Developments in Climate Change Litigation in the United States

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Abstract

This research is relevant to the following theme stated in the call for papers: Climate Change and State Responsibility in cases of environmental disasters, and fits within the subcategory of the role of the judiciary.

The topic of climate change from greenhouse gases (GHG) is critically important. The Secretary of General of the United Nations has called it "the defining issue of our time" and a direct existential threat. But the federal government in the United States has failed to prioritize climate change as a problem requiring immediate attention. In fact, the Trump administration affirmatively rejects the notion of climate change and Congress has been incapable of dealing with the problem. As a result, environmental activists have turned to the courts to demand action on climate change.

Of all of the climate change cases working their way through the federal court system none is more interesting or potentially life changing than *Juliana v. United States*, which is the focus of this research. When the lawsuit began hardly anyone took the case seriously, including the government's lawyers. Now that the United States Supreme Court has rejected the government's motions to dismiss the case on two separate occasions, Juliana is attracting considerable legal and public attention. On March 3, 2019, it was the focus of a segment on the respected CBS TV program 60 Minutes. The case has also been discussed in numerous legal publications.

The plaintiffs in Juliana are young activists who are all age 20 or younger. The plaintiffs argue that the federal government is endangering their future by depriving them of the right to a sustainable environment. According to the judge hearing the case, "This is no ordinary law suit."

Part I provides an Introduction to the topic of climate change and its observable impacts. Part II (The Scope of Judicial Review and the Political Question Doctrine) explores whether the courts are the proper forum for climate change questions. The political question doctrine is based on the jurisprudential

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principle that questions involving policy should be left to the legislature or executive branch of government, and not the judiciary.

Part III (Standing) examines whether the plaintiffs have standing to pursue their climate change complaint. This requires an examination of the "case or controversy" requirement of Article III of the United States Constitution and the applicable Supreme Court requirements of injury, traceability, and redressability. Taken together, Parts II and III provide a procedural road map to future climate change litigants, which is important because prior climate change cases have been routinely dismissed on procedural grounds.

Part IV (Public Trust and the Constitution) focuses on the substantive legal theories argued by the plaintiffs. The public trust doctrine has been traditionally limited to tidelands and navigable waters. The discussion considers the argument for a major expansion of the doctrine. The constitutional claim is based on substantive due process, namely the unalienable right to a climate system sustaining human life. This right is fundamental to an ordered liberty and rooted in the United States' history and tradition. The judge hearing the case observed "Exercising my reasoned judgment, I have no doubt that the right to a climate system capable of sustaining human life is fundamental to a free and ordered society". The public trust and the due process arguments persuasively support the substantive claim for a declaratory judgment to require the federal government to prepare a climate change action plan. The implementation of the plan would require a massive change of the use of fossil fuels in the United States and have global repercussions.

Part V (Conclusion) reveals that the final chapter of the Juliana case has not been written. The fact that the court will not rule on the substantive claims until June 2019 will be unsatisfying to some. But the case has already made an indelible mark on climate change litigation by overcoming numerous motions to dismiss on the procedural grounds advanced by the federal government. Juliana has set the procedural guideposts for future climate change litigation.

The plaintiffs have amassed a staggering and persuasive body of evidence over a fifty-year period to support their legal theories, which are both interesting and unique. The case is a testament to the power of young activists seeking to use the courts to protect themselves and future generations from the adverse effects of climate change. The evidence supports the conclusion that the climate crisis is real and must be taken with a sense of urgency.

Keywords: Climate, Developments, Impacts, Litigation, Theories.

I. Introduction

> "Climate change is the defining issue of our time-and we are at a defining moment. We face a direct existential threat. . . . If we do not change course by 2020, we risk missing the point where we can avoid runaway climate change, with disastrous consequences for people and all the systems that sustain us. . . . According to the World Meteorological Organization, the past two decades included 18 of the warmest years since 1850, when records began." Secretary-General's remarks on Climate Change, 10 September 2018.(1)

The earth's climate is changing faster than any time in the history of modern civilization primarily as a result of human activities.(2) The scientific consensus is that climate change represents a long-term peril to our planet. In a large measure, this peril is a result of significant and ongoing increases in greenhouse gases (GHG) in the atmosphere and ocean.(3) The majority of GHG affecting the planet today have been emitted in the atmosphere since 1988. Thus, the problem has been largely created in the space of a generation by those who knew or should have known about the looming impacts from GHG.

The impact of climate change on international, national, and local communities is intensifying and will grow without additional action. Readily observable impacts from climate change include rising sea levels,(4) changing weather patterns and extreme fluctuations in weather,(5) pressure on food and water

(1) Antonio Guterres, Secretary General, United Nations, September 10, 2018.

(2) Fourth National Climate Assessment, available at http://nca2018.globalchange.gov (last visited Feb. 2, 2019).

(3) Carbon dioxide (CO2) makes up the vast majority of GHG emissions.

(4) Sea level rise is happening because the oceans are gaining heat and expanding, and also because the ice near the polar caps is melting. Seven inches of sea level rise have been recorded in the last century, and another 16 inches is predicted by 2050. Two thirds of the world's largest cities are located in low-lying coastal areas, and increasing sea levels could submerge the land on which 470 million to 760 million people are living. A number of island nations are already submerged or at risk of total destruction. Some U.S. cities are also in danger of inundation and flooding. Harvard Business School, "Climate Change in 2018: Implications for Business," 9-317-032, January 30, 2018, at 3-4.

(5) Rising temperatures from increased emissions of greenhouse gases means that the atmosphere can hold more water vapor. This results in more rainfall and runoff in some areas and drought conditions in other areas. In late 2018, California was struck by both conditions in a six month period. Drought-like conditions contributed to devastating wild fires throughout the state, which were followed shortly thereafter by torrential rains and destructive flooding. An increase in the prevalence of hurricanes and other destructive weather events has not been limited to the United States.

resources,[6] political and security instability,[7] human health risks,[8] and adverse effects on wildlife and ecosystems. The driving force behind climate change litigation is the federal government's failure to act, and the prospect of bipartisan legislation to deal with the problem of climate change is not likely.

During the 2016 presidential campaign in the United States, candidate Donald Trump denounced the 2015 Paris Agreement on Climate Change, which is an important international effort to deal with climate change, as one of the most horrible deals struck by President Obama. After Trump was elected president, he promptly announced that the United States, the second-biggest contributor of GHG, would be pulling out of the Paris agreement in November 2019. The 2018 National and Oceanic and Atmospheric Administration report[9] on the effects of climate change were breezily dismissed by Trump with the statement, "I don't believe it." Trump's position is breathtaking in his willingness to ignore the observable facts and scientific consensus on climate change.

Unless Trump experiences an climate-change epiphany, which seems unlikely, his rejection of the belief that humans play an influential role in climate change encourages non-government stakeholders, especially young activists, to use

(6) The combination of shrinking glaciers, reduced snow pack, and erratic rainfall threatens food production in vulnerable regions. By 2030, overall demand for water may outstrip supply by 40 percent. Supra, note 4.

(7) Climate change has been linked to increased political instability worldwide. The evidence is mounting that climate-related events lead to political instability, human conflict, and mass migrations. The 2018 National Defense Authorization conference report calls climate change a direct threat to the national security of the United States and areas important to it. National Defense Authorization Act for Fiscal Year 2018, H.R. 2810, 115th Congress. Sherri Goodman, a senior fellow at the Woodrow Wilson International Center, has coined the term "threat multiplier" to describe how climate change accelerates those security risks.

(8) As temperatures continue to rise, many of the biggest cities in the Middle East and South Asia may become lethally hot in the summer. A significant number of deaths are attributable to climate change, and the very young and old are especially vulnerable. Air pollution is currently a leading cause of premature death linked to climate change.

(9) Volume II, Fourth National Climate Assessment (NCA 4), U.S. Global Change Research Program, 2018. Findings include: 1) Human health and safety, our quality of life, and the rate of economic growth in communities across the U.S. are increasingly vulnerable to the impacts of climate change; 2) The cascading impacts of climate change threaten the natural, built and social systems we rely on, both within and beyond the nation's borders; 3) Societal efforts to respond to climate change have expanded in the last five years, but not at the scale needed to avoid substantial damages to the economy, environment, and human health over the coming decades; 4) Without substantial and sustained global efforts to reduce greenhouse gas emissions and regional initiatives to prepare for anticipated changes, climate change is expected to cause growing losses to American infrastructure and property and impede the rate of economic growth over this century.

the courts to challenge the federal policy that ignores, weakens, or repeals federal obligations and enforcement.

Climate change litigation[10]has the potential to change federal policy and accountability. For organizational purposes, litigation may be organized by the law sought to be enforced.[11] Most climate change cases have been dismissed for procedural and jurisdictional reasons before ever reaching the substantive merits. One exception is *Juliana v. United States*,[12] which is the subject of this article. It might be called the "Children's Case," because the 21 plaintiffs are all age 20 or younger. The case is being coordinated with the nonprofit Our Children's Trust, which is acting on behalf of American youth.

Juliana centers on the allegation that federal officials have promoted policies that have contributed to the atmospheric concentration of GHG, principally carbon dioxide, while knowing the alleged dangers of those policies. The plaintiffs seek to force a change in the United States policy toward climate change through the implementation of an enforceable national remedial plan. The claim is unusual because it is not based on any environmental statute or regulation.

To date, the court has not ruled on the merits, nor has it found that the government bears a legal or factual responsibility for increased greenhouse gases. The court has concluded, however, that it had subject matter jurisdiction over the dispute and that the alleged facts, if proven true, may entitle the plaintiffs to relief.

This article examines three common legal problems that must be overcome before the merits of a climate change case will be considered by a federal court. First, whether the courts are the proper forum for climate change litigation, which depends on the application of the political question doctrine. This doctrine is based on the American jurisdictional principle that political questions involving policy should be decided by the legislature or executive

(10) The term "climate change litigation" is shorthand for different judicial proceedings that can be directed at federal and state governments, as well as at public and private companies. Almost 1000 climate-change cases have been filed to date around the world, covering 25 countries. White & Case, Insight, "Climate change litigation: A new class action," p.1, November 13, 2018.

(11) Statutory claims (Clean Air Act, Endangered Species and other wildlife laws, Clean Water Act, National Environmental Protection Act, Freedom of Information Act); constitutional claims (Commerce Clause, First Amendment, Fifth Amendment, Fourteenth Amendment); and, common law claims, including cases based on the public trust.

(12) Juliana v. United States, 217 F. Supp. 3d 1224 (D. Or. 2016); 339 F. Supp 3d 1062 (D. Or. 2018); In re U.S. 895 F.3d 1101 (9th Cir. 2018); In re U.S., 139 S.Ct. 1 (2018).

branch, and not the judiciary. This principle of forbearance is frequently applied when no manageable standards exist to guide the court.

Second, whether the plaintiffs have legal standing to pursue their climate change complaint. Standing is a procedural hurdle that must be cleared to proceed with a federal lawsuit. The United States Supreme Court imposes three standing requirements pursuant to the "case or controversy" provision of Article III of the Constitution: 1) The plaintiffs must allege a personal injury that is particularized and concrete; 2) the injury must be traceable to the defendant's unlawful conduct; and, 3) the alleged injury must be redressable by a favorable decision. Generalized public grievances about the alleged effects of climate change are not sufficient to confer standing. Traceability and redressability also must exist.(13)

Third, the legal theory must be sustainable as a matter of law. The plaintiffs' theory is that the federal government has violated its obligations under the public trust doctrine and constitutional law. The public trust doctrine has been traditionally used to impose government obligations with respect to tidelands and the beds of navigable waterways. The plaintiffs argue that the jurisprudential policy underlying the doctrine ought to be expanded to preserving the earth's atmosphere. The claim is unique because no federal court has ruled on an "atmospheric public trust claim." The plaintiffs' constitutional claim is based on the Due Process Clause of the Fifth Amendment to the Constitution and the state-created danger exception.

II. Scope of Judicial Review and the Political Question Doctrine

Justiciability refers to those doctrines that define and limit the circumstances under which the federal courts may hear a case. Article III of the Constitution limits federal court jurisdiction to cases or controversies. In addition, prudential policy considerations, such as the desire to avoid encroaching on the legitimate powers of the other branches of government, may also cause a court to refuse to hear a case.

The political question doctrine reflects the view that not all cases or controversies are suitable for judicial resolution. Some matters are treated by the courts as being within the sole prerogative of the political branches, and therefore are treated as "off limits" to the federal judiciary. The decision to deny a plaintiff seeking judicial relief based on the political question doctrine is made only

(13) Lujan v. Defenders of Wildlife, 504 U.S. 555, 560, (1992).

after careful consideration, because the federal courts are generally obligated to decide cases or controversies.(14) Thus, the use of the doctrine is an exception to the responsibility to hear cases and controversies, and typically is asserted as a defense to a plaintiff's complaint. If successful, the court will dismiss the complaint without considering the merits.

Determining the scope of the political question doctrine is difficult. Unless the matter is expressly committed to a political branch of government by the Constitution, substantial judicial discretion exists in applying the doctrine as a limit on judicial power. At its core, the doctrine is based on separation of power principles. Federal courts will refuse to adjudicate certain matters when their resolution is more properly left to the politically accountable branches of government. In *Walter Nixon v. United States*,(15) for example, the Supreme Court concluded that whether the Senate had properly tried the impeachment and removal of Judge Nixon from the bench was a political question, and was not justiciable. The Constitution committed the entire impeachment process to the House and Senate for resolution and not the judiciary. The Court's reasoning was based on the text of the Constitution, as well as on the structural principle of separation of powers. The political question doctrine has been applied broadly in other contexts, such as in controversies involving the constitutional amendment process, congressional self-governance, and certain matters involving foreign affairs.

The historical origins of the doctrine are traceable to the landmark case, *Marbury v. Madison*(16) and the Federalist Papers.(17) In *Marbury*, Justice Marshall first articulated the political question doctrine: "By the Constitution of the United States, the President is invested with certain important political powers, in the exercise of which he is to use his own discretion . . . and his own conscience." Thus, the role of the federal courts is to decide the rights

(14) In Bush v. Gore, 121 S.Ct. 525 (2000), which considered whether the Florida's recount decision violated the Equal Protection Clause. Whenever a case is otherwise properly before it, a federal court must decide the matter. "When the contending parties invoke the process of the courts . . . it becomes our unsought responsibility to resolve the federal and constitutional issues the judicial system has been forced to confront." The dissenters disagreed. They saw the case as presenting a political question that Congress, not the courts, should address.

(15) Nixon v. United States, 506 U.S. 224 (1993).

(16) Marbury v. Madison, 5 U.S. 137 (1803). In Marbury, Justice Marshall also gave a ringing endorsement to the concept of judicial review when he wrote: "It is emphatically the province and duty of the judicial department to say what the law is. Those who apply the rule to particular cases, must of necessity expound and interpret that rule."

(17) Federalist Paper No. 78 (Alexander Hamilton).

of individuals, and not to decide or supervise how the executive performs his discretionary duties. In other words, the president is invested by the Constitution with certain powers that are beyond the scope of judicial review. Later decisions by the Supreme Court recognized that Congress is also covered by the political question doctrine.(18)

Baker v. Carr(19) provides the modern guidance on the application of political question doctrine. The plaintiffs challenged the state's legislative apportionment of election districts under the Equal Protection Clause. They claimed that the legislative classification placed them in the position of "constitutionally unjustifiable inequality vis-a-vis voters in irrationally favored counties." The Court agreed that the constitutional claim was justiciable, and thus not barred by the doctrine. It outlined six considerations that signal the presence of a political question:

> (1) a textually demonstrable constitutional commitment of the issue to a coordinate political department; or (2) a lack of judicially discoverable and manageable standards for resolving it; or (3) the impossibility of deciding without an initial policy determination of a kind clearly for nonjudicial discretion; or (4) the impossibility of a court's undertaking independent resolution without expressing lack of the respect due coordinate branches of government; or (5) an unusual need for unquestioning adherence to a political decision already made; or (6) the potentiality of embarrassment from multifarious pronouncements by various departments on one question.

The Supreme Court did not explain how these factors, which tend to overlap, were to be applied to future cases, nor did it describe the relative weight to be given to each factor. But this multiple factor formulation provides more guidance and clarity than the general separation of power principles stated in *Marbury v. Madison*.

Using the factors set out in *Baker*, the court in *Juliana* rejected the government's

(18) Luther v. Borden, 48 U.S. 1 (1849) (finding that Congress is to decide what government is the established one in Rhode Island).

(19) Baker v. Carr, 369 U.S. 186 (1962). In Am. Elec. Power v. Connecticut, 564 U.S. 410 (2011), the Court found that corporations cannot be sued for climate change (GHG emissions) under federal common law (public nuisance), because those claims have been displaced by regulation under the federal Clean Air Act. The Court did not base its decision on the political question theory. Prior to the Court's decision, the Second Circuit Court of Appeals found climate-causing emissions did not inherently raise a political question. Am. Elec. Power v. Connecticut, 582 F.3d 309 (2d Cir. 2009).

argument that the climate change case should be dismissed on the grounds of political question. It reasoned that the facts did not present a political question simply because it raised an issue of great importance to the political branches.

Applying the first factor in *Baker*, climate change policy is not a fundamental power expressly allocated to either Congress or the executive branch of government. The federal courts regularly adjudicate controversies with political ramifications. The plaintiffs' claim does not infringe on the president's constitutional authority to conduct foreign relations, because climate change is not inherently, or even primarily, a foreign policy matter. As the Supreme Court warned in *Baker*, "it is error to suppose that every case or controversy which touches on foreign relations lies beyond judicial cognizance."(20) Nor would hearing the case interfere with Congress' legislative authority. The second and third factors in *Baker* identify matters generally beyond the court's competence. The plaintiffs' claims are not beyond judicial competence, however. The question is whether a legal framework exists whereby the court can evaluate the plaintiffs' claims in a reasoned manner, and not what specific emission levels would redress the plaintiffs' injury. Federal courts regularly apply legal standards governing due process claims to new and complex facts, and therefore well-established standards exist for the court to apply when considering the merits. An established legal framework also exists for assessing the public trust claim. Thus, the second and third factors do not call for the application of the political question doctrine.

The fourth through sixth factors "address circumstances in which prudence may counsel against the court's resolution of an issue presented." Only in rare cases are these prudential factors standing by themselves controlling. The government argued unsuccessfully that the political question doctrine applies so long as the government has taken some steps to mitigate the damage from climate change. But no law supporting the argument was cited, nor could the court find such authority. Thus, the prudential basis for applying the political question doctrine is lacking.

The political question doctrine did not defeat the plaintiffs' claims. But the court undoubtedly will be compelled to exercise great care in avoiding separation-of-power problems underlying the political question doctrine in crafting an appropriate remedy.

(20) Baker v. Carr, 369 U.S. 186, 211 (1962).

III. Standing

As a general proposition, standing focuses on the nature of the plaintiff's interest injured by the defendant. In addition to the constitutional requirements,[21] the federal courts also apply prudential considerations based on the proper and limited role of the courts in a democratic society. These considerations require a plaintiff to assert his or her own rights, rather than those of a third party. They also assure that a plaintiff does not present abstract questions that reflect generalized grievances that should be more appropriately addressed by the Congress or executive branch.

A plaintiff must meet each requirement of the standing test in accordance "with the manner and degree of evidence required at the successive stages of the litigation." General factual allegations of injury resulting from the defendant's conduct are sufficient at the pleading stage. In responding to a motion for summary judgment, a plaintiff must set forth specific facts by affidavit or other evidence, which for purposes of the motion are taken to be true.[22] At trial, those facts, if contested, must be supported adequately by the evidence.

A. Injury in Fact

In an environmental case, a plaintiff cannot satisfy the injury-in-fact requirement merely by alleging injury to the environment. Rather, the plaintiff must allege that the challenged conduct causes individual or imminent harm.[23]The injury requirement may be met, however, by alleging that the challenged conduct harms the plaintiff's economic interests or aesthetic and environmental well-being.

In *Juliana*, the plaintiffs' sworn declarations attested to a broad range of personal injuries caused by human induced climate change. Plaintiffs also offered expert testimony tying their injuries to fossil fuel induced global warming. The government, on the other hand, argued that the plaintiffs' declarations failed to show injuries that were concrete and particularized to them, but rather reflected widespread generalized injuries affecting all humans. Thus, the government argued that the climate change claims should be considered nonjusticiable.

A claim is nonjusticiable when the harm is abstract and indefinite. But the fact that the harm is widely shared by others on a global scale does not necessarily

(21) Supra, note 13.

(22) Fed. Rule Civ. Proc. 56. The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.

(23) Friends of the Earth, Inc. v. Laidlaw Envt'l Servs. (TOC), Inc., 528 U.S. 167, 181 (2000).

render it a generalized, non-particularized grievance. It does not matter how many persons have been injured, so long as the plaintiffs are able to show that they are injured in a concrete and personal way. Moreover, denying standing because the injury is widespread, as argued for by the government, is objectionable as a matter of policy because it would effectively mean that the harmful actions could not be pursued by anyone.

Plaintiffs have submitted evidence that fossil fuel emissions are responsible for most of the increase in atmospheric CO^2. This increase is the principal cause of global warming, which is accelerating at rates never before seen in human history. This rate of increase is pushing humanity closer to the "point of no return." The plaintiffs' sworn affidavits and expert declarations showing injuries linked to fossil fuel-induced climate change provide the "specific facts" of immediate and concrete injuries to support the standing requirement of injury-in-fact.

B. Causation

The second requirement of the standing test is causation. Plaintiffs must show the injury is "fairly traceable" or connected to the defendant's wrongful action, and not the result of the action by some independent third party. The defendant's action need not be the sole source of injury, but the causation between the defendant's action and the plaintiff's harm must be more than broadly attenuated. However, the causal chain of causation does not fail simply because it has several links in it. The government argues that the plaintiffs have failed to link their injuries, both direct and indirect, to specific actions of the government. It argues that climate change stems from a complex web of actions across all fields of human endeavor that cannot be connected to any particular conduct by the government.

The plaintiffs have proffered uncontradicted evidence showing that the government has historically known about the dangers of greenhouse gases and has also continued to take steps promoting a fossil fuel based energy system. The result has been increasing greenhouse gas emissions that the government has the power to increase or decrease. The plaintiffs challenge not only the direct emissions by the government, but also the emissions caused and supported by its policies. They allege in detail how the government's systematic conduct, which includes policies, practices, and actions, have caused their injuries.(24)

(24) For example, regarding federal leasing policy, more than five million acres of National Forest lands are currently leased for oil, natural gas, coal, and phosphate development. In 2016, the Department of Interior administered some 5000 active oil and gas leases on nearly 27 million acres in the =

The plaintiffs' expert declarations provide evidence that the government actions are tied to their injuries. Thus, they have provided sufficient evidence showing that causation is not attenuated. Proof of causation will require perhaps the most extensive evidence at trial, but at this stage of the proceedings, the plaintiffs have proffered sufficient evidence to show that genuine issues of material fact exist on causation. Admittedly, proving causation at trial will be challenging given the complex interaction of greenhouse gases in the global atmosphere.

C. Redressability

The final prong of the standing inquiry is redressability. The causation and redressability prongs of the standing inquiry overlap. They are distinct, however, in that causation examines the connection between the alleged misconduct and injury, whereas redressability analyzes the connection between the alleged injury and requested judicial relief. Plaintiffs need not show that a favorable decision is certain to redress the injury, but rather must show a "substantial likelihood" that it will. For the redressability inquiry, it is sufficient to show that the requested remedy would "slow or reduce" the harm.

The government contends no possible redress exists, because the remedies sought by plaintiffs are beyond the court's authority. Furthermore, it argues that even if this court did find in favor of plaintiffs, any remedy it fashioned would not redress the harms alleged by plaintiffs, because fossil fuel emissions from other third-party sources would still contribute to continuing global warming. Thus, it argues that there is no evidence that any immediate reduction in emissions caused by the United States would result in a reduction of climate change induced weather phenomena.

Whether the Court could guarantee a reduction in greenhouse gas emissions, as argued by the government, is arguably the wrong question. Redressability does not require certainty. Rather, at this stage, it only requires a substantial likelihood that the court could provide meaningful relief. Moreover, the

= Outer Continental Shelf. In 2015, 782 million barrels of crude oil, five trillion cubic feet of natural gas, and 421 million tons of coal were produced on federal lands managed by the Department of Interior. Between 1905 and 2016, the United States Department of Agriculture authorized the harvest of 525,484,148 billion board feet of timber from federal land, thus reducing the country>s carbon sequestration capacity. Federal defendants permit livestock grazing on over 95 million acres of National Forest lands in 26 states, further reducing carbon sequestration capacity and increasing methane emissions. It is uncontested that the defendants control leasing and permitting on federal land. Third parties could not extract fossil fuels or make other use of the land without the government's permission.

possibility that some other individuals or entities might later cause the same injury does not defeat this prong of standing.

The proper question is whether the injury caused by the defendants in this suit can be redressed. The plaintiffs' petition for declaratory and injunctive relief as well as any other relief as the court considers just and proper. They ask the Court, *inter alia*, to order the government to prepare and implement an enforceable national remedial plan to phase out fossil fuel emission and draw down excess atmospheric CO^2.

The plaintiffs' dispute the government's contention that they are asking the court to create a highly specific plan that government must use to remedy any constitutional violations. Instead, plaintiffs urge that their request for relief, at its core, is one for a declaration that their constitutional rights have been violated and a court order for the government to develop their own plan, using existing resources, capacities, and legal authority, to bring its conduct into constitutional compliance.(25)

The court has the clear authority to declare a violation of constitutional rights. Once a right and a violation have been shown, the scope of a district court's equitable powers to remedy past wrongs is broad. Should the court find a constitution violation, it would need to exercise care in fashioning relief, even if it is primarily declaratory in nature. Judicial action that might be taken includes a time-schedule order phasing out greenhouse gases within several decades.

(25) Plaintiffs offer evidence that the injuries they allege can be redressed through actions by federal defendants. See Hansen Decl. Ex. 1, 4 (staving off the effects of catastrophic climate change _remains possible if [the United States] phases out [greenhouse gas emissions] within several decades and actively draw[s] down excess atmospheric CO2 [,] "which can be largely achieved via reforestation of marginal lands with improved forestry and agricultural practices."); Robertson Decl. Ex 1 at 6 ("All told, technology is available today to store carbon or avoid future greenhouse gas emissions from agriculture in the U.S. equivalent to more than 30 [gigatonnes of carbon] by 2100"); Jacobson Decl. Ex. 1 at 7 ("[I]t is technologically and economically possible to electrify fully the energy infrastructures of all 50 United States and provide that electricity with 100 [percent] clean, renewable wind, water, and sunlight (WWS) at low cost by 2030 or 2050."); Williams Decl. Ex. 1 at 3 & 64 ("[I]t is technically feasible to develop and implement a plan to achieve an 80 [percent] greenhouse gas reduction below 1990 levels by 2050 in the United States ... with overall net [greenhouse gas] emissions of no more than 1,080 [million tons of carbon], and fossil fuel combustion emissions of no more than 750 [million tons of carbon]."); Stiglitz Decl. Ex. 1, "44-49 (explaining that transitioning the United States economy away from fossil fuels is feasible and beneficial)."

IV. Public Trust and the Constitution

The plaintiffs allege that federal officials have and continue to promote policies contributing to climate change while also knowing of the alleged dangers associated with those policies. Their substantive claim falls into two categories: (1) Common law violations of the public trust doctrine, and (2) Fifth Amendment substantive due process constitutional violations.

The public trust doctrine is a long-standing common law doctrine whereby the government has the duty to protect certain natural resources for the benefit of the public. It is based on the principle that certain resources are too unique and valuable to be privately owned. Throughout ancient times, the law has treated certain resources as belonging to the people. Under the Roman Institutes of Justinian,(26) for example, the ocean and the shores, as well as running water and air, were by the law of nature incapable of private ownership. Today, the codes or customs of most European countries recognize this ancient concept.

The principles of trust law arguably apply to the federal government. Article II of the Constitution provides that the president "shall take Care that the laws be faithfully executed." The president's oath of office requires him or her "to preserve, protect, and defend the Constitution."(27) The country's first president, George Washington, spoke of the presidency as a "trust" committed to him by the American people.(28) The Founders defined the Presidency as an office bound and restricted by the fiduciary duties of care and fidelity. The Federalist Papers use the words of "care, faith, and trust" to describe the offices and duties of all three branches of the federal government.

In 1821, the New Jersey Supreme Court was the first state court to recognize the application of the public trust doctrine to natural resources. The court reasoned that public trust assets, which it called "common property," were part of the taxonomy of property law:

> Everything susceptible of property is considered as belonging to the nation that possesses the country, as forming the entire mass of its wealth. But the nation does not possess all those things in the same manner. By very far the greater part of them are divided among the individuals of the nation, and become private property. Those things not divided among the individuals still belong to the nation,

(26) J. Inst. 2.1.1.

(27) U.S. Const. art II, sec. 1, cl. 8

(28) http://archives.gov/transcription: Washington's Inaugural Address (last visited Feb. 17, 2019).

> and are called public property. Of these, again, some are reserved for the necessities of the state, and are used for the public benefit, and those are called "the domain of the crown or of the republic," others remain common to all the citizens, who take of them and use them, each according to his necessities, and according to the laws which regulate their use, and are *called common property*. Of this latter kind, according to the writers upon the law of nature and of nations, and upon the civil law, are the air, the running water, the sea, the fish, and the wild beasts.(29)

The *Illinois Central Railroad Company v. Illinois*(30) is the most famous United States Supreme Court case relying on sovereignty and public trust principles. The Supreme Court held that each state in its sovereign capacity holds permanent title to all submerged lands beneath navigable waters and within its borders in public trust. The Court reasoned that Illinois did not possess the authority to permanently transfer title to those submerged lands to the railroad company, because it would interfere with the public's present and future right in the navigable waters. Thus, the Illinois legislature's grant of title of the submerged lands to the railroad company was invalid as an abdication of its trust obligation. The Court reasoned that the lands underlying navigable waters are "different in character" than other governmentally owned lands, because they must be free from obstruction or interference by private parties.

In a broad sense, the term "public trust" obligates the government to safeguard certain natural resources for the benefit of the public, and that it cannot legitimately abdicate or legislate away its sovereign responsibilities. The government's obligations operate according to the basic principles of trust law, which impose upon the trustee a fiduciary duty to protect the trust property from damage or destruction. This duty is owed to present and future generations, who are the beneficiaries of the trust.

The government has three principal trust obligations. First, the trust property is treated as being held for a public purpose and for use by the public. Second, the trust obligation cannot be abdicated. Finally, the trust property must be maintained and protected for the identified public uses.(31) The plaintiffs

(29) Arnold v. Mundy, 6 N.J.L. 1, 71 (N.J. 1821).

(30) Illinois Central Railroad Company v. Illinois, 146 U.S. 387 (1892).

(31) Joseph Sax, "The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention," 68 Mich. L. Rev. 471, 477 (1970). See also, Joseph Sax, "Liberating the Public Trust Doctrine for its Historical Shackles," 14 U. Davis L. Rev. 185, 189-91 (1980-81).

argue that the government has violated the public purpose and maintenance obligations by allowing for the depletion and destruction of the trust *res*. They ask the court to insure that the government, acting as the trustee, discharges its fiduciary duties to the plaintiffs.

The government advances four arguments against applying the principles of public trust law. First, the atmosphere, which defendants argue is the central natural resource at issue, is not a public trust asset. Second, the federal government, unlike the states, has no public trust obligations, because the public trust doctrine is a creature of state law only. Third, any federal public trust duties that may have existed in the past have been displaced by the statutes enacted by Congress. Finally, without a constitutional guarantee, plaintiffs lack the ability to enforce any public trust protection that might exist.

A. Scope of Public Trust Assets

The public trust concept is not static, and public uses are sufficiently flexible to encompass changing public needs.(32) It also imposes a continuing supervisory responsibility.(33) The plaintiffs' complaint alleges that the defendants violated its duties as trustees by "failing to protect the atmosphere, water, seas, seashores, and wildlife." These natural resources are arguably subject to the public trust doctrine and are more encompassing than just the "atmosphere."

The federal government has sovereignty and jurisdiction over the submerged lands, air space, and territorial sea between three and twelve miles of the land.(34) This recognized sovereignty is consistent with international law, which allows a nation state to claim as its territorial sea an area up to 12 miles from its coast. Because the plaintiffs' injuries are arguably traceable to the effects of ocean acidification and rising ocean temperatures, they have adequately alleged harm to sufficient public trust assets within control of the federal government.(35)

(32) The public trust doctrine has been used to preserve a public interest in recreation, swimming, access and recreational fishing. Marks v. Whitney, 491 P.2d 374 (Cal. 1971).

(33) National Audubon Society v. Superior Court, 658 P.2d 709 (Cal. 1983) (finding that the doctrine prevented any party from appropriating water in a manner that harmed the public trust, and that the state had an affirmative duty to protect the public trust).

(34) International law recognizes that coastal nations have jurisdiction over their territorial seas. Restatement (Third) of Foreign Relations Law of the United States ' 511(a) 1987. Presidential Proclamation of Dec. 27, 1988, No. 5928, 3 C.F.R. ' 547 (1989).

(35) See also, Foster v. Washington Dept. of Ecology, 2015 WL 7721362 (Wash. Super. Ct.) (emphasizing the inextricable relationship between the atmosphere, navigable waters, and global warming). A third of the world's major cities are on the coast, not to mention power plants, ports, naval facilities, and so on, that are threatened by sea level rise. Ocean acidification through carbon =

This reasoning stops short of finding that the atmosphere is part of the public trust responsibility. But, it does leave open the possibility of subsequently finding the atmosphere and atmospheric rivers are included within the scope of the public trust doctrine. To date, no federal court has recognized the merits of an "atmospheric public trust" theory, so it is an open and interesting legal claim.

B. Application of the Public Trust Theory to the Federal Government

The public trust doctrine arguably applies equally to the states and the federal government, because it is theoretically based on the inherent features of sovereignty. The government's argument that it only applies to the states and is exclusively a function of state law misunderstands the underlying rationale of the doctrine. No persuasive reason exists why the principle of sovereignty, which is the rationale in *Illinois Central,* should apply only to the states, and not also to the federal government. The federal government, like the states, holds public assets-at a minimum, the territorial seas-in trust for the people. Therefore, the doctrine should apply with equal force to the federal government.

C. Displacement of Public Trust Claims

Federal common law may be displaced where Congress addresses a question previously governed by a decision based on federal common law. The test for displacement is whether the federal statute speaks directly to the question raised in the lawsuit. In *American Electric Power (AEP),*(36) the Supreme Court barred federal common law claims, such as nuisance, against entities for alleged injuries from greenhouse gas emissions, because the federal Clean Air Act(37)gave the Environmental Protection Agency the authority to regulate them. The Court found that Congress intended to displace the common law when it enacted the Clean Air Act.

The *AEP* case is distinguishable. The Supreme Court did not have before it public trust claims, so it had no reason to consider the difference between the public trust theory and traditional common law claims, which are not rooted in the principle of sovereignty. Thus, the *AEP* decision arguably is not controlling legal precedent. The public trust theory is unique because it is based on the inherent attributes of sovereignty. The obligation of the government to protect the trust asset cannot be legislated away, and thus the displacement argument is not persuasive.

= absorption can initiate a feedback loop in which underoxygenated waters become more anoxic creating environmental dead zones.

(36) American Electric Power Company, Inc. v. Connecticut, 564 U.S. 410, 423 (2011).

(37) Clean Air Act, ' 111.

D. Federal Court Enforcement of Public Trust Obligations

The Declaration of Independence and the Constitution did not create the rights to life, liberty, and the pursuit of happiness. Rather, those foundational documents secure, promote, and protect those preexisting rights. (38) The plaintiffs' substantive right to enforce the government's obligations as trustee is based both on the public trust theory and the Constitution.(39)

The Supreme Court has long-recognized that Fifth Amendment Due Process Clause protects both procedural and substantive rights. Under substantive due process, the Supreme Court has held that certain fundamental rights are "implicit in the concept of ordered liberty" or "deeply rooted in this Nation's history and tradition."(40) Because the public trust is not enumerated in the Constitution, its theoretical basis also is secured by the Ninth Amendment.(41) The language and history to the Ninth Amendment reveal that the Framers believed that there are additional fundamental rights protected from government infringement that exist beyond those enumerated in the first eight constitutional amendments. These additional constitutional protections arguably extend to and include the right to a stable climate system.

State law supports this view of fundamental rights. In *Robinson Twp. v. Commonwealth*,(42) for example, the Pennsylvania Supreme Court overturned a state statute promoting fracking, the process of injecting liquids at high pressure into subterranean rocks to force open existing fissures in order to extract oil or gas. Opponents of the process argued that fracking results in ground and surface water pollution, air and noise pollution, and human health concerns. Chief Justice Castille declared that citizens have *"inherent and indefeasible rights"* (emphasis added) in essential ecology.

(38) U.S. Const. amend V. No person shall "be deprived of life, liberty, or property, without due process of law."

(39) Pa. Envtl. Def. Found. v. Commonwealth, 161 A.3d 911 (Pa. 2017) (finding that laws that unreasonably impair the right to clean air, pure water, and environmental protection are unconstitutional).

(40) See, Washington v. Glucksberg, 521 U.S. 702, 720-21 (1997) (finding that the Due Process Clause protects those rights and liberties that are deeply rooted in the nation's history and tradition and are implicit in the concept of an ordered liberty, such that neither liberty or justice would exist if they were sacrificed).

(41) U.S. Const. amend. IX. "The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people."

(42) Robinson Twp. v. Commonwealth, 83 A.3d 901 (Pa. 2013).

These are inherent rights secured by the Pennsylvania Constitution, rather than bestowed by it. Article I, Section 27, states: "The people have a right to clean air, pure water and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

Section 27 contains three distinguishable parts. The first is "the right." It obligates the government to protect the right as well as to refrain from implementing laws that "unreasonably impair" the right. The second is the phrase "public natural resources" to which the right attaches. Notably, the phrase is not qualified or limited in scope, and thus is flexible to meet changing legal and societal norms.

Finally, the "common property" phrase recognizes that the public natural resources are held in trust, which is a property law concept whereby trust assets are managed for the benefit of another. The state, as trustee, owes fiduciary duties, both negative (prohibitory) and affirmative obligations, to the beneficiaries of the trust, namely present and future generations. The people have the right to challenge the state's performance as trustee.

E. Substantive Due Process

The Fifth Amendment Due Process Clause is based on Article 39 of the Magna Carta, in which the King of England promised in 1215 that "no free man shall be taken or imprisoned, or disseized, or outlawed, or exiled . . . but by lawful judgment of his peers or by the law of the land." The Constitution replaced the language "law of the land" referenced in the Magna Carta with the phrase "due process of law."

Substantive due process limits the government in depriving one of "life, liberty or property," regardless of the process used, unless the deprivation is narrowly tailored to serve a compelling state interest.[(43)] In determining whether a right is protected by due process, reasoned judgment must be exercised, keeping in mind that history and tradition guide the inquiry, but no mechanical formula exists to define its boundaries. The right to a climate system capable of sustaining life is arguably fundamental right tied to human existence and implicates both life and liberty interests. Without a sustaining climate system, the lives and liberties of present and future generations are doomed.

(43) Reno v. Flores, 507 U.S. 292 (1993).

The plaintiffs' complaint alleges "knowing governmental action" that is affirmatively and substantially damaging the climate system in a way that will cause human deaths, shorten human life spans, result in widespread damage to property, threaten human food sources, and dramatically alter the planet's ecosystem. In doing so, plaintiffs state a claim for the violation of substantive due process. To hold otherwise would mean that the Constitution affords no protection against the government's knowing decision "to poison the air its citizens breathe or the water its citizens drink."

The plaintiffs have offered expert testimony on the catastrophic harms of climate change as well as evidence that the government's actions have led to these changes and are linked to the harms alleged by plaintiffs. Further factual development of the record is needed to reach a final conclusion as to plaintiffs' substantive due process theory.

F. State-Created Danger

The Due Process Clause does not generally impose an obligation on the government to act affirmatively, even when such aid may be necessary to secure life, liberty, or property interests.(44) This general rule is subject to the "danger creation" exception, which applies when the government's conduct places a person in peril in "deliberate indifference" or "reckless disregard" to their safety.(45) In such cases, the government may have affirmative responsibilities.

A plaintiff challenging government inaction on a danger-creation theory must first show the government created or exposed the individual to a danger otherwise not faced. The plaintiff must be placed in a worse position he or she would have been had the state not acted.(46) Second, the plaintiff must show that the government recognized the unreasonable risks to the plaintiff and intended

(44) DeShaney v. Winnebago Cnty. Dep't of Soc. Servs., 489 U.S. 189, 196, (1989) (finding that the state may have affirmative duties under the Due Process Clause in limited circumstances). See also, Youngberg v. Romeo, 457 U.S. 307 (1982).

(45) See, County of Sacramento v. Lewis, 523 U.S. 833, 846 (1998).

(46) In June 2009, the U.S. Global Change Research Program (USGCRP), government advisory council, released its Second National Climate Assessment which noted that "[c]limate change is likely to exacerbate these challenges as changes in temperature, precipitation, sea levels, and extreme weather events increasingly affect homes, communities, water supplies, land resources, transportation, urban infrastructure, and regional characteristics that people have come to value and depend on." Olson Decl. Ex. 35 at 100. Recently, in August 2017, the USGCRP Fifth National Climate Assessment found "that reversing course on climate, as expected with the passage of time, is more urgent than ever." Speth Decl. _ 76.

to expose the plaintiff to such risks without regard to the consequences.(47) In brief, the government must have acted with deliberate indifference or reckless disregard of the individual's well-being.

The plaintiffs contend that they have proffered ample evidence to show genuine issues of material fact as to whether the government is liable for the conduct alleged in their complaint. The government argues the danger-creation theory should be rejected. First, it argues that plaintiffs cannot show that the government's conduct proximately caused a dangerous situation in deliberate indifference to the plaintiffs' safety, or that harm or loss of life has resulted from such conduct. It argues that more than mere negligence is required.(48)

The government's main argument is that the allegations regarding the government's knowledge of the dangers posed to plaintiffs by climate change do not rise to the required level of "deliberate indifference." In response, plaintiffs offer expert declarations to demonstrate that the government knew of, and disregarded, the consequences of continued fossil fuel use on its citizens for decades.

A genuine issue of disputed facts surrounding the government's knowledge of climate change's dangers exists, and therefore summary judgment without a trial on the issue is inappropriate. The plaintiffs' theory involves complicated and novel questions. To dismiss the case without cultivating the most exhaustive record possible during a trial would be a disservice to a case of significant public importance.

V. Conclusion

The evidence of human-caused climate change is overwhelming. The impacts from climate change are observable, increasing, and threaten the global order and security. The hard fact is that the federal government has failed to deal with climate change risks and impacts, and bipartisan political solutions are not likely without a unified elected government. This has forced the young activists is *Juliana* to turn to the courts.

Juliana is not a universal solution to the growing global problem of climate change. Rather it is a unique lawsuit about the fundamental rights of children in the United States to a climate system capable of sustaining human life, and whether the acts and omissions of the federal government have deprived

(47) Campbell v. Wash. Dep't of Soc. & Health Servs., 671 F.3d 837, 846 (9th Cir. 2011)

(48) See, Davidson v. Cannon, 474 U.S. 344 (1986).

them of their inalienable rights through policies and actions destabilizing the climate system. In a broader sense, the case represents the global trend in litigation against the State for failing to adequately address the adverse impacts to society from climate change.

The young activists have asserted novel and creative legal arguments based on the public trust doctrine and constitutional law, including the "danger creation" theory, which permits a substantive due process claim when government conduct places a person in peril in deliberate indifference to their safety. They have evidence over a fifty year period to support their claim. Their constitutional claim seeks to extend due process beyond limiting government infringement of fundamental rights to imposing an affirmative obligation on government to take action to prevent climate change.

The legal theories plaintiffs advance push the legal boundaries of current law to force policy and behavioral change. To date, the case has survived numerous procedural challenges, which have frequently derailed other climate change cases in the United States, and is now moving forward with discovery and to a consideration of the merits. Although the case is still at a preliminary stage, the public disclosure of the results from discovery is certain to animate the public awareness and to increase the political pressure on the federal government to take climate change seriously and with a sense of urgency. The case is being taught to promote awareness in many schools in the United States, and it provides an important legal roadmap to future climate change litigation. The next phase in the litigation will happen in June 2019

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