 2013), <http://www.theguardian.com/environment/earth-insight/2013/aug/05/7-facts-need-to-know-arctic-methane-timebomb>.

39. See James Hansen et al., *Climate Change and Trace Gases*, 365 PHIL. TRANSACTIONS ROYAL SOC’Y A 1925, 1935 (2007) (“A climate forcing that ‘flips’ the albedo of a sufficient portion of an ice sheet can spark a cataclysm.”).

40. JAMES GUSTAVE SPETH, *THE BRIDGE AT THE EDGE OF THE WORLD: CAPITALISM, THE ENVIRONMENT, AND CROSSING FROM CRISIS TO SUSTAINABILITY* x (2008).

41. For more details about the agreement, see UNITED NATIONS CONFERENCE ON

aspirational goal, the actual plans submitted by the participating countries would result in only half of the required greenhouse gas reductions necessary to limit the increase to just two degrees Celsius.⁴² Thus, while the remedy for the climate change crisis increasingly becomes more difficult and more expensive, not only in terms of monetary cost but in societal and cultural upheaval as well, the Paris accord continued the pattern of inadequate international action.⁴³ Indeed, the failure of the Paris talks demonstrates that domestic processes must provide the imperative for carbon reduction. As Johannes Urpelainen of Columbia University summarized, “[i]n the end, the future of climate mitigation remains in the hands of national governments, political parties, interest groups, [and] sub-national jurisdictions.”⁴⁴

On the domestic level, the judiciary represents the third branch of government, and a latecomer to the crisis that has worsened in the hands of the legislative and executive branches. Only recently have citizens asserted through lawsuits their fundamental rights as a basis for climate action. Most notably, the global campaign known as Atmospheric Trust Litigation (ATL) was launched in 2011 to provide a legal structure geared toward forcing urgent emissions reduction around the world.⁴⁵ ATL’s approach recognizes that, while

CLIMATE CHANGE, <http://www.cop21.gouv.fr/en/more-details-about-the-agreement/> (last visited May 31, 2016).

42. See *id.* See also Bill McKibben, *World Leaders Adopt 1.5 C Goal – and We’re Damn Well Going to Hold Them to It*, GRIST (Dec. 12, 2015), <http://grist.org/climate-energy/world-leaders-adopt-1-5-c-goal-and-were-damn-well-going-to-hold-them-to-it/>; Coral Davenport, *Nations Approve Landmark Climate Accord in Paris*, N.Y. TIMES (Dec. 12, 2015), <http://www.nytimes.com/2015/12/13/world/europe/climate-change-accord-paris.html>.

43. See Davenport, *supra* note 42.

44. See Johannes Urpelainen, *What Political Science Can Tell Us About the Paris Climate Deal*, WASH. POST (Dec. 14, 2016), <https://www.washingtonpost.com/news/monkey-cage/wp/2015/12/14/heres-what-political-science-can-tell-us-about-the-paris-climate-deal/>. Michael Levi, an expert on energy and climate change policy at the Council on Foreign Relations, summarized the agreement: “Whether or not this becomes a true turning point for the world, though, depends critically on how seriously countries follow through.” Davenport, *supra* note 42 (quoting Levi).

45. See Gabriel Nelson, *Young Activists Sue U.S., States Over Greenhouse Gas Emissions*, N.Y. TIMES (May 5, 2011), <http://www.nytimes.com/gwire/2011/05/05/05greenwire-young-activists-sue-us-states-over-greenhouse-64366.html>; Matthew Brown, *Climate Activists Target States With Lawsuits; Atmosphere As a ‘Public Trust’*, CNSNEWS.COM (May 4, 2011), <http://www.cnsnews.com/news/article/climate-activists-target-states-lawsuits-atmosphere-public-trust>. The ATL approach was

there is no panacea to a climate negotiation stalemate, domestic courts have the power to order the political branches to take swift and decisive action responsive to the climate crisis.

In the first week of May 2011, young people organized by the non-profit Our Children's Trust initiated legal processes in every state in the U.S. and began plans for suits in other countries as well.⁴⁶ The original legal "hatch" consisted of lawsuits and administrative petitions filed against all fifty states and the federal government.⁴⁷ The campaign represented an unprecedented effort at forcing a coherent approach to a global problem using the judicial system.

All of the legal processes invoked the public trust doctrine and declared a uniform sovereign trust duty to protect the atmosphere needed by the youth and future generations for their long-term survival. The petitions and lawsuits all demanded enforceable Climate Recovery Plans from government trustees to reduce carbon emissions at the rate called for by the scientific prescription formulated by the Hansen team of scientists (or best available science).⁴⁸ These plans would be backed up by annual carbon accountings to show compliance with the prescription. More than a dozen renowned scientists and experts submitted declarations in

described in Mary Christina Wood, *Atmospheric Trust Litigation*, in ADJUDICATING CLIMATE CHANGE: STATE, NATIONAL, AND INTERNATIONAL APPROACHES (William C. G. Burns & Hari M. Osofsky eds., Cambridge Univ. Press 2009). See also Mary Christina Wood, *Atmospheric Trust Litigation Around the World*, in FIDUCIARY DUTY AND THE ATMOSPHERIC TRUST (Ken Coghill et al. eds. 2012), <https://law.uoregon.edu/images/uploads/entries/ATL-Across-the-World.pdf>.

46. For a comprehensive set of ATL updates and materials, consult the website of Our Children's Trust at <http://ourchildrenstrust.org>.

47. See *Youth Sue the Government to Preserve the Future and Halt Climate Change*, OUR CHILDREN'S TRUST, http://ourchildrenstrust.org/sites/default/files/iMatter_Legal_Release_11.05.01.pdf (last visited May 12, 2016).

48. The initial prescription was developed by the team for the litigation and disseminated in May, 2011. See MARY CHRISTINA WOOD, NATURE'S TRUST: ENVIRONMENTAL LAW FOR A NEW ECOLOGICAL AGE 221 (2013) (explaining the Hansen team climate prescription that calls for an annual 6% reduction in carbon emissions and the extraction of 100 gigatons of CO₂ from the atmosphere through reforestation and improved agricultural practices). The 6% figure was tied to a start year of 2013. Because such reduction did not occur, the figure has increased steadily. See *supra* note 29 and accompanying text. The necessary annual global CO₂ reduction as of 2016 is, according to Dr. Hansen, 8%. See *Inslee Administration Defies Court Order, Betrays Children*, OUR CHILDREN'S TRUST, June 1, 2016, <http://ourchildrenstrust.org/sites/default/files/2016.06.01CleanAirRulePR.pdf>.

support of the litigation, and a nationwide group of law professors submitted amicus briefs supporting the youth plaintiffs in key ATL cases.

Unlike prior climate litigation brought under statutory law or nuisance law suits geared towards isolated parts of the climate problem, ATL presented for the first time a macro approach to climate crisis by focusing on the atmosphere as a single public trust asset in its entirety. The approach characterizes all nations on Earth as sovereign co-trustees of the atmosphere, bound together in a property-based framework of corollary and mutual responsibilities. As trustees, all nations owe a primary fiduciary obligation toward their citizen beneficiaries to restore the atmospheric energy balance and climate system.

ATL seeks to accomplish through decentralized domestic litigation, in countries across the globe, what has thus far eluded the international diplomatic treaty-making process: concrete requirements for emissions reduction. Rising out of this failure of international law, ATL's unconventional effort recognizes the need for a legal lever to force agencies and legislatures to respond to the climate emergency.⁴⁹ ATL litigation teams hope that orchestrated lawsuits worldwide will yield atmospheric trust decrees that will spur the political branches to protect common atmospheric property before tipping points send the world into unmitigated disaster.⁵⁰ As one commentator put it, "[w]ith both the executive and legislative branches having been stymied on any major climate-change progress for more than two decades, the [litigation] represents a kind of Hail Mary pass, trusting that

49. See Wood, *Atmospheric Trust Litigation Around the World*, *supra* note 45.

50. The approach has been criticized by some scholars who maintain that the political branches should solve the climate problem. See, e.g., Richard Lazarus, *Judicial Missteps, Legislative Dysfunction, and the Public Trust Doctrine: Can Two Wrongs Make It Right?*, 45 ENVTL. L. REV. 1139 (2015). The same scholars, however, note that Congress has been abdicating its role in making environmental legislation. See, e.g., *id.* at 1149. Congress is unlikely to act, given that 182 members do not believe that climate disruption is even real. See Katie Herzog, *Surprise! A Third of Congress Members Are Climate Change Deniers*, GRIST.ORG (Mar. 8, 2016), <http://grist.org/climate-energy/surprise-a-third-of-congress-members-are-climate-change-deniers/>. Moreover, the criticism seemingly arises from a misunderstanding of the requested remedy. The role of the court is not to perform the job of the other branches, but rather to force the other branches to perform their trust functions. Courts are not asked to develop Climate Recovery Plans themselves.

courts might bring about a speedier solution.”⁵¹

As expected in the initial stages, environmental agencies denied the petitions for rulemaking in nearly every state. Appeals were filed in only a few select state courts. Of those appeals, only two states have explicitly declined to extend the public trust doctrine to the atmosphere, though courts have dismissed several cases on procedural grounds.⁵² Recently, the Massachusetts Supreme Judicial Court ordered the State Department of Environmental Protection to “promulgate regulations that address multiple sources or categories of sources of greenhouse gas emissions, impose a limit on emissions,” and “set limits that decline on an annual basis.”⁵³ Meanwhile, cases in Colorado, North Carolina, Pennsylvania, and Oregon are ongoing, and several more key cases will soon be filed. On the international stage, Our Children’s Trust has partnered with attorneys to file cases in Uganda, Ukraine, and Pakistan, and the organization is working with attorneys on citizen actions in the Netherlands, India, Canada, France, England, Norway, and Belgium.⁵⁴

In September, 2015, twenty-one youths from across the nation launched a new federal lawsuit against multiple agencies in the Obama administration with control over the United States’ fossil fuel policies. The plaintiffs’ complaint in *Juliana v. U.S.* asserts that the federal government continues

51. See Katherine Ellison, *An Inconvenient Lawsuit: Teenagers Take Global Warming to the Courts*, THE ATLANTIC (May 9, 2012), <http://www.theatlantic.com/national/archive/2012/05/an-inconvenient-lawsuit-teenagers-take-global-warming-to-the-courts/256903/>.

52. For example, the trial court in Kansas dismissed the case for “failure to exhaust administrative remedies.” See *Kansas*, OUR CHILDREN’S TRUST, <http://ourchildrenstrust.org/state/kansas> (last visited April 24, 2016); see also *Filippone ex rel. Philippone v. State Dep’t of Nat. Res.*, 829 N.W.2d 589, at *2–3 (Iowa Ct. App. 2013) (declining to apply the public trust doctrine to the atmosphere because previously the Iowa Supreme Court had declined to extend the doctrine to forested areas and public alleyways). However, Judge Doyle’s concurring opinion cites statutes expressing the “policy of the State of Iowa to protect its natural resource heritage of air, soils, waters, and wildlife for the benefit of present and future citizens.” *Id.* See also *Aronow v. State*, No. A12-0585, 2012 WL 4476642 (Minn. Ct. App. Oct. 1, 2012) (declining to extend the public trust doctrine to the atmosphere because no court in Minnesota or any other jurisdiction had done so, and because it had refused to apply the doctrine to land in a previous holding).

53. See *Kain v. State Dep’t of Env’tl. Prot.*, No. SJC-11961, at 9 (Mass. May 17, 2016), <http://ourchildrenstrust.org/sites/default/files/2016.05.17.MASupCtDecision.pdf>

54. See *International Legal Action*, OUR CHILDREN’S TRUST, <http://ourchildrenstrust.org/legal/international> (last visited May 12, 2016).

to violate the youngest generation's constitutional rights and fails to protect essential natural resources in the public trust by promoting the development of fossil fuels.⁵⁵ It states:

For over fifty years, the United States of America has known that carbon dioxide ("CO₂") pollution from burning fossil fuels was causing global warming and dangerous climate change, and that continuing to burn fossil fuels would destabilize the climate system on which present and future generations of our nation depend for their wellbeing and survival. . . . Despite this knowledge, Defendants continued their policies and practices of allowing the exploitation of fossil fuels.⁵⁶

The youth plaintiffs gained a strong initial victory in the litigation on April 8, 2016 when Magistrate Judge Thomas Coffin recommended denial of the government's and fossil fuel interveners' motions to dismiss in all aspects, finding that both the constitutional claims and the federal public trust claim could go forward.⁵⁷ The court stated: "Given the allegations of direct or threatened direct harm, albeit shared by most of the population or future population, the court should be loath to decline standing to persons suffering an alleged concrete injury of a constitutional magnitude."⁵⁸ At the time of this writing, Judge Coffin's findings were pending review before federal district court Judge Ann Aiken. If the case moves forward to trial, the federal government's fossil fuel policies and their climate impacts will be subject to broad open scrutiny for the first time, prompting the youths' attorneys to call this the

55. Amended Complaint for Declaratory and Injunctive Relief at 3, *Juliana v. United States*, No. 6:15-cv-01517-TC (D. Or. Sept. 10, 2015) [hereinafter *Juliana* Complaint], <http://ourchildrenstrust.org/sites/default/files/YouthAmendedComplaintAgainstUS.pdf>. An earlier case, *Alec L. v. Jackson*, was dismissed by the District of Columbia. *Alec L. v. Jackson*, 863 F. Supp. 2d 11 (D. D.C. 2012), *aff'g* *Alec L. ex rel. Loorz v. McCarthy*, 561 Fed. App'x 7 (D.C. Cir. 2014), *cert. denied*, 135 S. Ct. 774 (2014) (finding Clean Air Act displaced the public trust claim).

56. See *Juliana* Complaint, *supra* note 55, at 1.

57. See Order and Findings & Recommendation, *Juliana v. U.S.*, No. 6:15-cv-1517-TC (D. Or. Apr. 8, 2016) [hereinafter *Juliana* Order], <http://ourchildrenstrust.org/sites/default/files/16.04.08.OrderDenyingMTD.pdf>.

58. *Id.* at 7. For coverage of the case, see James Conca, *Federal Court Rules on Climate Change In Favor of Today's Children*, FORBES (Apr. 10, 2016), <http://www.forbes.com/sites/jamesconca/2016/04/10/federal-court-rules-on-climate-change-in-favor-of-todays-children/#273936b06219>. See also John Schwartz, *In Novel Tactic on Climate Change, Citizens Sue Their Governments*, N.Y. TIMES (May 10, 2016), http://www.nytimes.com/2016/05/11/science/climate-change-citizen-lawsuits.html?_r=0.

“trial of the millennium.”⁵⁹

In sum, ATL is a full-scale, coordinated campaign with multiple suits pending and others teed up in different forums, all connected by a common template of science and law. Unprecedented in scope, this campaign calls upon the judicial branch to force an eleventh-hour response to the intensifying civilizational threat in the narrow window of time remaining. In any successful legal campaign, there are path-breaking cases that dismantle barriers and pioneer the development of new law. Just as *Brown v. Board of Education*⁶⁰ marked the emergence of a new legal mechanism to confront racial inequality, and as *Obergefell v. Hodges*⁶¹ enumerated that same-sex marriage is a constitutional right, one recent ATL case in Washington State, *Foster v. Washington Department of Ecology*,⁶² similarly provides principles that forge important ground in the climate trust campaign. The next section provides background for discussing *Foster* by explaining the public trust doctrine more fully, which provides the foundation for the ATL approach.

II. THE PUBLIC TRUST FRAMEWORK

The public trust doctrine requires government to hold vital natural resources in trust for the public beneficiaries, both present and future generations.⁶³ The doctrine presents

59. See Coco McPherson, *Why Young Americans Are Suing Obama Over Climate Change*, ROLLING STONE (Mar. 12, 2016), <http://www.rollingstone.com/politics/news/why-young-americans-are-suing-obama-over-climate-change-20160312>.

60. *Brown v. Board of Education*, 349 U.S. 294 (1955).

61. *Obergefell v. Hodges*, 135 S. Ct. 2584 (2015).

62. The litigation has produced three orders, referred to in this Article as *Foster I*, *Foster II*, and *Foster III*. See *Foster v. State Dep't of Ecology (Foster I)*, No. 14-2-25295-1 SEA, at 1–2 (Wash. Super. Ct. June 23, 2015); *Foster v. State Dep't of Ecology (Foster II)*, No. 14-2-25295-1 SEA (Wash. Super. Ct. Nov. 19, 2015). For the court's recent disposition as this article goes to press, see Order on Petitioners' Motion for Relief Under CR 60(b), *Foster III*, No. 14-2-25295-1 SEA (May 16, 2016). See also Peter Andrew Hart, *Washington State Kids Score Huge Legal Win in Climate Change Lawsuit*, HUFFINGTON POST (May 4, 2016), http://www.huffingtonpost.com/entry/washingtonk-kids-climate-lawsuit_us_5723f60ae4b01a5ebde5be52.

63. See, e.g., Ill. Cent. R.R. v. Illinois (*Illinois Central*), 146 U.S. 387, 453 (1892) (“The State can no more abdicate its trust over property in which the whole people are interested . . . than it can abdicate its police powers in the administration of government and the preservation of the peace.”); *Geer v. Connecticut*, 161 U.S. 519, 525–29 (1896) (detailing ancient and English common law principles of sovereign trust ownership of air, water, sea, shores, and wildlife and stating: “[T]he power or control

reserved, inalienable property rights held by the public to protect crucial resources from monopolization and/or destruction by private interests. The doctrine gives force to the plain expectation, central to the purpose of organized government: that natural resources essential for survival and welfare remain abundant, justly distributed, and bequeathed to future generations. In a very basic sense, the public trust principle governs for the endurance of the nation and its fifty states.

The public trust stands apart from police power as a source of authority and duty incumbent on the government.⁶⁴ As a property-based counterweight to government's discretionary police power, the trust secures the people's rights to a sustained natural endowment. This principle has been affirmed by the U.S. Supreme Court many times and manifests in a multitude of court decisions, constitutions, and statutes from across this country and, indeed, from around the world.⁶⁵ American courts routinely recognize the ancient origins of the public trust as tracing back to the beginnings of human civilization and legal systems. The essential public rights that infuse the trust were expressed in Roman times in the Institutes of Justinian, which declared: "By the law of nature these things are common to mankind—the air, running water, the sea, and consequently the shores of the sea."⁶⁶

The trust is rooted in the original social compact citizens make with their governments. Because citizens would never confer to their government the power to substantially impair resources crucial to their survival and welfare,⁶⁷ the governing

lodged in the State, resulting from this common ownership, is to be exercised, like all other powers of government, as a trust for the benefit of the people."); *Ariz. Ctr. for Law in the Pub. Interest v. Hassell*, 837 P.2d 158, 169 (Ariz. Ct. App. 1991) ("The beneficiaries of the public trust are not just present generations but those to come"). See also Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 557–66 (1970) (seminal article discussing public trust concept). For cases and materials on the public trust doctrine, see MICHAEL C. BLUMM & MARY CHRISTINA WOOD, *THE PUBLIC TRUST DOCTRINE IN ENVIRONMENTAL AND NATURAL RESOURCES LAW* (2d ed. 2015).

64. See Mary Christina Wood & Dan Galpern, *Atmospheric Recovery Litigation: Making the Fossil Fuel Industry Pay to Restore a Viable Climate System*, 45 ENVTL. L. 259, 272 (2015).

65. See generally BLUMM & WOOD, *supra* note 63 (compiling cases across the U.S. and in nations world-wide).

66. J. INST., 2.1.1. (T. Sandars trans., 4th ed. 1867).

67. See *Illinois Central*, 146 U.S. at 452.

assumption of the public trust principle is that citizens reserve public ownership of crucial resources as a perpetual trust to sustain society and the nation. In keeping with the traditional trust framework, governments hold natural resources (the *res*) in a trust for present and future generations of citizens (the beneficiaries).⁶⁸

As the United States Supreme Court held in *Geer v. Connecticut*, “the power or control lodged in the State, resulting from this common ownership, is to be exercised, like all other powers of government, as a trust for the benefit of the people.”⁶⁹ Such reserved public property rights to crucial resources are fundamental to the democratic understandings underlying all state and federal government authority in the United States.⁷⁰ Courts have often said that privatization of essential resources “would be a grievance which never could be long borne by a free people.”⁷¹ As Professor Joseph Sax famously noted, the public trust demarcates a society of “citizens rather than of serfs.”⁷²

A seminal public trust case, *Illinois Central Railroad v. Illinois*, demonstrates the limits imposed by the public trust on government actors. There, the U.S. Supreme Court confronted a legislative conveyance of Lake Michigan’s shoreline to a private railroad company. The Court found that the state legislature had no authority to make such a conveyance, because the lands were held in public trust; accordingly, the railroad’s title was invalid.⁷³ A contrary rule, the Court noted, would “place every harbor in the country at the mercy of a majority of the legislature of the state in which the harbor is situated.”⁷⁴ The Court made clear the constitutional trust

68. See *Hassell*, 837 P.2d at 169 (“The beneficiaries of the public trust are not just present generations but those to come.”).

69. *Geer v. Connecticut*, 161 U.S. 519, 529 (1896).

70. See *San Francisco Baykeeper, Inc. v. State Lands Comm’n*, 242 Cal. App. 4th 202, 232 (2015) (“The public trust doctrine, which is traceable to Roman law, rests on several related concepts. First, that the public rights of commerce, navigation, fishery, and recreation are so intrinsically important and vital to free citizens that their unfettered availability to all is essential in a democratic democracy.”) (quoting *Zack’s, Inc. v. City of Sausalito*, 165 Cal. App. 4th 1163, 1175–76 (2008)).

71. *Illinois Central*, 146 U.S. 387, 456 (1892) (quoting *Arnold v. Mundy*, 6 N.J. Law 1, 78 (1821)).

72. Sax, *supra* note 63, at 484.

73. See *Illinois Central*, 146 U.S. at 453–56.

74. *Id.* at 455.

restraint upon legislatures:

The legislature could not give away nor sell the discretion of its successors in respect to matters, the government of which, from the very nature of things, must vary with varying circumstances. The legislation, which may be needed one day for the harbor, may be different from the legislation that may be required at another day. Every legislature must, at the time of its existence, exercise the power of the State in the execution of the trust devolved upon it.⁷⁵

The public trust is characteristically explained as an attribute of sovereignty that government cannot shed.⁷⁶ As the Court declared in *Illinois Central*, “[t]he state can no more abdicate its trust over property in which the whole people are interested,” than “it can abdicate its police powers in the administration of government.”⁷⁷ One federal district court noted: “The trust is of such a nature that it can be held only by the sovereign, and can only be destroyed by the destruction of the sovereign.”⁷⁸

Modern scholars and judges increasingly recognize the constitutional force of the public trust doctrine.⁷⁹ Professor Gerald Torres describes the trust as the slate upon which “all constitutions and laws are written.”⁸⁰ In the landmark opinion

75. *Id.* at 460.

76. See, e.g., *Geer v. Connecticut*, 161 U.S. 519, 527 (1896) (describing the sovereign trust over wildlife resources as an “attribute of government”); *In re Water Use Permit Applications*, 9 P.3d 409, 443 (Haw. 2000) (“history and precedent have established the public trust as an inherent attribute of sovereign authority.”). See also Karl S. Coplan, *Public Trust Limits on Greenhouse Gas Trading Schemes: A Sustainable Middle Ground?*, 35 COLUM. J. ENVTL. L. 287, 311 (2010) (“The idea that public trust limits and powers inhere in the very nature of sovereignty is one consistent thread in public trust cases. . . . Public trust principles have been described as an essential attribute of sovereignty across cultures and across millennia.”).

77. *Illinois Central*, 146 U.S. 387, 453 (1892).

78. *United States v. 1.58 Acres of Land*, 523 F. Supp. 120, 124 (D. Mass. 1981).

79. See Douglas L. Grant, *Underpinnings of the Public Trust Doctrine: Lessons from Illinois Central Railroad*, 33 ARIZ. ST. L.J. 849, 879–80 (2001) (explaining constitutional reserved powers doctrine as reflection of the public trust principle). For further discussion, see Gerald Torres & Nate Bellinger, *The Public Trust: The Law’s DNA*, 4 WAKE FOREST J.L. & POL’Y 281 (2014).

80. See WOOD, NATURE’S TRUST, *supra* note 48, at 126 (quoting Torres & Bellinger, *supra* note 79). See also *Oposa v. Factoran*, G.R. No. 101083 (S.C., July 30, 1993) (Phil.), as reprinted in JAN G. LAITOS ET AL., NATURAL RESOURCES LAW 441–44 (Thompson West 2006) (The “right to a balanced and healthful ecology . . . may even be said to predate all governments and constitutions. . . . [T]hese basic rights need not

Robinson Township v. Pennsylvania, a plurality of the Pennsylvania Supreme Court described the trust as embodying the “inherent and inalienable” rights of citizens reserved though their social contract with government.⁸¹ While the Pennsylvania Constitution contains a specific amendment setting forth the public trust,⁸² the *Robinson* opinion makes clear that the enactment of Article 1, Section 27 did not create new rights, but rather enumerated the pre-existing rights that the people had reserved for themselves in creating the government.⁸³ Similarly, courts in Wisconsin, Louisiana, Alaska, Arizona, and Hawaii have also recognized the constitutional underpinnings of the public trust doctrine, often interpreting the principle in conjunction with specific constitutional provisions.⁸⁴

Most recently, the ATL case, *Juliana v. U.S.*, found a federal constitutional public trust duty embodied in the Due Process Clause of the Fourteenth Amendment, stating: “The doctrine is deeply rooted in our nation’s history and indeed predates it.”⁸⁵ The federal government defendants and industry interveners took the position that there is no constitutional public trust bar

even be written in the Constitution for they are assumed to exist from the inception of mankind.”).

81. *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 948 (Pa. 2013) (plurality opinion). The court described such rights as “of such ‘general, great and essential’ quality as to be ensconced as ‘inviolable.’” *Id.* at 947.

82. PA. CONST. art. I, § 27 (added by amendment in 1971).

83. *See Robinson Twp.*, 83 A.3d at 948 (“Among the inherent rights of the people of Pennsylvania are those enumerated in Section 27.”); *id.* at 1016 n.36 (“[T]he concept that certain rights are inherent to mankind, and thus are secured rather than bestowed by the Constitution, has a long pedigree in Pennsylvania that goes back at least to the founding of the Republic.”) (quoting *Driscoll v. Corbett*, 69 A.3d 197, 208 (Pa. 2013)); *see also* OR. CONST. art. I, § 1 (“*Natural rights inherent in people. We declare that all men, when they form a social compact are equal in right: that all power is inherent in the people, and all free governments are founded on their authority, and instituted for their peace, safety, and happiness.*”).

84. *State v. Bleck*, 338 N.W.2d 492, 497 (Wis. 1983) (grounding the public trust doctrine in the state constitution); *Save Ourselves v. State Env'tl. Control Comm'n*, 452 So.2d 1152, 1154 (La. 1984) (recognizing a public trust based on the state constitution); *Owsichuk v. State Guide Licensing & Control Bd.*, 763 P.2d 488, 493–96 (Alaska 1988) (holding that the constitutional “common use” clause adopted common law trust principles in relation to fish, wildlife, and water resources); *Ariz. Ctr. for Law in the Pub. Interest v. Hassell*, 837 P.2d 158 (Ariz. Ct. App. 1991) (interpreting public trust and the gift clause of the state constitution); *In re Water Use Permit Applications*, 9 P. 3d 409, 443–44 (Haw. 2000) (holding that the public trust doctrine was “a fundamental principle of constitutional law in Hawaii”).

85. *See Juliana Order*, *supra* note 57, at 20.

preventing Congress from alienating the territorial waters of the U.S. to private corporations. The magistrate judge said: “Nor can I imagine that our coastal sea waters could possibly be privatized without implicating principles that reflect core values of our Constitution and the very essence of the purpose of our nation’s government.”⁸⁶

Abroad, the public trust finds expression in many nations’ constitutions.⁸⁷ The Philippines Supreme Court described the public trust’s primordial constitutional force in *Oposa v. Factoran* when it halted logging of the country’s last remaining ancient forest. The *Oposa* court declared:

[E]very generation has a responsibility to the next to preserve that rhythm and harmony for the full enjoyment of a balanced and healthful ecology. . . . [This] belongs to a different category of rights [than civil and political rights] altogether for it concerns *nothing less than self-preservation and self-perpetuation . . . the advancement of which may even be said to predate all governments and constitutions.*

. . . .

[T]hese basic rights need not even be written in the Constitution *for they are assumed to exist from the inception of humankind.* If they are now explicitly mentioned[,] . . . it is because of the well-founded fear of its framers that unless [these rights] are mandated as state policies by the Constitution itself . . . the day would not be too far when all else would be lost not only for the present generation, but also for those to come—*generations which stand to inherit nothing but parched earth incapable of sustaining life.*⁸⁸

Natural commonwealth sustains a nation. The public trust principle aims to protect resources that are vital for sovereignty, survival, and human welfare, so as promote the endurance of society as it unfolds into future generations. Thus, the trust imposes strict fiduciary obligations on trustees to protect the assets that they hold in trust for the people.⁸⁹ A

86. *Id.* at 23.

87. See BLUMM & WOOD, *supra* note 63, at 305–332.

88. See also *Oposa v. Factoran*, G.R. No. 101083 (S.C., July 30, 1993) (Phil.), as reprinted in JAN G. LAITOS ET AL., NATURAL RESOURCES LAW 441–44 (Thompson West 2006) (emphasis added).

89. For a discussion of fiduciary duties, see Section III.B.2, *infra*, and accompanying

key question in public trust jurisprudence concerns the scope of the protected assets, or the *res*. ATL asserts that air is part of the class of resources protected in trust.

As a starting point, the trust *res* consists of natural assets recognized to serve the trust's purpose. When defining the scope of the trust *res*, courts have always looked to the needs of the public. This analytical framework originates with *Illinois Central's* seminal characterization of public trust assets as "a subject of *public concern* to the whole people of the state."⁹⁰ Noting that the trust arises "necessarily from the public character of the property," the Court held that such trust assets "cannot be placed entirely beyond the direction and control of the state."⁹¹ As Professor Charles Wilkinson explains, "[t]he public trust doctrine is rooted in the precept that some resources are so central to the well-being of the community that they must be protected by distinctive, judge-made principles."⁹² Guided by such principles, courts have greatly expanded the scope of public trust property over time.

The original cases dealt primarily with navigable waters, fisheries, and wildlife, because those resources played a vital role in the dominant nineteenth-century pursuits of fishing, navigation, and commerce. But the "public concern" test announced in *Illinois Central* naturally led courts to expand the *res* to keep pace with scientific knowledge and modern concerns. As the New Jersey Supreme Court observed: "[W]e perceive the public trust doctrine not to be 'fixed or static,' but one to 'be molded and extended to meet changing conditions and needs of the public it was created to benefit.'"⁹³ The Supreme Court of Hawaii similarly stated that "the 'purposes' or 'uses' of the public trust have evolved with changing public values and needs."⁹⁴ Various courts now recognize modern

text.

90. *Illinois Central*, 146 U.S. 387, 455 (1892) (emphasis added). See also WOOD, NATURE'S TRUST, *supra* note 48, at 146–61 (for a broader discussion of the evolution of the "public concern" precedent).

91. *Illinois Central*, 146 U.S. at 454–56.

92. Charles F. Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 U.C. DAVIS L. REV. 269, 315 (1980).

93. *Matthews v. Bay Head Improvement Ass'n*, 471 A.2d 355, 365 (N.J. 1984).

94. *In re Water Use Permit Applications*, 9 P.3d 409, 448 (Haw. 2000). See also *Marks v. Whitney*, 491 P.2d 374, 380 (Cal. 1971) ("In administering the trust the state is not burdened with an outmoded classification favoring one mode of utilization over another.").

concerns such as biodiversity, wildlife habitat, aesthetics, and recreation as purposes of the trust.⁹⁵ Correspondingly, courts have applied the trust doctrine well beyond its traditional scope to assets such as groundwater, wetlands, dry sand beaches, parks, non-navigable waterways, and most recently, air and atmosphere.⁹⁶

As courts advance their understanding of ecology, some are inclined to expand the trust *res* to reflect the reality of inextricably connected resources. The Supreme Court of Hawaii, for example, held that groundwater must be considered part of the trust *res* because of its inseparability from surface water: “Modern science and technology have discredited the surface-ground dichotomy. . . . We confirm that the public trust doctrine applies to all water resources, unlimited by surface ground distinction.”⁹⁷ In a similar vein, the Pennsylvania Supreme Court’s *Robinson* opinion emphasized the public’s interest in habitable communities and recognized a full gamut of natural resources in the trust *res*, including “resources that implicate the public interest, such as ambient air, surface and ground water, wild flora and fauna (including fish) that are outside the scope of purely private property.”⁹⁸

95. See, e.g., *Marks*, 491 P.2d at 380 (wildlife habitat and recreation); *Mineral Cnty. v. State Dep’t of Conservation & Nat. Res.*, 20 P.3d 800, 808 (Nev. 2001) (aesthetics); *Foster II*, No. 14-2-25295-1 SEA, at 9 (Wash. Super. Ct. Nov. 19, 2015) (climate stability); *San Francisco Baykeeper, Inc. v. State Lands Comm’n*, 242 Cal. App. 4th 202, 233 (2015) (“[A]n increasingly important public use is the preservation of trust lands ‘in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area.’”).

96. *Robinson v. Ariyoshi*, 658 P.2d 287, 310 (Haw. 1982) (groundwater); *Matthews*, 471 A.2d at 358 (dry sand area); *Nies v. Town of Emerald Isle*, 780 S.E.2d 187 (N.C. Ct. App. 2015) (appeal pending) (dry sand beach); *Big Sur Properties v. Mott*, 132 Cal. Rptr. 835, 837 (Ct. App. 1976) (park); *Nat’l Audubon Soc’y v. Super. Ct. of Alpine Cnty.*, 658 P.2 709, 719–22 (Cal. 1983) (non-navigable tributaries); *Just v. Marinette Cnty.*, 201 N.W.2d 761, 768–69 (Wis. 1972) (wetlands); *Esplanade Props., LLC v. City of Seattle*, 307 F.3d 978, 985–86 (9th Cir. 2002) (wetlands); *Owsichek v. State Guide Licensing & Control Bd.*, 763 P.2d 488, 495–96 (Alaska 1988) (fish, wildlife, and water).

97. *In re Water Use Permit Applications*, 9 P.3d at 447. See also *id.* at 457 (the trust demands “the maintenance of ecological balance.”).

98. *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 955 (Pa. 2013) (plurality opinion).

III. THE THREE STAGES OF ATMOSPHERIC TRUST LITIGATION

Against this backdrop, Atmospheric Trust Litigation seeks to apply the fundamental public trust duty of protection to the atmosphere to abate continued damage from GHG pollution and restore climate balance. Not unlike other coordinated litigation campaigns, ATL must progress through three stages to prove effective. First, the courts must recognize the paramount judicial role in upholding the rights of the plaintiffs. Second, the courts must issue declarations of principle that will guide government actors and provide a framework for the remedy. Third, the courts must manage the remedy so that it offers a practical means to enforce the rights of the plaintiffs. Unlike other campaigns, however, the urgency attending ATL is unprecedented given the climate tipping points described at the outset of this Article. The courts must move swiftly through these stages, and ultimately in coordinated fashion, to force the political branches of government to carry out the GHG reduction necessary to salvage a habitable planet before those irrevocable thresholds are passed. Martin Luther King, Jr.'s famous admonition applies with haunting implications to such climate cases: "There is such a thing as being too late."⁹⁹ The *Foster v. Department of Ecology* case, as discussed in Section III, proves groundbreaking for all three stages of atmospheric trust litigation. The discussion below elaborates on these three stages and surveys the ATL landscape prior to the *Foster* decision.

A. *Stage 1: Recognizing the Judicial Role*

The cornerstone of any trust lies in judicial enforcement. If fiduciary obligations become unenforceable in court, a trustee can exert untrammelled power over the beneficiaries' property and use that power to advance his or her own singular interests. Judge Learned Hand once stated that courts must have the ability to enforce fiduciary obligations, or what claimed to be a trust would amount to no more than a

99. Martin Luther King, Jr., *Beyond Vietnam at Riverside Church* (Apr. 4, 1967) (transcript at http://kingencyclopedia.stanford.edu/encyclopedia/documentsentry/doc_beyond_vietnam/).

“precatory admonition.”¹⁰⁰ In the public trust realm, courts have recognized that judicial enforcement stands essential to the balance of power. In a leading public trust case, the Hawaii Supreme Court stated, “The check and balance of judicial review provides a level of protection against improvident dissipation of an irreplaceable *res*.”¹⁰¹

The sheer urgency of climate crisis magnifies this important judicial role. Recently, the Honorable Alfred T. Goodwin—a sitting senior judge on the Ninth Circuit Court of Appeals and former Chief Judge of that circuit—issued a “wake up call” for judges, warning: “The current state of affairs . . . reveals a wholesale failure of the legal system to protect humanity from the collapse of finite natural resources by the uncontrolled pursuit of short-term profits. . . . Whether grounded in Article III or state constitutional provisions, the third branch must now recognize its obligation to provide a check on government exercise of power over the public trust.”¹⁰²

A court often signals its willingness to engage a particular issue by delivering preliminary rulings on procedural grounds raised by the defendants, usually in a motion to dismiss. The posture of any climate case is challenging, because a system of statutory laws exists to address the problem of harmful pollution, and various state and federal administrative actions are proceeding within that system. It may be difficult for judges to appreciate that they should have a role enforcing a

100. See *Stix v. Commissioner*, 152 F.2d 562, 563 (2d Cir. 1945); see also *United States v. Mitchell*, 463 U.S. 206, 226 (1983) (noting, in the context of Indian trust doctrine, that a “fundamental incident” of the trust relationship is “the right of an injured beneficiary to sue the trustee for damages resulting from a breach of the trust”).

101. *In re Water Use Permit Applications*, 9 P.3d at 455. See also *Lake Mich. Fed’n v. U.S. Army Corps of Eng’rs*, 742 F. Supp. 441, 446 (N.D. Ill. 1990) (“The very purpose of the public trust doctrine is to police the legislature’s disposition of public lands. If courts were to rubber stamp legislative decisions, as Loyola advocates, the doctrine would have no teeth.”); *Ariz. Ctr. for Law in the Pub. Interest v. Hassell*, 837 P.2d 158, 169 (Ariz. Ct. App. 1991) (“Just as private trustees are judicially accountable to their beneficiaries for dispositions of the *res*, so the legislative and executive branches are judicially accountable for their dispositions of the public trust.”). Public trust enforcement provides a means of limiting the breathtaking power of government. As James Madison noted: “In Framing a government which is to be administered by men over men the great difficulty lies in this: you must first enable the government to control the governed; and in the next place oblige it to control itself.” *THE FEDERALIST* NO. 51 (James Madison), avalon.law.yale.edu/18th_century/fed51.asp.

102. Hon. Alfred T. Goodwin, *A Wake-Up Call for Judges*, 2015 WIS. L. REV. 785, 785–88 (2015).

public trust obligation outside of this statutory context. They may instead assume that the matter should be left entirely to the other branches to address without supervision.¹⁰³ Such judges will usually dismiss the case on grounds of political question doctrine, preemption, or displacement—doctrines that broadcast confidence in the political branches.¹⁰⁴ Indeed, several ATL cases have met with this fate in the early stages of litigation.¹⁰⁵

Courts are called to their role in ATL cases by understanding four aspects of the youths' claim. First, the public trust claim asserts constitutional rights. It remains manifestly a court's duty to enforce constitutional rights against the other branches; such rights may not be preempted or brushed aside on political question grounds—a realization beginning to take hold in the context of ATL cases.¹⁰⁶ The court in *Robinson* paved the way for such awareness when it declared the public trust to embody a fundamental, inherent, inalienable right.¹⁰⁷

Second, the claim involves an urgent and unprecedented threat. The normal inclination to leave the matter to political and administrative processes holds far less sway in times of extreme urgency. In the past, courts have recognized urgency

103. Some scholars take this position as well, even in face of legislative paralysis. See, e.g., Lazarus, *supra* note 50.

104. For discussion, see LISA KLOPPENBERG, PLAYING IT SAFE: HOW THE SUPREME COURT SIDESTEPS HARD CASES AND STUNTS THE DEVELOPMENT OF LAW 39–43, 46, 66 (N.Y.U. Press 2001).

105. See, e.g., *Alec L. v. Jackson*, 863 F. Supp. 2d 11, 17 (D. D.C. 2012) (dismissing ATL federal suit on basis of displacement by Clean Air Act and noting that agencies are “better equipped” than courts to address carbon emissions); *Chernaik v. Kitzhaber*, 328 P.3d 799 (Or. Ct. App. 2014) (reversing lower court's dismissal that had been based on political question doctrine, separation of powers doctrine, sovereign immunity, and the court's perceived lack of authority to grant requested relief.); *Kanuk ex rel. Kanuk v. State Dep't of Nat. Res.*, 335 P.3d 1088 (Alaska 2014) (finding public trust but refusing to grant relief on prudential grounds).

106. See *Juliana Order*, *supra* note 57, at 14 (denying government defendants' political question defense, noting: “The complaint does raise issues of whether government action/inaction violates the Constitution and these are issues committed to the courts rather than either of the political branches.”); *Chernaik*, 328 P.3d at 804–08 (a judicial declaration on the scope of the public trust does not violate separation of powers.); *Kanuk*, 335 P.3d at 1097–99 (finding three of plaintiff's claims not barred by political question doctrine, but finding that it was not prudent to address them at the time).

107. See *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 948 (Pa. 2013) (plurality opinion).

as justifying a swift judicial relief in the public trust context. As the New Jersey Supreme Court reasoned in declaring the public trust rights to certain dry sand beaches in that state: “[T]his State is rapidly approaching a crisis as to the availability to the public of its priceless beach areas. The situation will not be helped by restrained judicial pronouncements. Prompt and decisive action by the Court is needed.”¹⁰⁸

It hardly needs stating that the beach recreation crisis, which prompted decisive pronouncements by the New Jersey Supreme Court, pales in comparison to the imminent climate crisis already threatening irrevocable planetary tipping points. As climate scientist James Hansen declared in an amicus brief in one atmospheric trust case, judicial relief “may be the best, the last, and, at this late stage, the only real chance to preserve a habitable planet for young people and future generations.”¹⁰⁹

Third, the ATL claim alleges threatened harm of a magnitude that is unprecedented.¹¹⁰ Declarations made by leading scientists in ATL cases describe the dire situation

108. *Van Ness v. Borough of Deal*, 393 A.2d 571, 574 (N.J. 1978). *See also Oposa v. Factoran*, G.R. No. 101083 (S.C., July 30, 1993) (Phil.), *as reprinted in* JAN G. LAITOS ET AL., *NATURAL RESOURCES LAW* 441–44 (Thompson West 2006) (finding that logging violated public trust and noting that “the day would not be too far when all else would be lost not only for the present generation, but also for generations to come—generations which stand to inherit nothing but parched earth incapable of sustaining life.”).

109. Hansen, *Amici Curiae* Brief, *supra* note 5, at 7.

110. Until the *Foster* case, discussed in Section IV, *infra*, courts handling atmospheric trust cases have tended to eschew discussion of the potential harm brought on by climate crisis. This judicial silence may reflect confusion over the climate threat. For years, the fossil fuel industry has sowed doubt about the climate crisis to protect itself from regulation. *See* NAOMI ORESKES & ERIK M. CONWAY, *MERCHANTS OF DOUBT: HOW A HANDFUL OF SCIENTISTS OBSCURED THE TRUTH ON ISSUES FROM TOBACCO SMOKE TO GLOBAL WARMING* (Bloomsbury Press 2011); CHRIS MOONEY, *THE REPUBLICAN WAR ON SCIENCE* 60–62 (Basic Books 2006) (describing the emergence of reliable and readily available climate change science in the later 1980s, and the fossil fuel industry’s concurrent attempts to cast doubt on that science). A thorough investigation conducted by the LA Times and Inside Climate News revealed that major fossil fuel corporations understood the harm from their actions decades ago, even though they projected uncertainty about it to the public. *See* Bill McKibben, *Exxon Knew Everything There Was to Know About Climate Change by the Mid-1980s—and Denied It*, *THE NATION* (Oct. 20, 2015), <http://www.thenation.com/article/exxon-knew-everything-there-was-to-know-about-climate-change-by-the-mid-1980s-and-denied-it/>. As these revelations spread through the press, they may alert judges to the climate exigency and the industry’s role in obfuscating it.

faced by the youth plaintiffs and emphasize that the future survival of humanity is at stake. In 2011, Dr. James Hansen, while writing as head of NASA's Goddard Institute for Space Studies, expressed the situation in an *amicus* science brief submitted in an ATL case brought against the U.S. government:

[U]nabated fossil fuel emissions the Earth increasingly out of energy balance. Unless action is undertaken without further delay[,] . . . Earth's climate system will be pressed toward and past points of no return. . . . [D]elay in undertaking sharp reductions in emissions will undermine any realistic chance of preserving a habitable climate system.¹¹¹

The extent, gravity, and continuing nature of climate harm give atmospheric trust litigation monumental importance. As judges become increasingly aware of the climate threat, they are likely to take seriously their role in protecting youth against climate disruption—particularly when scientists warn the court directly through declarations and *amicus* briefs that continued inaction would seal in future conditions likely leading to massive death, destruction, and utter chaos across the globe that youth alive today (plaintiffs before the court) will face later in their life spans. Moreover, the atmospheric trust litigation itself, by providing a venue for such climate science through declarations, *amicus* briefs, and testimony, holds tremendous value as a truth-seeking forum amidst a crisis that has been overtly manipulated and distorted for the public eye by the industry that stands to profit most by misinformation.¹¹²

Finally, the ATL claim asserts that the other branches of government, left alone, will not react to the crisis in time, and with sufficient measures. This is a difficult matter for courts to appreciate, because environmental statutory law carries the implicit promise that agencies will sufficiently protect the resources the public relies upon.¹¹³ In several early ATL cases, courts presumed that administrative action was enough to

111. Hansen, *Amici Curiae* Brief, *supra* note 5, at 6.

112. For a discussion of industry misinformation affecting government's response to public health crises, see ORESKES & CONWAY, *supra* note 110.

113. For further discussion, see WOOD, NATURE'S TRUST, *supra* note 48, at 1–18.

protect the air and atmosphere.¹¹⁴ Yet as the climate clock ticks down without action and the public grows more nervous and aware of agency failures, judges too are likely to question the adequacy of administrative measures, particularly when the youth plaintiffs point out the longstanding failure in concrete terms with reference to climate science.

In the federal ATL case now pending in the federal district court of Oregon, plaintiffs submitted evidence showing that, in the late 1980s, members of the Senate Environment and Public Works Committee wrote a letter expressly requesting the U.S. Environmental Protection Agency to prepare a plan to stabilize the global climate system and transition the nation away from fossil fuels.¹¹⁵ The Committee recognized: “There is a very real possibility that man—through ignorance or indifference or both—is irreversibly altering the ability of our atmosphere to perform basic life support functions.”¹¹⁶ Plaintiffs allege that EPA did develop such a plan, but it was never implemented, and the government continued to pursue a fossil fuel regime fraught with danger.¹¹⁷ Based on this and other evidence of delay, the plaintiffs charge that government defendants “have acted with deliberate indifference to the peril they knowingly created.”¹¹⁸ In his opinion recommending that the youth’s claims go forward, Magistrate Judge Thomas Coffin underscored the aspects above when he wrote:

The debate about climate change and its impact has been before various political bodies for some time now. Plaintiffs give this debate justiciability by asserting harms that befall or will befall them personally and to a greater extent than older segments of society. It may be

114. See, e.g., Sanders-Reed *ex rel.* Sanders-Reed v. Martinez, 350 P.3d 1221, 1227 (N.M. Ct. App. 2015) (holding that the Air Quality Control Act passed by the New Mexico legislature “established adequate procedures to address and implement any regulation of greenhouse gases in the atmosphere”).

115. See *Juliana* Complaint, *supra* note 55, at paras. 138–39.

116. Letter from U.S. S. Comm. on Env’t & Pub. Works to Lee Thomas, Administrator, EPA (Sept. 12, 1986), https://law.uoregon.edu/images/uploads/entries/SG_Wood_095_KKG_Senators_Letter__EPA.pdf.

117. See *Juliana* Complaint, *supra* note 55, at paras. 140, 146 (“In response, in December, EPA submitted a report to Congress on ‘Policy Options for Stabilizing Global Climate.’ The EPA’s 1990 report concluded: ‘responses to the greenhouse problem that are undertaken now will be felt for decades in the future, and lack of action now will similarly bequeath climate change to future generations.’”).

118. *Id.* at para. 8.

that eventually the alleged harms, assuming the correctness of plaintiffs' analysis of the impacts of global climate change, will befall all of us. But the intractability of the debates before Congress and state legislatures and the alleged valuing of short-term economic interest despite the cost to human life necessitates a need for the courts to evaluate the constitutional parameters of the action or inaction taken by the government.¹¹⁹

Unlike much litigation, ATL cases are caught in a whirlwind of fast-breaking news regarding climate destabilization. As reports stream in from around the world regarding the dangers posed by continued GHG emissions, and the continuing failure of agencies and legislatures to act, courts that recognize their role in protecting the rights of youth will press the case forward to a second stage.

B. Stage 2: Issuing Declarations of Principle

The second stage of ATL involves declaring government climate obligations. These derive from basic principles of public trust law that establish fiduciary obligations owed by a trustee toward the beneficiaries. Such declarations form the sidewalls of obligation that courts use in devising a remedy at the third stage of litigation. The necessary declarations in ATL cases, as explained further below, concern the character of air or atmosphere as a trust asset and the duty of government trustees to protect and restore it.¹²⁰

Notably, judicial declarations in the climate context will likely reverberate far beyond the four walls of the courtroom. In light of the magnitude of the planetary threat, a clear judicial ruling in an ATL case from one country is likely to receive attention by citizens, officials, and courts of other countries. When strong rulings in climate cases were rendered in Pakistan and the Netherlands in 2015, the rulings attracted swift international news attention.¹²¹ The public trust holds

119. See *Juliana Order*, *supra* note 57, at 8.

120. For purposes of this article, the terms "air" and "atmosphere" are used interchangeably.

121. In the Netherlands, a court found that the Dutch government's climate action was wholly inadequate to meet the scale of the threat, and it ordered the government to slash emissions 25% within 5 years. Arthur Neslen, *Dutch Government Ordered to*

unique capacity for extraterritorial influence because the principle, deriving from ancient Roman law, has iterations in nations throughout the world.¹²²

1. *The Atmosphere as a Public Trust Asset*

In order to hold governments accountable to protect the atmosphere and climate system under the public trust, courts must first declare the atmosphere a public trust asset. The history, principles, and intent of the public trust doctrine compel recognition of the atmosphere as one of the crucial assets in the public trust. As previously discussed, the seminal test from *Illinois Central* asks whether the resource is “a subject of public concern to the whole people of the state.”¹²³ That the atmosphere qualifies as a resource of “public concern” seems indisputable, as it supports the climate system upon which all humans rely for survival and well-being. While in the late 1800s, at the time of *Illinois Central*, the natural resources subject to greatest monopoly were water-based resources that supported fishing, navigation, and commerce, no environmental issue today holds greater concern for youth than climate disruption induced by unregulated GHG emissions into the atmosphere.

The public property interest in air traces back to Roman times, when the Institutes of Justinian recognized that, “[b]y the law of nature,’ ‘the air, running water, the sea, and consequently the shores of the sea,’ [are] ‘common to mankind.’”¹²⁴ This statement of Roman law continues to be

Cut Carbon Emissions in Landmark Ruling, THE GUARDIAN (June 24, 2015), <http://www.theguardian.com/environment/2015/jun/24/dutch-government-ordered-cut-carbon-emissions-landmark-ruling>. In Pakistan, the court ordered government to take climate action according to timeframes set by the court and said that “the delay and lethargy of the State . . . offend[ed] the fundamental rights of the citizens.” *Ashgar Leghari v. Fed’n of Pakistan*, (2015) Lahore High Ct. (Pak.), edigest.elaw.org/sites/default/files/pk.leghari.091415.pdf (this opinion remains unreported at the time of this publication).

122. See Michael C. Blumm & Rachel D. Guthrie, *Internationalizing the Public Trust Doctrine: Natural Law and Constitutional and Statutory Approaches to Fulfilling the Saxon Vision*, 45 U.C. DAVIS L. REV. 741, 763 (2012); see also BLUMM & WOOD, *supra* note 63, ch. 10.

123. See *Illinois Central*, 146 U.S. 387, 455 (1892). The Court also described public trust assets as “public property, or property of a special character” which “cannot be placed entirely beyond the direction and control of the state.” *Id.* at 454.

124. See *Matthews v. Bay Head Imp. Ass’n*, 471 A.2d 355, 360 (N.J. 1986) (quoting THE INSTITUTES OF JUSTINIAN § 2.1.1 (533) (T. Sandars trans., 1st Am. ed. 1876))

cited as the foundation of the public trust doctrine in modern cases.¹²⁵ In *Geer v. Connecticut*, the U.S. Supreme Court relied on ancient Roman law's classification of "*res communes*" to find the public trust doctrine applicable to wildlife.¹²⁶ Air forms an indisputable part of *res communes*. The U.S. Supreme Court in *Georgia v. Tennessee Copper Co.* declared a public property interest in air when it said that "the state has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain."¹²⁷

Against this context, courts in several atmospheric trust cases have already either expressly or presumably recognized air or atmosphere as a public trust asset.¹²⁸ In Texas, the district court found that all natural resources were protected under the public trust doctrine and the state's constitution.¹²⁹ The Arizona Court of Appeals stated: "[W]e assume without deciding that the atmosphere is a part of the public trust subject to the doctrine."¹³⁰ The Alaska Supreme Court held that the youth "make a good case" that "the atmosphere is an asset of the public trust, with the State as trustee and the public as beneficiaries."¹³¹ The New Mexico Court of Appeals

(noting Roman law as the "genesis" of the public trust doctrine).

125. See *id.*; see also *United States v. 1.58 Acres of Land*, 523 F. Supp. 120, 122 (D. Mass. 1981); *San Francisco Baykeeper, Inc. v. State Lands Comm'n*, 242 Cal. App. 4th 202, 232 (2015).

126. See *Geer v. Connecticut*, 161 U.S. 519, 523–25 (1896).

127. *Georgia v. Tenn. Copper Co.*, 206 U.S. 230, 237 (1907) (emphasis added) (upholding action by State of Georgia against Tennessee copper companies for trans-boundary air pollution).

128. See, e.g., *Sanders-Reed ex rel. Sanders-Reed v. Martinez*, 350 P.3d 1221, 1226–27 (N.M. Ct. App. 2015); *Bosner-Lain v. State Comm'n. on Env'tl. Quality*, Cause No. D-1-GN-11-002194 (Texas Dist. Ct. Aug. 2, 2012) (overturned on procedural grounds); *Butler ex rel. Peshlakai v. Brewer*, 2013 WL 1091209, *6 (Ariz. Ct. App. Mar. 14, 2013) (dismissal affirmed for lack of remedy). See also *Kanuk ex rel. Kanuk v. State Dep't of Nat. Res.*, 355 P.3d 1088, 1101–02 (Alaska 2014) (upheld dismissal on prudential grounds); but see *Chernaik ex rel. Chernaik v. Brown*, No. 16-11-09273 (Or. Cir. Ct. May 11, 2015) (holding that the State has no trust responsibility to preserve the atmosphere for future generations) (appeal pending).

129. See *Bosner-Lain*, Cause No. D-1-GN-11-002194, at 1. The Texas Court of Appeals subsequently held that the legislature had not extended to state courts the right to hear cases involving the denial of rulemaking petitions by the Texas Commission on Environmental Quality. See *Comm'n. on Env'tl. Quality v. Bosner-Lain*, No. 03-12-0555-CV, 9–12 (Tex. App. Ct. July 23, 2014), <http://cases.justia.com/texas/third-court-of-appeals/2014-03-12-00555-cv.pdf?ts=1406110510>.

130. *Butler*, 2013 WL 1091209 at *6 (but affirming the trial court's dismissal).

131. See *Kanuk*, 355 P.3d at 1101–02 (but refusing to order the relief sought by the plaintiffs on prudential grounds).

stated, “[O]ur state constitution recognizes that a public trust duty exists for the protection of New Mexico’s natural resources, including the atmosphere, for the benefit of the people of this state.”¹³² While two ATL decisions have found no public trust responsibility towards air on the basis that cases historically applied the public trust to navigable waters and their streambeds,¹³³ the appeals decisions in Texas, Alaska, Arizona, and New Mexico reflect growing judicial acceptance of the atmosphere as part of the public trust.

2. *The Fiduciary Obligations*

Scores of courts have recognized that the *sine qua non* of the public trust is the sovereign’s fiduciary duty to protect the public’s crucial assets from irrevocable damage.¹³⁴ Two active duties provide the contours of an atmospheric trust case and form the basis for a declaratory judgment against government trustees: (1) the duty to protect the asset against “substantial impairment,”¹³⁵ and (2) the duty to restore the asset that has been damaged.¹³⁶ Courts in atmospheric trust cases should

132. *Sanders-Reed*, 350 P.3d at 1225 (but affirming the district court’s granting of summary judgment to the defendants because the State’s public trust responsibility was met pursuant to the Air Quality and Control Act.).

133. See *Filippone ex rel. Filippone v. State Dep’t of Nat. Res.*, 829 N.W.2d 589 (Table) (Iowa Ct. App. 2013); but see *id.* (J. Doyle, concurring) (noting that public trust over air seems “clear as a crisp, cloudless, autumn Iowa ski”); *Chernaik ex rel. Chernaik v. Brown*, No. 16-11-09273 (Or. Cir. Ct. May 11, 2015). The Oregon *Chernaik* case is on appeal before the Oregon Court of Appeals. Law professors from across the nation have submitted an amicus scholars brief contending that the case was wrongly decided and that the public trust extends to air. See Michael C. Blumm, Mary C. Wood & Steven M. Thiel, *The Oregon Public Trust Doctrine and Atmospheric Greenhouse Gas Pollution: A Law Professors’ Amicus Brief* (Feb. 1, 2016), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2720012.

134. See, e.g., *Geer v. Connecticut*, 161 U.S. 519, 534 (1896) (“[I]t is the duty of the legislature to enact such laws as will best preserve the subject of the trust, and secure its beneficial use in the future to the people of the state.”); *Nat’l Audubon Soc’y v. Super. Ct. of Alpine Cnty.*, 658 P.2d 709, 724 (Cal. 1983) (describing the public trust as “an affirmation of the duty of the state to protect the people’s common heritage of streams, lakes, marshlands and tidelands”); *In re Water Use Permit Applications*, 9 P.3d 409, 455 (Haw. 2000) (“Just as private trustees are judicially accountable to their beneficiaries for dispositions of the *res*, so the legislative and executive branches are judicially accountable for the dispositions for the public trust.”).

135. See *In re Water Use Permit Applications*, 9 P.3d at 451–53 (“substantial impairment” standard); *San Francisco Baykeeper, Inc. v. State Lands Comm’n*, 242 Cal. App. 4th 202, 237, 239 (2015) (same).

136. For discussion of the public trust restoration duty see Wood & Galpern, *supra* note 64, at 132–33. For discussion of the parallel duty in the private trust context, see

make clear that these public trust duties stand separate and apart from statutory and regulatory duties devised by legislatures and agencies.¹³⁷ This is an important dimension of an ATL declaration because typically there is an existing regulatory scheme that portends to force GHG reduction, but such schemes are often merely aspirational, outdated, not based on science, or not implemented.¹³⁸ Courts should emphasize that the public trust forms the yardstick against which such statutes and regulations are to be measured. As the Idaho Supreme Court made clear in *Kootenai Environmental Alliance v. Panhandle Yacht Club, Inc.*, “[M]ere compliance by [agencies] with their legislative authority is not sufficient to determine if their actions comport with the requirements of the public trust doctrine. The public trust doctrine at all times forms the outer boundaries of permissible government action with respect to public resources.”¹³⁹

Moreover, to be at all effective in forcing climate action, ATL declarations should emphasize the active nature of the

RESTATEMENT (SECOND) OF TRUSTS § 205(a), (c) (1959). The restoration duty is also expressed in environmental statutes. *See, e.g.*, Endangered Species Act, 16 U.S.C. §§ 1531 *et seq.*; Clean Water Act, 33 U.S.C. §§ 1251 *et seq.*; Comprehensive Environmental Response, Cleanup, Liability Act, 42 U.S.C. §§ 9601 *et seq.*; Resource Conservation Recovery Act, 42 U.S.C. §§ 6901 *et seq.*

137. *See, e.g.*, *Parks v. Cooper*, 676 N.W.2d 823, 837 (S.D. 2004) (“The doctrine exists independent of any statute.”); *Nat’l Audubon Soc’y*, 658 P.2d at 728 n. 27 (“Aside from the possibility that statutory protections can be repealed, the noncodified public trust doctrine remains important both to confirm the state’s sovereign supervision and to require consideration of public trust uses in cases filed directly in the courts.”); *Kootenai Envtl. All., Inc. v. Panhandle Yacht Club, Inc.*, 671 P.2d 1085, 1095 (Idaho 1983) (compliance with legislative authority alone is not sufficient to determine to determine public trust compliance).

138. *See* Donald Brown, *Visualizing Why US National and US State Governments’ GHG Reductions Commitments Are Woefully Inadequate in Light of Recent Science*, WIDENER LAW: ETHICS AND CLIMATE (Jan. 26, 2014, 8:09 PM), <http://blogs.law.widener.edu/climate/2014/01/26/visualizing-why-us-national-and-us-state-governments-ghg-reductions-commitments-are-now-woefully-inadequate-in-light-of-recent-science/>. *See also* *Juliana* Complaint, *supra* note 55, at para. 8; Section IV.A, *infra*.

139. *Kootenai Envtl. All.*, 671 P.2d at 1095. The principle flows from the nature of the public trust as a constitutional requirement. As such, the public trust doctrine cannot be solely defined, nor overcome, by statutory law. The plurality opinion in *Robinson*, for example, found the extensive fracking legislation passed by the Pennsylvania Supreme Court invalid under the public trust, falling “considerably short of meeting [the] obligation” to prevent degradation of public natural resources. The plurality concluded: “In constitutional terms, the Act degrades the corpus of the trust.” *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 979–80 (Pa. 2013) (plurality opinion).

fiduciary duty to protect and restore. As the *Robinson* plurality opinion emphasized in the context of threats posed by fracking, the duty of protection is active, not passive (the legislature must “act affirmatively to protect the environment, via legislative action”), and it applies to both direct and indirect action:

As trustee, the Commonwealth has a duty to refrain from permitting or encouraging the degradation, diminution, or depletion of public natural resources, whether such degradation, diminution, or depletion would occur through direct state action or indirectly, *e.g.*, because of the state’s failure to restrain the actions of private parties.¹⁴⁰

A few atmospheric trust cases so far have propounded a general duty of protection.¹⁴¹ But in the context of climate action, the duty of protection and the duty of restoration must be quantified in terms of carbon emissions reduction to have any practical effect. As noted in Section I.B., youth plaintiffs in atmospheric trust cases seek judicial orders requiring governments to develop climate recovery plans that reduce emissions within their jurisdictions in accordance with the best available science.¹⁴² Such specific targets form the sidewalls of the atmospheric trust remedy.¹⁴³

140. *Robinson Twp.*, 83 A.3d at 958. While Chief Justice Castille interpreted the Environmental Rights Amendment of that state’s constitution (which states, “As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people”), he acknowledged that the language contained only “generalized terms.” His detailed analysis of fiduciary obligation, unspecified by the generalized terms, thus proves instructive for cases arising in other states. *Id.* at 913. *See also* *San Francisco Baykeeper, Inc. v. State Lands Comm’n*, 242 Cal. App. 4th 202, 233–34 (2015) (The state trustee has “an affirmative duty to take the public trust into account in the planning and allocation of [trust] resources, and to protect public trust uses whenever feasible.”).

141. *See, e.g.*, *Sanders-Reed ex rel. Sanders-Reed v. Martinez*, 350 P.3d 1221 (N.M. Ct. App. 2015); *see also infra* Section IV (discussing *Foster* decision); *Bosner-Lain v. State Comm’n. on Env’tl. Quality*, Cause No. D-1-GN-11-002194 (Texas Dist. Ct. Aug. 2, 2012).

142. For a discussion of the Hansen team’s prescription, see Part I.A. above.

143. Some judges may feel that setting a specific trajectory of emissions reduction as a legal obligation presents an impossible task. But courts dealing with other fundamental rights recognize that their broad power of equity gives generous latitude for estimation, approximation, and adjustment. For example, in a case involving overcrowding of California prisons, a three-judge panel from the Ninth Circuit candidly admitted that choosing the appropriate prison population reduction is “not an exact science.” Ultimately the panel decided that permissible prison populations could

C. *Stage 3: Managing the Remedy*

The third stage of ATL involves managing the remedy within the narrow time remaining in view of looming climate tipping points.¹⁴⁴ Courts in atmospheric trust cases are called upon in the same manner as they always have been in public trust cases: not to exercise direct management over the *res* of the trust, but to ensure that the political branches fulfill their trust obligation to avoid destruction or substantial impairment to public assets that are needed to sustain future generations. But the sheer urgency of the climate crisis sets ATL apart from other public trust cases and calls for more intense judicial supervision. In the emerging tipping-point world, effective relief depends on close oversight of climate recovery plans to ensure their implementation according to strict time frames.

Climate trust cases have their genesis in long-standing and severe neglect of duty by agencies. Facing deep institutional entrenchment, judicial remands back to agencies may yield no progress and waste considerable time as the climate window of opportunity continues to close. Judges have the power to use innovative tools to steer agencies back on course, similar to strategies a bankruptcy judge might devise in asserting control over a terribly managed company. Many tools, such as the use of special masters, exist to enable judges to require performance and accountability by government defendants.¹⁴⁵

Any judicial action-forcing remedy involves two tasks: requiring a plan of measureable steps and providing continued oversight to ensure its proper execution. Courts have assumed this role many times in the past when faced with severe breakdown of agency performance. “Institutional litigation” involves close supervision by courts over administrative processes, an approach taken in cases involving desegregation, treaty rights, land use, prison reform, and educational

not exceed 137.5 percent of the design capacity of the prison structure. See *Coleman v. Schwarzenegger*, 922 F. Supp. 2d 882, 965, 1003–04 (E.D. & N.D. Cal. 2009).

144. The Magistrate Judge’s Order in *Juliana v. U.S.* recognized that a judicial remedy forcing the Agency to protect the constitutional rights of plaintiffs does not exceed the court’s appropriate role, and that the court could force an agency to craft regulations. See *Juliana* Order, *supra* note 57, at 13–14.

145. For commentary, see Margaret G. Farrell, *The Function and Legitimacy of Special Masters: Administrative Agencies for the Courts*, 2 WIDENER L. SYMP. J. 235, 237 (1997) (remedy in complex litigation “is often prospective and affects large numbers of people as would a regulation or legislative rule”).

funding.¹⁴⁶ Such cases characteristically exemplify judicial vigor and innovation in addressing bureaucratic delinquency. “Structural injunctions” emerging from such litigation can aim prospectively, sweep broadly, and respond to a myriad of scientific and management challenges.¹⁴⁷ Such injunctions may require continued jurisdiction over a case for decades. But so far, no atmospheric trust case has reached this “structural injunction” stage of remedial relief. In light of the narrow window of time remaining for climate action, judges should incorporate strict time frames into a judicial remedy for atmospheric trust litigation.¹⁴⁸

IV. *FOSTER V. WASHINGTON DEPARTMENT OF ECOLOGY: A PATH-BREAKER FOR ATMOSPHERIC TRUST LITIGATION*

A. *Procedural History*

In June 2014, eight youth plaintiffs in Washington petitioned the State’s Department of Ecology (DOE) to adopt a proposed rule that would recommend to the legislature science-based greenhouse gas emissions limits to stem global warming.¹⁴⁹ In August 2014, DOE denied the petition without challenging the underlying science, stating that the Agency would continue its “current approach.”¹⁵⁰ The youths appealed the decision to the King County Superior Court in September, 2014 on the basis that the public trust requires protection of the climate system and essential resources.¹⁵¹ Just three months later, in December 2014, as the case was pending in

146. See WOOD, NATURE’S TRUST, *supra* note 48, ch. 11.

147. See Farrell, *supra* note 145, at 237.

148. Courts have acted with haste before in face of unprecedented urgency. See, e.g., *Bush v. Gore*, 531 U.S. 98 (2000) (determining the U.S. presidential election).

149. See *Foster v. State Dep’t of Ecology (Foster I)*, No. 14-2-25295-1 SEA, at 1–2 (Wash. Super. Ct. June 23, 2015).

150. *Id.* at 2. The Director stated: “I appreciate the concern and desire of the youth petitioners to reduce GHG emissions for improving the environment for themselves and future generations. However, Ecology denies your petition for rulemaking in favor of its current approach.” Legal Updates: August 19, 2014, OUR CHILDREN’S TRUST (2015), <http://ourchildrenstrust.org/state/washington>.

151. See Petition for Review at 7–13, filed in *Foster I*, No. 14-2-25295-1 SEA (Wash. Super. Ct. Sept. 15, 2014), http://ourchildrenstrust.org/sites/default/files/WA_PetitionForReview.pdf.

court, the DOE issued a report to the legislature underscoring the sheer urgency of climate action. The report stated:

Climate change is not a far off risk. It is happening now globally and the impacts are worse than previously predicted, and are forecast to worsen. . . . If we delay action by even a few years, the rate of reduction needed to stabilize the global climate would be beyond anything achieved historically and would be more costly.¹⁵²

On June 23, 2015, Judge Hollis Hill issued an opinion in *Foster v. DOE* that amounted to a significant victory for the youth plaintiffs. Characterizing the “Imminent Threat of Global Warming,” the opinion quoted extensively from the December 2014 report to describe both the urgency of climate change and its projected damage, which includes sea level rise, ocean acidification, glacier and snowpack loss, floods, droughts, wildfires, landslides, and coastal and storm damage.¹⁵³ The court wrote, “Despite this urgent call to action, based on science it does not dispute, Ecology’s recommendation in this report is, ‘that no changes be made to the state’s statutory emission limits at this time.’” Based on both the December 2014 report and a declaration by climate scientist Dr. Pushker Kharecha that the plaintiffs submitted in their opening brief to the court, Judge Hill ordered DOE to reconsider its denial of the youth plaintiffs’ petition.¹⁵⁴ Holding the agency defendant to a tight time frame, Judge Hill ordered DOE to report back to the court within two weeks (by July 8, 2015) with its decision on reconsideration.¹⁵⁵

In July, while the DOE was reviewing the petition anew, the plaintiffs leveraged the favorable ruling in *Foster v. DOE* to plead their case to Washington Governor Jay Inslee. Just eleven days after his meeting with the youths, the Governor issued a directive ordering the DOE to initiate new GHG notice

152. See *Foster I*, No. 14-2-25295-1 SEA, at 2 (quoting Dep’t of Ecology, Washington Greenhouse Gas Emission Reduction Limits, Prepared Under RCW 70.235.040 (Dec. 2014) [hereinafter December 2014 Report]).

153. *Id.* at 2–3 (quoting December 2014 Report).

154. *Id.* at 4. Dr. Kharecha is a co-author of the prescription issued by the international team of scientists assembled by Dr. Hansen. The court denied the State’s motion to strike these two pieces of new evidence (both produced after the State’s decision denying youth’s petition), finding “that this new evidence relates to the validity of the agency action at the time it was taken.” *Id.*

155. See *id.* at 1–4.

and comment rulemaking.¹⁵⁶ The move toward new air quality regulation effectively granted the procedural relief that the *Foster* plaintiffs sought. In his directive, Governor Inslee wrote, “Washington must do more to meet its obligation to reduce emissions of carbon pollution. We need to act purposefully and swiftly to reduce the threats posed by climate change to the health, safety, and economic prosperity of Washingtonians.”¹⁵⁷

In August 2015, the DOE notified the court that it had again denied the youths’ petition because Governor Inslee’s directive had initiated the rulemaking as plaintiffs were requesting.¹⁵⁸ The youth plaintiffs nevertheless appealed the denial to superior court, seeking a ruling to declare that their public trust rights include the right to a stable atmosphere. The youths also sought a declaration that the new GHG rule should be based on science. As part of this appeal, the plaintiffs submitted a declaration by Dr. James Hansen underscoring the climate emergency.

On November 19, 2015, Judge Hill issued her second opinion in *Foster v. DOE*. Because the rulemaking process sought by the youths had already commenced following the Governor’s directive, the court upheld DOE’s denial.¹⁵⁹ The court could have ended the matter there—because relief initially sought by the youths was already underway—but instead, Judge Hill proceeded to declare strong parameters defining the State’s duty to protect the atmosphere under the public trust doctrine. These declarations, discussed below, form a ground-breaking development in efforts to establish a constitutional climate trust responsibility. The strength of these pioneering principles notwithstanding, Judge Hill dismissed the case in view of DOE’s commenced rulemaking. Understandably, it seemed that the plaintiffs had already received that portion of the

156. See *In Advance of Paris Climate Talks, Washington Court Recognizes Constitutional and Public Trust Rights and Announces Agency’s Legal Duty to Protect Atmosphere for Present and Future Generations*, OUR CHILDREN’S TRUST (Nov. 19, 2015), <http://ourchildrenstrust.org/sites/default/files/15.11.20WADecisionPR.pdf>.

157. See *Foster II*, No. 14-2-25295-1 SEA, at 9 (Wash. Super. Ct. Nov. 19, 2015) (quoting Letter from Governor Jay Inslee to Maia Bellon, Dir. Wash. Dep’t of Ecology (August 13, 2015)).

158. *Id.* at 4.

159. *Id.* at 10 (“[T]he petition for review is DENIED due to the Department of Ecology having commenced the aforementioned rulemaking process as directed by the Governor.”).

requested remedy outside of court.

But time proved otherwise. Just three months after the dismissal, and free from judicial supervision, DOE dropped its rulemaking process. The move provoked the youth plaintiffs to respond: “Ecology’s decision . . . has wasted copious amounts of time, has betrayed the trust of the youth, and continues to violate our constitutional rights.”¹⁶⁰ The plaintiffs’ attorneys went back to court and filed a Rule 60 Motion for Relief to vacate the portion of the earlier decision dismissing their case against DOE. Such a motion requires a showing of “extraordinary circumstances.”¹⁶¹ The plaintiffs essentially asked the court to resume jurisdiction over the case and take it into the remedial stage (the third stage described above).

Judge Hill did just that, and reiterating the undisputed threats from climate destruction, she said from the bench:

This is an extraordinary circumstance that we are facing here. . . . The reason I’m doing this is because this is an urgent situation. This is not a situation [in which] these children can wait. . . . Polar bears can’t wait, the people of Bangladesh can’t wait. I don’t have jurisdiction over their needs in this matter, but I do have jurisdiction in this court, and for that reason I’m taking this action.¹⁶²

She ordered DOE to follow through and finalize its emissions reduction rule by the end of 2016, and to submit recommendations to the legislature on science-based reductions for the 2017 legislative session.¹⁶³ Judge Hill also directed DOE to consult with the plaintiffs before making the recommendations to the legislature.¹⁶⁴

160. See State of Washington Delays Action on Climate Change—Again: Department of Ecology Abandons Proposed Greenhouse Gas Rule, OUR CHILDREN’S TRUST (Mar. 2, 2016), <http://ourchildrenstrust.org/sites/default/files/16.03.02EcologyRuleWithdrawal.pdf>.

161. See Order on Petitioner’s Motion for Relief Under CR 60(b) at 1, *Foster III*, No. 14-2-25295-1 SEA (Wash. Super. Ct. May 16, 2016).

162. Transcript of Hearing at 20, *Foster III*, No. 14-2-25295-1 SEA (Wash. Super. Ct. May 3, 2016).

163. See Youths Secure Win in Washington State Climate Lawsuit: Judge Chastises State, Rules From Bench Ordering State to Reduce Carbon Emissions, OUR CHILDREN’S TRUST (Apr. 29, 2016), <http://ourchildrenstrust.org/sites/default/files/2016.04.29WAFinalRulingPR.pdf>.

164. *Foster III*, at 3.

B. Significance

Two opinions emerged from the *Foster* litigation prior to the latest order from the court that reassumed jurisdiction over the DOE. Although succinct, both opinions represent clarifying and forceful pronouncements in the burgeoning field of atmospheric trust litigation and may well break ground for court opinions in pending and future public trust cases in other states and nations. Most profoundly, Judge Hill declared an atmospheric public trust responsibility of constitutional magnitude in a context framed by urgency, severe danger to humanity, and agency recalcitrance.

1. *Recognizing Climate Urgency and the Threat to Human Survival*

Until the *Foster* decision, no court had underscored the urgency of climate disruption and the magnitude of the threat it presents to future generations. Judge Hill did not shy away from the gravity of the situation. She stated:

Plaintiffs assert, the Department does not dispute, and this court finds, that current scientific evidence establishes that rapidly increasing global warming causes an unprecedented risk to earth, including land, sea, the atmosphere and all living plants and creatures. . . . In fact, as Petitioners assert and this court finds, *their very survival depends upon the will of their elders to act now, decisively and unequivocally*, to stem the tide of global warming by accelerating the reduction of emissions of GHG's before doing so becomes first too costly and then too late.¹⁶⁵

In an introductory section of the opinion entitled, "The Imminent Threat of Global Warming," Judge Hill characterized the political delay that led to the case, stating:

[F]rustrated by a historical lack of political will to respond adequately to the increasingly urgent and dire acceleration of global warming, eight youth petitioners [have] submitted a petition for rulemaking . . . [and] assert, consistent with the December 2014 report, that prompt decisive action by Ecology is necessary to

165. See *Foster II*, No. 14-2-25295-1 SEA, at 4–5 (Wash. Super. Ct. Nov. 19, 2015) (emphasis added).

protect from climate change and ocean acidification the state's natural resources and the children who depend on them.¹⁶⁶

As observed above, a court's stance is likely determined not only by the urgency and gravity of the threat but also by the judge's perception as to the adequacy of a response from the other branches of government, the branches charged with protecting the environment. Typically, government defendants allege that their regulatory processes suffice to address the problem, and often courts defer to those branches even though the plaintiffs allege that the climate response by those branches remains shockingly insufficient.¹⁶⁷ In *Foster*, the court's approach to interpreting the plaintiff's public trust rights was likely influenced by the laggard response from the other branches of government. Judge Hill had to look no further than the DOE's own December 2014 report to find the Agency's response wholly inadequate. She stated:

The scientific evidence is clear that the current rates of reduction mandated by Washington law cannot achieve the GHG reductions necessary to protect our environment and to ensure the survival of an environment in which Petitioners can grow to adulthood safely. In fact, in its 2014 report to the legislature the Department stated, "Washington's existing statutory limits should be adjusted to better reflect the current science. The limits need to be more aggressive in order for Washington to do its part to address climate risks."¹⁶⁸

2. *Declaring the Atmosphere as a Public Trust Asset*

The *Foster* opinion clearly announced the atmosphere as a public trust asset. While not the first case to recognize an atmospheric trust, Judge Hill's opinion directly renounced a

166. *Id.* at 3.

167. *See, e.g.*, Appellants Brief at 2–3, Sanders-Reed *ex rel.* Sanders-Reed v. Martinez, No. 33,110 (N.M. Ct. App. Mar. 20, 2014), <http://ourchildrenstrust.org/sites/default/files/NMOpeningBrief.pdf> ("Despite reports by [federal and state] agencies . . . acknowledging the impacts of climate change in New Mexico that result from human-caused greenhouse gas emissions, the State was taking no measures to address the human causes of climate change in New Mexico and in fact repealed New Mexico's existing greenhouse gas regulations."); *see also* Hansen, *Amici Curiae* Brief, *supra* note 5.

168. *Foster II*, at 5.

traditional argument routinely brought up by government attorneys; namely, because the foundational cases in the field dealt primarily with navigable waters and their streambeds, the public trust is limited to those resources.¹⁶⁹ Noting the obvious scientific link between navigable waters and atmosphere, Judge Hill tersely rejected the State's argument:

[Defendant DOE] argues that since the Public Trust Doctrine has not been expanded by the courts beyond protection of navigable waters it cannot be applied to protection of the "atmosphere." But this misses the point since current science makes clear that global warming is impacting the acidification of the oceans to alarming and dangerous levels, thus endangering the bounty of our navigable waters. . . . *The navigable waters and the atmosphere are intertwined and to argue a separation of the two, or to argue that GHG emissions do not affect navigable waters is nonsensical.*¹⁷⁰

The *Foster* court is the first to definitively link GHG emissions with ocean acidification. The connection suggests the viability of an ATL approach to the crisis of ocean acidification: after all, the same redress sought for climate disruption (climate recovery plans that force carbon dioxide emissions reduction) remains necessary to abate the marine damage. The *Foster* court's approach of looking to science and recognizing the reality of ecological connection to define the trust finds company in one of the nation's leading public trust decisions, *In re Water Use Permit Applications* (commonly called the *Waiahole Ditch* decision).¹⁷¹ In that case, the Hawaii Supreme Court rejected the State's argument that the trust protected navigable waters but did not extend to ground waters. Dismissing any separation between the two, that court stated:

Modern science and technology have discredited the surface-ground dichotomy. Few cases highlight more plainly its diminished meaning and utility than the present one, involving surface streams depleted by ground water diversions and underground aquifers

169. See, e.g., *Chernaik ex rel. Chernaik v. Brown*, No. 16-11-09273 at 8–12 (Or. Cir. Ct. May 11, 2015).

170. *Foster II*, No. 14-2-25295-1 SEA, at 8 (Wash. Super. Ct. Nov. 19, 2015) (emphasis added).

171. *In re Water Use Permit Applications*, 9 P. 3d 409 (Haw. 2000).

recharged by surface water applications. In determining the scope of the sovereign reservation, therefore, *we see little sense in adhering to artificial distinctions neither recognized by the ancient system nor borne out in the present practical realities of this state.*¹⁷²

3. *Declaring the Constitutional Public Trust Duty*

Framing the law against climate urgency, the *Foster* court unequivocally declared a constitutional public trust duty to protect the atmosphere and climate system, stating:

[T]he State has a constitutional obligation to protect the public's interest in natural resources held in trust for the common benefit of the people of the State If ever there were a time to recognize through action this right to preservation of a healthful and pleasant atmosphere, the time is now.¹⁷³

Notably, the court grounded the duty in two separate parts of the constitution, both of which have applicability to other states.

a. *The Constitutional Duty to Protect the Atmosphere as Part of the Sovereign Trust Ownership of Submerged Lands*

First, the *Foster* court found a constitutional public trust duty embodied in Article XVII of the Washington Constitution, which declares state ownership of the beds and shores of navigable waters.¹⁷⁴ Recognizing that the atmosphere and submerged lands remain inextricably connected, the court held that this part of the state constitution also requires the

172. *Id.* at 445. (emphasis added).

173. *Foster II*, at 8–9. Framing the right to a healthy atmosphere as a constitutional right, the court again underscored the urgency of climate crisis by citing the December 2014 Washington DOE report that stated: “Climate change is not a far off risk. It is happening now globally and the impacts are worse than previously predicted, and are forecast to worsen If we delay action by even a few years, the rate of reduction needed to stabilize the global climate would be beyond anything achieved historically.” *Id.* at 9 (quoting WASH. DEPT OF ECOLOGY, WASHINGTON GREENHOUSE GAS EMISSION REDUCTION LIMITS (2014)). The court recognized that the climate protection duty is also grounded in the Clean Air Act. *See id.* at 6 (“This mandatory duty must be understood in the context not just of the Clean Air Act itself but in recognition of the Washington State Constitution and the Public Trust Doctrine.”).

174. *Id.* at 7.

government to protect the atmosphere.¹⁷⁵ Such analysis also provides a constitutional approach to ocean acidification, which is caused by carbon dioxide emissions. The analysis should apply in other states because it is well settled that, as a matter of the federal constitutional equal footing doctrine, all states own navigable beds and waterways in trust for the people.¹⁷⁶ Scores of cases already make clear that such trust ownership imposes a duty of protection on states to protect the streambeds and waters.¹⁷⁷ The *Foster* opinion took the duty a step further and applied it to atmosphere by recognizing the ecological chain of causation between atmospheric GHG pollution and the condition of streambeds and waterways.¹⁷⁸

b. The Constitutional Duty to Protect the Atmosphere as Part of the Reserved Inalienable Rights Secured by the State Constitution

In a separate section of the opinion, Judge Hill made clear DOE's "responsibility to protect *fundamental and inalienable rights* protected by the Washington State Constitution."¹⁷⁹ Drawing from Article 1, Section 30, which states that "[t]he enumeration of certain rights shall not be construed to deny others retained by the people," the court announced a "right to preservation of a healthful and pleasant atmosphere. . . ."¹⁸⁰ While notably succinct, the opinion amounts to an important refrain of the landmark Pennsylvania *Robinson* opinion described above, in which Chief Justice Castille declared a

175. *Id.* at 8.

176. *See, e.g.*, *Pollard v. Hagan*, 44 U.S. 212, 222 (1845) (describing the equal footing doctrine); *PPL Mont., LLC v. Montana*, 132 S. Ct. 1215 (2012) (holding that the origin of equal footing doctrine is the U.S. Constitution); *Idaho v. U.S.*, 533 U.S. 262 (2001) (discussing the equal footing doctrine as it applies to navigable waters); *United States v. Holt State Bank*, 270 U.S. 49 (1926) (same).

177. *See, e.g.*, *Nat'l Audubon Soc'y v. Super. Ct. of Alpine Cnty.*, 658 P.2d 709, 719–22 (Cal. 1983) (non-navigable tributaries); *In re Water Use Permit Applications*, 9 P.3d 409, 445 (Haw. 2000) (all waters); *Parks v. Cooper*, 676 N.W.2d 823, 838–39 (S.D. 2004) (all waters); *San Francisco Baykeeper, Inc. v. State Lands Comm'n*, 242 Cal. App. 4th 202, 232–34 (2015) (submerged lands, tidewaters, and navigable streams); *Marks v. Whitney*, 491 P.2d 374, 379–80 (Cal. 1971) (tidelands); *Just v. Marinette Cnty.*, 201 N.W.2d 761, 768–69 (Wis. 1972) (wetlands); *Esplanade Props., LLC v. City of Seattle*, 307 F.3d 978, 985–86 (9th Cir. 2002) (tidelands).

178. *Foster II*, No. 14-2-25295-1 SEA, at 8 (Wash. Super. Ct. Nov. 19, 2015).

179. *Id.* (emphasis added).

180. *Id.* at 9.

constitutional right to a healthful environment embedded in the social contract between citizens and their government.¹⁸¹ The *Foster* court described the right as “fundamental and inalienable,” and referred to Article 1 of the Washington Constitution, which reserves fundamental rights to the citizens. The approach parallels the *Robinson* court’s articulation of “inherent and inalienable” environmental rights located in Article 1 of that state’s constitution, which preserves the people’s right to clean air and pure water.¹⁸² The plaintiffs in *Foster* relied heavily on the *Robinson* case to promote a constitutional understanding of the public trust.¹⁸³

The *Foster* court’s pronouncement of an inherent right to a healthy atmosphere should have value in ATL cases brought in other states. The same reserved rights of citizens are secured in other state constitutions.¹⁸⁴ Article I of the Oregon Constitution, for example, (like Pennsylvania’s constitution) expressly reserves power “inherent in the people.”¹⁸⁵ Moreover, the pending ATL case against multiple federal agencies in the Obama Administration, *Juliana v. U.S.*, relies on both the public trust and federal constitutional protections of due process and equal protection, all of which are illuminated by

181. *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 947–49 (Pa. 2013) (plurality opinion).

182. *See id.* (quoting PA. CONST. art. I, § 1 provision that all citizens “have certain inherent and inalienable rights.”). The *Robinson* plurality made clear that, while Pennsylvania amended its constitution to provide express protection for natural resources, the environmental rights held by citizens pre-existed that amendment. *See supra* note 83 and accompanying text.

183. *See* Brief for Petitioner at 16, *Foster I*, No. 14-2-25295-1 SEA (Wash. Super. Ct. Mar. 16, 2015), http://ourchildrenstrust.org/sites/default/files/ATL.Opening%20Brief.Final_3.16.14.pdf; *see also* Plaintiff’s Motion for Partial Summary Judgment for Declaratory Relief, *Chernaik ex rel. Chernaik v. Brown*, No. 161109271 (Or. Cir. Ct. Jan. 9, 2015), http://ourchildrenstrust.org/sites/default/files/15.01.09.OR_PlsMotforSJ.pdf.

184. *See, e.g.*, CAL. CONST. art. I, § 1 (“All people are by nature free and independent and have inalienable rights.”); HAW. CONST. art. I, § 2 (“Rights of Individuals. All persons are free by nature and are equal in their inherent and inalienable rights.”); KAN. CONST. Bill of Rights § 1 (“Equal Rights. All men are possessed of equal and inalienable natural rights. . . .”); N.D. CONST. art. I, § 1 (“All individuals are by nature equally free and independent and have certain inalienable rights, among which are those of enjoying and defending life and liberty.”).

185. *Compare* OR. CONST. art. I, § 1 with PA. CONST. art. I, § 2. *See also supra* note 83 (quoting Oregon constitution). For further discussion, see Torres & Bellinger, *supra* note 79.

reserved inherent rights analysis.¹⁸⁶ The magistrate judge recommended that the district court affirm, in the climate context, the validity of both separate constitutional rights and federal public trust rights embedded in substantive due process protections. By presenting a constitutional basis for the atmospheric trust duty, plaintiffs can urge courts to fully scrutinize agency action taken pursuant to a statute. Under this approach, plaintiffs can challenge the underlying statutes as constitutionally deficient when they fail to adequately address carbon emissions.

4. *The Mandatory and Active Nature of the Public Trust Duty*

The *Foster* court made clear that the public trust duty of protection is both mandatory and active, stating, “[T]he Public Trust Doctrine mandates that the State act through its designated agency to protect what it holds in trust.”¹⁸⁷ Importantly, Judge Hill did not simply presume that just any rule addressing GHG emissions would fulfill that duty. Instead, Judge Hill looked further and noted that the existing GHG rule was not sufficient to fulfill the public trust duty, stating: “[T]he emissions standards currently adopted by Ecology do not fulfill the mandate to ‘[p]reserve, protect and enhance the air quality for current and future generations.’”¹⁸⁸ She noted that the regulations then in place addressed only a portion of the pollution sources, while not addressing transportation sources that amount to forty-four percent of the total annual state emissions.¹⁸⁹ She concluded: “One need only go back to Ecology’s pronouncement in the December 2014 report to appreciate the inadequacy of its current efforts to preserve, protect, and enhance the air quality for current and

186. See, e.g., *Juliana* Complaint, *supra* note 55. In a prior federal atmospheric trust case brought by youth plaintiffs against the U.S. government, law professors from across the nation submitted an amicus brief explaining the relationship between reserved legislative powers, inherent rights of citizens, and the Due Process and Equal Protection guarantees of the U.S. Constitution. For the expanded draft version of the brief, see John Davidson, Draft Atmospheric Trust Litigation Amicus Brief, SSRN 2-40 (Nov. 30, 2013), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2361780.

187. *Foster II*, No. 14-2-25295-1 SEA, at 8 (Wash. Super. Ct. Nov. 19, 2015).

188. *Id.* at 6 (citing statutory duty, which the court emphasized “must be understood” in the context of the state constitution and public trust doctrine as well).

189. *Id.* at 6-7.

future generations.”¹⁹⁰

It remains to be seen whether, under the court’s resumed jurisdiction, DOE will promulgate a rule that reflects scientifically proscribed rates of emissions reduction. If not, the youth plaintiffs may ask the court to evaluate the sufficiency of the regulation. However, the scrutiny given to DOE’s prior rule is worth noting, for it indicates a judicial willingness to evaluate the adequacy of a regulation at least in terms of the sources it covers. By finding the regulation deficient because it failed to address the transportation sector, the court indicated its understanding that a macro approach is needed to address the problem of GHG reduction across a given jurisdiction. Indeed, a major advantage of ATL is its demand for a macro analysis of the asset as a whole, which is quite different than a traditional statutory approach requiring only incremental actions. The ATL suits seek a full climate recovery plan that forces GHG emissions reduction on an annual basis according to the best available science. The *Foster* case provides some judicial endorsement of such a full-scale approach.¹⁹¹

Moreover, and equally important, the opinion shows that science must be a part of the rulemaking process, although the question of how science will be balanced against economic, social, and political concerns must wait for another day.¹⁹² At this stage, the important feature to note is that this court allowed plaintiffs to submit declarations from some of the leading climate scientists in the world, and the court made clear throughout both opinions its respect for scientific explanations and the need for science-based action. Presumably, the statement in Dr. Jim Hansen’s declaration finding the State’s existing statutory GHG reduction requirements “scientifically unsupported” had bearing on the court’s decision.¹⁹³

190. *Id.* at 7.

191. The opinion, however, did not force the State to base its new rulemaking on science alone, as asked by the plaintiffs. *See infra* note 192.

192. *See Foster II*, at 9 (“Now that Ecology has commenced rulemaking to establish greenhouse emission standards taking into account science as well as economic, social and political considerations, it cannot be found to be acting arbitrarily or capriciously.”).

193. *See* Declaration of Dr. James E. Hansen at 9, *Foster II*, No. 14-2-25295-1 SEA (Wash. Super. Ct. Aug. 25, 2015), <http://ourchildrenstrust.org/sites/default/files/15.08.25.WAResponseShowCauseOrder-HansenDecl.pdf> (noting that scientific reports “are centrally relevant to the question now before [the court], namely, whether Ecology is

5. *A Judicially Supervised Remedy*

Judge Hill's decision to resume jurisdiction over the *Foster* case (by vacating the earlier order dismissing the case), and her imposition of strict time frames for rulemaking, represent precisely the time-sensitive and decisive judicial approach necessary to spur a necessary government climate response. Judge Hill's statement from the bench—notably: “The kids can't wait”—clearly indicated the court's sense of urgency.¹⁹⁴ The same sense of urgency was manifest in earlier phases of the case. After finding in June, 2015, that the DOE had wrongly dismissed the youth's petition for a rulemaking, the court gave the Agency just two weeks in which to conduct its reconsideration of the matter and report back to court.¹⁹⁵ The court also displayed disapproval of the Agency's prior delay in reporting to the legislature on climate (the report was submitted in December, 2014, four months after the deadline).¹⁹⁶ If atmospheric trust litigation is to succeed in forcing carbon reduction, judges must require climate recovery plans within strict deadlines set by the court. The *Foster* decisions show a strong judicial inclination in that direction. Additionally, the halting nature of this lawsuit demonstrates well the need for continued jurisdiction. Agencies caught in the maelstrom of politics are likely to ignore court-ordered remedies, as here, where, upon the court's dismissal, DOE simply dropped the court-ordered rulemaking process. When Judge Hill resumed jurisdiction over the case in May 2016, she declared from the bench: “I'm not confident at this point that the rulemaking procedure will be completed by the end of 2016 without a court order.”¹⁹⁷

entitled to slow-dance towards compliance with the scientifically-unsupported emissions reductions in RCW 70.235.020 while the planet burns. . . . [F]ossil fuel emission phase out must be commenced without further delay. Indeed, much further delay can only consign our children and their progeny to a very different, far less hospitable, planet.”)

194. See Youths Secure Win in Washington State Climate Lawsuit: Judge Chastises State, Rules From Bench Ordering State to Reduce Carbon Emissions, OUR CHILDREN'S TRUST (Apr. 29, 2016), <http://ourchildrenstrust.org/sites/default/files/2016.04.29WAFinalRulingPR.pdf>.

195. See *Foster I*, No. 14-2-25295-1 SEA, at 4 (Wash. Super. Ct. June 23, 2015).

196. See *Foster II*, No. 14-2-25295-1 SEA, at 3 (Wash. Super. Ct. Nov. 19, 2015) (noting failure of Ecology to meet deadline).

197. Transcript of Hearing at 20, *Foster II*.

Moreover, by basing the right to a stable atmosphere in the state constitution, the *Foster* case may have forged important ground in creating a judicial interface with the legislature at the remedy stage, particularly when new legislation may be required to produce a state carbon recovery plan. In her last ruling, Judge Hill ordered DOE to develop legislative recommendations. A high-profile case in Washington State, *McCleary v. State*, provides a striking example of a legislative remand and continuing judicial supervision in the context of enforcing another constitutional right held by youth—the right to a public education.¹⁹⁸ In that case, after protracted litigation finding that the legislature failed to meet its constitutional obligation to fund public education, the Washington Supreme Court ordered the legislature to develop a plan with a concrete phase-in schedule for funding the various components of public education.¹⁹⁹ When the legislature failed to arrive at an adequate plan, the court unanimously found the State in contempt of court, warning that, if the legislature did not take actions sufficient to purge the order by the end of the 2015 legislative session, the court would reconvene and impose specific sanctions. Later, after the 2015 legislative session concluded, the court unanimously imposed fines of \$100,000 per day on the State of Washington for failing to comply with its order. While the court acknowledged “significant progress in some key areas” had been made to fund education, it found that the State had still not developed a plan to fully fund education. The court emphasized that:

[I]t will not dictate the details of how the State is to achieve full funding of basic education[,] . . . [but] in accordance with its obligation to enforce the commands of the Washington Constitution, and pursuant to its continuing jurisdiction over this matter to ensure steady progress towards constitutional compliance, the court has only required, and still requires, the State to present its *plan* for achieving compliance by its own deadline of 2018.²⁰⁰

198. *McCleary v. State*, 269 P.3d 227, 248 (Wash. 2012).

199. Order at 8, *McCleary v. State*, No. 84362-7 (Wash. Jan. 9, 2014), http://www.courts.wa.gov/content/publicUpload/Supreme%20Court%20News/20140109_843627_McClearyOrder.pdf.

200. *Id.* at 7 (emphasis in original).

The approach—presumably made accessible to Washington’s ATL litigation through *Foster’s* declaration of a constitutional right to a healthy atmosphere—could provide guidance for judicial supervision of climate recovery plans in the future. While the *McCleary* decision was rendered for a totally different context than climate, the Washington Supreme Court illuminated the appropriate role of courts in areas of constitutional enforcement that require an active legislative response:

[A]s the court has repeatedly stated, it does not wish to dictate the means by which the legislature carries out its constitutional responsibility or otherwise directly involve itself in the choices and trade-offs that are uniquely within the legislature’s purview. Rather, the court has fulfilled its constitutional role to determine whether the State is violating constitutional commands, and having held that it is, the court has issued orders within its authority directing the State to remedy its violation, deferring to the legislature to determine the details. These orders are not advisory or designed only to get the legislature’s “attention”; the court expects them to be obeyed even though they are directed to a coordinate branch of government. When the orders are not followed, contempt is the lawful and proper means of enforcement in the orderly administration of justice.²⁰¹

An equally vigorous degree of judicial supervision and engagement is warranted in the context of a climate emergency brought on by decades of legislative recalcitrance and delay in regulating GHG emissions.

V. CONCLUSION

The atmosphere and oceans remain quintessential public trust resources that all governments have a fundamental duty to protect. Unprecedented and irrevocable harm hangs in the balance of the atmospheric trust litigation cases filed across the United States and in other countries. Courts remain both well situated and fully obligated to prevent environmental

201. See Order at 4, *McCleary v. State*, 2014 Wash. LEXIS 898 (Wash. Sept. 11, 2014), <http://www.courts.wa.gov/content/PublicUpload/Supreme%20Court%20News/84362-7%20order%20-%209-11-2014.pdf>.

agencies from ignoring the carbon dioxide emissions that threaten human life, welfare, and, ultimately, civilization itself.

The window of opportunity to stave off climate tipping points has nearly closed. The youth plaintiffs in ATL cases ask judges to apply public trust principles as courts have done for over two centuries—to protect the natural resources that citizens rely on for their survival and well-being. Framed by the sense of urgency and the gravity of the youth’s survival interests, the *Foster* decisions advanced the growing field of atmospheric trust litigation by making clear a constitutional duty to protect the atmosphere.

If there remains a habitable planet at the end of the century, it may well be because extraordinary jurists across the world rose to their constitutional role and vindicated the rights of young people as beneficiaries of the public trust at a time when action could still be taken before climate tipping points rendered such efforts moot. Future generations may look back to the *Foster* case as a principled legal turning point in the climate battle—and a heroic decision handed down to the ages.