Challenges Plaintiffs Face in Litigating Federal Common-Law Climate Change Claims

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Since 2005, numerous plaintiffs have attempted to hold both the energy industry and vehicle manufacturers liable for the damages they have experienced and will experience as a result of climate change. Proceeding under common-law theories, particularly nuisance, these plaintiffs generally allege that the defendants they sue are major contributors to greenhouse gas (GHG) emissions, which ultimately lead to climate change and a myriad of associated harms ranging from increased coastal erosion in Alaska and Massachusetts to decreased snowpack in California. While the U.S. Environmental Protection Agency's (EPA's) recent regulatory actions may preempt claims under federal common law, there is nothing in the Clean Air Act (CAA)[1] that prevents future tort claims under state law.[2] Consequently, common-law climate change litigation is likely to continue in the coming years. This Article addresses the challenges that common-law climate change plaintiffs will face in litigating their claims, particularly with respect to standing and justiciability, proof of causation, and apportionment of damages.

I. Getting Into Court: Standing and Justiciability

An initial hurdle for all climate change plaintiffs is the satisfaction of both the constitutional and prudential standing requirements. Plaintiffs must demonstrate both that they have met the minimum threshold requirements of Article III of the U.S. Constitution and that none of the prudential standing doctrines are implicated by their claims. Thus far, the majority of common-law climate change litigation in federal court has focused on this latter issue, as courts struggle to determine whether climate change claims present nonjusticible political questions. This section briefly explains the requirements to obtain standing and then summarizes the analysis of the courts that have considered common-law climate change claims.

A. Article III Standing

Meeting the basic requirements for Article III standing is the essential first step for a litigant wishing to bring a claim in federal court. Article III of the Constitution provides that the courts may only hear actual cases and controversies.[3] Therefore, the "irreducible constitutional minimum" to establish Article III standing requires: (1) injury-in-fact; (2) a causal connection between the injury and defendant's conduct; and (3) a likelihood that the plaintiff's injury will be redressed by a favorable decision.[4]

The U.S. Supreme Court has defined "injury-in-fact" as an injury that is concrete and particularized and actual or imminent.[5] The first prong of this test is directed at separation-of-powers concerns and is intended to ensure that the judicial branch does not hear the sort of generalized complaints that are best addressed by the legislative branch.[6] The actual and imminent injury requirement prevents the court from granting relief for future harms that are speculative in nature.[7] The general scientific community, as represented by the Intergovernmental Panel on Climate Change, has concluded not only that climate change harms are real but also that anthropogenic GHG emissions are a cause of these harms.[8] Climate change plaintiffs can therefore cite to numerous large-scale impacts that many scientists agree are

1. 42 U.S.C. §§7401-7671q (2007), ELR Stat. CAA §§101-618.
2. In fact, the CAA's savings clause, 42 U.S.C. §7604(e), explicitly reserves the rights of parties to bring claims under state law.
3. Lujan v. Defenders of Wildlife, 504 U.S. 555, 560, 22 ELR 20913 (1992).
4. *Id.* at 560-61.
5. *Id.* at 560.
6. Massachusetts v. EPA, 549 U.S. 497, 518, 37 ELR 20075 (2007) (explaining that both *Baker* and *Lujan* limit consideration to actual injuries to ensure "proper adversarial presentation" of an actual case or controversy).
7. *See* Los Angeles v. Lyons, 461 U.S. 95, 105-06 (1983) (holding that plaintiff who was injured when the LAPD applied a chokehold did not have standing to challenge the chokehold policy and seek injunctive relief because there was not a substantial likelihood that he would be similarly harmed again in the future).
8. Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report 37, 39 (2007).

virtually certain to occur,[9] meeting the requirements to demonstrate an actual or imminent injury. If plaintiffs' claims are to fail on this prong of the standing analysis, it will be due to a failure to articulate a particularized injury. Many of the projections of climate change impacts are the result of global models that require downscaling to articulate global harms.[10] However, many observational studies are now documenting current and ongoing harms of climate change at the local level,[11] and therefore some plaintiffs will be able to show particularized harms. Given the types of data on climate change impacts that are currently available, the plaintiffs who are most likely to be able to demonstrate particularized harms for standing purposes are states alleging damages to public resources and individuals who live in particularly vulnerable areas.

The second prong of the Article III standing inquiry requires the plaintiff to demonstrate that there is a causal connection between the defendant's conduct and the plaintiff's injury. At the standing phase, the standard for this causation requirement is much lower than what is required to establish causation in the merits portion of a tort claim. To establish a causal connection for standing purposes, the plaintiff must demonstrate that the injury is "fairly traceable" to defendant's conduct and not "the result of the independent action of some third party not before the court."[12] It is important to note that plaintiff does not have to allege that the defendant is the sole cause of his harm but rather that defendant's conduct is *a* factor contributing to his damages. The primary factor determining a plaintiff's burden on this element will be the court's interpretation of "fairly traceable." Some courts find that a showing of defendants' contribution to the larger pollution that caused plaintiff's harm will be sufficient, while others impose a stricter standard by requiring plaintiffs to show that defendants' specific contribution is the "seed" of the alleged injury.[13] Given the globally mixed nature of GHGs, plaintiffs will have a difficult time showing that any individual emitter is the seed of their particular injuries.[14] However, most of the courts that have considered Article III standing for climate change claims appear to apply the more relaxed version of the fairly traceable standard. Therefore, a well-pleaded complaint connecting the emission of GHGs from defendant industries to the harmful climate change impacts experienced by plaintiffs may be sufficient to survive a challenge to Article III standing.[15]

Finally, Article III standing requires the plaintiff to demonstrate that his injury is likely to be redressed by a judicial decision.[16] The redressability requirement demands that a plaintiff's requested judicial relief resolve the harm in a manner that is more than merely speculative.[17] That is, plaintiffs must demonstrate that in the absence of judicial relief they will be subject to ongoing or future harms of the same nature as a result of defendant's conduct.[18] In general, the redressability requirement should not be a bar to climate change plaintiffs seeking review, but it may limit the types of relief they may seek. In particular, climate change plaintiffs seeking injunctive relief from a subset of GHG emitters are likely to have difficulty establishing that a judicial order enjoining ongoing GHG emissions from defendants operations will be sufficient to redress the plaintiff's projected harms from climate change. As a result, climate change plaintiffs who seek damages to help finance the costs of responding to climate change impacts allegedly caused by defendant's emissions are more likely to satisfy Article III's redressability requirement.

When the plaintiff in a lawsuit is a state, there may be an additional element to the Court's Article III standing inquiry. States may bring lawsuits either in a capacity similar to that of other private parties or as an exercise of their quasi-sovereign interests.[19] When a state brings claims for damages to its own resources and property, the state is similarly situated to any tort plaintiff and is subjected to the Article III standing requirements outlined above. States may also bring claims to vindicate the private interests of their citizens asserting the state's quasi-sovereign interest. When a state chooses to proceed in this manner, asserting *parens patriae* standing, there is a separate test for Article III standing. To establish Article III *parens patriae* standing, the state must show the following: (1) an interest apart from the interests of particular private parties in the lawsuit; (2) the quasi-sovereign interest; and (3) injury to a sufficiently substantial portion of its population (the *Snapp* test).[20] The Supreme Court recently discussed *parens patriae* standing in *Massachusetts v. EPA*,[21] finding that one of the bases for Massachusetts' standing to sue EPA was Massachusetts' sovereign interest in preserving its territory and its inability as an individual state to negotiate GHG emission reductions with foreign powers. However, the U.S. Court of Appeals for the Second Circuit found that,

9. *See id.* at 48-49 (describing climate change impacts on human health, food security, water supplies, ecosystems, and coastal environments).
10. *See* Jens H. Christensen et al., *Chapter 11: Regional Climate Projections*, *in* Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis 847, 850 (S. Solomon et al. eds., 2007) [hereinafter IPCC Physical Science Basis] (explaining that regional climate projections require a combination of region-specific models and downscaling global circulation models).
11. *See, e.g.*, Sarah Kapnick & Alex Hall, Cal. Climate Change Ctr., Observed Changes in the Sierra Nevada Snowpack: Potential Causes and Concerns (2009).
12. *See* Simon v. E. Ky. Welfare Rights Org., 426 U.S. 26, 41-42 (1976).
13. For a full discussion of appellate court cases employing these standards, see *Native Village of Kivalina v. ExxonMobil Corp.*, 663 F. Supp. 2d 863, 877-82, 39 ELR 20236 (N.D. Cal. 2009).
14. *Id.* at 880:

> In view of the Plaintiffs' allegations as to the undifferentiated nature of greenhouse gas emissions from all global sources and their worldwide accumulation over long periods of time, the pleadings makes [sic] clear that there is *no realistic possibility* of tracing any particular alleged effects of global warming to any particular emissions by any specific person, entity, group at any particular point in time.

(Emphasis added.)

15. For a discussion of the potential difficulties of meeting the much higher burden of demonstrating tort causation, see Part III, i*nfra*.
16. Lujan v. Defenders of Wildlife, 504 U.S. 555, 561, 22 ELR 20913 (1992).
17. *Id.* at 565-67 (stating that plaintiffs someday intentions to travel to view wildlife threatened by challenged policies was not a sufficient injury for standing).
18. Los Angeles v. Lyons, 461 U.S. 95, 105-06 (1983).
19. Quasi-sovereign interests are public or governmental interests that concern the state as a whole. *See* Massachusetts v. EPA, 549 U.S. 497, 520 n.17, 37 ELR 20075 (2007).
20. Alfred L. Snapp & Son, Inc. v. Puerto Rico, 458 U.S. 592, 601 (1982).
21. *Massachusetts*, 549 U.S. at 520.

in *Massachusetts*, the Supreme Court unnecessarily conflated *parens patriae* standing with a state's ability to bring claims to vindicate its private interests, and that states' alleging natural resource damages claims do not need to establish *parens patriae* standing.[22] Therefore, it is unclear whether the *Snapp* or *Lujan* test for establishing Article III standing should be applied to state plaintiffs in future cases.[23]

B. Prudential Standing and the Political Question Doctrine

Beyond the basic Article III standing requirements, courts apply a number of prudential standing requirements. Unlike Article III, the prudential standing requirements are not constitutional minima. Rather, they are judicial doctrines that keep the court from encroaching upon the prerogatives of the other branches of government, and thus ensure respect for the separation of powers. Most significant in the context of climate change litigation is the political question doctrine. Under the political question doctrine, the court will decline to review a case in which it will be required to make a policy judgment that it more appropriately left to the executive or the legislature.[24]

In determining whether a plaintiff's claim presents a nonjusticiable political question, courts will apply the six-factor test the Supreme Court articulated in *Baker v. Carr*.[25] Under *Baker*, a court must consider the following six factors: (1) whether there is textually demonstrable constitutional commitment to another branch of government; (2) the lack of judicially discoverable or manageable standards; (3) the impossibility of resolving the case without making an initial policy determination; (4) the impossibility of deciding a case without displaying a lack of respect to a coordinate branch of government; (5) an unusual need for unquestioning adherence to a prior political decision; and (6) the potential for embarrassment from different departments of government reaching different conclusions on the same question.[26] The first three factors focus on the constitutional limitations of a court's jurisdiction, while the final three are prudential considerations that counsel against judicial intervention. If the court finds that any one of these factors is inextricably intertwined with the plaintiff's claim, then it must decline review. Central to the Supreme Court's holding in *Baker* was a finding that not all cases that implicate politics will be political questions, and that many times, courts will be able to rule on the narrow issue before them without actually running into political question problems.[27] As the discussion of the climate change nuisance claims below demonstrates, the *Baker* analysis is a highly subjective test, and it will often turn on an individual court's judgment of how broad of a policy determination it must make to rule on the merits of the claim.

C. Common-Law Climate Change Claims

The common theme, if there is one, among the four key common-law climate change cases is that trial judges have been highly skeptical of whether the plaintiffs can demonstrate the requisite causal link between their damages and the defendants' conduct at the standing stage (and ultimately at the ultimate proof stage) and whether courts ought to be setting standards and initial policy for a worldwide problem. In contrast, the two appellate panels that so far have considered these issues have had no problem in addressing these cases, finding them no different than the kinds of complex pollution cases courts have dealt with over the last century. In their way of thinking, if Congress or the executive branch does not like how courts set standards for what is or is not acceptable "carbon behavior" and the initial policy that such decisions would dictate, let them act. For these panels, damn *Baker* and full speed ahead.

1. Connecticut v. American Electric Power

The first common-law climate change lawsuit to be filed was *Connecticut v. American Electric Power*.[28] In 2004, eight states and three land trusts sued American Electric Power Service Corporation and four other major utilities who are the five largest emitters of carbon dioxide (CO_2) in the United States. The plaintiffs claimed that the defendants contributed to the public nuisance of global warming, which resulted in numerous present and future harms to their interests. The states asked the district court to issue a finding of joint and several liability and impose a cap on GHG emissions as well as a schedule for their future reductions. In 2005, the defendants moved for summary judgment on the grounds that the court lacked jurisdiction over the claim and alternatively that plaintiffs failed to state a claim.

In evaluating the plaintiffs' claim, the district court for the Southern District of New York found that the threshold issue in bringing a common-law public nuisance claim for climate change harms was whether the issue presented a nonjusticiable political question. The court then determined that, at the time, there was no official U.S. policy regarding GHGs or climate change. As a result, the court found that resolution of the plaintiffs' claims would require the court to engage in the balancing of economic, environmental, and national security interests, and therefore posed a nonjusticiable political question.

The Second Circuit heard the appeal in 2006 and issued its decision in September 2009. The Second Circuit found that the Supreme Court's analysis from *Baker* should govern, and that the plaintiffs' nuisance claim was justiciable because it presented only a narrow legal question regarding defendant power companies, which is not the type of broad-brush policy decision about climate change that must be reserved

22. Connecticut v. Am. Elec. Power Co., 582 F.3d 309, 337, 39 ELR 20215 (2d Cir. 2009).
23. *Id.* at 338.
24. *See* Baker v. Carr, 369 U.S. 186 (1962).
25. *Id.*
26. *Id.* at 217.
27. *Id.*
28. 406 F. Supp. 2d 265, 35 ELR 20186 (S.D.N.Y. 2005).

for the political branches.[29] The court also observed that in light of *Massachusetts*, it was not clear whether it should apply the *Snapp* test for *parens patriae* standing under Article III or conduct Article III standing analysis under *Lujan*. Applying both tests, the court found that the states' allegations were sufficient to meet the requirements for either Article III standing test.[30]

In disposing of *Baker*, the Second Circuit observed that *Baker* set a high bar for nonjusticiability. As to *Baker* factor (1), the court found no textual commitment in the Constitution that gives the executive or legislative branches responsibility to resolve issues concerning CO_2 emissions or other forms of alleged nuisance, brushing aside defendants' arguments that setting standards for carbon emissions implicates the Commerce Clause or foreign policy. As to *Baker* factor (2) and the need for a court to establish what constitutes an unreasonable interference with a right common to the general public—the standard for public nuisance—the Second Circuit discussed numerous complex nuisance cases that federal courts have handled and concluded defendants are not entitled to dismissal under *Baker* factor (2), reasoning:

> That the district court may be called upon to decide causation issues and apply a remedy does not remove the case from the ambit of nuisance actions. Federal courts have long been up to the task of assessing complex scientific evidence in cases where the cause of action was based either upon the federal common law or upon a statute.[31]

As to *Baker* factor (3), the Second Circuit noted that federal common law exists where Congress and the executive branch have not acted, creating a regulatory gap. Finally, as to *Baker* factors (4) through (6), the court questioned whether there was a unified policy on GHG emissions, as the defendants argued, and noted that not all political cases equate to *Baker* political questions and invited Congress to displace federal common law by passing legislation addressing CO_2 emissions.

In regards to standing, the Second Circuit dealt with *Lujan*'s "fairly traceable" causation requirement easily, finding defendants' argument that they account for only 2.5% of anthropogenic emissions and that many others contribute to global warming did not defeat the causation requirement.[32]

On November 5, 2009, American Electric Power petitioned the Second Circuit for rehearing en banc. The petition for rehearing en banc was denied on March 5, 2010. A petition for certiorari was filed by defendant power companies on August 2, 2010.

2. *California v. General Motors*

The Northern District of California found that a nuisance claim for contributions to global warming posed a nonjusticiable political question in *California v. General Motors*.[33] In *California*, the state of California sought damages from several major automakers under a theory of common-law public nuisance. In essence, the state claimed that automakers' products contributed to GHG emissions and thereby were a cause of global warming. The state sought to recover damages for current and future harms including the millions of dollars the state had already spent to study and respond to the threat of climate change, as well as future decreases in snowpack and increases in coastal erosion rates.[34] Finding that the primary issue was the potential for a political question problem, the court began by reviewing the history of climate policy in the United States. In sum, the court found that the CAA, the corporate average fuel economy (CAFE) standards for automobile fuel efficiency, and the international debate on climate change were insufficient to constitute a comprehensive U.S. policy regarding climate change and GHG emissions. As a result, the court found that if it granted California relief, it was "left to make an initial decision as to what is unreasonable in the context of carbon dioxide emissions" in contravention of *Baker* factor (2).[35] Finding that such a decision is not to be made by the judicial branch, the court dismissed California's claim because it presented a nonjusticiable political question.

California was the first common-law climate change case to be decided after the Supreme Court's decision in *Massachusetts*. In *California*, the Northern District of California found that the Supreme Court's decision served to underscore its conclusion that GHG policy decisions were political questions. The Northern District interpreted the Supreme Court's finding that Massachusetts had standing to be based solely on the states' procedural right to challenge federal policymaking. From this evaluation of *Massachusetts*, the Northern District concluded that issuing a decision on the merits of California's claims would infringe upon federal policymaking, particularly EPA's authority to regulate GHGs under the CAA.

Subsequent to the district court's decision in *California*, the state of California filed an appeal in the U.S. Court of Appeals for the Ninth Circuit. After General Motors filed for bankruptcy, California moved to voluntarily dismiss its appeal in the case. The Ninth Circuit granted California a voluntary dismissal on June 24, 2009.[36]

3. *Native Village of Kivalina v. ExxonMobil*

Following *California*, a different judge in the Northern District of California again ruled that common-law nuisance claims for GHG emissions present nonjusticiable political questions in *Native Village of Kivalina v. ExxonMobil*.[37] The *Kivalina* plaintiffs, an Inupiat Eskimo village on the Alaskan

29. 582 F.3d at 329.
30. *Id.* at 338.
31. *Id.* at 329.
32. *Id.* at 347 (finding that "[i]t is sufficient that [Plaintiffs] allege that Defendants' emissions contribute to their injuries").
33. No. C06-05755 MJJ, 2007 U.S. Dist. LEXIS 68547, 37 ELR 20239 (N.D. Cal. Sept. 17, 2007).
34. *Id.* at *3-4.
35. *Id.* at *24.
36. *See* Order Granting Voluntary Dismissal, No. 07-16908 (9th Cir. June 19, 2009).
37. 663 F. Supp. 2d 863, 39 ELR 20236 (N.D. Cal 2009).

coast, alleged that the later formation of sea ice in the sea adjacent to their village and its early melting led to increased coastal erosion rates, which would ultimately require relocation of the entire village. Citing defendant energy companies' contributions to GHG emissions, the village's nuisance claim sought damages to pay for relocation, estimated by the U.S. Army Corps of Engineers to be as much as $400 million. Addressing the *Baker* factors, the Northern District found that there were no "judicially discoverable and manageable standards" that could be used in determining the outcome of a global warming nuisance claim.[38] Consequently, the court found that a ruling on the merits of Kivalina's nuisance claim would require an initial policy decision, and held that Kivalina's claim presented a nonjusticiable political question.[39]

The *Kivalina* court then went one step further and held that not only was Kivalina's claim barred by prudential standing requirements, but also that plaintiffs failed to assert an injury sufficient for Article III standing. While noting that *Lujan*'s fairly traceable injury requirement does not rise to the level of proving tort causation, the court still found that Kivalina's asserted injury was insufficient for standing on causation grounds.[40] The court found that the plaintiff's theory of causation was too tenuous to support standing for a common-law claim of nuisance.[41] Importantly, the court noted that Kivalina's claim was readily distinguishable from statutory claims under pollution laws because there are no federally prescribed limitations on GHG emissions, and therefore exceedance of a particular emissions threshold is not itself a sufficient injury for standing purposes.[42]

In *Kivalina*, the plaintiffs also asserted claims of civil conspiracy and concert of action. Because these additional claims were brought under state law, the Northern District of California found that it did not have jurisdiction to address them after dismissing the plaintiffs' federal nuisance claim, as described above.[43]

The *Kivalina* plaintiffs filed an appeal of the district court's decision on November 5, 2009. Briefing in the Ninth Circuit is ongoing, and oral arguments in the case are expected later this year.

4. *Comer v. Murphy Oil Co.*

Finding standing for plaintiffs raising similar claims along the Mississippi Gulf Coast, the U.S. Court of Appeals for the Fifth Circuit not only held that there was no political question problem presented by plaintiffs' claims, but also went so far as to say that the initial decision in *Connecticut* and the Northern District of California's decision in *California* were "legally flawed."[44] In *Comer v. Murphy Oil*, residents of the Mississippi Gulf Coast region filed a putative class action claiming that defendants' operations in the fossil fuels and chemicals industries caused GHG emissions that contributed to global warming. They further claimed that this global warming led to sea-level rise and increased the strength of Hurricane Katrina, thereby increasing the storm damage that they experienced. The plaintiffs' class action claim sought damages on the grounds of state law. Subject matter jurisdiction in federal court was based on diversity of citizenship (nuisance, trespass, and negligence, which the court chose to treat together for standing purposes). In ruling on Article III standing, the court found that plaintiffs alleged a sufficient causal link to survive a motion to dismiss. Further, the court held that such a causal chain should not be susceptible to attack for standing purposes because the Supreme Court accepted the same causal links between defendants' actions and plaintiffs' climate change-based harms in *Massachusetts*.[45] Examining the possibility that the political question doctrine precluded judicial review, the court found that application of the *Baker* factors did not counsel against granting review. Further, the court noted that, "[c]ommon-law tort claims are rarely thought to present nonjusticiable political questions."[46]

The plaintiffs in *Comer* also raised state-law claims of unjust enrichment, fraudulent misrepresentation, and civil conspiracy. The unjust enrichment claim alleged that defendants artificially inflated the prices of petrochemicals, realizing profits to which they were not entitled. The civil conspiracy claim alleged that defendants were aware of the dangers of GHGs for many years during which they disseminated misinformation to decrease public awareness of these dangers. Similarly, the fraudulent misrepresentation claim alleged that the defendants knowingly made false statements to dissuade regulation of GHGs. While finding that plaintiffs had standing to pursue their nuisance, trespass, and negligence claims, the court found that review of the second set of claims described here was precluded because plaintiffs failed to allege anything other than a generalized grievance, failing *Lujan*, step one, and therefore did not meet the requirements for Article III standing.

The *Comer* defendants filed a petition for rehearing en banc in the Fifth Circuit on November 30, 2009. Rehearing was granted on February 26, 2010. On May 28, 2010, the en banc panel of the Fifth Circuit dismissed the *Comer* appeal on procedural grounds.[47] At the time that the Fifth Circuit granted en banc review of *Comer*, only nine of the circuit's 16 judges were eligible to participate in the case because the others all recused themselves.[48] Due to a change in circumstances between the granting of en banc review and the sechduled consideration of the *Comer* appeal, an additional judge was recused, resulting in only eight judges who were available to consider the case.[49] In a curious turn of events, the Fifth Circuit determined that its own rules require a quorum of all the judges on the court for en banc reviews, and held

38. *Id.* at 873-76.
39. *Id.* at 876-77. Note however, that EPA's proposed GHG regulations discussed *infra* likely constitute an initial policy determination and therefore may overcome the Northern District's political question objection to review.
40. *Id.* at 877-78.
41. *Id.* at 880-81.
42. *Id.* at 879-80.
43. *Id.* at 882-83.
44. Comer v. Murphy Oil USA, 585 F.3d 855, 876, 39 ELR 20237 (5th Cir. 2009).
45. *Id.* at 865.
46. *Id.* at 874.
47. Comer v. Murphy Oil Co., No. 07-06756, at 4 (5th Cir. May 28, 2010).
48. *Id.* at 2.
49. *Id.*

that since such a quorum was now absent, the Court could not conduct judicial business.[50] Having determined that it was now unable to hear the *Comer* appeal en banc, the Fifth Circuit further held that under its own precedent, the prior Fifth Circuit panel decision was vacated immediately upon the grant of rehearing en banc and could not be reinstated.[51] As a result, they concluded that its only option was to dismiss the appeal altogether and allow the District Court's dismissal of the case to stand.[52] However, the court also concluded that the plaintiffs "of course, now have the right to petition the Supreme Court of the United States."[53]

The courts that have considered standing for common-law climate change claims are divided as to whether these claims meet the Article III standing requirements or present nonjusticiable political questions. While there is a difference of opinion, it is important to underscore that there is no circuit split at this time regarding the reviewability of common-law climate change claims. This could change depending on what happens in the Ninth Circuit.[54] Even without a circuit split, the Supreme Court may still grant a petition for a writ of certiorari given the importance of the issues in question. Should the Supreme Court deny the petition, industry can anticipate an avalanche of climate change-related federal nuisance actions. If *Connecticut* is accepted, Justice Sonia Sotomayor cannot participate in the case, as she was on the panel that considered the case below; although the decision was not issued until after she left the Second Circuit. Looking at how the Supreme Court voted in *Massachusetts*, industry likely has four Justices leaning its way with all eyes once again turning to Justice Anthony Kennedy. Whether he will condone the flood of federal common-law nuisance cases that affirmance of *Connecticut* will cause or will find a basis in *Lujan*, *Snapp*, and *Baker* to close the federal court door on these cases remains to be seen.

II. Does EPA Regulation Preempt Common-Law Claims?

Those common-law climate change plaintiffs who are able to survive the standing analysis described above will face an additional challenge to reaching the merits of their claims as EPA finalizes GHG regulations under the CAA. Once EPA has stepped in to regulate GHGs, plaintiffs wishing to bring claims under the federal common law will have to demonstrate that their claims are not preempted by federal regulation. Analysis of preemption case law under the CAA suggests that some groups of climate change plaintiffs may be able to overcome statutory preemption arguments and maintain their claims in federal court, but most federal nuisance claims will be preempted. Further, it is important to highlight that, even if nuisance claims under the federal common law are preempted by EPA regulation, climate change plaintiffs will still be able to pursue tort claims under state law.

A. EPA Regulatory Actions

After the Supreme Court's holding in *Massachusetts* that EPA must consider the regulation of GHGs under §202 of the CAA,[55] EPA has recently issued two important rules that may ultimately impact the status of federal common-law nuisance claims for climate change damage. These two rules are the endangerment finding under §202(a) of the CAA and the Tailoring Rule for the Prevention of Significant Deterioration (PSD) and Title V provisions. This section briefly discusses the highlights of these recent EPA decisions and their potential impact on common-law climate change litigation.

1. The GHG Endangerment Finding

Pursuant to court order in *Massachusetts*, EPA was required to consider the regulation of GHGs from mobile sources under §202 of the CAA.[56] As a precursor to regulation under the mobile source provisions of the CAA, EPA issued an endangerment finding on December 15, 2009.[57] In the endangerment finding, Administrator Lisa Jackson explained the grounds for her determination that the six long-lived, globally mixed GHGs—CO_2, methane, nitrous oxide, hydroflourocarbons, perfluorocarbons, and sulfur hexafluoride—contribute to global warming and thereby endanger both public health and welfare.[58] Specifically, Administrator Jackson found that there is compelling evidence linking GHG emissions to increases in global temperatures, and that these temperature increases, "have the potential to affect essentially every aspect of human health, society, and the natural environment."[59]

In a departure from past procedures, EPA issued the engenderment finding on its own rather than alongside regulations under the CAA. EPA felt that the separate issuance of an endangerment finding was appropriate because endangerment and particular emissions standards are separate issues.[60] After evaluating the data, EPA stated that it was prepared to make endangerment findings, but needed further time to evaluate the contribution of motor vehicle emissions to endangerment before finalizing emission limitations under §202 of the CAA.[61]

On May 7, 2010, EPA and the National Highway Traffic Safety Administration published a joint rule increasing the CAFE standards and imposing GHG emission limitations

50. *Id.*
51. *Id.*
52. *Id.* at 4.
53. *Id.* at 4.
54. Note that with the Fifth Circuit's dismissal of the *Comer* appeal, the only current possibility for a circuit split is if the Ninth Circuit panel considering *Kivalina* disagrees with the Second Circuit's conclusion in *Connecticut* that plaintiffs had standing and presented a justicible claim.
55. Massachusetts v. EPA, 549 U.S. 497, 532-33, 37 ELR 20075 (2007).
56. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496, 66499 (Dec. 15, 2009).
57. *See id.*
58. *Id.* at 66497.
59. *Id.* at 66523.
60. *Id.* at 66503.
61. *Id.*

on passenger cars and light-duty trucks.[62] The final rule harmonizes the CAFE, California, and new EPA GHG requirements for model years 2012 to 2016.[63] In the final rule, EPA exercises its authority under §202(a) of the CAA to place limitations upon vehicle GHG emissions starting in 2012.[64] The vehicle emissions standards will grow gradually more stringent, to a combined average emission level of 250 grams of carbon dioxide per mile by 2016.[65] As explained below, these regulations likely preempt future challenges similar to *California*.

2. The EPA Tailoring Rule

The other significant regulatory action taken by EPA was to finalize the Tailoring Rule for PSD and Title V permits under the CAA.[66] Because of the structure of the CAA, the PSD and Title V permitting provisions will be triggered by the regulation of a pollutant under any other section of the Act. Therefore, the moment that EPA finalized its mobile source emission rules, the requirements of the PSD and Title V programs technically became applicable to GHG emissions.[67] The PSD and Title V programs require that any source in a specific category emitting more than 100 tons per year of any regulated pollutant and any other source emitting more than 250 tons per year of any regulated pollutant obtain a permit under Title V.[68] Further, new sources or major modifications to existing sources meeting the 100 or 250 tons per year threshold will fall under the PSD provisions and be required to apply the best available control technology (BACT) to limit GHG emissions.[69]

Given how low the thresholds for the Title V and PSD programs are, their direct application to sources of GHG emissions would increase the number of emitters requiring permits by several orders of magnitude.[70] Feeling that this regulatory burden would essentially cripple state permitting programs, EPA raised the thresholds for GHG emissions under its Tailoring Rule. The Tailoring Rule increases the level of emissions required to trigger the PSD and Title V requirements so as to capture the major emitters within the ambit of the CAA while alleviating the regulatory burdens that would result from application of the current CAA thresholds.[71] Under the final rule, EPA will phase in the application of GHG emission limitations under the PSD and Title V programs in three steps.[72] In the first phase, beginning on January 1, 2011, the BACT requirements of PSD will only apply to those sources emitting more than 75,000 tons of GHGs per year and significantly increasing emissions of at least one non-GHG pollutant.[73] During the first phase of implementation, only those sources obtaining Title V permits for non-GHG emissions will be required to address GHG emissions. In the second phase, beginning on July 1, 2011, the program will be expanded to include all new sources emitting more than 100 tons per year of GHGs under both the PSD and Title V programs.[74] Step three of implementation will begin on July 1, 2013, and the sources to be included at that time will be determined through a supplemental notice of proposed rulemaking that will be issued in 2011.[75]

Because GHGs are globally mixed pollutants, EPA does not intend to invoke §§108 and 109 of the CAA to establish NAAQS for GHGs and designate attainment and nonattainment areas. Rather, EPA intends to manage the whole country under the PSD provisions.[76] Consequently, the combination of the Tailoring Rule[77] and the creation of vehicle emission standards will trigger the regulation of all stationary sources emitting more than 75,000 tons per year of GHGs. These regulations will cover all large power plants and many other major sources. Therefore, if EPA's regulation of large stationary sources through the PSD provisions preempts federal common-law claims, it could be a significant barrier to future climate change litigation.

However, it should be noted that both the Tailoring Rule and vehicle GHG emissions standards have been challenged on several fronts and may not go into effect for years. On June 10, 2010, the U.S. Senate narrowly defeated a resolution of disapproval proposed by Sen. Lisa Murkowski (R-Alaska) that would have effectively stripped EPA of its authority to regulate GHGs.[78] Another potential legislative challenge lies in Sen. Jay Rockefeller's (D-W. Va.) (proposal to delay the implementation of EPA GHG regulations for two years.[79] In addition, EPA is facing multiple legal challenges to the endangerment finding, vehicle emissions standards, and the Tailoring Rule.[80] Even if these challenges are unsuccessful, they are likely to delay the implementation of EPA's new

62. Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25324 (May 7, 2010).
63. *Id.* at 25328.
64. *Id.* at 25399-400.
65. *Id.*
66. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31514 (June 1, 2010).
67. For a detailed discussion of the Tailoring Rule and the legal difficulties associated with modifying the CAA to accommodate GHGs, see Eric Groten, EPA's Proposed New "Tailoring Rule": Cleaning Up the "Glorious Mess" by Turning Off the Lights (Vinson & Elkins, 2009), *available at* http://www.velaw.com/uploadedFiles/VEsite/Resources/WP_ClimateChangeRegulation_2009_10_02.pdf#Page1.
68. 75 Fed. Reg. at 31520.
69. *Id.* at 31520-21.
70. *Id.* at 31556 (reporting that PSD permit applications will rise from 280 to nearly 82,000 per year).
71. *Id.* at 31514, 31556, 31566.
72. *Id.* at 31516.
73. *Id.*
74. *Id.*
75. *Id.*
76. 74 Fed. Reg. 55292, 55297(proposed Oct. 27, 2009).
77. There is a serious question as to whether the Tailoring Rule, which is a significant deviation from the CAA's requirements, will survive judicial challenge. *See* Groten, *supra* note 67, at 4-6.
78. *See* Evan Lehman & Dina Fine Maron, *Effort to Block EPA Fails, Revealing Murky Path for Carbon Bill*, E&E News, June 11, 2010 (reporting that the Senator Murkowski resolution fell four votes shy of passage).
79. *See* Robin Bravender, *Reid Plans Senate Vote on 2-Year EPA Delay This Year*, E&E News, June 16, 2010.
80. *See, e.g.*, Petition for Review, Coalition for Responsible Regulation, Inc. v. Envtl. Prot. Agcy, No. 09-1322 (D.C. Cir. Dec. 29, 2009) (challenging endangerment finding); Petition for Review, Southeastern Legal Found. v. Envtl. Prot. Agcy., No. 10-1094 (D.C. Cir. May 11, 2010) (challenging the vehicle GHG rule); Petition for Review, Coalition for Responsible Regulation, Inc. v. Envtl. Prot. Agcy., No. 10-1132 (D.C. Cir. June 3, 2010) (challenging the Tailoring Rule).

GHG regulations. Such delays are potentially significant to common-law climate change plaintiffs, because in the absence of comprehensive federal climate change legislation, a court's potential preemption analysis would rest upon the regulatory requirements imposed on GHG emitters under the CAA.

B. Potential Preemption of Federal Common-Law Claims

Preemption arises out of the Supremacy Clause of the Constitution, which states that the Constitution and Laws of the United States "shall be the supreme law of the land."[81] Consequently, any statutory or common-law provisions that are inconsistent with either the Constitution or federal law will be preempted under the Supremacy Clause. There are two major types of preemption: express and implied. Express preemption exists when a federal statute explicitly eliminates the ability of potential plaintiffs to bring common-law claims.[82] Implied preemption arises when congressional action, while not explicit, clearly intends that a statutory remedy be the only legal remedy. The two types of implied preemption are conflict preemption and field preemption. Conflict preemption exists when a federal law conflicts with statutory or common law.[83] In contrast, field preemption occurs when a legislative scheme so comprehensively occupies the regulatory field that it is clear Congress intended there to be no other remedy.[84]

Typically in environmental law, the adoption of a comprehensive regulatory scheme is found to give rise to field preemption.[85] However, most major environmental statutes have an express savings clause that preserves the rights of parties to bring claims under state common law and for matters not covered by the regulatory scheme.[86] Courts that have interpreted these provisions generally find that the savings clause may preserve actions and federal common law for individual pollutants that happen to not be covered under the CAA.[87] Therefore, to the extent that GHG emissions leading to climate change harms are not covered under the CAA's regulatory scheme, there is the potential for continued litigation under federal common law and, if not federal common law, state common law in state courts, as discussed below.

Under EPA's new rules, emissions from cars and large stationary sources will be regulated under the CAA. Given the precedent of *Milwaukee v. Illinois*,[88] federal common-law suits will be unavailable to plaintiffs who seek to use the common law for the same types of remedies available under the CAA. To wit, federal common-law claims seeking injunctive relief from large emitters will be precluded. However, courts have previously found that the CAA, because of its failure to control every source of emissions, does not constitute the type of broad field preemption that the Supreme Court found under the CWA.[89] As a result, it may be the case that federal common-law claims against emitters that are not covered under either vehicle emission standards or the Tailoring Rule are not preempted.[90]

A perhaps more interesting question is whether plaintiffs who would otherwise be prohibited from bringing common-law claims for ongoing emissions may still bring claims for the costs of adaptation to the impacts of emissions that are wholly in the past. Because of their long residence times in the atmosphere, GHGs that have already been emitted will continue to contribute to climate change harms for years to come.[91] Such plaintiffs should have standing to sue because, as explained above, they face imminent injury, and this injury could be mitigated by the award of money damages to finance adaptation measures. Although plaintiffs would only be able to challenge past conduct under the federal common law, the continuing nature of the injury could be sufficient to allow plaintiffs to maintain standing to seek damages.[92] Unless subsequent climate change legislation or amendments to the CAA create funding for adaptation assistance and explicitly preempt claims for adaptation damages, it seems likely that these claims could continue under federal common law.

C. The Persistence of State Common-Law Claims

Even if all federal common-law claims are precluded by regulation of GHGs under the CAA, state common-law claims are nearly certain to continue given the broad influence of the Trial Bar, which likely would be able to block legislative efforts to explicitly preempt these kinds of suits in any federal GHG legislation. Even in areas where EPA has been

81. U.S. Const. art. IV.
82. Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230-31 (1947).
83. Int'l Paper Co. v. Ouellette, 479 U.S. 481, 492, 17 ELR 20327 (1987).
84. *See* Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 204, 13 ELR 20519 (1983).
85. Milwaukee v. Illinois, 451 U.S. 304, 317-18, 11 ELR 20406 (1981).
86. *See* 42 U.S.C. §7604(e) (2007).
87. *See* United States v. Atl.-Richfield Co., 478 F. Supp. 1215, 1220, 10 ELR 20089 (D. Mont. 1979) ("Thus the express language of the act negates any thought that the remedies provided by it were exclusive of rights at common law because they were preserved for a wide class of person."). *But see* United States v. Kin-Buc, 532 F. Supp. 699, 702, 12 ELR 20459 (D.N.J. 1982) (holding that the CAA occupies the field and federal common-law claims are preempted).
88. *Milwaukee*, 451 U.S. at 317-18.
89. *See, e.g.*, North Carolina v. Tenn. Valley Auth., 593 F. Supp. 2d 812, 39 ELR 20015 (W.D.N.C. 2009), *rev'd*, 2010 WL 2891572 (July 26, 2010). In reversing, the Fourth Circuit held that emissions legally permitted under the CAA could not form the basis of a public nuisance claim because this would permit plaintiffs to establish standards different from those imposed by the CAA. 2010 WL 2891572. This opinon is consistent with the conclusion that direct regulation of GHG sources under the CAA will preclude common law claims.
90. Note that while these claims are likely not preempted by the CAA, plaintiffs trying to bring claims against smaller emitters are likely to face significant challenges in proving causation and apportionment of damages to these defendants in the merits stage of a trial. *See*, Section III, *infra*.
91. This phenomenon is termed the "climate commitment" and describes the amount of climate change that is inevitable due to GHGs that are already in the atmosphere. *See, e.g.*, Gerald A. Meehl et al., *How Much More Global Warming and Sea Level Rise?*, 307 Science 1769 (2005) (finding that if atmospheric emissions had been stabilized in 2005, the climate commitment would still lead to roughly 0.5 degrees C of warming).
92. Note that the standing analysis does not require that injuries be ongoing, only that they have a casual connection to defendant's conduct and can be relieved by judicial order (damages in the case of injuries wholly in the past). However, these plaintiffs are likely to face mootness challenges once emitters are regulated under the CAA. *See, e.g.*, Friends of the Earth, Inc. v. Laidlaw Envtl. Servs., 528 U.S. 167, 178, 30 ELR 20246 (2000).

deemed to occupy the field with CAA regulations, states have brought common-law nuisance challenges for the impacts of interstate pollution.[93] Therefore, the net impact on the cases outlined above would likely be dismissal of federal nuisance claims. However, these cases could be filed in state court based on the state common-law claims.

Moreover, even if they are limited to state common-law claims, climate change plaintiffs will be able to remain in federal court, so long as they satisfy diversity requirements.[94] In fact, the Supreme Court has held that, even when there is comprehensive pollution regulation, state tort claims still may be pursued in federal court.[95] In these instances, the federal court will be charged with applying the state common law of the polluting state and determining whether there is a compensable violation.[96] Nevertheless, these cases will still have to satisfy *Lujan*, *Snapp*, and *Baker* requirements, as well as state standing requirements, if they are to be heard in federal court.[97] Moreover, recent reforms make it increasingly likely that class action claims will be heard in federal court.[98]

III. The Challenge of Proving Causation in Tort Claims

Plaintiffs who are permitted to proceed to the merits of their climate change tort claims will face significant hurdles in proving causation. These hurdles involve not only establishing the connections between GHG emissions and the plaintiff's alleged harm but also convincing a court that the defendant's contribution to global GHG emissions is significant enough to have contributed to the plaintiff's harm. Given the extraordinarily large number of GHG emitters, "[f]inding a defendant that can be reasonably said to have 'caused' harm in the form of climate change is a challenging legal task."[99]

The majority of common-law climate change claims have been claims in nuisance. The essential elements of any nuisance claim are that the defendant's action unreasonably interferes with the plaintiff's use and enjoyment of his own land.[100] In the context of climate change litigation, many of the nuisance claims are public nuisance claims, which require the additional showing that the harm caused by the defendant's actions impacts a resource that belongs to the public as a whole.[101] For climate change plaintiffs, establishing such claims requires a showing of the current and projected impacts of climate change, an explanation of the anthropogenic contribution to climate change, and the articulation of a causal link between the defendant's particular contributions to GHG emissions and the harms experienced by the plaintiff.[102]

Proving causality in a tort claim by a preponderance of the evidence is likely to present significant challenges to many plaintiffs. While plaintiffs may be able to establish that GHG emissions are an actual cause of large-scale global changes, proving that any one emitter of GHGs is the actual cause of a specific injury suffered by plaintiff will be challenging. Although still controversial, a significant proportion of the scientific community has now accepted that climate change is happening, that it is driven in part by anthropogenic contributions, and that the anticipated changes will cause societal harm.[103] There are, however, large uncertainties associated with translating these broad phenomena into the types of particularized harms that an individual plaintiff must prove in a tort case. The two major problems that will be faced by any plaintiff are the uncertainties associated with downscaling climate models to capture localized impacts and the difficulty in apportioning particular impacts between climate change drivers and other natural sources of variability.

This latter point is clearly seen when examining the plaintiffs' claims in *Comer*. The *Comer* plaintiffs seek damages from large GHG emitters for their role in increasing the damages caused by Hurricane Katrina. While there is, in theory, a direct relationship between sea surface temperature and the maximum potential power of any hurricane,[104] this impact may not be realized in nature because other environmental forces, such as the strength of wind at different levels in the atmosphere, may make it more difficult for hurricanes to form, even if the seas are warmer.[105] Furthermore, there are multidecadal trends in hurricane frequency and intensity that are controlled by large-scale pressure fronts, which could inhibit or exacerbate the potential impacts of climate change.[106] Therefore, even though it is likely that warming seas and rising sea levels will increase both hurricane strength and the damages associated with storm surge, it should be difficult for the *Comer* plaintiffs to establish that the defendants' actions were an actual or proximate cause of the damages they suffered during Hurricane Katrina.

Land loss claims, such as those presented in *Connecticut*, may present similar challenges in proving causation. While it is certainly the case that the rate of sea-level rise is increasing as a result of climate change, sea-level rise and its impacts are

93. *See, e.g.*, *North Carolina*, 593 F. Supp. 2d 812.
94. *See id.* (federal court deciding North Carolina's claims against TVA under the state common law of Alabama, Kentucky, and Tennessee).
95. Int'l Paper Co. v. Ouellette, 479 U.S. 481, 492, 17 ELR 20327 (1987) ("Although Congress intended to dominate the field of pollution regulation, the saving clause [of the CWA] negates the inference that Congress 'left no room' for state causes of action.").
96. *See id.*; *North Carolina*, 593 F. Supp. 2d 812.
97. *See* Comer v. Murphy Oil USA, 585 F.3d 855, 39 ELR 20237 (5th Cir. 2009).
98. Class Action Fairness Act of 2005, Pub. L. No. 109-2, §§4-5, 119 Stat. 4, 9-13 (codified as amended at 28 U.S.C. §§1332, 1453).
99. Shi-Ling Hsu, *A Realistic Evaluation of Climate Change Litigation Through the Lens of a Hypothetical Lawsuit*, 79 U. Colo. L. Rev. 701, 702 (2008).
100. Restatement (Second) of Torts §821D.
101. §821B.
102. For the purposes of a public nuisance claims, these harms may include endangerment of the public health, safety, peace, comfort or convenience, or long-lasting effects that the defendant knows will have a significant impact on the private right. §821B(2). For private nuisance claims, the plaintiff must show he suffered a "significant harm," which the Restatement defines to be "more than a slight inconvenience." §821F, cmt. c.
103. *See, e.g.*, Intergovernmental Panel on Climate Change, *supra* note 8.
104. Kerry Emanuel, *Increasing Destructiveness of Tropical Cyclones Over the Past 30 Years*, 436 Nature 686 (2005) (describing the Power Dissipation Index, a positive correlation between sea surface temperature and maximum potential strength of hurricanes).
105. P.J. Webster et al., *Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment*, 309 Science 1844, 1844 (2005).
106. Mark Denny, How the Ocean Works: An Introduction to Oceanography 218-30 (2008).

not uniform. First, any observed sea-level rise will be relative sea-level rise, which is the actual rate of sea-level rise plus the rate at which landforms are rising or falling. For example, many areas along the Gulf Coast have been subsiding for many years for reasons that have nothing to do with climate change.[107] Consequently, much of the Gulf Coast will experience sea-level rise at rates much faster than what is actually attributable to climate change-driven sea-level rise. Adding to the difficulty in understanding actual sea-level rise projections at a particular location is that the amount of sea-level rise will not be uniform across the globe. Due to complex oceanographic effects, the surface of the ocean actually has ridges and troughs, meaning that sea level is actually higher in some parts of ocean basins than others.[108] This is a clear example of the causation challenge presented to plaintiffs in downscaling larger climate models. While many climate scientists now agree that we are likely to experience one to two meters of sea-level rise by 2100,[109] impacts in particular regions will vary widely based on the factors described above. Such difficulty in downscaling will be particularly challenging for plaintiffs seeking damages that lie wholly in the future, as their proof of damages may rely on larger scale models.

Even if plaintiffs are successful in proving a causal link between a defendant's GHG emissions and the harms they suffer, a successful nuisance claim further requires plaintiffs to establish that the interference caused by climate change is unreasonable.[110] In nuisance law, the harm caused by a defendant's conduct is unreasonable when "it would not be reasonable to permit the defendant to cause such an amount of harm intentionally without compensating for it."[111] Generally, the determination of reasonableness is a question for the jury, which will be charged with weighing the gravity of the plaintiff's harm against the utility of the defendant's conduct.[112] Under this standard, juries will be asked to compare the value of a broad range of economically critical activities, most notably power generation, with a range of potential but equally significant harms, such as disruption of water supplies and loss of land. However, it is also possible that climate change harms will be classified as "severe."[113] In the case of severe harms, a harm may be unreasonable simply because it is so significant that it is more than the plaintiff should be required to bear without compensation.[114] Given the significant losses that are potentially at stake in climate change litigation, it is possible that these harms could be classified as severe. Either way, it will ultimately be up to the jury in any climate change case to evaluate the relative utility of defendant's conduct against the plaintiff's harms.

Finally, it should be noted that nuisances are intentional actions, which means that climate change plaintiffs will have to demonstrate that defendants either knew or were substantially certain that the harms plaintiffs complain of would result from their conduct.[115] Therefore, climate change plaintiffs must show that at the time GHG emissions occurred, defendants were "substantially certain" of the connection between GHGs and the alleged harms.

IV. Apportioning Tort Damages

The final challenge faced by plaintiffs whose climate change claims reach the merits stage is the potential apportionment of damages. As explained below, climate change plaintiffs should not be eligible for joint and several liability, because even the ideal climate change plaintiff will not be able to show that he has not contributed to the same GHG emissions that he claims cause his injuries. Thus, in a case where damages are apportionable, plaintiffs will have to demonstrate the extent to which defendants' particular emissions have been a cause of plaintiff's damages. To the extent that courts agree that damages should be apportionable, plaintiffs will have to sue huge groups of emitters who have been significant contributors to GHG emissions to attain even a minimal recovery.[116] Furthermore, because each defendant's liability will be limited to its actual contribution to the harm, the plaintiff will be forced to bear the remainder of his damages.[117]

In the damages phase, a major problem faced by all climate change plaintiffs is that they are all contributors to global GHG emissions. This is most clearly seen in the case of *California*. In *California*, the putative plaintiffs—the people of the state of California—were the cause-in-fact of the GHG emissions for which California sought to hold GM liable. That is, if the citizens of California did not drive their cars, much of the emissions about which the state complained in its lawsuit would not have occurred.[118] These same citizens would, of course, be responsible for a myriad of other carbon emissions resulting simply from living a modern lifestyle.

107. Typically, subsidence in these regions is caused by groundwater withdrawal, oil and gas extraction, and disruption of upstream sediment supply.
108. Denny, *supra* note 106, at 223; National Oceanic and Atmospheric Administration, Sea Surface Height Anomoly, http://sos.noaa.gov/datasets/Ocean/ssha.html (last visited July 8, 2010) (providing a sea surface height data set showing bulges and troughs in the ocean from 1992 to 2008).
109. *See* Martin Vermeer & Stefan Rahmstorf, *Global Sea Level Linked to Global Temperature*, 106 Proc. Nat'l Acad. Sci. 21527, 21527 (2009); *see also* Richard B. Alley et al., *Summary for Policymakers*, *in* IPCC Physical Science Basis, *supra* note 10, at 13-14.
110. Restatement (Second) Torts §§821C, 826-30.
111. Prosser & Keeton on Torts §88 (5th ed. 1984).
112. Restatement (Second) Torts §826.
113. §829A.
114. §829A.
115. §825.
116. *See* Hsu, *supra* note 99, at 710 (arguing that the ideal common-law climate change defendants are the entire U.S. energy industry, which is responsible for over 5% of all global GHG emissions). However, if damages are apportioned and the plaintiff is awarded $100 million in damages, all of these defendants would be individually liable for only a small fraction of the 5%. Thus, if all of the energy industry was somehow successfully joined in an action and found liable, the plaintiff would still collect only $5 million, and the $5 million would be apportioned among the individual members of the industry after an intensive, fact-driven inquiry determining the relative shares of each, with the burden of collecting each share on the Plaintiff—an enormous undertaking.
117. Restatement (Third) of Torts: Apportionment of Liability §11 cmt. a ("several liability shifts the burden of insolvency from defendants to plaintiffs . . . even though some are not comparatively responsible for their damages").
118. If California were an independent country, it would be somewhere between the 12th and 16th largest emitter in the world, and passenger vehicle traffic constitutes nearly 27% of the state's emissions. *See* Cal. Air Res. Bd., California Greenhouse Gas Inventory for 2000-2008 1-2 (2010); Cal. Energy Comm'n, Inventory of California Greenhouse Gas Emissions and Sinks 1990-2004 18-21 (2007) (providing global context of California's GHG emissions).

Consequently, if the case ever were to reach the damages stage, any award of damages arguably would have to consider the extent to which the plaintiffs themselves contribute to GHG emissions.

Because all climate change plaintiffs contribute to GHG emissions, they should not be entitled to joint and several liability. Traditionally, the imposition of joint and several liability is reserved for cases in which there are multiple tortfeasors, the harm is indivisible, and the plaintiff himself is not at fault.[119] At the time that joint and several liability emerged as a legal doctrine, plaintiffs bringing tort claims would have been subject to the doctrine of contributory negligence, which barred any recovery by a plaintiff whose own conduct contributed to his injury.[120] Over time, courts have moved away from the use of pure contributory negligence, recognizing that there are some cases in which a plaintiff has contributed to the harms he suffers but some compensation is still desirable.[121] The shift away from strict contributory negligence doctrines has also been accompanied by a move away from joint and several liability and toward the use of comparative fault doctrines.[122] In comparative fault jurisdictions, the fact finder determines the portion of a plaintiff's harm that is attributable to each tortfeasor, and the liable tortfeasors are only financially responsible for that portion of plaintiff's damages they are found to have caused.[123] At this time, 16 states follow pure several liability, 15 states continue to employ joint and several liability, and the rest of the states follow hybrid approaches.[124] Consequently, the ability of plaintiffs to seek joint and several liability for state-law claims will depend on the forum state.

Even in states that do recognize some form of joint and several liability, it is apparent that plaintiffs will have a difficult time establishing that they should have the benefit of joint and several liability. Even the Inuit, who have been labeled by some scholars as the "ideal" climate change plaintiffs,[125] are significant contributors to climate change. In fact, the plaintiffs in *Kivalina* live a relatively carbon-intensive lifestyle, using motorboats and jet skis as part of their traditional hunting activities, consuming large amounts of electricity to heat their homes, having most of their supplies flown or boated into their village, and receiving the benefits of oil and gas dividends awarded to all residents of Alaska. In addition, oil services work for the North Slope of Alaska's oil fields are filtered through an oil field services corporation owned by the native Alaskans. The *Kivalina* plaintiffs likely receive a share of the substantial profits generated from this work. Consequently, even the "ideal" climate change plaintiff will be confronted with the doctrine of unclean hands and should not be able to avail itself of the benefits of joint and several liability.

As noted above, there are literally millions of industrial emitters of GHGs and, of course, billions of individual emitters. This means that the vast majority of culpable parties will necessarily be excluded from any individual lawsuit. Even a successful lawsuit that included all electric power generators in the United States would only capture a small percentage of global GHG emissions.[126] This small contribution to any total harm alleged further cuts against a plaintiff's ability to obtain joint and several liability: the precedent of the methyl tertiary butyl ether (MTBE) litigation suggests that, under common-law rules, plaintiffs will not be able to obtain joint and several liability against a large group of tortfeasors who are collectively responsible for only a small portion of the harm.[127] In general, courts will consider equitable factors in determining whether the application of joint and several liability is appropriate, and they may refuse to apply it when the class of defendants does not include a substantial portion of the responsible parties.[128] Given the impossibility of suing more than a very small fraction of the contributors to GHG emissions in any individual climate change claim case, common-law climate change plaintiffs arguably should not be able to impose joint and several liability upon any class of defendants.

Even if plaintiffs are able to overcome the "innocent plaintiff" hurdle, defendants can still defeat joint and several liability by demonstrating divisibility or a reasonable basis for apportionment. The touchstone for these analyses is §433A of the *Restatement (Second) of Torts*.[129] According to the Restatement, damages for a single harm should be apportioned any time there is a reasonable basis for determining the contribution of each cause to the harm.[130] The common law has often struggled with what constitutes a reasonable basis for divisibility of harm, particularly because there are some types of harms that, while not clearly separated into distinct parts, still provide a reasonable basis for apportion-

119. *See* Restatement (Second) of Torts §433A (explaining that damages for harm should be apportioned if (1) there are distinct harms, or (2) there is a reasonable basis for determining the contribution of each cause to a single harm).
120. §467.
121. Restatement (Third) of Torts: Apportionment of Liability §3 cmt. a.
122. §10 cmt. a ("It is difficult to make a compelling argument for either a pure rule of joint and several liability or a pure rule of several liability once comparative responsibility is in place.")
123. §8 (stating that factors in apportioning liability include (1) the nature of the party's risk-creating conduct, and (2) the strength of the causal connection between the party's risk-creating conduct and the harm).
124. *See* §17; Kevin A. Gaynor & Matthew A. Axtell, *Does CERCLA Contain an Implied Right of Joint and Several Liability in Cost Recovery Actions Brought by PRPS?: An Analysis of Options Following* United States v. Atlantic Research Corp. *and the Third Restatement of Torts*, *in* ALI-ABA Course of Study Materials (2008) (providing the calculation of the number of jurisdictions in each category).
125. *See* Hsu, *supra* note 99, at 724.
126. *Id.* at 725.
127. In re Methyl Tertiary Butyl Ether (MTBE) Products Liability Litigation, 447 F. Supp. 2d 289, 303 (S.D.N.Y. 2006) (refusing to impose joint and several liability on the grounds that defendants in the case were responsible for a very small fraction of MTBE contamination).
128. *See, e.g*, *id.* at 299 (stating that the court will only impose joint and several liability upon defendants when "it would not violate traditional notions of fairness and justice to hold defendants jointly and severally liable for the injury").
129. United States v. Chem-Dyne Corp., 572 F. Supp. 802, 810, 13 ELR 20986 (S.D. Ohio 1983). Note that §433A of the Second Restatement has been replaced by §26 of the *Third Restatement on Apportionment of Liability*. However, §433A has been widely adopted by courts as the standard for apportionment. As restatements are not controlling law, the following discussion of §433A, particularly as it has been applied by courts in apportionment cases, remains valid.
130. Restatement (Second) of Torts §433A. *See also* Restatement (Third) of Torts §§26 (explaining apportionment of liability when damages can be divided by causation), B18, C18, D18, E18 (explaining apportionment of indivisible harms under different modified comparative liability approaches).

ment.[131] For example, the Restatement specifically discusses the case where multiple polluters contribute to a single harm that collectively interferes with a plaintiff's use and enjoyment of his land. Considering the case where multiple polluters contaminate the same stream, the Restatement finds, "the interference with plaintiff's use of the water may be treated as divisible in terms of degree, and may be apportioned . . . on the basis of evidence of the respective quantities of pollution discharged into the stream."[132]

To understand the contours of the apportionment of damages, it is helpful to look to the case law interpreting the joint and several liability provisions of the Comprehensive Environmental Recovery, Compensation, and Liability Act (CERCLA).[133] Courts have often considered challenges of apportioning response costs among many potential polluters of a contaminated site under CERCLA. CERLCA precedent suggests that one acceptable method of apportioning damages is based upon the volume of waste contributed to a site.[134] The application of this approach in the climate change context is relatively straightforward. In theory, courts should be able to determine what portion of total GHG emissions any group of defendants are responsible for (as a percentage of worldwide emissions) and impose several liability for the commensurate proportion of plaintiff's total financial damages. If such apportionment is properly executed, then its common-law claims will only be worthwhile to those plaintiffs with high-value damages who can sue enough defendants responsible for a significant fraction of emissions, and are themselves only modest contributors. It is difficult to conceive of how the plaintiff's bar can make such a case generate enough recoverable damages to make it financially viable.[135]

Apportionment issues in the climate change context present a further challenge in distinguishing between those damages that are actually due to climate change and those that are the result of background environmental factors. Here, the apportionment and causation issues are tightly linked. As explained above, the causation element of many climate change tort claims will require plaintiffs to demonstrate that natural phenomena were accelerated or exacerbated by GHG emissions and associated warming. In those cases where courts determine that climate-driven changes combine with natural phenomena to exacerbate damages, they will then have to figure out what portion of the damages experienced by plaintiffs can be apportioned to climate change before conducting the analysis of what portion of the climate change damages should be apportioned to particular defendants.

This challenge is clearly seen in the context of a hypothetical claim by plaintiffs on a barrier island for accelerated erosion due to sea-level rise. Barrier islands naturally roll landward, meaning that the oceanfront boundary line is constantly receding. Against this background rate of erosion, courts considering issues of apportionment would have to determine how much more erosion a plaintiff was experiencing on a year-to-year basis and how to award damages for this change. This inquiry becomes particularly difficult when sea-level rise causes small but significant changes; for example, a property that would be lost in 30 years due to background erosion that will now be lost sooner due to the accelerated impacts caused by sea-level rise. Similarly, claims for increased hurricane damage will always face both causation and apportionment issues related to the complex relationships between climate change and natural variability described above. Ascribing a portion of plaintiff's damages to natural affects will further reduce the several shares of the defendants, making the cases even more financially marginal for the Trial Bar.

V. Conclusion

Although EPA's regulation of GHGs under the CAA will likely preempt many, if not all, federal common-law nuisance suits, climate change litigation is virtually certain to persist. As explained above, state-law tort claims will still be available to climate change plaintiffs, and some courts may be willing to entertain federal common-law claims for adaptation damages from wholly past emissions. In addition, federal circuit courts generally seem to be more willing to grant standing to climate change plaintiffs, finding either that the narrow issues on which they are asked to rule do not implicate political question concerns or that EPA rulemaking is an adequate initial policy decision. Whether the Supreme Court will follow this trend remains to be seen. Also cutting against this trend toward finding standing for common-law climate change plaintiffs is the possibility of preemption by EPA regulations or future climate change legislation. However, in the absence of new congressional legislation specifically preempting all common-law climate change claims, some claims will likely move forward.

Plaintiffs who do manage to establish standing and survive preemption challenges will still face an uphill battle in the merits and damages phases of trial. In short, these cases should be highly defensible. Given the complex environmental interactions that lead to climate change impacts, all plaintiffs will struggle to demonstrate that particular, individualized harms are directly attributable to climate change. While this is certainly not an insurmountable challenge, it is a difficult burden. Claims for reduced snowpack jeopardizing water supply in California are more likely to succeed on causation grounds than claims attempting to attribute the power of a particular hurricane to global warming. Even claims for broad-scale damages where causation can be proven, plaintiffs will face difficulty when it comes to the apportionment of damages. The apportionment challenge is twofold. First, there are challenges to the non-innocent plaintiff obtaining joint and several liability. Second, defendants may be able to defeat joint and several liability by demonstrating a reasonable basis for divisibility or apportionment. If defendants are

131. *See* Restatement (Second) of Torts §433A cmt. d.
132. §433A cmt. d.
133. 42 U.S.C. §§9601-9675 (2007), ELR Stat. CERCLA §§101-405.
134. *See, e.g.*, Burlington N. & Santa Fe Ry. Co. v. United States, 129 S. Ct. 1870, 1882-83, 39 ELR 20098 (2009) (upholding district court's apportionment of CERCLA cleanup costs based on relative contribution of defendant's chemicals to pollution at the remediation site).
135. *See, e.g.*, *supra* note 100.

able to defeat joint and several liability, there will be traditional apportionment of damages between what the named defendants contributed and all other emitters, with the "non-innocent" plaintiff responsible for collecting the remainder of his alleged damages from the non-named parties, which will always be a huge percentage of any damage award. Third, some types of climate change damages, such as coastal land loss, are the result of background natural phenomena combined with climate change impacts. As a result, when awarding damages, a fact finder will have to try to determine what the natural background changes in the absence of climate change would have been, reducing the plaintiff's collectible damages even further. Thus, the financial viability of these cases from a plaintiff's perspective in many instances is highly questionable.