BUT FLOODING *IS* DIFFERENT: TAKINGS LIABILITY FOR FLOODING IN THE ERA OF CLIMATE CHANGE

by J. Scott Pippin and Mandi Moroz

J. Scott Pippin, Esq., is Associate Public Service Faculty at the Carl Vinson Institute of Government at the University of Georgia. Mandi Moroz is an Associate at Troutman Pepper Hamilton Sanders LLP, where she specializes in environmental litigation and regulatory compliance issues.

SUMMARY

With the increased risk of flooding due to climate change, potential liability from construction and maintenance of flood control measures is a major consideration governments must consider when planning and building them. This Article discusses how the Supreme Court's decision in *Arkansas Game & Fish Commission v. United States (AGF)* laid the groundwork for a new form of takings that the authors term "negligent takings," increasing the likelihood that the government will be liable after a flooding event. It highlights concerns with the lack of guidance provided by *AGF* and how lower courts have inconsistently applied the *AGF* test in cases following Hurricane Katrina and Hurricane Harvey. Providing greater clarity to the scope of this liability and limiting the application of negligent takings is critical to ensuring that governments are able and willing to take action to adapt to climate change.

In 2012, the U.S. Supreme Court complicated what was already a difficult analysis for courts when it decided *Arkansas Game & Fish Comm'n v. United States (AGF),* a case that essentially created a separate and distinct five-step test for assessing takings cases involving flooding.[1] This test blurs, in our view, important distinctions between tort and takings law, creating, in essence, a new cause of action we call "negligent takings."[2] In addition to our concerns about the test itself, we also observe that it appears to have been created almost as an afterthought—as if the Court itself had not considered either the ramifications of the test or even the fact that it was creating a new test at all.

The impacts of this decision are potentially immense, particularly as threats from natural hazards increase due to climate change. This Article is intended to instigate a discussion among legal scholars, practitioners, lawmakers, and courts about the proper extent of negligent takings and government liability for flooding.

Flooding is already the most costly natural disaster, both in the United States and globally, in terms of lives lost and property damaged.[3] In our current era of increasingly rapid climate change and associated sea-level rise and intensified precipitation patterns, the threats from flooding are rising dramatically.[4] There is already significant uncertainty concerning how governments at all levels are going to be able to respond to this unprecedented challenge.[5] However, as we demonstrate in our discussion of cases decided subsequent to *AGF*, this uncertainty is being amplified by the Supreme Court's decision in *AGF* and how its test is being applied, as many of the elements of that test have yet to be fully defined.

Authors' Note: The authors thank Shana Jones at the Carl Vinson Institute of Government at the University of Georgia for her feedback and insights, as well as Georgia Sea Grant Law Fellow Robert Hillyer, rising second-year student at the University of Georgia School of Law, for his assistance with finalizing this Article.

1. 568 U.S. 23, 42 ELR 20247 (2012).
2. The authors would like to acknowledge Thomas Ruppert, a frequent collaborator, who has written numerous articles related to the critical distinction between tort and takings law. *See* Thomas Ruppert, *Castles—and Roads—in the Sand: Do All Roads Lead to a "Taking"?*, 48 ELR 10914 (Oct. 2018).
3. *See* National Oceanic and Atmospheric Administration, Flooding: Our Nation's Most Frequent and Costly Natural Disaster (2010), https://agriculture.ks.gov/docs/default-source/dwr-flood-safety/flood-history-and-causes.pdf?sfvrsn=526e4f3b_4 (stating that "[n]inety percent of all natural disasters in the U.S. involve flooding").
4. *See generally* U.S. Environmental Protection Agency (EPA), *Climate Adaptation and Sea Level Rise*, https://www.epa.gov/arc-x/climate-adaptation-and-sea-level-rise (last updated Sept. 29, 2016) ("Where relative sea level rise occurs, it amplifies near-term vulnerability to storm surge and increases long-term flood and inundation risk.").
5. *See* U.S. EPA, *Planning for Climate Change Adaptation*, https://www.epa.gov/arc-x/planning-climate-change-adaptation (last updated Aug. 9, 2018) ("There is no 'one-size fits all' approach for communities to anticipate, plan, and adapt to the changing climate.").

The uncertainty surrounding the development of this emerging area of law is particularly troubling for governments attempting to make policy determinations and decisions about how to implement or utilize existing flood control measures in the time of climate change where future projections of rising sea levels, extreme weather events, and increased hurricane activity, while based on excellent science, remain inherently uncertain. We have serious concerns about blurring the lines between questions of whether a government fulfilled its duty to undertake a flood control activity reasonably and whether the government interfered with private property rights. Clearly defining the types of flooding that may be considered a taking, as opposed to cases where negligent actions led to flooding, is necessary for public entities to address the need for enhanced flood risk management and flood control necessitated by climate change and sea-level rise.

From rising sea levels to extreme weather events, a changing climate inevitably injects increased uncertainty into the process of designing, operating, and maintaining flood control measures. New approaches—such as nature-based infrastructure[6]—and new technologies may also be required if we hope to address climate-related threats. Some of these measures will succeed, but others will fail. Funding will not be available to tackle all of these foreseeable (and unforeseeable) outcomes. As we explain, sovereign immunity traditionally has shielded governments when making such thorny policy decisions.[7] If takings claims in the flooding context allow plaintiffs to pierce the sovereign immunity shield, governments may well conclude that taking any action at all to control flooding carries too great of a liability risk.

However, by declining to act in updating and restoring the immense body of flood management infrastructure that protects millions of Americans' homes and hundreds of billions of dollars' worth of property, public officials will be engaging in the type of negligence in question in many of these cases. Thus, governments would be potentially liable whether they take action or do not—in tort when they act negligently and do not properly maintain infrastructure, or in takings when they take responsibility for infrastructure that ultimately fails. These "negligent takings" decisions will be promoting the exact behavior they are intended to discourage. Ultimately, the government and taxpayers become the guarantors of private property that is exposed to flood risk.

The ironic result will be that the number of property owners finding themselves at risk of flooding—and, potentially, at risk of catastrophic property loss—is likely to increase, as their governments decline to act to protect them from flooding. Consequently, their property will indeed be "taken"—not by the government, but by floodwaters and rising seas. In the end, if the purpose of the Takings Clause is to prevent the "[g]overnment from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole,"[8] care should be taken when the inverse result is poised to emerge. "Negligent takings," if it continues to expand, may force the public as a whole to bear the burdens of increased flooding in order to avoid takings claims focused too narrowly on protecting individual property rights alone.

In this Article, we examine the potential problems created by the Supreme Court's decision in *AGF* and its creation of a new category of negligent takings for cases involving flooding. We contend that by failing to recognize the complexities of flood risk management as different from other governmental actions and worthy of a distinct method of review, the analytical framework set out in *AGF* creates very real problems for governments attempting to respond to difficult questions posed by flood control management, most of which involve flood control measures inherited from previous governments and are complicated by climate change, population growth, urban and suburban development, funding, and other policy considerations.

In Part I, we examine the government's role in developing and implementing flood control measures and the variety of factors that may impact these decisions, including climate change and human decisionmaking. In Part II, we consider how flooding cases have been traditionally considered in the court system, and in Part III how the Supreme Court's recent decision in *AGF* has created real problems for courts attempting to consider how to award relief. Within this analysis, we consider two of the most catastrophic hurricanes to hit the United States in recent years, Hurricane Katrina and Hurricane Harvey, and how courts have since struggled to balance private-property owners' requests for relief and determinations of liability.

Finally, in Part IV, we consider some of the implications of "negligent takings," and suggest ways in which courts can or should clarify the *AGF* test to limit it to situations where government action actually occupies private property for a public purpose, as contemplated since the earliest precedents in takings law. Part V concludes. For the present authors, flooding is an extremely complex issue that deserves special treatment and consideration in the court system.

I. Public Flood Risk Management

Flood risk management in the United States is a massive undertaking involving all levels of government. The federal government, primarily through the U.S. Army Corps of Engineers (the Corps), has been involved in flood control projects for almost 150 years, though it was not officially recognized as an official federal responsibility until the passage of the Flood Control Act of 1936 (FCA).[9] Over

6. *See*, *e.g.*, Environmental and Energy Study Institute, Fact Sheet: Nature as Resilient Infrastructure—An Overview of Nature-Based Solutions (2019) (discussing that wetlands, marshes, mangroves, oyster reefs, and living shorelines "can mitigate flood and storm damage more effectively than gray infrastructure alone, and are more resilient").
7. See discussion in Section II.B.
8. Huntleigh USA Corp. v. United States, 525 F.3d 1370, 1377 (Fed. Cir.), *cert. denied*, 555 U.S. 1045 (2008).
9. Joseph L. Arnold, The Evolution of the 1936 Flood Control Act (1988) (reviewing the evolution of federal flood control management beginning with the first federal flood control laws, the Swamp Land Acts, that were implemented in 1849 and 1850).

that time, the U.S. government has invested hundreds of billions of dollars into thousands of reservoirs, levees, and other flood control projects.[10] There are few areas in the country that have not been affected by these projects, which have literally reshaped much of the landscape.[11] In addition, while the federal government has developed the largest and most elaborate flood control measures, there are also thousands of local and state levees and other flood management infrastructure spread across the country.[12]

Public agencies in this country have taken on a large role in flood control because it is one of the most severe threats facing many communities.[13] Flooding is a natural hazard that has threatened people's homes through recorded time. It is the deadliest and costliest natural hazard in the United States and around the world. Between 1980 and 2013, floods caused more than $1 trillion in damages and killed more than 220,000 people globally.[14] In addition to being extremely dangerous, flooding is also a dynamic phenomenon that presents constantly changing risks to public safety and property.

Addressing these flood risks presents many daunting challenges. Even understanding the actual risk from flooding is extremely difficult, since actual risks are difficult to determine at any discrete moment in time, especially given that the risks are ever-changing as land uses change and environmental conditions shift. In taking on the challenge of managing flood risks, the government has an immense challenge of managing powerful and dynamic forces.

Despite any uncertainty in assessing flood risks in any specific location, flood risks generally are increasing dramatically. By the end of the century, flood damages are expected to increase by a factor of 20.[15] This dramatic increase will be driven by climate change-related factors such as rising sea levels[16] and changes in precipitation rates,[17] which will lead to increased flood frequency and expanded flood hazard areas, as well as by increased human development in flood-prone areas.[18]

Rising sea levels are expected to fundamentally reshape coastal regions in the United States and around the world. Widely accepted sea-level rise scenarios predict an increase in global sea level between 0.3 meters (approximately one foot) to 2.5 meters (more than six feet) by 2100.[19] However, other estimates based on different carbon emission scenarios and rates of glacial ice melt predict far higher rates, with some predicting dozens of feet of rise in the coming decades.[20]

In addition, different areas and individual communities will experience this rise differently as local hydrology, rates of land subsidence, and tidal conditions affect local relative sea level. Looking at the most widely accepted estimates of one to six feet by 2100, which are the predictions adopted by the Intergovernmental Panel on Climate Change, hundreds of millions of people will be affected around the world. In the United States, between 1.8 million and 13.1 million Americans across thousands of communities will be directly affected by increased flooding and inundation.[21]

Precipitation changes can also exacerbate flooding. As temperatures increase, the amount of moisture retained in the atmosphere increases.[22] The water-holding capacity of air increases about 6%-7% for every degree Celsius in temperature increase.[23] More moisture in the air leads to increased potential for heavy rainfall and flooding.[24] In addition, for flooding, the timing and intensity of rainfall matters as much as the total volume of water. With steady rainfall falling on healthy soil, most of the water infiltrates into the ground.[25] As the intensity of the precipitation increases, the infiltrative capacity of the soil decreases, leading to more runoff and increased risks of flooding even as the total volume of precipitation remains the same.[26] These factors, in addition to changes in land cover and soil conditions, can combine to dramatically increase the amount of stormwater a flood management infrastructure will have to deal with, leading to increasingly frequent events that exceed the design capacity of these infrastructure systems.

In addition to the climate change drivers of increased flood risk, human development decisions will also play a

10. U.S. Army Corps of Engineers, Flood Risk Management Value to the Nation (2009), https://www.mvk.usace.army.mil/Portals/58/docs/PP/ValueToTheNation/VTNFloodRiskMgmt.pdf (noting that the Corps has "completed over 400 major lake and reservoir projects, emplaced over 8,500 miles of levees and dikes, and implemented hundreds of smaller local flood damage reduction projects" that have cost more than $120 billion to construct and maintain).
11. *Id.* (explaining the scope of the structural and nonstructural solutions implemented by the Corps).
12. *See*, *e.g.*, Mac Taylor, Legislative Analyst's Office, Managing Floods in California (2017), https://lao.ca.gov/reports/2017/3571/managing-floods-032217.pdf (discussing flood management responsibilities and infrastructure in California).
13. U.S. Army Corps of Engineers, *supra* note 10 (discussing that nearly 94 million acres of land in the United States are at risk of flooding).
14. Oliver E.J. Wing et al., *New Insights Into U.S. Flood Vulnerability Revealed From Flood Insurance Big Data*, 11 Nature Commc'ns 1444 (2020), *available at* https://doi.org/10.1038/s41467-020-15264-2.
15. Hessel C. Winsemius et al., *Global Drivers of Future River Flood Risk*, 6 Nature Climate Change 381, 381 (2016), *available at* https://www.nature.com/articles/nclimate2893.
16. Mahshid Ghanbari et al., *A Coherent Statistical Model for Coastal Flood Frequency Analysis Under Nonstationary Sea Level Conditions*, 7 Earth's Future 162 (2019), *available at* https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2018EF001089.
17. Kevin E. Trenberth, *The Impact of Climate Change and Variability on Heavy Precipitation, Floods, and Droughts*, *in* Encyclopedia of Hydrological Sciences (M.G. Anderson ed., John Wiley & Sons, Ltd. 2005), *available at* https://doi.org/10.1002/0470848944.hsa211.
18. Winsemius et al., *supra* note 15, at 381.
19. Rebecca Lindsey, Climate Change: Global Sea Level (2019).
20. *Id.*
21. Mathew E. Hauer et al., *Millions Projected to Be at Risk From Sea-Level Rise in the Continental United States*, 6 Nature Climate Change 691, 691 (2016), *available at* https://doi.org/10.1038/nclimate2961.
22. Kevin E. Trenberth et al., *The Changing Character of Precipitation*, 84 Bull. Am. Meteorological Soc'y 1205-18 (2003), *available at* https://doi.org/10.1175/BAMS-84-9-1205.
23. Trenberth, *supra* note 17, at 2.
24. Trenberth et al., *supra* note 22 (suggesting that as temperatures increase, there may be "fewer but more intense rainfall—or snowfall—events"). Temperature increases have also been linked to the intensity of hurricanes and the amount of precipitation that can be released by a hurricane. *See* Jason Samenow, *Because of Climate Change, Hurricanes Are Raining Harder and May Be Growing Stronger More Quickly*, Wash. Post, May 8, 2018 (discussing studies that suggest that "the amount of heat stored in the ocean is directly related to how much rain a [hurricane] can unload").
25. *See generally* Natural Resources Conservation Service, U.S. Department of Agriculture, Soil Infiltration: Soil Health—Guide for Educators (2014) (explaining the process of soil infiltration).
26. Trenberth, *supra* note 17, at 2.

large role in increasing flooding risks.[27] Increasing urbanization will lead to more construction in flood-prone areas—placing more infrastructure and property at risk.[28] In addition, higher population densities in these areas will make floods more dangerous to human life.[29] In the United States, populations in coastal areas continue to grow rapidly despite increasing risks of flooding and severe storms.[30] These migration and development patterns will do more to increase exposure to flood risks than changes in the natural environment.

Increasing flood risks based on changes to the natural environment, which are exacerbated by development and investment decisions, will only increase pressure for governments at all levels to be more actively engaged in flood risk management. However, the ability of government agencies to do anything to address this problem will be determined, in part, by how courts treat legal claims against governments when flood risk mitigation measures perform poorly. Government liability for flood damages needs to reflect that flood risk management is fraught with uncertainty, and that reducing flood risks is just one of a number of competing priorities government agencies must address.[31]

In many ways, government agencies determine the level of risk that is acceptable in the quality of our drinking water, the purity of our air, or the safety of our workplaces. Similarly, government agencies design and construct flood control structures based on certain assumptions about the natural environment and the performance of the features to determine an acceptable level of risk, and how much the government can afford to reduce that risk. Investments in flood control come at the expense of other infrastructure measures, and no matter the level of investment, there will always be some risk of damages. Complete protection is not even possible, let alone financially feasible.

This is not to say that government bodies should not ever be liable when they fail to protect the public from flooding. However, determinations of liability should recognize the fact that decisions about flood infrastructure necessarily involve professional expertise, balancing public policies, and discretion, and therefore they should more appropriately be considered as questions of negligence rather than takings. Increasingly shifting the review of government responsibility to takings rather than negligence disregards the judgment and policy considerations that underlie government actions in this context.

II. Government Liability for Flooding

While flooding risks and the assessment of potential flood control measures present complex problems for governments and regulators, flooding cases also present a unique challenge for courts. In most flooding cases, courts are asked to provide relief for property owners who have lost their homes or the total value of their private property during an incident that may have been wholly outside of their control. In some cases, these property owners may not have even been aware that their property was likely to flood or that they lived within a flood zone.[32]

These cases become increasingly complicated for courts because most of these claims involve complex flood control measures implemented by the government to protect communities that interact with other man-made and natural conditions or events, like hurricanes or unexpected heavy rainfalls that impact the extent of the flooding. In some cases, courts are asked to assess the effectiveness of complex flood control measures, many of which were designed and constructed decades ago, or to determine the predictability of certain events, like hurricanes or sea-level rise. For courts, like governments attempting to decide how best to expend resources to reduce risks associated with flooding, these cases and the issues associated with flooding can quickly become complicated and difficult assessments.

Typically, plaintiffs seeking to recover for damages arising from a flood seek relief under two areas of law: tort law, either by asserting a nuisance claim or a negligence claim, and takings law. This Article is concerned with the interactions of negligence and takings claims; therefore, nuisance claims are beyond the present scope. Negligence claims in tort law and takings claims, although closely related, provide different forms of relief for plaintiffs that have been injured by a flooding event. While both avenues may be available to property owners that have lost their homes or property during a flooding event, each jurisprudence requires an injured party to establish different elements and overcome different obstacles to suit. As a result, property owners injured by a flooding event may strategically select to pursue damages for their injuries in one area over the other, or, in some cases, plead both.

This section examines the general framework of each of these bodies of law and what may be required for a plaintiff to establish a successful claim under each jurisprudence. Additionally, this section will examine how these areas are closely related and how the overlap of these areas has created confusion for courts, plaintiffs seeking relief, and governments attempting to navigate potential liability in the flooding context.

27. For a discussion of how urbanization may lead to increased flooding, see Christopher P. Konrad, U.S. Geological Survey, Effects of Urban Development on Floods (2003) (explaining how removing vegetation and soil, grading of land surfaces, and constructing drainage networks may lead to an increase of runoff into streams from rainfall and snowmelt).
28. *Id.*
29. Winsemius et al., *supra* note 15, at 384.
30. Hauer et al., *supra* note 21, at 691.
31. *See* Neil S. Griggs, *Floods, Lawsuits, and Water Infrastructure Management*, 12 J. Legal Aff. & Disp. Resol. Eng'g & Constr. 2 (2020).
32. This problem is further complicated by ever-changing sea-level rise predictions. Homes that are not currently at risk of flooding may be impacted by sea-level rise over the next century. *See* Christopher Flavelle et al., *New Data Reveals Hidden Flood Risk Across America*, N.Y. Times, June 29, 2020, https://www.nytimes.com/interactive/2020/06/29/climate/hidden-flood-risk-maps.html.

A. *Flooding Liability in the Tort Context*

Private-property owners affected by a flooding event often seek relief in tort law for their injuries. Here, plaintiffs assert that the negligence of some other party caused their property to flood.[33] In order to successfully recover damages in a negligence suit, a plaintiff must be able to establish (1) that the defendant had a duty to protect the plaintiff from injury; (2) that the defendant breached that duty; (3) that the plaintiff suffered actual harm or injury; and (4) that the defendant's breach of the duty caused the plaintiff's injury.[34] Although this Article is not designed to provide an in-depth discussion of fundamental negligence law, a quick overview of these elements is helpful to understanding how plaintiffs may recover in tort for damages caused by flooding.

Broadly defined, a "[d]uty refers to the relationship between individuals; it imposes a legal obligation on one party for the benefit of the other party."[35] Some duties are imposed by statute and others are based on an existing special relationship between the parties.[36] Other duties, however, are found after courts assess a variety of factors, including "the foreseeability of harm to the plaintiff," "the closeness of the connection between the defendant's conduct and the injury suffered," and "the degree of certainty that the plaintiff suffered injury."[37] In the flooding context, plaintiffs often argue that an opposing party, often the government, had a duty to prevent flooding to the plaintiff's land.[38] In some instances, plaintiffs attempt to establish that the implementation of a flood control project created a duty to ensure that the flood control measure functioned properly and that the plaintiff's property did not flood.[39]

After establishing a duty, a plaintiff must show that the defendant violated that duty. In most instances, this requires a showing that the defendant's conduct fell below an applicable standard of care.[40] Typically, the standard of care is based on what would ordinarily be expected from a reasonable person.[41] In the flooding context, plaintiffs attempt to demonstrate that the government or some other responsible party may have breached the duty of care by arguing that the opposing party should have, and could have, taken different actions to prevent the resulting flood.[42] This analysis often requires courts or juries considering these claims at trial to weigh the effectiveness of certain flood control measures and the predictability of certain flooding events—a complicated analysis that may be outside of a typical court's skill set.

As the third factor, a plaintiff must be able to show that the opposing party's conduct caused the plaintiff's harm. This requires a plaintiff to establish both factual and legal causation.[43] To establish factual causation, a plaintiff must first demonstrate that his or her injury would not have occurred "but for" the defendant's conduct. In a flooding case, this analysis is simple—the plaintiff must be able to trace the flooding to the defendant's action.

As the more complicated part of the analysis, however, a plaintiff must also establish legal causation. To establish legal causation, a plaintiff must be able to show that "a defendant could reasonably foresee that an injury would result from his act or omission."[44] This portion of the analysis requires a plaintiff to demonstrate what the defendant knew or should have known would be the likely result of their conduct. In the flooding context, plaintiffs can establish legal causation by showing that the defendant conducted studies that found that the government's action may cause flooding to the plaintiff's property. In some instances, a plaintiff may be able to establish legal causation by establishing that his or her property is downstream of the defendant's flood control measure and, therefore, likely to flood if the measure failed.

For the final element, a plaintiff must be able to demonstrate that he or she actually suffered physical harm from the defendant's breach.[45] In tort law, plaintiffs are not typically permitted to recover for emotional damages, where those injuries are not attached to a physical injury.[46] Instead, any injury must be to a plaintiff's person or property. For plaintiffs seeking to recover for damages to their homes or personal property, this factor is easily met in the flooding context.

B. *Sovereign Immunity in Tort Suits*

While plaintiffs may be able to bring suit based on the government's negligent operation of a flood control measure, these claims are often blocked by some form of state or federal immunity. Sovereign immunity is a doctrine that bars lawsuits against the government, unless the government has given its consent to be sued.[47] The foundations for sovereign immunity can be traced back to early English courts and the principle that the English monarch could do no wrong.[48]

33. *See, e.g.*, Graci v. United States, 456 F.2d 20, 21-22 (5th Cir. 1971) (evaluating claims alleging that the government was negligent when it constructed the Mississippi River-Gulf Outlet).
34. John Kimpflen et al., C.J.S. Torts §2 (2020).
35. Barry A. Lindhal & J.D. Lee, Modern Tort Law: Liability and Litigation §3:14 (2020).
36. 16 David K. Dewolf & Keller W. Allen, Washington Practice Series: Tort Law and Practice §2:16 (2019).
37. *See, e.g.*, Kesner v. Superior Ct., 384 P.3d 283 (Cal. 2016).
38. *See, e.g.*, Arreola v. County of Monterey, 99 Cal. App. 4th 722, 745 (2002).
39. *See, e.g.*, Clark v. United States, 218 F.2d 446, 448 (9th Cir. 1954) (considering a claim that the Corps owed a duty to residents of a town to ensure that an embankment protecting a town from flooding did not fail).
40. 13 David J. Leibson, Kentucky Practice Series: Tort Law §10:5 (2019).
41. *Id.*
42. *See, e.g.*, Arkansas Power & Light Co. v. Beauchamp, 184 Ark. 698 (1931).
43. Restatement (Third) of Torts: Liab. for Physical & Emotional Harm §26 (2010).
44. Tyner v. Matta-Troncoso, 305 Ga. 480, 485 (2019). As stated by the Georgia Supreme Court, foreseeability is "[i]nextricably entwined with concepts of negligence and proximate cause." *Id.* (quoting City of Richmond Hill v. Maia, 301 Ga. 257, 258 (2017)).
45. Kimpflen et al., *supra* note 34.
46. Restatement (Third) of Torts: Liab. for Physical Harm §4 PFD No. 1 (2005).
47. Block v. North Dakota ex rel. Bd. of Univ. & Sch. Lands, 461 U.S. 273, 287 (1983) ("The basic rule of federal sovereign immunity is that the United States cannot be sued at all without the consent of Congress.").
48. Erwin Chemerinsky, *Against Sovereign Immunity*, 53 Stan. L. Rev. 1201 (2001).

Although the doctrine of sovereign immunity was never incorporated into the U.S. Constitution, early courts adopted it as a common-law doctrine and applied it to block lawsuits against the U.S. government.[49] Over time, the doctrine has been used in U.S. courts to protect the government from "intolerable litigation burdens" that may interfere with the government's policymaking function.[50] In many instances, the existence of sovereign immunity is a jurisdictional defect that warrants outright dismissal of a lawsuit.[51]

Although sovereign immunity was originally a judicially created doctrine, in some instances, government immunity can also be statutorily created. For example, for federal flood control measures, the FCA expressly grants federal agencies immunity for "any damage from or by floods or flood waters at any place."[52] Under this broad grant of immunity, the federal government cannot be liable for any damages resulting from floods or floodwaters, even where the government was plainly negligent.[53]

More than 50 years passed before the Supreme Court offered an interpretation of the extent of the government's immunity under §702(c). In *United States v. James,* the Court stated that in the "sweeping terms" of the immunity language in this provision, "Congress clearly sought to ensure beyond doubt that sovereign immunity would protect the Government from 'any' liability associated with flood control."[54] The breadth of this holding was limited somewhat in 2001 by *Central Green Co. v. United States,* where the Court held that the FCA's immunity only applied to damages associated with "floodwaters" and not for those damages attributable to water that was simply connected with a flood control project.[55] Despite the Court's limitation of its holding in *James,* the protections for governments under the FCA are broad. This grant of immunity has even been extended to shield the government from liability where a flood control measure failed during normal rainfall conditions.[56]

Despite the breadth of the protections afforded to it, the government can waive its immunity.[57] Over time, the U.S. Congress has enacted a variety of statutes that waives the government's immunity in certain instances. In the flooding context, the most applicable waiver of immunity can be found in the Federal Tort Claims Act (FTCA).[58] Under the FTCA, the federal government waives its immunity from tort suit and expressly consents to be sued for the negligence of its employees.[59] Despite the apparent broad waiver of immunity under the FTCA, the statute provides 13 substantive exceptions to the waiver.[60] The most commonly applied exception, the discretionary-function exception, provides that the federal government cannot be liable for conduct "based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a federal agency or an employee of the [g]overnment, whether or not the discretion involved be abused."[61] Under this exception, the government is entitled to immunity if the government's conduct (1) involved "an element of judgment or choice" and (2) was "based on considerations of public policy."[62]

These statutes and the decisions interpreting their scope are significant because the intent and the scope of immunity under the FCA and the government's waiver of that immunity are important considerations relevant to determining whether plaintiffs can recover damages for their injuries based on the government's negligence. In *In re Katrina Canal Breaches Litigation,* property owners in Louisiana brought suit alleging that the Corps' negligent operation of the Mississippi River-Gulf Outlet (MR-GO), a navigational channel that was designed to provide an easy shipping route between the Gulf of Mexico and the Port of New Orleans, caused flooding to their property after Hurricane Katrina.[63]

The plaintiffs alleged that MR-GO's "size and configuration greatly aggravated the storm's effects" and caused the levee system designed to protect New Orleans from flood-

49. United States v. Lee, 106 U.S. 196, 207 (1882) (discussing that sovereign immunity "has never been discussed or the reasons for it given, but it has always been treated as established doctrine").
50. Although widely accepted by American courts, some scholarship argues that sovereign immunity is an "anachronistic concept" that should be eliminated from American jurisprudence. *See*, *e.g.*, Chemerinsky, *supra* note 48. According to these scholars, the doctrine unreasonably interferes with government accountability and fundamental goals of the American legal system, including compensation and deterrence. *Id*. at 1216. Despite these arguments, sovereign immunity continues to be a critical part of the protections afforded to government decisionmakers and plays a large role in how courts consider and adjudicate claims against the government.
51. United States v. Mitchell, 463 U.S. 206, 212 (1983) ("It is axiomatic that the United States may not be sued without its consent and that the existence of consent is a prerequisite for jurisdiction.").
52. 33 U.S.C. §702(c).
53. *See*, *e.g.*, Cohen Family 2007 Trust by Cohen v. United States ex rel. U.S. Army Corps of Eng'rs, No. 17-12648-BRM-LHG, 2018 WL 6061581 (D.N.J. Nov. 20, 2018) (dismissing a claim arguing that the Corps negligently constructed dry wells because the character of the water that caused the alleged damage was floodwaters).
54. 478 U.S. 597, 607 (1986).
55. 531 U.S. 425, 437, 31 ELR 20450 (2001).
56. Sieck v. United States, 733 F. Supp. 71, 72 (S.D. Iowa 1989) (holding that immunity under the FCA applied "whether the rainfall was normal or excessive").
57. For courts, the government's waiver of immunity must be both clear and univocal. United States v. White Mountain Apache Tribe, 537 U.S. 465, 472 (2003). When determining whether the government has waived its immunity, courts must strictly construe the language of the statute. Lane v. Pena, 518 U.S. 187, 192 (1996) ("A statute's legislative history cannot supply a waiver that does not appear clearly in any statutory text; the unequivocal expression of elimination of sovereign immunity that we insist upon is an expression in the statutory text.").
58. 28 U.S.C. §2674.
59. *Id*. ("The United States shall be liable, respecting the provisions of this title relating to tort claims, in the same manner and to the same extent as a private individual under like circumstances[.]").
60. 28 U.S.C. §2680.
61. *Id*. §2680(a). *See also* 14 Charles Alan Wright & Arthur R. Miller, Federal Practice and Procedure: Jurisdiction and Related Matters §3658.1 (4th ed. 2020) (discussing the scope of the discretionary function exception).
62. United States v. Gaubert, 499 U.S. 315, 323 (1991); *see also* Freeman v. United States, 556 F.3d 326, 337 (5th Cir. 2009) (dismissing claims alleging that the government failed to implement its duties under the National Response Plan in the aftermath of Hurricane Katrina because the plan provided relevant government officials and agencies with a large amount of discretion to act).
63. 696 F.3d 436, 446, 42 ELR 20197 (5th Cir. 2012). More specific information related to the construction and operation of MR-GO and other events leading up to Hurricane Katrina are discussed in more detail in Section III.G.1 of this Article.

ing to fail.[64] On review, the U.S. Court of Appeals for the Fifth Circuit considered whether the Corps was entitled to immunity under either the FCA or the FTCA.[65] The court held that the Corps was not entitled to any immunity under the FCA because the government's failure to maintain MR-GO was not a "flood-control activity."[66] Instead, the court held that the Corps designed and operated the channel for navigational purposes.[67]

Despite finding that the government was not entitled to immunity under the FCA, however, the court found that the government did not waive its sovereign immunity under the FTCA.[68] Here, the court held that the Corps' decision to not institute certain measures during the construction of MR-GO, which would have prevented erosion in the channel, was entitled to protection under the discretionary-function exception.[69] Because the Corps did not waive its immunity under the FTCA, the plaintiffs who suffered severe property loss attributable to the construction of MR-GO were unable to recover any damages from the government for their injuries.

In re Katrina Canal Breaches Litigation is merely an example of how sovereign immunity can act as a significant barrier for plaintiffs attempting to recover losses after a flooding event. Rarely will decisions implemented by the government to design, implement, or construct a flood control measure not implicate some sort of policy decision that is discretionary in nature.[70] As a result, many flooding cases brought against the government in the negligence context are dismissed before courts even consider evidence of the government's action or failures that may have attributed to flooding of the plaintiff's property.

C. *Flooding Liability in the Takings Context*

While sovereign immunity and these statutory protections often shield the government from liability for negligent actions, plaintiffs can also seek to recover for their flood-related injuries under the Fifth Amendment of the Constitution or similar provisions in state constitutions. According to the Fifth Amendment, private property cannot be "taken for public use, without just compensation."[71] This constitutional provision "does not prohibit the taking of private property or deter governmental interference with property rights, but rather guarantees compensation for property owners."[72]

The extent and scope of the obligation to pay just compensation for governmental interference with private property under the Fifth Amendment has been disputed since the Constitution's inception. Initially, and well into the 20th century, this right only required compensation when the government specifically occupied and claimed title to private property, commonly referred to as eminent domain.[73] Over time, the concept of governmental takings has evolved and expanded to allow plaintiffs to seek compensation from the government for a broader range of interference with private property.

These expansions of takings liability include regulatory takings and inverse condemnations. Regulatory takings occur when the government has taken some action that does not result in a physical occupation of the property, but has impacted the property's value, the owner's title, or his or her right to use the property. In considering whether a government action rises to the level of a regulatory taking, courts consider (1) the "economic impact of the regulation," (2) the property owner's "investment-backed expectations," and (3) the "character of the governmental action."[74] Inverse condemnations refer to takings that occur due to government action that inadvertently causes damage to private property or property values.[75] Unlike in the tort context, where sovereign immunity may bar a plaintiff's claim for recovery against a governmental entity, as a constitutional right to recovery, there are no statutory or common-law immunity obstacles that may prevent a plaintiff from bringing suit in the takings context.

In the flooding context, a plaintiff's right to recovery for a governmental taking under the Fifth Amendment was first recognized in 1871.[76] In *Pumpelly v. Green Bay Co.,* a dam constructed across the Fox River in Wisconsin caused permanent flooding to a nearby property.[77] After the property owner brought suit alleging that the flooding constituted a taking that violated provisions of the Wisconsin and U.S. Constitutions, the government argued that the flooding did not constitute a taking because the flooding was merely a "consequential result" of the government's lawful action and the property was not taken for "public use."[78]

On review, the Supreme Court rejected the government's narrow interpretation of the Takings Clause and found that the flooding of the property owner's land constituted a taking of the private property.[79] The Court held that the government's interpretation, which would limit takings compensation to only those cases where the government physically occupied private property through eminent domain, would "pervert" the meaning of the Takings Clause.[80] Instead, the Court concluded that "where real estate is actually invaded by superinduced additions of water, earth, sand, or other material, or by having any artificial structure placed on it, so as to effectually destroy

64. *Id.* at 441, 446-47.
65. *Id.* at 447.
66. *Id.*
67. *Id.*
68. *Id.*
69. *Id.*
70. Wright & Miller, *supra* note 61 ("Once a governmental action has been characterized as discretionary, it is immaterial whether the act was taken with due care or negligently performed.").
71. U.S. Const. amend. V.
72. Nicholson v. United States, 77 Fed. Cl. 605, 514 (2007) (citing Commonwealth Edison Co. v. United States, 46 Fed. Cl. 29, 41 (2000)).
73. John Horstmann Co. v. United States, 257 U.S. 138 (1921).
74. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 8 ELR 20528 (1978).
75. 3 John Martinez, Local Government Law §21:43 (2020).
76. Pumpelly v. Green Bay Co., 80 U.S. (13 Wall.) 166, 179 (1871).
77. *Id.* at 167.
78. *Id.* at 177. The Wisconsin Constitution Takings Clause is nearly identical to the Takings Clause in the Fifth Amendment of the Constitution. *Id.* As a result, the *Pumpelly* Court considered the property owner's right to recover under both provisions simultaneously.
79. *Id.* at 180-81.
80. *Id.* at 178.

or impair its usefulness, it is a taking, within the meaning of the Constitution."[81]

In 1917, the Supreme Court expanded potential takings liability in the flooding context and found that a property owner was entitled to just compensation for flooding that was "intermittent but inevitably recurring."[82] In *United States v. Cress,* property owners brought suit seeking compensation for land that was intermittently flooded after the government constructed locks and dams on the Cumberland and Kentucky Rivers to support navigation.[83] The Court held that "[t]here is no difference of kind, but only of degree, between a permanent condition of continual overflow by backwater [as provided in *Pumpelly*] and a permanent liability to intermittent but inevitably recurring overflows[.]"[84]

D. Relationship Between Tort and Takings

Fundamentally, takings and tort law are very closely related areas of law. Takings jurisprudence was born out of common-law principles associated with nuisance and trespass, two basic torts related to the protection of property.[85] Early courts considering these torts and assessing liability were forced to define the limits of property rights. By defining these property rights, courts also made it clear that some of these rights could be severed from the property, laying the foundation for what property rights could be taken by the government under the Fifth Amendment. When the government deprived a property owner of one of these rights by using the owner's property, it was a taking of private property. According to at least one court discussing the relationship between takings and tort, "[w]hile not all torts are takings, every taking that involves invasion or destruction of property is by definition tortious."[86]

Takings and tort jurisprudence are so inherently related that many fact patterns can be recharacterized to support claims in either area (i.e., negligence claims can often be reframed as a taking claim and vice versa). In fact, claims for the same injury are often brought as both tort and takings claims. In *Clark v. United States*, a plaintiff brought suit alleging that the government, through inverse condemnation, took her property by disposing of chemicals at an adjacent Air Force base and causing well contamination on her property.[87] Nearly two months after filing her inverse condemnation claim, the plaintiff also filed a claim in a separate court alleging that the government was negligent in its disposal of the chemicals that caused the diminution of the value of her property.[88] When reviewing her inverse condemnation claim, the court held that the plaintiff's decision to assert her claim in tort did not bar her inverse condemnation claim because "the facts established in the district court proceeding also give rise to a taking claim."[89] The court, however, held that the plaintiff could not recover under both theories because doing so would constitute a "double recovery."[90]

Although tort and takings claims are inherently related, they are importantly two distinct areas of law. Tort law considers duty of care, a concept deeply intertwined with responsible standards of action as well as an expectation-of-harm prevention. Additionally, tort law was developed as a means of providing "compensation of innocent parties, shifting the loss to responsible parties . . . , and deterrence of wrongful conduct."[91] Put another way, tort law is designed to hold "wrongdoers liable for foreseeable consequences of their actions and to deter wrongful conduct."[92] In contrast, takings law is not concerned with duties of care, wrongdoers, or deterrence.[93] It is fundamentally an assertion of individual private-property rights against government overreach. Indeed, the purpose of the Takings Clause in the Fifth Amendment has been described as to prevent the "[g]overnment from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."[94]

In addition to the distinct purposes behind each area of law, the most important distinction between these two areas of law, for purposes of this Article, is the application of government immunity. In tort law, plaintiffs have to establish that the government has expressly waived its immunity to suit and that no statutory immunities exist before a plaintiff can recover. In the flooding context, the FTCA and the FCA are almost insurmountable obstacles for plaintiffs. In the takings context, however, there are no such obstacles to government liability.

The rest of this Article is dedicated to showing how the line between these two areas is being further blurred in the flooding context, leading to a new formulation of takings liability that we propose to term "negligent takings." In the flooding context, the jurisprudence of these two areas of law overlaps, in large part because courts have struggled to effectively define and delineate the government's liability for floods that have resulted from failed flood control measures and determine appropriate standards for awarding relief in these cases.

Floods and flood damages are shaped by interactions of natural forces and the built environment. Flood management policies and practices are determined amid multiple layers of jurisdiction involving local, state, and federal entities, and flood control measures are often designed to serve multiple, sometimes competing, public interests. As such, flood management decisions are replete with the kinds of discretionary choices and public policy considerations that form the basis for government immunity from liability.

81. *Id.* at 181.
82. United States v. Cress, 243 U.S. 316, 328 (1917).
83. *Id.* at 318.
84. *Id.* at 328.
85. A review of the history surrounding takings and tort jurisprudence is outside of the scope of this Article.
86. Hansen v. United States, 65 Fed. Cl. 76, 101 (2005).
87. 19 Cl. Ct. 220, 221 (1990).
88. *Id.*
89. *Id.*
90. *Id.* at 222-23.
91. Doe v. Cochran, 332 Conn. 325, 363 (2019).
92. Beaman v. Freesmeyer, 2019 IL 122654, ¶ 45 (2019).
93. *See* Nicholson v. United States, 77 Fed. Cl. 605, 615 (2007) ("In a takings context, we do not assign blame.").
94. Huntleigh USA Corp. v. United States, 525 F.3d 1370, 1377 (Fed. Cir.), *cert. denied*, 555 U.S. 1045 (2008).

As courts continue to struggle with determining government liability for flooding, the line between takings and tort seems to be dissolving and government protections are diminishing. If this trend continues, governments will face more and more uncertainty related to liability and immunity for actions that effect flood risks, and this uncertainty will have very real impacts for governments considering and undertaking certain flood control measures—especially when changing climatic conditions are enhancing the frequency and scale of flooding damages.

III. Blurring the Lines Between Takings and Tort: "Negligent Takings"

Although the important distinctions between tort and takings law are widely recognized by courts, the close relationship between these two bodies of law makes it difficult to always assess where one claim ends and another begins. Because many takings claims can be reshaped into a negligence claim and vice versa, it is not always easy for courts to walk the thin line between them.[95] As a result, courts often use principles from one area to influence the other. Most often, courts seem willing to use tort and negligence principles to influence rulings in takings cases. Over time, this has caused takings jurisprudence to evolve and has led to the formation, most likely unintentionally, of a seemingly new category of takings: negligent takings.

This phenomenon, although likely present in other areas, is readily identifiable in the flooding context. Given the complex nature of flooding claims—complicated by decades-old flood control measures, complex policy determinations, and natural events—courts seem increasingly influenced by tort principles when considering takings claims based on flooding events. This trend can be seen in the wake of the Supreme Court's *AGF* decision in which the Court laid the groundwork for negligent takings.

As defined by the authors of this Article, negligent takings is a new category of takings in the flooding context (though it may have application elsewhere), whereby the government can be liable for the taking of private property that is not the result of direct government action toward private property, such as through a physical invasion or occupation, or through a regulation. Instead it is caused by the government's actions that result in damages to property that is not directly connected to the government action. The key component of defining a negligent taking is that it involves property damage caused by natural forces with only an indirect link, often distant in time, to any government action.

The concept of negligent takings admittedly applies to cases that are a logical extension of takings, as the definition of takings expands to an ever-increasing scope of government actions. However, we argue that the extension of takings to include temporary flooding that is only loosely connected to government decisions is actually inconsistent with established takings law and the traditional relief provided by courts for plaintiffs who claim that their property was taken by the government. In addition, it could lead to dangerous results to so broadly undermine long-standing governmental protections from liability embodied in sovereign immunity, the FTCA, and the FCA.

Despite these apparent inconsistencies, the authors of this Article submit that the Supreme Court's *AGF* decision created, even if unintentionally, this new category of takings. The Court did this by formulating a test for takings liability in the context of temporary flooding that incorporates key tort principles without providing guidance as to how these principles should be applied.

By creating this new test, the Supreme Court blurred the already vague line between tort and takings law. Seemingly straightforward and easy to apply, this created confusion for lower courts attempting to award relief for private-property owners that have been impacted by a flooding event. In this section, we examine the evolution of tort and takings law and how courts have blended these areas together to form this new category of takings.

A. *The Federal Circuit and the Tort/Taking Distinction*

In 1887, Congress enacted the Tucker Act, which provided that the "United States Court of Federal Claims shall have jurisdiction to render judgment upon any claim against the United States founded . . . upon the Constitution . . . in cases not sounding in tort."[96] Because takings claims arise under the Fifth Amendment, the Tucker Act provided the Court of Federal Claims with specific jurisdiction over takings claims and broadly excluded tort claims from the court's jurisdiction.[97] Because the Court of Federal Claims has jurisdiction over takings claims and not tort claims, the court has an extensive history examining and considering the distinctions between the two areas of law.

In many ways, tort law has influenced the taking analysis that has developed in the U.S. Court of Appeals for the Federal Circuit.[98] According to one court that conducted a thorough analysis of the distinction between tort law and takings jurisprudence, courts have "often turned to analytical concepts inherent in tort law such as causation-in-fact and proximate causation to define the outer bounds of those actions and consequences that might result in a taking."[99] In particular, courts in the Federal Circuit have relied on foreseeability, a central tenet of tort

95. *See* Sandra B. Zellmer, *Takings, Torts, and Background Principles*, 52 Wake Forest L. Rev. 193 (2017) ("Courts have long struggled to distinguish takings claims from tort claims.").

96. 28 U.S.C. §1491(a).

97. Brown v. United States, 105 F.3d 621, 623 (Fed. Cir. 1997) ("The Court of Federal Claims is a court of limited jurisdiction. It lacks jurisdiction over tort actions against the United States."); *see also* Cottrell v. United States, 42 Fed. Cl. 144, 149 (1998) ("The court does not have jurisdiction over claims that defendant engaged in negligent, fraudulent, or other wrongful conduct when discharging its official duties . . . . Even where the claim is framed under non-tort law, the court lacks jurisdiction if the essence of the claim lies in tort.").

98. Hansen v. United States, 65 Fed. Cl. 76, 94 (2005) (noting that tort principles have been applied to takings claims).

99. *Id.*

law, to determine whether plaintiffs are permitted to bring a takings claim.

In 2003, the Federal Circuit created a two-part test for distinguishing between a tort and taking claim.[100] In *Ridge Line, Inc. v. United States,* a plaintiff brought suit alleging that increased storm drainage caused by the construction of a U.S. postal facility constituted a taking by the government of a water flowage easement that warranted compensation under the Takings Clause.[101] In determining whether the plaintiff's claim properly arose under the Takings Clause, the court provided that the plaintiff must first show that the government intended to invade the protected property interest or that the "asserted invasion [was] the 'direct, natural or probable result of an authorized activity and not the incidental consequential injury inflicted by the action.'"[102] In the second part of the analysis, courts were instructed to consider the "nature and magnitude of the government action" to determine whether the claim constituted a taking or tort.[103]

B. Negligent Takings: Foundation

Although tort principles have influenced the way the Federal Circuit has considered takings claims within its jurisdiction, including those related to flooding, the Supreme Court's 2012 decision in *AGF* broke down much of that distinction in an effort to create a broad test to determine when a temporary flooding event could be considered a taking. In doing so, the Court created the possibility of negligent takings. As stated above, while there are examples of cases where tort principles have influenced courts' analyses of takings claims, conceptually the Court's ruling in *AGF*, that any temporary inundation of floodwaters could constitute a taking, is the clearest beginning of this phenomenon. In addition, the Court's statement that flooding is not different from other forms of governmental invasion of private property directly influenced subsequent litigation, particularly regarding the cases related to flooding from Hurricanes Katrina and Harvey.

In *AGF*, the Arkansas Game and Fish Commission brought suit alleging that periodic releases of water from a dam constructed and operated by the Corps damaged the Commission's management area located 115 miles downstream.[104] For most of the life of the project, the Corps releases were in accordance with an established control manual. Between 1993 and 2000, the Corps made a number of deviations from the release schedule contained in the manual, though such deviations were contemplated in the manual. Eventually, the Corps ceased the deviations and returned to the original release schedule.[105] However, in 2005 the Commission sued the Corps, alleging that the deviations caused prolonged periodic flooding on its property that damaged the timber in the management area.[106]

Initially, the Court of Federal Claims found that the flooding constituted a taking that warranted just compensation.[107] The court held that the flooding had substantially changed the character of the Commission's management area and that the Corps ignored the Commission's complaints about how the releases were impacting the area.[108] On appeal, the Federal Circuit Court of Appeals reversed, holding that the government-induced flooding could only constitute a taking where the flooding was "permanent or inevitably recurring."[109]

On review, the Supreme Court rejected the Federal Circuit's conclusion, stating that there is no general rule that temporary flooding cannot constitute a taking. Specifically, Justice Ruth Bader Ginsburg, writing for a unanimous Court,[110] stated, "recurrent floodings, even if of finite duration, are not categorically exempt from Takings Clause liability."[111] She arrived at this seemingly straightforward statement by summarizing the long and convoluted precedent concerning government liability for the flooding of private property and merging it with the Court's cases recognizing temporary takings in non-flooding contexts.[112] In short, the Court ruled that takings in the context of flooding are no different than any other takings case.

C. Flooding Used to Be Different: Now It's Not

This Article is not saying that the *AGF* decision is entirely wrong. A blanket immunity from takings liability for any temporary flooding scenario is likely too broad. However, in stating that flooding is no different than any other government action that may lead to a taking, the Court made a grievous error, ignoring the unique history of governmental liability for flooding in both tort and takings law. It sidestepped the thorny problems of causation that are particular to human efforts to control incredibly powerful and unpredictable natural forces. And most importantly, it overlooked the potential policy ramifications of exposing governmental bodies to the further uncertainty of increased litigation around flood risk management, especially in this time of unprecedented climate change and the increasing recognition of non-stationarity in water resource planning.[113]

In order for the government to act effectively to address these grave challenges, it will be necessary to preserve the

100. Ridge Line, Inc. v. United States, 346 F.3d 1346, 34 ELR 20003 (Fed. Cir. 2003).
101. *Id.* at 1350-52.
102. *Id.* at 1355.
103. *Id.* at 1356.
104. *AGF*, 568 U.S. 23, 42 ELR 20247 (2012).
105. *Id.* at 26-28.
106. *Id.* at 26-29.
107. *Id.* at 29-30.
108. *Id.*
109. *Id.* at 30-31.
110. The decision was 8-0 because Justice Elena Kagan did not participate in the ruling.
111. *Id.* at 27.
112. *Id.* at 31-34.
113. P.C.D. Milly et al., *Stationarity Is Dead: Whither Water Management?*, 319 Science 01 (2008), *available at* https://doi.org/10.1126/science.1151915. Stationarity—the idea that natural systems fluctuate within an unchanging envelope of variability—is a foundational concept that permeates training and practice in water-resource engineering. . . . In view of the magnitude and ubiquity of the hydroclimatic change apparently now under way, however, we assert that stationarity is dead and should no longer serve as a central, default assumption in water-resource risk assessment and planning.

protections and immunities that have allowed the development of the system of flood control measures we have today. In light of the *AGF* decision and its erosion of those protections, it is incumbent on scholars, litigators, and courts to consider this concept of negligent takings, and to work out reasonable distinctions between government negligence and takings from flooding.

Before *AGF*, a takings claim for flood damages was primarily limited to when flooding caused a permanent invasion on the owner's property. Indeed, while arguing before the Supreme Court, the government's argument centered on precedent stating that to be a taking, flooding must, at a minimum, "constitute an actual, permanent invasion of the land."[114] The *AGF* Court dismissed this language as non-binding precedent. In the Court's view, the previously quoted language was in a non-dispositive sentence and was merely summarizing the Court's flooding precedent, and the use of the word "permanent" was just a passing reference.[115]

In addition, the Court saw no reason to impose a different standard for flooding cases than applied in other takings claims, stating: "There is thus no solid grounding in precedent for setting flooding apart from all other government intrusions on property. And the Government has presented no other persuasive reason to do so."[116] Because the Court found that flooding cases are fundamentally no different than other takings claims and decisions in non-flood-related takings cases made it clear that temporary government occupation of land could be considered a taking, the *AGF* Court recognized, for the first time, that a temporary flooding event could constitute a taking of private property under the Fifth Amendment.

By finding that flooding is not different than other forms of governmental activities that form the basis for takings claims, the opinion misses the practical realities presented by flooding issues generally and by the facts of this case. Most importantly, it fails to recognize the unique relationship between government actions and flood control and water management generally. Governments, particularly the federal government through the Corps, have a unique role in regulating water flows and managing flooding, which are otherwise a natural phenomenon. Efforts to implement flood control measures to control these natural conditions are all done within a greater framework of managing resources and working within limited budgets.

The Supreme Court's *AGF* decision fails to account for the complexity of these cases and the nature of government decisionmaking at the heart of these cases. Without accounting for how flooding cases are critically different from other takings claims, the Supreme Court failed to create a manageable test for lower courts to be able to adequately consider and assess flooding claims in the taking context. Instead, the Court created a test that has made the analysis more difficult for lower courts.

114. *Id.* at 35 (citing Sanguinetti v. United States, 264 U.S. 146, 149 (1924)).
115. *Id.*
116. *Id.* at 36.

D. The Test

For guidance in evaluating temporary flooding claims, the Court created a test, acknowledging, it seems, the inevitable issues with "temporary" claims in the flooding context and the scope of takings liability. Indeed, as any city stormwater or public works director knows, an ordinary rainstorm can result in flooded roads that temporarily flood neighboring private property—surely these events are not now takings? Almost as an afterthought, but perhaps with some awareness that "temporary" must be bounded in some way, the Court provided a list of factors that are "[a]lso relevant to the takings inquiry." These factors include

1. the time or duration of the impact,
2. the foreseeability of the result of the government's actions,
3. the severity of the invasion,
4. the character of the land at issue,[117] and
5. the landowner's reasonable investment-backed expectations.[118]

Despite laying out these factors, the opinion provided little guidance as to how these factors should be applied by lower courts considering complex flooding or other takings claims.

E. AGF *Outcome*

After creating its five-part test and holding that temporary flooding could support a claim that property was taken by the government, the Court remanded the Commission's claim to the Federal Circuit Court of Appeals for further consideration. At this juncture, the circuit court held that, "[i]n order for a taking to occur, it is not necessary that the government intend to invade the property owner's rights, as long as the invasion that occurred was 'the foreseeable or predictable result' of the government's actions."[119] Here, the court found that the Corps should have foreseen that

117. Prior to *AGF*, courts generally considered the character of the *governmental* action at issue as part of a takings analysis. *See*, *e.g.*, Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 8 ELR 20528 (1978). The Supreme Court's shift to focus on the character of the land at issue is unexplained. *See* Zellmer, *supra* note 95, at 210-11. In her article, Sandra Zellmer argues that if the Supreme Court and those arguing the case focused on the character of the government action, then the Court's analysis would have more appropriately considered Congress' authorization of the flood control program and the sovereign immunity provided to the Corps within that legislation. *Id.*

118. *AGF*, 568 U.S. 23, 39, 42 ELR 20247 (2012). Although outside the scope of this Article, some scholarship argues that climate change may impact the reasonable investment-backed expectations of property owners and the ability of private-property owners to bring claims under the Takings Clause after a flooding event. *See* Zellmer, *supra* note 95, at 210-11. It remains unclear, and the Supreme Court's opinion in *AGF* does not provide any guidance, as to how claims will be impacted where science has substantiated that climate change and sea-level rise will increase the risks that certain properties will flood. At what point will the known impacts of climate change and sea-level rise impact the reasonable investment-backed expectations of property owners?

119. Arkansas Game & Fish Comm'n v. United States, 736 F.3d 1364, 1372, 43 ELR 20260 (Fed. Cir. 2013).

the increased releases would cause significant harm to the management area, because the Commission made numerous complaints about the increased inundation for nearly six years prior to bringing suit.[120]

Additionally, and most disturbingly for government decisionmakers later reading the circuit court's opinion, the court also faulted the Corps for failing to conduct studies prior to initiating the release deviations.[121] According to the court, the Corps would have been able to foresee that the releases would cause damage to the Commission's flooding area.[122] Even though the government did not conduct those studies prior to initiating the releases downstream, the court held that the Commission was entitled to just compensation under the Takings Clause for the value of its property that was damaged by the Corps' actions.[123]

For government decisionmakers, the Federal Circuit court's analysis and conclusion is unsettling. In its analysis, the court implied that the government could be liable for not only those outcomes that were actually foreseen by government decisionmakers, but also for those outcomes that could have theoretically been foreseen if the government conducted additional studies or additional analyses. Holding the government liable for results that could have been foreseen appears to be an even lower standard of foreseeability than is traditionally used in tort law.[124] For government decisionmakers attempting to make decisions with limited resources or in shortened time frames, conducting analyses that evaluate every possible outcome from a particular decision is not only unlikely but financially and practically infeasible.

F. AGF *Impact*

As we have noted, *AGF* created a five-part test for lower courts but provided almost no guidance as to how the test should be applied in more complex claims arising from a temporary flooding event. This lack of clear guidance has allowed a broad expansion of takings liability in the flooding context to encompass much of what was once considered negligence. Most important for this Article is the opinion's instruction that the government can be liable for temporary flooding that is the foreseeable result of the government's action.

While, in theory, it makes sense that the government should not only be liable for taking private property where the government directly intended to flood an individual's property, but also in instances where flooding to the private property was the "direct or probable result" of the government's action, there is no clear limit on the scope of Justice Ginsburg's instruction or her use of "foreseeability." Without definition, the scope of this term can be broadly expanded to include those instances in which the flooding to private property was not intended or a direct result of the government's action.

Consider, for example, an instance in which the government releases water from a dam that will directly flood private property located below that dam. Here, the flooding was clearly the direct and probable result of the government's action. Consider, however, a more complex fact pattern. In this instance, the government installs a variety of flood control measures over several decades along a river that flows through several states. Each of these flood control measures was designed and installed with different means of available technology and with different goals in mind. At some point in time, one of the flood control measures fails because it was constructed nearly 50 years ago, with technology that would now be considered outdated, and indirectly causes flooding to a private property hundreds of miles downstream.

While the flooding in the second hypothetical could have been theoretically foreseeable through evaluations of the existing flood control measures, liability under the Takings Clause seems less clear in this situation. In this instance, the government designed a flood control measure 50 years ago and was tasked with making policy determinations about how to maintain that measure to prevent flooding. Based on the complexity of the second hypothetical and the policy determinations that are inherent with the government's decisions to maintain a flood control measure, it seems that the second hypothetical should more appropriately be handled in the tort context, where the court's goal is to make the plaintiff whole after suffering injuries due to another's negligence or, in this hypothetical, the government's failure to maintain the existing flood control measure.

By expanding the scope of the government's liability under the Takings Clause for those flooding events that may be foreseeable, without limiting the scope of foreseeability, it will become increasingly difficult for lower courts to clearly delineate which claims should be handled as torts and which should be handled as a takings claim. The simple truth is that many flooding cases are immensely complex, involving decades of engineering and land use decisionmaking. Changing weather patterns caused by climate change are exacerbating these efforts. The complexity of these cases and the lack of guidance from the Supreme Court as to how courts should consider temporary flooding claims has created, and will continue to create, problems for lower courts attempting to navigate an already difficult area of law.

G. Confusion in the Lower Courts

The impact of *AGF* is revealed in some of the cases that have arisen in the wake of the most devastating hurricanes in recent history. In responding to these actions, some courts have leaned on *AGF* and have found that government conduct leading up to and during these catastrophic storms

120. *Id.* at 1372-73.

121. *Id.* (discussing that a reasonable investigation by the Corps "prior to implementing the deviations during the 1993-2000 period would have revealed that the deviations would result in a significant increase in the number of days of flooding in the Management Area during the growing season").

122. *Id.*

123. *Id.*

124. *See* Zellmer, *supra* note 95, at 210-11 (discussing that tort law and establishing proximate cause "requires more than just a possibility of some risk of harm; at the very least, the injury to the property must be the predictable and probable consequence of the government's act").

constituted a taking that warrants compensation under the Fifth Amendment. Interestingly, however, courts considering nearly identical facts have reached very different outcomes. These diverging results highlight how the lack of clarity related to the distinction between tort and takings law is creating very real impacts for the people and government decisionmakers impacted by these laws.

1. A Case Study—Hurricane Katrina and Takings

In 1956, Congress authorized the construction of MR-GO to provide a shorter shipping route between the Gulf of Mexico and the Port of New Orleans. Originally, the channel was designed to be 36 feet deep and 600 feet wide. Due to the channel's construction in wetlands, the Corps recognized that without extensive excavation, protection, and dredging, erosion would cause the channel to widen over time.[125] Ultimately, the Corps decided not to install armoring or foreshore protection to prevent erosion of the channel's banks, and the channel eventually expanded to a width of 1,970 feet, more than three times the size of the original design.[126] After a series of studies and reports issued by the Corps and other third parties identified that the expanding MR-GO was causing significant loss of wetlands and increasing New Orleans' potential exposure to hurricane damage, the Corps in the 1980s added foreshore protection to reduce the amount of erosion that could widen the channel.

In 1965, New Orleans was hit by Hurricane Betsy, which caused severe flooding in the city and resulted in 75 deaths.[127] In response to the hurricane, Congress implemented the Flood Control Act of 1965, which in part authorized the Corps to design and implement the Lake Pontchartrain and Vicinity Hurricane Protection Plan (LPV).[128] Originally, the LPV was designed to be a series of levees, floodgates, and floodwalls that were constructed to protect the areas around Lake Pontchartrain from flooding.[129] Before the LPV could be completed, local opposition to the plan caused the Corps to reevaluate the initial design of the LPV. Eventually, portions of the LPV were scrapped and the Corps was instructed by Congress to construct parallel levees and floodwalls along the outfall canals surrounding the city.[130]

Before the LPV could be completed, in 1992, Congress instructed the Corps to implement a new plan to protect the city, called the Parallel Protection Plan.[131] Although constructed over several decades and in piecemeal fashion, in total, the Corps constructed nearly 350 miles of structures, 56 miles of which were floodwalls.[132] Preliminary assessments of the levee and floodwalls identified several problems with the overall protections afforded by the system.[133] These assessments identified problems with the piecemeal fashion in which the system was constructed and problems with subsidence that was impacting the integrity of levees and floodwalls.[134]

On August 29, 2005, Hurricane Katrina made landfall at the mouth of the Pearl River near the Louisiana-Mississippi border, as a Category 3 hurricane with surface winds averaging around 115 miles per hour.[135] Over the next two days, the hurricane caused widespread damage to New Orleans and the surrounding areas. Many of the flood control measures designed to protect the city, including levees and floodwalls constructed by the Corps, failed during the storm.[136] It is estimated that "80 percent of the city of New Orleans was flooded to depths ranging up to 20 feet" within 24 hours of the storm's landfall in the city.[137] A U.S. Senate report after the hurricane concluded that MR-GO "contributed to a potential 'funnel' for storm surges emerging from Lake Borgne and the Gulf into the New Orleans area" that exacerbated the flooding in New Orleans.[138]

Total damages after Hurricane Katrina were estimated to exceed $81 billion, making Hurricane Katrina the costliest hurricane in U.S. history.[139] Property owners who lost their homes in the wake of Hurricane Katrina turned to the court system for relief. While some plaintiffs sought relief in tort,[140] other plaintiffs brought claims alleging that the Corps' construction, operation, and failure to maintain the flood control measures surrounding the city and MR-GO caused flooding to their property, which constituted a taking under the Fifth Amendment. In considering these claims, courts reached inconsistent results.

❑ *Nicholson v. United States*. In *Nicholson*, two property owners brought suit on behalf of similarly situated plaintiffs, alleging that the Corps defectively designed, constructed, and maintained the flood control system surrounding the city of New Orleans.[141] Although one of the named plaintiffs experienced significant flooding and property damage,

125. In re Katrina Canal Breaches Consol. Litig., 647 F. Supp. 2d 615, 699, 38 ELR 20039 (E.D. La. 2008). According to *St. Bernard Parish Government v. United States*, the Corps met with the St. Bernard Tidal Channel Advisory Committee and was advised that MR-GO would "be an enormous danger to the heavily populated areas of the parish due to the rapidity of the rising waters [during a hurricane] reaching the protected areas in full force through the avenue for the proposed channel." 121 Fed. Cl. 687, 698, 45 ELR 20084 (2015).
126. In re Katrina Canal Breaches Consol. Litig., 647 F. Supp. 2d at 699. The Corps made the decision not to armor the banks of the MR-GO partly because the Corps "did not have the budget for bank armoring." *Id.*
127. Nicholson v. United States, 77 Fed. Cl. 605, 608 (2007).
128. *St Bernard Parish Gov't*, 121 Fed. Cl. at 691.
129. *Id.*
130. According to the *Nicholson* court, "[c]onstruction continued for many years, yet, interestingly, no parish or basing was ever protected to the level of the protection plan authorized in 1965." 77 Fed. Cl. at 609.
131. *Id.*
132. *Id.*
133. *Id.* at 610.
134. *Id.*
135. *Id.* at 607.
136. The Federal Court of Claims provides a detailed discussion of how levees and floodwalls failed during Hurricane Katrina in *St. Bernard Parish Government v. United States*, 121 Fed. Cl. 687, 709-13, 45 ELR 20084 (2015).
137. *Nicholson*, 77 Fed. Cl. at 607.
138. *St. Bernard Parish Gov't*, 121 Fed. Cl. at 712.
139. *Nicholson*, 77 Fed. Cl. at 608.
140. *See* In re Katrina Canal Breaches Consol. Litig., 647 F. Supp. 2d 644, 39 ELR 20264 (E.D. La. 2009). As discussed earlier in this Article, these claims were ultimately denied when the Fifth Circuit held that the Corps was entitled to immunity under the discretionary-function exception to the FTCA. In re Katrina Canal Breaches Litig., 696 F.3d 436, 446, 42 ELR 20197 (5th Cir. 2012).
141. *Nicholson*, 77 Fed. Cl. at 611-12.

the other named plaintiff claimed that the flooding control measures implemented by the Corps were so defective that the city continued to be at risk for severe flooding.[142] This plaintiff alleged that the defective flood control measures, which left the city exposed to future flooding, continued to devalue her property.[143] Both plaintiffs asserted their claims under the Takings Clause of the Fifth Amendment.

On review, Judge Lawrence Baskir on the U.S. Court of Federal Claims applied the two-part test developed in *Ridge Line* to determine whether the plaintiffs' claims were cognizable under the Fifth Amendment. Under the first prong of the *Ridge Line* test, which the court described as essentially a causation analysis, the court held that the Corps' design and construction of the flood protection measures, flawed as it may have been, was not the direct cause of the plaintiffs' injury.[144] The court held that, "[e]ven if Plaintiffs could prove that the [Corps'] installation of floodwalls contributed to the hurricane's destruction, it would not follow that the flooding was 'directly attributable' to the [Corps'] protective measures, as opposed to the severe nature of the storm."[145] In the court's view, "[w]hile the flooding in New Orleans was devastating in nature, the property losses *as alleged by the Plaintiffs* fall into the category of 'indirect or consequential damages.'"[146]

In its analysis, the court also noted that in "an inverse condemnation [a] plaintiff must prove that the government should have predicted or foreseen the resulting injury."[147] Here, the court provided a brief discussion of whether the strength of Hurricane Katrina was foreseeable or whether it constituted an "intervening cause" that would break any chain of causation related to the government's alleged failures to properly design or construct the city's flood control measures.[148] Ultimately, however, the court found that there was no need to consider the foreseeability of the storm because the storm caused the flooding in this instance, not the government's actions or failures.[149]

In addition to finding that the plaintiffs' allegations failed to support a taking analysis under the *Ridge Line* test, the court also found that the character of the government's action did not support a taking analysis.[150] According to the court, plaintiffs' allegations focused on the government's failure to act and the claim that the government should have done more to protect the public.[151] The court found that there is "no authoritative guidance . . . that grants relief for omissions, oversights, or bad decisions."[152]

❑ *St. Bernard Parish Government v. United States.* In St. Bernard Parish, the St. Bernard Parish government and owners of real property brought suit alleging that the Corps' operation and failure to maintain MR-GO constituted a taking of the plaintiffs' private property.[153] The plaintiffs asserted that the Corps "constructed, expanded, operated, and failed to maintain [MR-GO so] that [it] significantly increased storm surge and caused flooding on their properties during Hurricane Katrina."[154] To reach her conclusion, Judge Susan Braden on the U.S. Court of Federal Claims relied on *AGF* and the Supreme Court's five-part test.[155]

In her findings, Judge Braden concluded that the plaintiffs demonstrated:

1. *A protectable property interest.* The court found that plaintiffs maintained protectable property interests because each plaintiff "presented evidence that each had an ownership interest in 'property,' as defined by the Louisiana Revised Statute."[156]
2. *Reasonable investment-backed expectations.* The court found that the property owners had reasonable investment-backed expectations that their property would not be flooded because the Corps did not properly advise plaintiffs that certain flood control measures were not designed to protect against hurricanes above a Category 3 and the properties had never experienced flooding comparable to that of Hurricane Katrina.[157]
3. *Foreseeability.* The court found that it was foreseeable that the construction, operation, and failure to maintain MR-GO would substantially increase storm surge during a hurricane because evidence established that the Corps was aware from its inception that MR-GO, as designed and constructed, would expand over time due to erosion.[158]
4. *Causation.* The court found that the construction, operation, and failure to maintain the MR-GO substantially increased storm surge and flooding during Hurricane Katrina, which caused increased flooding to the plaintiffs' properties.[159]
5. *A substantial and severe injury.* The court found that the damage to the plaintiffs' property was both substantial and severe.[160]

142. *Id.*
143. *Id.*
144. *Id.* at 617-18.
145. *Id.* at 618.
146. *Id.* (citing Sanguinetti v. United States, 264 U.S. 146, 149-50 (1924)).
147. *Id.* at 617.
148. *Id.*
149. The court also considered the second part of the *Ridge Line* two-part analysis. The court held that the plaintiffs failed to demonstrate "the flooding associated with the breached levees around the canals in question has been . . . 'frequently and inevitably reoccurring'" and, therefore, could not show that the flooding rose to the level of a taking. Based on the holding in *AGF*, which provided that certain temporary flooding could constitute a taking under the Fifth Amendment, this portion of the *Nicholson* opinion is no longer current.
150. *Id.* at 620.
151. *Id.*
152. *Id.*
153. St. Bernard Parish Gov't v. United States, 121 Fed. Cl. 687, 691, 45 ELR 20084 (2015).
154. *Id.*
155. *Id.* at 718-19. Interestingly, the court purports to apply the five-factor test created in *AGF*, but the factors cited by Judge Braden do not exactly align with the five factors listed in *AGF*.
156. *Id.* at 719.
157. *Id.* at 719-20.
158. *Id.* at 720.
159. *Id.* at 724-25.
160. *Id.* at 745-46.

On the issue of foreseeability, the court conducted an extensive analysis of whether the Corps actually foresaw or should have foreseen that MR-GO would increase flooding caused by a hurricane. Here, the court reviewed an extensive history of studies and reports issued by the Corps or other groups that assessed the potential risk associated with MR-GO.[161] The court found that the Corps knew that the construction of MR-GO and the decision not to implement certain measures to control the width of the channel would increase the potential risk that a hurricane would cause flooding to the city.[162]

Relatedly, the court also concluded that the hurricane was not an intervening cause that would prevent the court from finding that the flooding was the "direct, natural and probable result" of the Corps' operation of MR-GO.[163] Here, the court found that the Corps knew, prior to Hurricane Katrina, that the "condition created by the MR-GO had escalated into a dangerous situation because increased storm surge during any hurricane or tropical storm was predicted to breach the navigation channel."[164] The court concluded that the Corps' "cumulative actions, omissions, and policies regarding the MR-GO" helped to "set a chain of events into motion that substantially increased storm surge and caused flooding during Hurricane Katrina."[165]

On review, the the Federal Circuit overturned the lower court's decision and award of compensation for the property owners who had their homes destroyed by Hurricane Katrina.[166] In its decision, the Federal Circuit reasoned that the plaintiffs' claims fell into two categories—claims based on the Corps' inaction and the failure to maintain MR-GO, and those based on the Corps' actions and the construction of the channel.[167]

The court held that the claims based on government inaction failed because takings claims must be based on affirmative actions taken by the government.[168] In this case, it held that the government's failure to maintain MR-GO did not constitute an affirmative act that could support a takings claim. Instead, the court found that these claims should more appropriately be asserted as a tort claim based on the government's negligence and failure to maintain MR-GO.[169]

For the claims asserted based on the government's construction and operation of MR-GO, the Federal Circuit held that the plaintiffs failed to consider the "total" of the government's actions when arguing that the government caused the flooding to their property.[170] The court found that the plaintiffs must be able to show that all of the government's actions, including activities that may have reduced the risk of flooding, and those activities that may have increased the flood risk, caused the plaintiffs' harm.[171] In this case, the Federal Circuit found that the plaintiffs had only focused their analysis on how the construction of MR-GO increased flooding to their properties.[172] However, the plaintiffs were also required to consider the LPV flood control protection system that was designed and implemented by the Corps in order to reduce the risk of flooding.[173]

❑ Hurricane Katrina cases, by comparison. The difference in the outcomes between the lower courts' opinions in *St. Bernard Parish* and *Nicholson* demonstrates the potential impact of *AGF*. *Nicholson,* which was decided in 2007—more than five years prior to *AGF*—found that the government could not be liable under the Takings Clause after the levee system that was designed to protect New Orleans failed and caused extensive flooding in the city. In contrast, the lower court in *St. Bernard Parish* applied the test detailed in *AGF* and found that the government's construction and operation of MR-GO, which contributed to flooding in the city, could constitute a taking. These cases, based on very similar facts, resulted in markedly different outcomes.

In addition, these cases show how the Supreme Court's test in *AGF* allows courts to inject tort considerations into the analysis of a takings claim. In the lower court's opinion in *St. Bernard Parish,* the court provided an in-depth discussion of the Corps' decisionmaking process and how those decisions impacted the construction and maintenance of MR-GO. From this review, the court found that the Corps should have foreseen that MR-GO would cause substantial flooding to New Orleans in the event of a large hurricane. Although this conclusion is disguised within a discussion of one of the *AGF* factors, foreseeability, this discussion necessarily implicates an evaluation of the government's potential negligence (i.e., whether the government should have taken additional action to reduce the

161. *Id.* at 720-23.
162. *Id.* at 723.
163. *Id.* at 739-40.
164. *Id.* at 740.
165. *Id.* at 741.
166. St. Bernard Parish Gov't v. United States, 887 F.3d 1354, 48 ELR 20065 (Fed. Cir. 2018).
167. *Id.* at 1357.
168. *Id.* at 1360-62.
169. Although the authors of this Article agree with the Federal Circuit court's ruling and believe that takings liability should not extend to claims based on government inaction, some scholars have argued that takings liability should be extended to instances where government inaction leads to the taking of private property. Christopher Serkin, *Passive Takings: The State's Affirmative Duty to Protect Property*, 113 Mich. L. Rev. 345 (2014). Although a full analysis of "passive takings" is outside of the scope of this Article, it is worth noting that adopting an approach that allows the government to be liable under the Takings Clause based on decisions it did not make and actions it did not take would severely impact government decisionmaking. Under such an approach, the government would be expected to have perfect knowledge of all of the potential risks, benefits, and liabilities associated with every potential decision—a requirement that is not only impossible but impractical given the limited budgets and resources that governments have at their disposal. While the Federal Circuit appropriately dismissed the "passive taking" argument, if courts continue to blend tort and takings principles, it may become increasingly difficult for courts to separate claims based on government inaction or action. In the flooding context, for example, it is difficult to consider a government's decision to implement certain flood control measures without necessarily considering the actions that the government did not take, but in hindsight should have taken, to protect an area from flooding. While the new creation of "negligent takings" will have negative impacts on government decisionmaking, the creation and acceptance of a category for "passive takings" would severely limit the government's ability to function and would ensure that the government was almost always liable for taking of private property during a flooding event.
170. *St. Bernard Parish Gov't*, 887 F.3d at 1362-68.
171. *Id.*
172. *Id.*
173. *Id.*

flooding risk to the city). While courts may be permitted to review government decisionmaking and whether the government should have taken more steps to protect a city from flooding, that analysis should be reserved for a tort claim. Under *AGF*'s factor test, however, courts are able to use tort considerations to influence a final determination in a takings claim.

Additionally, the causation standard implemented by the Federal Circuit in *St. Bernard Parish*[174] may inadvertently allow courts to consider the government's negligence in the taking analysis. By design, the causation standard allows courts to consider the "total" of government action in determining whether a flood control measure caused a taking of private property. In *St. Bernard Parish*, this instruction required the court to consider the impact of MR-GO in conjunction with the impact of the flood control measures implemented in the LPV to protect the city from flooding. As courts begin to weigh the impacts of certain flood control measures against those actions that may have increased the impact of a flood, they will necessarily be forced to evaluate the flood control measures the government considered but did not implement. This analysis, if permitted, will provide another way for tort principles to seep into a takings analysis, as well as provide another way for plaintiffs to seek recovery for what the government did not do to protect their interests.

2. A Case Study—Hurricane Harvey and Takings

Based on its location at the convergence of two bayous, Houston, Texas, is particularly susceptible to flooding.[175] From 1854 until 1935, Houston experienced six floods that caused substantial damage to the city.[176] In an effort to protect the city from future flooding and even larger storms, Congress authorized the Corps to design and construct two dams as flood control measures.[177] These dams—the Addicks and Barker dams—were designed to protect "the city of Houston, Texas, and the Houston Ship Channel against the estimated probable maximum storm."[178]

The two dams, completed by 1948, were constructed to include large embankments and a series of gates that could be used to control releases from the accompanying reservoirs.[179] Although the reservoirs associated with each dam were typically dry and only held water in the event of heavy rainfall, the Corps created a water control manual that established certain guidelines for releases from the reservoirs in the event of a storm or heavy rainfall event.[180]

On August 25, 2017, Hurricane Harvey struck the coast of the United States as a Category 4 hurricane.[181] As the storm reached Houston, Texas, the storm weakened to a tropical storm but stalled over the city for four days.[182] In total, the storm inundated the city with an average of 36 to 48 inches of rain over the four-day period.[183]

During Hurricane Harvey, the Corps operated the Addicks and Barker dams in accordance with the water control manual.[184] Before the storm made landfall, all of the gates on both the Addicks and Barker dams were closed and the Corps allowed the reservoirs to fill with water over the next several days.[185] On August 28, the Corps initiated releases from both reservoirs.[186] Because these releases were limited in order to protect downstream properties, however, the releases were insufficient to lower the level of the two reservoirs, and properties upstream from them experienced significant flooding as the water levels in each reservoir continued to rise.[187] For downstream properties, the releases also began to cause flooding and substantial property damages.[188] Given the level of water in the reservoirs, water was released from the dams until September 16, 2017.[189]

In total, more than 150,000 homes in the Houston area were flooded during Hurricane Harvey.[190] Property owners with homes that were flooded as a result of the Corps' operation of the Addicks and Barker dams brought suit as early as September 2017.[191] These property owners alleged that the government's operation of the dams during Hurricane Harvey constituted a taking of their private property that entitled them to just compensation.[192] All of the property owners' claims were eventually consolidated into one master docket and then bifurcated into two categories—downstream and upstream cases.[193]

❑ *In re Upstream Addicks & Barker Flood-Control Reservoirs.* On December 17, 2019, Judge Charles Lettow found that the plaintiffs who lived upstream of the Addicks and Barker reservoirs were entitled to compensation based on the government's taking of a "flowage easement" of the plaintiffs' private property.[194] In his analysis, Judge Lettow considered whether the upstream plaintiffs could establish

174. This court was not the first to implement this causation standard. A detailed discussion of this causation standard is outside of the scope of this Article, but it is worth mentioning some of the possible fallacies in this argument.
175. In re Upstream Addicks & Barker Flood-Control Reservoirs, 146 Fed. Cl. 219, 229, 50 ELR 20002 (2019). In addition to the existing bayous, Houston is also highly susceptible to flooding due to the area's "flat topography, low-infiltration capacity soils, high rates of impervious cover, and subtropical climate that is prone to hurricanes and severe storms." Andrew Juan et al., *Comparing Floodplain Evolution in Channelized and Unchannelized Urban Watersheds in Houston, Texas*, 13 J. Flood Risk Mgmt. e12604 (2020).
176. *Upstream Addicks & Barker*, 146 Fed. Cl. at 229.
177. River and Harbors Act of 1938, Pub. L. No. 75-685.
178. *Upstream Addicks & Barker*, 146 Fed. Cl. at 229.
179. Galveston District, U.S. Army Corps of Engineers, 2009 Master Plan: Addicks and Barker Reservoirs (2009), https://www.swg.usace.army.mil/Portals/26/docs/2009%20Addicks%20and%20Barker%20MP.pdf.
180. *Id.*
181. In re Downstream Addicks & Barker Flood-Control Reservoirs, 147 Fed. Cl. 566, 572, 50 ELR 20042 (2020).
182. *Id.*
183. Eric S. Blake & David A. Zelinsky, National Hurricane Center, National Hurricane Center Tropical Cyclone Report: Hurricane Harvey (2018), https://www.nhc.noaa.gov/data/tcr/AL092017_Harvey.pdf.
184. In re Upstream Addicks & Barker Flood-Control Reservoirs, 146 Fed. Cl. 219, 238-39, 50 ELR 20002 (2019).
185. *Id.*
186. *Id.*
187. *Id.*
188. *Id.*
189. *Id.*
190. *Id.* at 227.
191. *Id.* at 228.
192. *Id.*
193. *Id.*
194. *Id.* at 264.

(1) that they had "a property interest for purposes of the Fifth Amendment," and (2) that "the governmental action at issue amounted to a compensable taking of that property interest."[195]

After finding that the plaintiffs established that they maintained a property interest in having land that was not subject to periodic flooding, the court then considered whether the plaintiffs established that the Corps' actions and decisions related to the construction and operation of the reservoirs constituted a taking. Here, the court relied on *AGF* and the factor test established by the Supreme Court.[196] According to the court, these factors included (1) "time"; (2) "inten[t]"; (3) "foreseeab[ility]"; (4) "character of the land"; (5) "reasonable investment-backed expectations"; and (6) "severity."[197]

The court found that the plaintiffs established:

1. *Time and duration of the taking.* The court held that the government, through its construction and operation of the dams in "past, present, and future" took a permanent flowage easement on the plaintiffs' properties.[198]
2. *Severity.* The court found that the flooding constituted a substantial interference that rose to the level of a taking and that the frequency of storms in the area and inevitable flooding of the plaintiffs' property was sufficient to support a taking.[199]
3. *Reasonable investment-backed expectations.* The court held that the flooding the plaintiffs experienced was "different in kind from that which had occurred naturally and from what plaintiffs had reason to anticipate; it was more severe than any prior flooding and it was not the result of natural conditions but rather deliberate government action." Additionally, the court held that, although the plaintiffs could have known that their property was located in an area that was likely to flood, as provided in public documents and by the Corps at public meetings, the fact that plaintiffs could have known but did not actually know that their property was at risk for flooding was not determinative.[200]
4. *Benefit to the government. T*he court held that the government and, as a result, the public, received a benefit because the construction of the reservoirs prevented nearly $7 billion in losses to properties downstream of the reservoirs during Hurricane Harvey.[201]
5. *Intentional or foreseeable*. The court held that the Corps could foresee the flooding of the plaintiffs' property because their homes were located within the maximum pool size for the reservoirs.[202]

Ultimately, the court held that the upstream property owners were entitled to compensation under the Takings Clause based on the government's construction and operation of the Addicks and Barker reservoirs.[203]

On the issue of foreseeability, the Corps argued that the court should measure foreseeability from the time that the reservoirs were constructed in the 1940s. The court rejected the Corps' contention and found that a foreseeability inquiry is an objective analysis that "is not simply measured from the viewpoint of the government."[204] Instead, the court analyzed the various studies conducted by the Corps since the construction of the dams in the 1940s and found that the Corps was "aware or should have been aware since the initial construction of the dams and at every point onward, that the flood pools in the Addicks and Barker Reservoirs would at some point (and thereafter) exceed the government-owned land, inundating private properties."[205]

The court concluded that while "it is true that Tropical Storm Harvey was a record-setting storm . . . the evidence markedly shows that pools of this size and the attendant flooding of private property were, at a minimum, objectively foreseeable."[206] Due to the Corps' prior knowledge of the possibility that the private properties upstream of the reservoirs would flood, the court held that the Corps should have known that the upstream properties would flood in the event of a heavy rainfall. As a result, the government could be liable for the taking of the properties upstream of the reservoirs.

❑ *In re Downstream Addicks & Barker Flood-Control Reservoirs.* On February 18, 2020, Judge Loren Smith issued the ruling for downstream residents. In almost stark contrast to the ruling for the upstream residents and after considering nearly identical arguments, Judge Smith found that downstream residents were not entitled to any recovery based on the operation of the dams.[207] Unlike the opinion issued by Judge Lettow, Judge Smith did not consider or even mention *AGF* or the factors created by the Supreme Court. Instead, Judge Smith found that the property owners living downstream of the reservoirs failed to establish

195. *Id.* at 246.
196. Interestingly, the Federal Circuit court in *St. Bernard Parish* characterized the *AGF* test as a five-factor test and included finding whether the plaintiffs maintained a protectable property interest as one of those factors. In *Upstream Addicks & Barker*, Judge Lettow considered whether the plaintiffs maintained a protectable property interest in addition to six other factors that Judge Lettow believes are laid out in *AGF*. The simple disagreement over the scope of the *AGF* test demonstrates the lack of guidance provided by the Supreme Court in *AGF* and the extent to which lower courts are struggling to apply the test to complicated flooding cases.
197. *Upstream Addicks & Barker*, 146 Fed. Cl. at 248.
198. *Id.* at 250.
199. *Id.*
200. *Id.* at 261.
201. *Id.* at 253-54. Interestingly, the *AGF* test does not require a court to consider the benefit to the public as one of the factors detailed in that test. Although Judge Braden incorporates this factor as if it is an established part of the *AGF* test, this again shows that there is a significant amount of confusion related to applying the *AGF* test and even nailing down what the *AGF* test actually encompasses.
202. *Id.* at 249-63.
203. *Id.* at 264.
204. *Id.* at 255.
205. *Id.*
206. *Id.* at 256.
207. In re Downstream Addicks & Barker Flood-Control Reservoirs, 147 Fed. Cl. 566, 583-84, 50 ELR 20042 (2020).

that they had a cognizable property interest under the Fifth Amendment.[208]

In his analysis, Judge Smith reframed the plaintiffs' claim as essentially a request for "perfect flood control." Judge Smith found that neither Texas nor federal law recognized a property owner's right to perfect flood control.[209] In his view, the actions taken by the Corps to construct and implement flood control measures for the benefit of downstream residents was merely a benefit conferred to downstream residents that did not create a protectable property interest that could be taken by the government.[210] According to Judge Smith, "when the government undertakes efforts to mitigate against flooding, but fails to provide perfect flood control, it does not then become liable for a compensable taking because its mitigative efforts failed."[211] Because Judge Smith found that the property owners downstream of the reservoirs did not have a valid property interest under the Fifth Amendment, Judge Smith found that the property owners were unable to assert a takings claims against the Corps.

Judge Smith's ruling stands in stark contrast to Judge Lettow's ruling and award of relief for upstream property owners. In his opinion, Judge Smith attempts to reconcile the apparent inconsistencies between his opinion and the opinion issued by Judge Lettow by highlighting the differences between the cases brought by the downstream and upstream residents. According to Judge Smith, the cases are materially distinguishable because the upstream plaintiffs asserted a claim based on the Corps' "construction, modification, maintenance, and operation of the Dams," and the downstream plaintiffs had brought suit based on the Corps' "decision to open the flood gates" and release water that flooded the downstream properties.[212] According to him, the downstream plaintiffs ignored "the simple fact that the gates were initially closed for the sole purpose of protecting their properties from floodwaters, that such mitigation failed because the impounded storm waters exceeded the Reservoirs' controllable capacity, and that Harvey was the sole and proximate cause of the floodwaters."[213] Based on these factual differences, Judge Smith found that the downstream and upstream plaintiffs were asserting entirely different claims.

Although Judge Smith did not cite or rely on the *AGF* test, his opinion appears to touch on tort-related principles in his analysis. In considering whether the plaintiffs had a cognizable property interest in flood control, Judge Smith admits that he "looked to both takings and tort cases."[214] His discussion also places a special emphasis on finding that the downstream residents did not have the requisite property interest in perfect flood control, in part because the flooding was caused by an "act of God." In defining what constitutes an "act of God," Judge Smith asserts that it is "so unusual that it could not have been reasonably expected or provided against."[215] His opinion concludes that the Corps could not have anticipated the impact of Hurricane Harvey or controlled the reservoirs to prevent flooding to the downstream properties.

❑ Hurricane Harvey cases, by comparison. Like the contrasting opinions in *Nicholson* and *St. Bernard Parish* after Hurricane Katrina, the courts considering relief for property owners after Hurricane Harvey, although considering property owners that were harmed by the same reservoirs, reached entirely different results. Most importantly, the courts reached those results by using very different methods of analysis. While Judge Lettow relied on *AGF* and the Supreme Court's factor test,[216] Judge Smith relied purely on an analysis of property interests.[217] These divergent results and the different methods used to reach each result make it difficult to predict how courts will rule on future flooding cases. For government decisionmakers and property owners that may be attempting to assess potential risks and liabilities associated with a particular decision, the lack of clarity between these two opinions will be, at best, unsettling.

Despite the differences in the analyses used to reach their conclusions, both courts used tort principles to drive their analyses. Judge Lettow, in the upstream case, relied on the Corps' previous studies and decisionmaking processes to find that the Corps could have reasonably foreseen that flooding in the reservoirs would inundate upstream properties.[218] Likewise Judge Smith, in the downstream case, relied on tort causation principles to determine that Hurricane Katrina was an act of God that could not have been anticipated by the Corps.[219] By relying on an analysis of foreseeability in their analyses, albeit in entirely different ways, these courts both used tort principles to drive their analysis of a taking claim.

IV. Negligent Takings in Practice

A. *Foreseeability Without Limits*

The varying results from the Harvey and Katrina cases illustrate how lower courts are struggling to properly award relief in the wake of natural disasters under the Supreme Court's guidance in *AGF*. Increasingly, the line between claims that sound in tort and those that arise under the Takings Clause is becoming more difficult to discern. At the heart of this problem is the use of foreseeability in *AGF* and its apparent unlimited scope in the takings jurisprudence. As a concept, foreseeability has traditionally been considered to be a foundational element of a negligence claim. In that area of law, tortfeasors can be liable where

208. *Id.* at 583.
209. *Id.* at 583-84.
210. *Id.*
211. *Id.* at 582.
212. *Id.* at 575-76.
213. *Id.* at 575.
214. *Id.* at 577 n.3.
215. *Id.* at 578-79.
216. In re Upstream Addicks & Barker Flood-Control Reservoirs, 146 Fed. Cl. 219, 248, 50 ELR 20002 (2019).
217. *Downstream Addicks & Barker*, 147 Fed. Cl. at 580-83.
218. *Upstream Addicks & Barker*, 146 Fed. Cl. at 254-58.
219. *Downstream Addicks & Barker*, 147 Fed. Cl. at 577-80.

the plaintiff's harm was or should have been foreseeable at the time of the tortfeasor's conduct. As applied by *AGF* to a takings claim, however, it is unclear just how far this term extends, and what the Supreme Court meant when it held that the government could be liable under the Takings Clause for the foreseeable results of its actions.

Did the Court mean that the government can be liable under the Takings Clause after a study reveals that a levee system is only designed to protect residents from a Category 3 hurricane but not a Category 4 hurricane? Did the Court mean that the government can be liable for making a decision not to reinforce an aging flood control measure despite a 30% chance that the measure may fail after heavy precipitation? Or did the Court mean that the government can be liable for events that it did not actually consider or study but may have considered in its decisionmaking process?

Without the Court providing any clear limit on the scope of foreseeability in its *AGF* opinion, the answer to these questions, and any number of others that must be considered by government decisionmakers when deciding whether to undertake an expensive and complex flood control measure, are unclear.[220] As a concept developed by the Federal Circuit in *Ridge Line*, the scope of the court's inquiry was limited to whether the outcome was the "direct, natural or probable result of an authorized activity and not the incidental or consequential injury inflicted by the action."[221] The *AGF* Court used this definition as a springboard to inject foreseeability into the takings analysis, without providing any meaningful definition of the term or limit to the scope of the term.

To provide adequate guidance to lower courts attempting to navigate complex flooding claims, the Supreme Court should have provided more clarity and guidance to limit the scope of foreseeability within its test. Instead of vaguely providing that courts should consider whether the resulting flood was foreseeable, the Supreme Court should have been careful to explain, based on existing jurisprudence in the Federal Circuit, that the government could be liable under the Takings Clause only to the extent that the plaintiff's injuries were not merely incidental or consequential to the government's actions, but were instead the direct or probable result of that action.

Alternatively, the Supreme Court could have created an entirely new benchmark for defining and limiting the scope of foreseeability. Some scholars have suggested that the term and government liability for flooding should be limited to those results that were substantially certain to result from the government's actions.[222] Without providing any meaningful limit on the foreseeability inquiry incorporated in its test, the *AGF* Court created a significant amount of ambiguity in how courts may find that government actors should have foreseen that flooding would result from some government action.

In some ways, stretching the limits of foreseeability and holding the government liable for all the foreseeable results connected to its decisions to implement flood control measures will actually create a de facto duty that requires the government to maintain and repair existing flood control measures. In many of these flooding cases, the government inherited flood control measures that were designed and constructed more than 50 years ago. By holding the government liable for all the foreseeable acts that may result from a failing and aging flood control measure, the government will be essentially required to maintain and update those flood control measures to ensure that a plaintiff's private property will wholly be protected from flooding.

The idea that the government has a duty to maintain a flood control measure to protect private property from flooding is entirely inconsistent with the purpose and application of the Takings Clause. As law students learn within their first year of law school, duty is a fundamental element of tort law, not takings law. Expanding the scope of foreseeability in takings law in a way that creates a duty for the government to act will inevitably impact important government decisionmaking. If the government is required to maintain an existing flood control measure, it will have less flexibility to spend limited resources or consider whether repairing an existing flood control measure is the best use of those resources. It may be true that repairing an outdated flood control measure may not be the best use of the government's resources. Under an expanded definition of foreseeability, however, the government may not have any choice.

In tort law, sovereign immunity was designed to protect government decisionmaking. As a society that wants the government to have the flexibility to expend resources in the most effective way possible, sovereign immunity provides the government with the freedom to make difficult policy determinations among competing interests without fear of incurring significant amounts of liability. Expanding the scope of foreseeability in the takings jurisprudence, however, where sovereign immunity does not prevent suit against the government, will effectively create an end-run around the important protections provided by sovereign immunity and limit the ability of the government to make decisions without fear of incurring liability. Ultimately, this may have the ironic effect of causing the government to take no action to protect property from flooding, out of fear of inadvertently incurring significant liability or developing a flood control measure that will be required to be maintained, at whatever cost, for decades.

220. Research generated within the past 10 years indicates that dredging of channels may impact tidal movements, which, in turn, may impact sea-level rise in certain areas. Alexandra Witze, *How Humans Are Altering the Tides of the Oceans*, BBC, July 5, 2020, https://www.bbc.com/future/article/20200703-how-humans-are-altering-the-tides-of-the-oceans. Given the breadth of the foreseeability standard in *AGF*, future plaintiffs may be able to assert that flooding of their property was a possible and, as a result, a foreseeable result of the Corps' dredging activities that warrants just compensation under the Takings Clause.

221. Ridge Line, Inc. v. United States, 346 F.3d 1346, 1356, 34 ELR 20003 (Fed. Cir. 2003) (quoting Columbia Basin Orchard v. United States, 132 Ct. Cl. 445 (1955)).

222. *See* Zellmer, *supra* note 95, at 217 (discussing that courts should use a test based on substantial certainty rather than mere probability in the takings context).

All of these questions and considerations become critically important for government actors attempting to make decisions about flood control measures and other adaptations in the face of sea-level rise and climate change. Science has confirmed that sea-level rise is not a question of when, but more a question of degree. The impacts of sea-level rise combined with rising temperatures in the ocean, increased precipitation, and natural disasters will force governments to think more critically about how to prepare for flooding events.

For government decisionmakers working with limited budgets, the breadth of the Supreme Court's use of foreseeability in the face of climate change and sea-level rise in conjunction with aging flood control infrastructure creates more questions than answers. How will governments be able to assess exactly what the foreseeable results of an action may be? This is especially true given that land use decisions and environmental conditions are ever-changing. For government decisionmakers attempting to confront the practical realities of the upcoming and often unpredictable results of climate change and sea-level rise, there needs to be some clear limit on the scope of foreseeability as used in the takings jurisprudence.

B. Causation Standard—Another Loophole?

Not only is foreseeability an issue that may allow governments to be held liable for negligent acts under the Takings Clause, it is worth noting that the causation standard applied by courts in these cases may also create an end-run that will allow plaintiffs to sue governments for their negligent acts under the Takings Clause. In *St. Bernard Parish,* the Federal Circuit Court of Appeals instructed courts applying the causation standard to consider the total of the government's acts when determining whether the government's actions caused flooding to private property.[223] The Federal Circuit provided that the lower court should have considered both the government's poor construction of MR-GO and the government's efforts to create a levee protection system around New Orleans to determine whether its actions caused the flooding to the plaintiffs' properties.[224] When viewing both the government's construction and operation of MR-GO and the flood control system that was designed to protect New Orleans from flooding, the court held that the plaintiffs were unable to show that the government's actions actually caused the flooding to their property.[225]

Although this causation standard attempts to account for the complexity of flooding cases and prevents courts from considering certain flood control measures in isolation, the standard must be applied carefully so as to not allow courts to evaluate government inaction. Under this analysis, it may be easy for courts to use hindsight information to evaluate whether the government took enough action to protect property owners from flooding or whether the government made the right decisions in selecting certain flood control measures over others. While these considerations may be perfectly reasonable for an analysis in the tort context, this type of evaluation is inconsistent with the purpose and application of the Takings Clause.

C. Looking Forward: Considerations for Courts and Decisionmakers

As it stands, the confusion surrounding the Supreme Court's *AGF* five-factor test and its application will create significant burdens for governments at all levels attempting to confront the realities of climate change, sea-level rise, and other rapidly changing environmental conditions. The authors of this Article recognize that law is complex and that elements of claims evolve over time. Despite this phenomenon, we submit that delineating and defining a conceptual framework for negligent takings will provide increased clarity in the distinction between government negligence and takings in the context of temporary flooding. This in turn will be valuable to courts hearing these cases, but more importantly, it will offer increased certainty for public bodies attempting to reduce communities' exposure to flood risk and restore reasonable standards of immunity.

When considering the distinct purposes of each area of law and the practical realities of the complexity of flooding cases, plaintiffs should not be able to use takings law as a way to avoid the important protections afforded to the government by sovereign immunity. At a minimum, there must be more clarity in the scope of the Supreme Court's *AGF* decision so that governments attempting to make important decisions to reduce flooding risks in the future will at least understand the potential liabilities that can result from their decisions.

For these reasons, the authors offer the following suggestions as a means for furthering the conversation about how the scope of *AGF* and the government's liability for negligent takings can be limited in the flooding context. The problems presented by flooding cases for governments, courts, and private-property owners are complex. As a result, it may require any number of stakeholders and a combination of solutions to address the problems with the current state of takings jurisprudence identified within this Article.

1. Recognizing That Flooding Must Be Treated Differently

As detailed in our brief examination of the cases following both Hurricanes Harvey and Katrina, flooding cases can be complicated. The complexity of these cases do not fit well within the traditional takings analysis that was constructed to provide relief for distinctly different claims (i.e., when the government takes property through eminent domain or takes some action that limits the use or enjoyment of a person's private property). As a result, flooding claims brought under the Takings Clause must be treated

223. St. Bernard Parish Gov't v. United States, 887 F.3d 1354, 1364-65 (Fed. Cir. 2018).
224. *Id.* at 1365-68.
225. *Id.* at 1367-68.

differently than other takings claims. The Supreme Court's *AGF* decision dismisses the complexity of these cases and rules simply that because temporary government actions can result in takings in other contexts, temporary flooding should also result in a claim under the Takings Clause. This simple, although logically straightforward, conclusion fails to account for the immense complexity of these cases.

The complicated nature of these cases must be recognized by courts attempting to assess claims brought by plaintiffs seeking relief after temporary floods under the Takings Clause. This may require that the Supreme Court or other high courts provide more exacting guidance for lower courts than is otherwise provided in the brief discussion in *AGF*. It is insufficient to provide that the government can be liable for the taking of private property that was simply the foreseeable result of its actions. Rather, higher courts must provide some scope or limitation on the extent of foreseeability in this context to guide lower courts considering these cases. Although it is important in other contexts, it is critically important that courts create a standard that recognizes the unique nature of flooding claims and helps to separate those claims that should be considered under tort law and those that may be considered under the Takings Clause.

2. Protecting Sovereign Immunity

As discussed, sovereign immunity provides important protections for governments attempting to make policy decisions that may be beneficial to the public. These decisions are often made after officials have weighed different potential outcomes, budgetary considerations, the needs of a community, and the opinions of a variety of stakeholders. Sovereign immunity protections ensure that the government can weigh these different policy considerations to solve problems without fear of incurring significant liability if a decision causes an unintended impact or fails to provide the intended benefit.

The current guidance provided by *AGF* and the current confusion among lower courts in how that standard should be applied in the flooding context puts the stability created by sovereign immunity at risk. By blurring the edges between traditional tort and takings law, plaintiffs may be able to reframe traditional negligence claims into suits seeking relief under the Takings Clause. As a result, more governments will be found liable for claims that would have been otherwise barred by sovereign immunity. At a minimum, instead of altering takings jurisprudence to achieve this result, perhaps sovereign immunity itself should be addressed.[226]

Increased litigation and awards for injured plaintiffs may have a chilling effect on governments attempting to make important decisions regarding flood control measures or other adaptations in the face of climate change and sea-level rise. In the Harvey cases, the plaintiffs' private property was flooded by reservoirs that were designed to protect Houston from flooding.[227] Without these reservoirs, the city would have been exposed to more instances of intermittent flooding in the decades preceding Hurricane Harvey.[228]

Given this knowledge, the Corps decided to build the reservoirs to protect the city from regular flooding damage.[229] Without making this policy decision, which was intended to benefit the city, the Corps would have never been sued in the wake of Hurricane Harvey. Allowing plaintiffs to recover under the Takings Clause in cases like those that followed Hurricane Harvey may cause the government to be more cautious about implementing flood control measures like the reservoirs that were designed to actually protect the city.

In a society that values government action for the common good, it is important that the government can reasonably rely on sovereign immunity when making decisions that may disparately impact different members of a community.[230] This is not to say that the government should never be held liable for its decisionmaking. In tort law, sovereign immunity protections do not shield the government from liability for grossly negligent actions.[231] As a result, the government could be sued in instances where the government clearly failed to properly consider and weigh different policy considerations prior to making a decision.

To ensure that sovereign immunity and the decisionmaking authority of governments are protected, the line between tort and takings must be clearly delineated in all contexts, but especially in the flooding context. As governments attempt to confront very serious and inevitable flooding that will come with sea-level rise and climate change, governments must be able to make decisions without excessive fear of liability. Preventing plaintiffs from using takings as an end-run around sovereign immunity is critical to achieving this goal.

3. Providing Another Form of Relief

Another consideration may be that these decisions and determinations about recovery after a flood are not appropriate determinations for our court system. Most of these cases involve a variety of technical expertise, flood modeling, policy determinations that implicate limited government budgets, and complex causation chains that can

226. Shana C. Jones et al., *Roads to Nowhere in Four States: State and Local Governments in the Atlantic Southeast Facing Sea-Level Rise*, 44 Colum. J. Env't L. 66 (2019) (discussing the need to define "the scope of sovereign immunity protections in a way that encourages innovative and creative decisionmaking in an era of climate uncertainty").

227. In re Upstream Addicks & Barker Flood-Control Reservoirs, 146 Fed. Cl. 219, 230, 50 ELR 20002 (2019) (noting that "the Corps consistently echoed that the whole purpose for the construction and operation of the project was to prevent downstream flooding, especially in downtown Houston").

228. *Id.* at 240.

229. *Id.* at 230.

230. The importance of sovereign immunity can be demonstrated by the mere fact that Congress purposefully included immunity protections within the FCA. 33 U.S.C. §701a. While Congress wanted to ensure that the Corps designed and implemented flood control measures, the Act was constructed to ensure that the Corps would not incur significant liabilities for undertaking those efforts.

231. *See, e.g.*, Colby v. Boyden, 241 Va. 125, 128 (1991) (discussing that "the degree of negligence which must be shown to impose liability [and overcome sovereign immunity] is elevated from simple to gross negligence").

only be demonstrated through expert assessment. Given their complexity, perhaps courts are not the appropriate forum to consider these claims or how to award compensation for those injured in these situations. Instead, it may be possible, and in fact advisable, to compensate injured property owners in these cases by other means or through other channels.

For example, the Federal Emergency Management Agency can provide individual relief to property owners that have had their property flooded during a natural disaster.[232] Other agencies, like the Department of Housing and Urban Development and the Department of Health and Human Services, can also provide emergency relief to victims of certain natural disasters.[233] In some cases, Congress has passed specific legislation to provide relief for those impacted by natural disasters. For example, in 2013, Congress passed a $50.7 billion appropriations bill that largely provided relief for those impacted by Hurricane Sandy.[234]

Although each of these examples is limited to emergency relief and constrained by budgetary considerations, it may be possible to adapt the model offered by these programs to provide relief to property owners who have been injured by flooding attributable to some form of government negligence. Evaluating the merits or limitations of these programs or providing a layout for what a similar funding mechanism might look like in practice is wholly outside of the scope of this Article. Inevitably, a decision by lawmakers to create a mechanism to compensate injured property owners in these instances would require a heavy evaluation of local, state, and federal policies and budgetary considerations that would be best left to lawmakers.

Instead, the present authors merely suggest that there may be a more effective way to provide relief for property owners that have been impacted by flooding attributable to government negligence. As demonstrated through a discussion of the cases resulting from Hurricane Katrina and Hurricane Harvey, it is very difficult to assess the merits of a claim or potential liabilities for governments attempting to plan for inevitable sea-level rise, climate change, or other flooding events. A mechanism created by the government to provide relief for those injured after a flood control measure fails, or the government fails to properly protect an area from flooding, may help government decisionmakers to clearly understand the potential risks and liabilities associated with a particular decision. Moreover, a relief fund could ensure that plaintiffs uniformly recover.[235] With a lack of clarity in existing laws and court decisions, plaintiffs and governments could both benefit from the creation of a clear relief mechanism.

4. Using State Property and Water Laws

Some scholars have suggested that the difficulties in applying a takings jurisprudence in flooding cases can be resolved by relying on state laws that define property rights and basic tenets of water law.[236] Under this analysis, these scholars argue that courts have largely ignored these important areas of law even though *AGF* expressly calls courts to consider whether plaintiffs maintain a protectable property interest under state law.[237] According to proponents of this view, courts should focus on whether state law confers property rights to plaintiffs impacted by flooding or whether state water law dictates the outcome of the case rather than turning to constitutional takings law.

In *AGF*, the issue of state water laws nearly went unmentioned until the case reached the Supreme Court.[238] The issue was first raised by an amicus brief filed by professors of law teaching in the property law and water rights fields.[239] Because the issues were not reviewed or even considered by lower courts, however, the Supreme Court declined ruling on whether state laws impacted the outcome of the case. Instead, the Court noted that "considerations of a property owner's distinct investment-backed expectations [is] a matter often informed by the law in force in the State in which the property is located."[240]

Although the Supreme Court did not consider the implications of state property or water law in *AGF*, the application of these principles can be seen in the outcome of the downstream case after Harvey. Here, the judge focused his opinion on state property laws and whether the state of Texas recognized that the downstream property owners were entitled to perfect flood control. Ultimately, the court held that the plaintiffs had no protectable property interest that could be allegedly taken by the government. By relying on state property law, the court was able to avoid the complicated analysis that arises when courts are required to apply constitutional takings jurisprudence to complex flooding cases.

While state property and water laws may play an important role in clarifying when government actors may be

232. *See* 42 U.S.C. §5174, providing that the president
> may provide financial assistance, and, if necessary, direct services, to individuals and households in the State who, as a direct result of a major disaster, have necessary expenses and serious needs in cases in which the individuals and households are unable to meet such expenses or needs through other means.

233. *See* Erin J. Greten & Ernest B. Abbott, *Representing States, Tribes, and Local Governments Before, During, and After a Presidentially-Declared Disaster*, 48 Urb. Law. 489, 492 (2016) (discussing the resources that may be available after a natural disaster).

234. William L. Painter & Jared T. Brown, Congressional Research Service, FY2013 Supplemental Funding for Disaster Relief: Summary and Considerations for Congress (2013).

235. Ralph W. Flick, *When Is a Temporary Government-Induced Flood a Taking: The Constitutional, Legal, and Practical Application of* Arkansas Game & Fish Commission v. United States, 47 Real Est. L.J. 428 (2019) (discussing that "[g]iven the challenges that the courts have had in defining the distinction, the system ultimately has created winners and losers based on an unclear or even arbitrary distinction").

236. Mark S. Davis et al., *Taken by Storm-Property Rights and Natural Disasters*, 29 Tul. Env'r L.J. 287 (2017).

237. *AGF*, 568 U.S. 23, 38, 42 ELR 20247 (2012) ("The determination whether a taking has occurred includes consideration of the property owner's distinct investment backed expectations, a matter often informed by the law in force in the State in which the property is located.").

238. *Id.* ("But Arkansas law was not examined by the Federal Circuit, and therefore is not properly perused in this Court.").

239. *Id.* at 38 n.1.

240. *Id.* at 38.

liable for the taking of private property based on flooding induced by an otherwise natural event, the authors of this Article believe that the ultimate issue for government actors in assessing potential liability for implementing certain flood control measures is the scope of the test created by *AGF*. State laws that govern property rights and water laws inevitably vary based on jurisdiction. To ensure that government actors are not exposed to unwarranted liability for implementing certain flood control measures, the constitutional framework needs to be adjusted to provide greater clarity for this element.

V. Conclusion

As the effects of climate change, sea-level rise, and other natural events continue to increase the risks that private property will be flooded in the event of a hurricane or heavy rainfall, governments at all levels will be increasingly pressured to take action. Despite the important role that government actors should have in mitigating the risks and impacts incurred by the rapidly changing environment, the potential liabilities and risks associated with governmental decisions are more unclear than ever.

After *AGF*, courts have struggled to pin down governmental liability in the Takings Clause for flooding events and have, perhaps inadvertently, opened the door for the government to be liable for negligent takings. In an age of rapidly changing environmental conditions, climate change, and sea-level rise, where governments are inheriting outdated flood control infrastructure, this new form of liability creates very real and significant impacts for governments and their ability to make decisions.

To ensure that government decisionmakers are best able to address the coming challenges and increased potential for floods, this Article calls for greater clarity in the application of the test created by *AGF*, specifically with regard to the scope of foreseeability, a traditional tort principle, as applied within the takings context. Although it may take a variety of stakeholders to solve problems associated with flooding and aging flooding infrastructure while awarding recovery for those injured by a flooding event, there must be a greater recognition that flooding cases are unique and complex and that all stakeholders—government officials, private-property owners, and courts—will best be served by greater clarity in the scope of liability in this area.