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Potential Liability of Governments for Failure to Prepare for Climate Change

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EXECUTIVE SUMMARY

This paper examines whether governments can expose themselves to potential legal liability by turning a blind eye to the accumulating risks of climate change. Specifically, the paper addresses potential claims sounding in negligence, fraud, and takings, describing the benefits and challenges of each theory. The paper explores ways to overcome a government's claim of sovereign immunity in the context of a negligence claim, noting in particular the common government waiver of immunity for claims arising out of dangerous conditions of government owned property. The paper describes the challenges of bringing a claim for fraud where officials intentionally obscure relevant information about climate change risks, including the sovereign immunity defense as well as difficulties proving causation and intent in this context. Finally, the paper explores claims for just compensation where a government causes property to be damaged or destroyed through its failure to prevent the impacts of climate change, and concludes that this type of suit is the most promising of the three.

If claims under any of these theories are successful, such litigation could be used to promote climate change adaptation by encouraging governments to weigh the costs and benefits of both action and inaction in the face of the increasing risk of natural disasters.

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1. INTRODUCTION

Throughout the United States and elsewhere, governments are turning a blind eye to the accumulating risks of climate change. Florida Governor Rick Scott banned discussion of "climate change" and "global warming" in official state communications, preventing consideration of future climate conditions in the state's strategic planning.[1] State officials appointed by Governor Scott Walker of Wisconsin have similarly discouraged discussion of climate change.[2] In North Carolina, legislators delayed the state's use of sea level rise predictions to formulate coastal management policies.[3]

These states choose to ignore the threat of climate change despite the massive amount of damage already caused by natural disasters, especially severe storms, and the near certainty that climate change will exacerbate the problem.[4] The consequences of failing to prepare for the risk of future disasters may be compounded by the Federal Emergency Management Agency's (FEMA's) recently announced policy requiring states to plan for climate change to be eligible for disaster preparation funding;[5] if states continue to ignore the threat of climate change, they may forgo money from FEMA that could be used to make their communities less vulnerable to severe weather events.[6] It remains to be seen if state governments will turn this money away by refusing

[1] Telephone Interview with Kristina Trotta, former Florida Department of Environmental Protection employee (Aug. 7, 2015).

[2] Siri Carpenter, *How Scott Walker Dismantled Wisconsin's Environmental Legacy*, SCIENTIFIC AM., June 17, 2015, *available at* http://www.scientificamerican.com/article/how-scott-walker-dismantled-wisconsin-s-environmental-legacy/.

[3] COASTAL AREAS--MANAGERS AND MANAGEMENT--RULES AND REGULATIONS, 2012 North Carolina Laws S.L. 2012-202 (H.B. 819).

[4] Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., 2014: Climate Change Impacts in the United States: The Third National Climate Assessment. U.S. Global Change Research Program, 841 pp. doi:10.7930/J0Z31WJ2, at 397, 420 (discussing the observed and projected prevalence of natural disasters in the United States); IPCC, 2012: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, UK, and New York, NY, USA, 582 pp.

[5] FEMA, State Mitigation Plan Review Guide (March 2015), § 3.2, *available at* http://www.fema.gov/media-library-data/1425915308555-aba3a873bc5f1140f7320d1ebebd18c6/State_Mitigation_Plan_Review_Guide_2015.pdf.

[6] A previous study by the Sabin Center for Climate Change Law shows that several states do not address climate change risks at all in their hazard mitigation plans. Matthew Babcock, *State Hazard Mitigation Plans & Climate Change: Rating the States* (Nov. 2013), *available at* http://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/Students/SHMP%20Survey_Final.pdf.

to plan for the risk of future hazards. If states ignore known risks and people lose their property or their lives as a result, they may be subject to legal attack.

This article explores three possible legal claims against states and local governments for failing to prepare for climate change, or, stated differently, for failing to adapt: negligence, fraud, and takings. The article begins by exploring the outlines of a negligence suit against a government entity for failure to prepare for climate change. It discusses ways to overcome a government's claim of sovereign immunity and delves into each element of a negligence claim to illustrate how such a claim might unfold. Since many governments waive immunity for claims arising out of dangerous conditions of property and impose a duty to maintain public property in a reasonably safe condition, basing a negligence lawsuit on the government's obligation to manage public infrastructure may increase a litigant's chance for success. The article next turns to the possibility of holding governments liable for fraud where officials intentionally obscure relevant information about climate change risks. Challenges overcoming a sovereign immunity defense, as well as difficulties proving causation and intent in this context, will likely make a claim for fraud against a government extremely difficult to win. Nonetheless, such a claim is potentially worth exploring in the most egregious cases of government obfuscation. Finally, the article discusses claims for just compensation where a government causes property to be damaged or destroyed through its failure to prevent the impacts of climate change. This type of suit is probably the most promising. Takings claims do not pose major issues with sovereign immunity, since states are generally not immune from such claims in their own courts. Additionally, there is precedent for takings jurisprudence to apply where governments inadequately prepare government-constructed and maintained infrastructure for severe weather events.

If claims under any of these theories are successful, such litigation could be used to promote climate change adaptation by encouraging governments to weigh the costs and benefits of both action and inaction in the face of the increasing risk of natural disasters. While the article largely focuses on flood risk, the analysis applies with equal force to other climate change impacts.

2. NEGLIGENCE

On April 18, 2013, Illinois Governor Pat Quinn declared a state of emergency after heavy rain caused extensive flooding in Chicago and the surrounding area.[7] Residents of some Chicago suburbs were evacuated, and people were urged to reduce household water use to prevent further flooding at the Chicago River.[8] Tens of thousands of people lost power, a sinkhole swallowed cars, and hundreds of flights were canceled at O'Hare airport.[9]

Several months later, a group of insurance companies sued Chicago and over 100 nearby local governments in a series of class action lawsuits, claiming that the municipalities did not do enough to prevent the flooding.[10] The insurance companies argued that the local governments were negligent in failing to prepare for the impacts of climate change and sought to be reimbursed for claims paid to property owners.[11] The cases were quickly withdrawn,[12] but similar suits have been brought in Illinois[13] and Australia.[14] This section addresses the immunity defenses that will

[7] Chicago Flooding: Heavy Rain Storm Prompts Emergency, Road Closures in Cook County, HUFFINGTON POST CHICAGO (Apr. 18, 2013), *available at* http://www.huffingtonpost.com/2013/04/18/chicago-flooding-rain-sto_n_3109412.html.

[8] *Id.*

[9] *Id.*; Staff Report, *Storms Cause Damage, Power Outages*, NBC Chicago (June 13, 2013), *available at* http://www.nbcchicago.com/weather/stories/Storms-Chicago-Severe-Weather-211009451.html.

[10] *Illinois Farmers Insurance Company v. Metropolitan Water Reclamation District of Greater Chicago*, No. 14-CH-06608 (Ill. Cir. Ct. Cook Co.); Robert McCoppin, *Insurance company drops suits over Chicago-area flooding*, CHICAGO TRIBUNE (June 3, 2014), *available at* http://www.chicagotribune.com/news/local/breaking/chi-chicago-flooding-insurance-lawsuit-20140603-story.html.

[11] *Illinois Farmers Insurance, supra* note 10; *Illinois Farmers Insurance Company v. County of DuPage*, No. 14-L-385 (Ill. Cir. Ct. DuPage Co.); *Illinois Farmers Insurance Company v. County of Lake*, No. 14-L-281 (Ill. Cir. Ct. Lake Co.); *Illinois Farmers Insurance Company v. County of Will*, No. 14-L-314 (Ill. Cir. Ct. Will Co.); The plaintiffs' negligence claims were brought under an Illinois statute codifying the government's potential civil liability. Specifically, the plaintiffs claimed that the local government defendants violated: 1) 745 Ill. Comp. Stat. Ann. 10/3-102, which provides that "a local public entity has the duty to exercise ordinary care to maintain its property in a reasonably safe condition…" and 2) 745 Ill. Comp. Stat. Ann. 10/3-103, which provides that a local government may be liable where, after executing a plan to construct or improve public property, "it appears from its use that it has created a condition that is not reasonably safe." The plaintiffs also brought claims under the state and federal takings clause. Takings claims are addressed later in this paper.

[12] McCoppin, *supra* note 10.

[13] *E.g. Tzakis v. Berger Excavating Contractors, Inc.*, No. 09 CH 06159 (Ill. Cir. Ct. Cook Co.) (class action alleging, in part, that local governments caused flood damage to plaintiffs' property by failing to enact new standards reducing rainwater runoff despite the increasing risk of severe precipitation. *Tzakis* was ultimately dismissed on the basis of Illinois' Public Duty Rule, which provides that a public entity is not liable for its failure to provide adequate "governmental services," because the duty to provide such services is owed to the general public at large, and not to any particular plaintiff or plaintiffs).

[14] Several cases regarding the government's duty of care to protect citizens from risk, albeit not specifically from climate change risk, have been pursued in Australia, *See, e.g., Brodie v Singleton Shire Council* (2001) 206 C.L.R. 512 (holding that in

inevitably be raised against a failure to adapt claim, and then turns to the elements of negligence that a plaintiff would need to prove.

2.1 Government Immunity

Overcoming the immunity from suit governments often enjoy presents a significant hurdle in such cases. States are immune from many kinds of suits in both federal and state courts by virtue of their sovereignty.[15] Sovereign immunity extends to government officials sued in their official capacities.[16] States may, however, consent to be sued, and many have waived sovereign immunity under certain circumstances through legislative enactments, which are interpreted narrowly by courts.[17] Although the Eleventh Amendment bar to suit against states in federal courts does not extend to counties and municipalities,[18] local governments also enjoy some measure of immunity based on state statutory and common law.[19]

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certain circumstances the government yields a special measure of control over the safety of citizens so as to impose a duty of care and an obligation to exercise its powers to avert a danger or to bring it to the knowledge of citizens); *Alec Finlayson Pty Ltd v. Armidale City Council* (1994) 123 A.L.R. 155 (holding that if a public authority creates or increases a risk to another person, he is obligated to take reasonable action to prevent injury unless statute precludes the duty to act).

[15] *United States v. Lee*, 106 U.S. 196 (1882) (doctrine is derived from the laws and practices of English ancestors); *Coll. Sav. Bank v. Florida Prepaid Postsecondary Educ. Expense Bd.*, 527 U.S. 666, 669 (1999); *Alden v. Maine*, 527 U.S. 706 (1999) (part of the very nature of sovereignty to be immune from unconsented suits).

[16] *HCMF Corp. v. Gilmore*, 26 F. Supp. 2d 873, 878 (W.D. Va. 1998) (Virginia's Eleventh Amendment immunity "extends to state officials when they are merely the nominal defendants and 'the state is the real, substantial party in interest.'"); *Illinois Health Care Ass'n v. Walters*, 303 Ill. App. 3d 435, 438, 710 N.E.2d 403, 405 (Ill. App. Ct. 1999) ("If a suit is brought against a state official, yet the judgment could operate to control the actions of the state or subject it to liability, then the suit is, in actuality, against the state."); *Olavarria v. Wake Cnty. Human Servs.*, 763 S.E.2d 18 (N.C. Ct. App.), *appeal dismissed, review denied*, 763 S.E.2d 394 (N.C. 2014) ("governmental immunity shields municipalities and the officers or employees thereof sued in their official capacities from suits based on torts committed while performing a governmental function.").

[17] *New Orleans Tanker Corp. v. Dep't of Transp.*, 728 A.2d 673, 675 (Me. 1999) (we start from the premise that immunity is the rule and exceptions to immunity are to be strictly construed); *Lockwood v. City of Pittsburgh*, 751 A.2d 1136, 1139 (Pa. 2000) (exceptions to immunity are to be strictly construed); *Guillen v. City of San Antonio*, 13 S.W.3d 428, 433 (Tex. App. 2000) (the Texas Tort Claims Act is a limited waiver of absolute common law immunity…construed strictly on the side of preserving immunity).

[18] *Falk v. Perez*, 973 F. Supp. 2d 850, 861 (N.D. Ill. 2013) (citing *Mt. Healthy City Sch. Dist. Bd. of Educ. v. Doyle*, 429 U.S. 274, 280 (1977)).

[19] *Crouch v. City of Kansas City*, 444 S.W.3d 517, 521 (Mo. Ct. App. 2014) (municipalities are entitled to sovereign immunity only when engaged in governmental functions); *Am. Home Assur. Co. v. Nat'l R.R. Passenger Corp.*, 908 So. 2d 459, 478 (Fla. 2005) (state statute granted cities immunity from judgments above certain limits); *City of Chesapeake v. Cunningham*, 268 Va. 624, 634, 604 S.E.2d 420, 426 (2004) (Sovereign immunity protects municipalities from tort liability arising from the exercise of governmental functions).

Nonetheless, it is sometimes possible to formulate a claim such that it falls outside the scope of state and local governments' immunity.[20] While the nuances of sovereign immunity vary from state to state, certain exceptions are common. First, while sovereign immunity generally bars suits seeking monetary damages against government agencies, actions for declaratory judgment or injunctive relief are permissible in some states.[21] Second, within certain jurisdictions, governmental immunity for tort claims is waived when the government purchases liability insurance covering such claims.[22]

Many states immunize discretionary functions, but allow suit against government and governments for "ministerial" actions.[23] In distinguishing between discretionary acts and ministerial functions, "the key factor is the presence of basic policy formulation, planning, or policy decisions which are characterized by an exercise of a high degree of official judgment or discretion."[24] For example, a city exercises discretion when it selects and adopts a public

[20] 6 Litigating Tort Cases § 66:2 ("whether immunity applies is often a matter of how the claim is characterized rather than the reality of the claim itself").

[21] *Atl. Specialty Ins. Co. v. Webster Cnty., Miss.*, No. 140-CV-23, 2014 WL 3437019, at *6 (N.D. Miss. July 11, 2014) (while municipalities are immune from certain claims for monetary damages, governmental immunity does not prevent plaintiffs from seeking declaratory relief); *Roland v. Epps*, 10 So. 3d 972, 974 (Miss. Ct. App. 2009) ("a state official may be sued for injunctive relief in his or her official capacity"); *Legal Capital, LLC. v. Med. Prof'l Liab. Catastrophe Loss Fund*, 750 A.2d 299, 302 (Pa. 2000) (sovereign immunity does not apply because it is not applicable to declaratory judgment actions); *Texas Dep't of Banking v. Mount Olivet Cemetery Ass'n*, 27 S.W.3d 276, 281 (Tex. App. 2000) (holding that sovereign immunity did not bar suit for declaratory relief); *Penland v. Redwood Sanitary Sewer Serv. Dist.*, 956 P.2d 964, 965 (Or. 1998) (discretionary immunity does not bar a suit for injunctive relief).

[22] *Napier v. Town of Windham*, 187 F.3d 177, 190 (1st Cir. 1999) (Under Maine law, if a governmental entity procures insurance that provides coverage in areas where the governmental entity is immune under the state's Tort Claims Act, the entity waives its immunity, but only to the limits of the insurance coverage); *City of Caddo Valley v. George*, 9 S.W.3d 481, 484 (Ariz. 2000) ("a municipal corporation's immunity for negligent acts only begins where its insurance coverage leaves off"); *Gilbert v. Richardson*, 452 S.E.2d 476, 481 (Ga. 1994) (Georgia Tort Claims Act waives only sovereign or governmental immunity of local governmental agency to extent of liability insurance coverage).

[23] *Trotter v. Sch. Dist. 218*, 733 N.E.2d 363, 375 (Ill. 2000); *Willow Creek Ranch, L.L.C. v. Town of Shelby*, 611 N.W.2d 693, 700 (Wis. 2000) (Under the Wisconsin Tort Claims Act, a municipality is immune from any suit for liability arising from discretionary acts); *Rivera v. City of Worcester*, No. 12-CV-40066, 2015 WL 685800, at *6 (D. Mass. Feb. 18, 2015) (In Massachusetts, the discretionary function exception bars government liability for claims based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty); *Williams v. Mayor & City Council of Baltimore*, 753 A.2d 41, 60-61 (Md. 2000) (in Maryland, government actors generally immune from liability where tortious conduct occurred while performing discretionary as opposed to ministerial acts"); *Chirieleison v. Lucas*, 72 A.3d 1218, 1224 (Conn. App. Ct. 2013) ("a municipal employee is liable for the misperformance of ministerial acts, but has a qualified immunity in the performance of governmental acts").

[24] 6 Litigating Tort Cases § 66:47.

improvement plan, but carrying out the plan involves ministerial actions that must be carried out in a reasonably safe manner.[25]

Notably, many states include a "dangerous conditions exception" to sovereign immunity in their tort claims acts, allowing law suits arising from a government entity's maintenance of property it owns.[26] For example, Pennsylvania waives immunity for tort claims arising out of its control of, among other things, "utility service facilities," which include storm water management systems.[27] Statutes carving out such an exception generally impose "a broad duty … to maintain safe public places."[28] Under this exception, however, the plaintiff must show that the government either created the dangerous condition causing the plaintiff's injury or should have known of the condition.[29]

2.2 Negligence elements

Once a plaintiff overcomes a sovereign immunity defense, a governmental entity is generally subject to the same rules of liability that apply to nongovernmental entities. Litigants seeking to establish a negligence claim against governments that refuse to prepare for climate change would need to show that 1) the official had a duty to prepare for extreme weather events; 2) the official breached that duty by failing to prepare or causing others to fail to prepare; 3) the

[25] *Trotter*, *supra* note 23.

[26] Dan B. Dobbs, Paul T. Hayden and Ellen M. Bublick, The Law of Torts § 336 (2d ed.) ("States also tend to eliminate immunity for injuries resulting from badly maintained government property."). Statutory exceptions to sovereign immunity for public property include: 42 Pa. Cons. Stat. Ann. § 8542 (a local entity may be liable for "the care, custody or control of real property in the possession of the local agency"); Colo. Rev. Stat. Ann. § 24-10-106 (sovereign immunity is waived by a public entity in an action for injuries resulting from a dangerous condition of any public property, including buildings, highways, and power facilities); Mo. Ann. Stat. § 537.600 (immunity of the public entity is expressly waived for injuries caused by the condition of a public entity's property); and Mich. Comp. Laws Ann. § 691.1406 (governmental agencies liable for injury resulting from dangerous condition of a public building if agency had knowledge of the defect and failed to remedy the condition or take action reasonably necessary to protect the public against the condition.).

[27] 42 Pa. Cons. Stat. Ann. § 8542(5); *Rooney v. City of Philadelphia*, 623 F. Supp. 2d 644, 653 (E.D. Pa. 2009).

[28] 6 Litigating Tort Cases § 66:66.

[29] *Bonilla v. Starrett City at Spring Creek*, 704 N.Y.S.2d 619, 620 (N.Y. 2000) ("To impose liability upon the defendants, there must be evidence tending to show the existence of a dangerous or defective condition and that the defendants either created the condition or had actual or constructive notice of it and failed to remedy it within a reasonable time); *Willis v. City of New Bern*, 529 S.E.2d 691, 693 (N.C. 2000) (granting summary judgment for the defendant city where the plaintiff did not offer proof that the city had notice of the defect causing her injury); *Isbell v. Maricopa Cnty.*, 9 P.3d 311, 314 (Ariz. 2000) (a plaintiff need not establish "notice" if a government agency itself creates or causes the dangerous condition.); *Hawks v. City of Westmoreland*, 960 S.W.2d 10, 15 (Tenn. 1997) (The government has "constructive notice" of a dangerous condition where it could have been discovered by proper diligence and it had a duty to inquiring into it.'").

litigant suffered harm; and 4) this harm was caused or worsened by the government official's breach of duty. While climate change adaptation litigation is a new phenomenon,[30] analyzing the elements of a negligence claim in this context does not require novel legal theories.[31]

2.2.1 Duty

First, the extent of a government's obligation to protect people and ecosystems from the impacts of climate change may be determined by state statute. For example, in Illinois and many other states, local governments have an explicit duty to exercise ordinary care to maintain public property in a reasonably safe condition.[32] Plaintiffs should consider basing allegations of government negligence for failing to prepare for climate change on this prevalent statutorily prescribed government obligation. Many states have enacted statutes enumerating the specific obligations of local and state governments.[33]

Courts may also consider "compelling policy concerns"[34] to expand the scope of the government's duty beyond those expressed in a state statute.[35] Such policy concerns include the foreseeability of harm to the plaintiff, the capacity of the parties to bear the loss, and the

[30] Maxine Burkett, *Litigating Climate Change Adaptation: Theory, Practice, and Corrective (Climate) Justice*, 42 Envtl. L. Rep. News & Analysis 11144, 11156 (2012) (observing that no climate change adaptation cases had been filed through the end of 2012).

[31] *Id.*, at 11146 ("[T]ort law is well-equipped in both purpose and function to address the challenges of adapting.").

[32] 745 Ill. Comp. Stat. Ann. 10/3-102. For additional examples of statutes defining a state's duty to maintain public property, see note 26.

[33] *See* National Conference of State Legislatures, State Sovereign Immunity and Tort Liability, http://www.ncsl.org/research/transportation/state-sovereign-immunity-and-tort-liability.aspx (listing state tort claims acts); *see, e.g.*, Ill. Ann. Stat. ch. 745, §§ 5/1 *et seq.*; Pa. Cons. Stat. Ann. tit. 42, §§ 8521 *et seq.*; Cal. Gov. Code §§ 815, *et seq.*

[34] Maxine Burkett, *Duty and Breach in an Era of Uncertainty: Local Government Liability for Failure to Adapt to Climate Change*, 20 Geo. Mason L. Rev. 775, 786 (2013).

[35] *See Norris v. Borough of Leonia*, 734 A.2d 762, 768 (N.J. 1999) (Even in cases where a common law immunity has been incorporated into or codified by statute, it remains subject to judicial modification); *Donaca v. Curry Cnty.*, 734 P.2d 1339 (Or. 1987) (finding that a county's liability for failure to maintain the grass at an intersection where an automobile accident occurred depended on "the existence and magnitude of the risk at the intersection…[and the] feasibility and cost of avoiding the risk…."); *Fazzolari By & Through Fazzolari v. Portland Sch. Dist. No. 1J*, 717 P.2d 1210 (Or. Ct. App. 1986), *aff'd*, 734 P.2d 1326 (Or. 1987) (finding that a jury could reasonably conclude that a public school had a duty to protect a student who was attacked on school grounds, after another person had been raped on campus two weeks earlier); *Williams v. Mayor & City Council of Baltimore*, *supra* note 23 (in case against city, listing variables to be considered in determining if a duty exists, including the foreseeability of the harm and the burden on the city of imposing a duty to exercise care).

consequences to the community of imposing a duty to exercise care.[36] As scientists work to refine predictions of the risk of extreme weather and associated damage to life and property, these impacts are increasingly foreseeable. Moreover, governments will almost always have a greater capacity to bear losses than individuals. And imposing a duty on governments to prepare for climate change will generally yield positive outcomes for communities that will otherwise be vulnerable to devastation from natural disasters and other climate risks. In short, policy concerns may support the imposition of a governmental duty to act to protect citizens from potential harm by implementing appropriate climate change adaptation measures.[37]

Some jurisdictions adhere to the "public duty doctrine," which provides that governmental entities and their agents owe duties only to the general public, not to individuals, absent a "special relationship" or "special duty" between the entity and the injured party.[38] Indeed, the Circuit Court of Cook County, Illinois held in a case against several municipalities for failure to prepare for climate change that the city defendants did not owe a duty of due care to the plaintiffs in connection with their performance of public duties.[39] A litigant may overcome this public duty defense by showing that the government voluntarily assumed a duty to the plaintiff.[40] By doing so, a special relationship between the plaintiff and a governmental agency arises, creating a duty of care towards the individual even for discretionary functions.[41] A special relationship may arise when the government performs an affirmative act, or makes a specific promise or representation

[36] *See, e.g.*, *Ameriwood Indus. Int'l Corp. v. Arthur Andersen & Co.*, 961 F. Supp. 1078, 1090 (W.D. Mich. 1997); *Torres v. Graves*, No. 92-CV-4449, 1993 WL 19753, at *5-6 (E.D. Pa. Jan. 26, 1993); *Vu v. Singer Co.*, 538 F. Supp. 26, 29 (N.D. Cal. 1981).

[37] *Duty and Breach, supra* note 34, at 786.

[38] *City Of Toccoa v. Pittman*, 648 S.E.2d 733, 736 (Ga. Ct. App. 2007); *Stone v. N. Carolina Dep't of Labor*, 495 S.E.2d 711, 714 (N.C. 1998).

[39] *Tzakis*, *supra* note 13, April 3 Order re PDR Decision as to LPES and other issues, *available at* http://www.eenews.net/assets/2015/06/08/document_daily_03.pdf (finding the public entity defendants immune under Illinois' Public Duty Rule (citing *Harinek v. 161 N. Clark St./Ltd Partnership*, 181 Ill. 2d 335, 345-47 (Ill. 1998)).

[40] 6 Litigating Tort Cases § 66:48; *see also Souder v. Cannon*, 235 S.W.3d 841, 852 (Tex. App. 2007).

[41] *Japan Airlines Co. v. Port Auth. of New York & New Jersey*, 178 F.3d 103, 111 (2d Cir. 1999) (there is no governmental immunity where a special relationship exists between the governmental entity and the injured party); *Hartley v. Floyd*, 512 So. 2d 1022, 1024 (Fla. Dist. Ct. App. 1987) (Once defendant agreed to perform certain tasks, "his actions ceased to be discretionary actions and became merely operational level activities which must be performed with reasonable care and for which there is no sovereign immunity.").

that under the circumstances creates a justifiable reliance on the part of the person injured.[42] Many states have abandoned the public duty doctrine altogether.[43]

Establishing that a government has an affirmative duty to act is more difficult than establishing that the government must exercise due care when it chooses to act. For example, showing that the government was negligent for failing to build a levee may present greater challenges than showing that the government was negligent in building a levee that was poorly designed or inadequately maintained, since the former might be said to require a greater degree of discretion. Even where a litigant ostensibly seeks damages for a government's "failure to act," however, it may be possible to characterize the government's obligation in other terms.[44] Since state governments make decisions in the context of an existing web of infrastructure, such as sewer systems and levees, the distinction between the duty to maintain government-owned property and to build new structures can be blurry.[45]

Importantly, even where a government action is shielded by discretionary immunity, if that action ultimately creates a dangerous condition known to the government but not readily apparent to people who could be injured by the condition, the governmental entity must take steps to avert the danger or properly warn people of the danger.[46] For example, in *City of St. Petersburg v. Collom*,

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[42] 6 Litigating Tort Cases § 66:48; *1515-1519 Lakeview Boulevard Condo. Ass'n v. Apartment Sales Corp.*, 43 P.3d 1233, 1240 (Wash. 2002) (plaintiff demonstrated a special relationship with respect to the government's maintenance of a storm drain system by showing direct contact between a government official and herself, express assurances given by a public official, and justifiable reliance on those assurances.)

[43] *Jean W. v. Com.*, 610 N.E.2d 305 (Mass. 1993) (abolishing public duty doctrine in Massachusetts); *Adams v. State*, 555 P.2d 235, 243 (Alaska 1976) (abolishing public duty doctrine and applying traditional negligence analysis to government); *Ryan v. State*, 656 P.2d 597 (Ariz. 1982) (same); *Leake v. Cain*, 720 P.2d 152 (Colo. 1986) (public duty doctrine held no longer applicable in Colorado); *Commercial Carrier Corp. v. Indian River County*, 371 So. 2d 1010 (Fla. 1979) (holding governmental negligence to be determined by non-public entity standards); *Wilson v. Nepstad*, 282 N.W.2d 664 (Iowa 1979) (abolishing public duty doctrine); *Schear v. Board of County Comm'rs*, 687 P.2d 728 (N.M. 1984) (public duty doctrine abolished by statute); *Brennen v. City of Eugene*, 591 P.2d 719 (Or. 1979) (abolishing public duty doctrine); *Coffey v. Milwaukee*, 247 N.W.2d 132 (Wis. 1976) (same); *DeWald v. State*, 719 P.2d 643 (Wyo. 1986) (same).

[44] *See Jean W. v. Com.*, *supra* note 43, at 312 (providing examples of cases that could be characterized either as cases of misfeasance or nonfeasance).

[45] *See* Christopher Serkin, *Passive Takings: The State's Affirmative Duty to Protect Property*, 113 Mich. L. Rev. 345, 348 (2014) (arguing, in the Takings Clause context, that "[p]reexisting regulatory intervention means that the government should not be able to wash its hands of responsibility now.")

[46] *City of St. Petersburg v. Collom*, 419 So. 2d 1082, 1086 (Fla. 1982); *Jezek v. City of Midland*, 605 S.W.2d 544, 548 (Tex.1980); *see also Larson v. Township of New Haven*, 165 N.W.2d 543, 546 (Minn. 1969); *Teall v. City of Cudahy*, 386 P.2d 493 (Cal. 1963); *Lowman v. City of Mesa*, 611 P.2d 943 (Ariz. App. 1980).

three individuals drowned when they fell into open storm drainage ditches owned by the city.[47] The court expressed doubt that the city defendant could be held liable for defects in its "overall plan for the drainage system," since such planning constitutes a discretionary function.[48] The *St. Petersburg* court held, nonetheless, that the plaintiffs had stated a cause of action against the city defendant for its failure to either warn people of the open drain hazard or to correct the dangerous condition by adding fences or other barriers around the ditches.[49] According to the *St. Petersburg* court, "a governmental entity may not create a known hazard or trap and then claim immunity from suit for injuries resulting from that hazard on the grounds that it arose from a judgmental, planning-level decision."[50]

2.2.2 Breach

Assuming that a government entity has a duty to take action to protect citizens from the impacts of climate change, what would constitute a breach of that duty? The failure to provide complete protection from harm clearly does not itself constitute a breach of duty; a government will generally be found to have fulfilled its duty where its actions were justified by the information and resources available at the time of the action or omission at issue.[51] Instead, establishing a breach of the duty to prepare for the impacts of climate change would likely require a showing that the government's inaction exposed people to unnecessary risks. In this context, significant deference to the government in weighing the costs and benefits of its actions is certainly

[47] *City of St. Petersburg, supra* note 46.

[48] *Id.*, at 1086 ("defects inherent in the overall plan for an improvement, as approved by a governmental entity, are not matters that in and of themselves subject the entity to liability") (citing *Dep't of Transp. v. Neilson*, 419 So. 2d 1071 (Fla. 1982)).

[49] *Id.*, at 1085-87.

[50] *Id.*, at 1086; *see also Rooney, supra* note 27 (finding that a city may not be held liable for an inadequate storm water management system, but it may be liable for damages resulting from negligence in the construction or maintenance of the sewer system).

[51] *Cootey v. Sun Inv., Inc.*, 718 P.2d 1086, 1090 (Haw. 1986) ("Government is not intended to be an insurer of all the dangers of modern life, despite its ever-increasing effort to protect its citizens from peril."); *Jean W. v. Com.*, supra note 43, at 314-15 ("Police departments are no more responsible for every harm that befalls victims of crime than fire departments are responsible for every sparking of a fire, and neither should be an insurer of every loss sustained in those contexts.").

appropriate. Deference should not, however, "amount to abdication of oversight in the context of either action or inaction."[52]

The well-known "Hand formula" is a useful starting point in determining whether a defendant has breached his duty of care.[53] Generally, the formula dictates that a person breaches his duty where the likelihood of harm multiplied by the magnitude of harm is greater than the cost of preventing that harm.[54] In the context of a case alleging failure to prepare for climate change, the likelihood of harm is the chance of a particular weather event, such as a 100-year flood,[55] at the time of the event. Since climate change is causing global alterations in the frequency and geographic distribution of significant weather events, historical data will not necessarily predict future probabilities. Thus, the likelihood of the weather event should be calculated based on expert weather and climate projections readily available to government officials.[56] Moreover, the government must have had access to the projections long enough before the weather event that there was a reasonable amount of time within which the government could act; liability cannot be based on projections newly available at the time of the litigation. The probability of a natural

[52] Serkin, *supra* note 45, at 385.

[53] Dobbs, *supra* note 26 § 161 ("If the defendant's cost of preventing the harm is less than the expected value of the harm itself, he is definitely negligent and liable under the Hand formula"); Restatement (Second) of Torts § 291 (1965) ("Where an act is one which a reasonable man would recognize as involving a risk of harm to another, the risk is unreasonable and the act is negligent if the risk is of such magnitude as to outweigh what the law regards as the utility of the act or of the particular manner in which it is done.").

[54] *In re City of New York*, 475 F. Supp. 2d 235, 242 (E.D.N.Y. 2007), *aff'd*, 522 F.3d 279 (2d Cir. 2008) (applying the Hand Formula to determine whether the City of New York was negligent in connection with an accident on the Staten Island Ferry); *Bhd. Shipping Co. v. St. Paul Fire & Marine Ins. Co.*, 985 F.2d 323, 327 (7th Cir. 1993) (Under the Hand formula, a defendant is negligent if the burden (cost) of the precautions that he could have taken to avoid the accident…is less than the loss that the accident could reasonably be anticipated to cause…, discounted (i.e., multiplied) by the probability that the accident would occur unless the precautions were taken."); *Levi v. Sw. Louisiana Elec. Membership Co-op. (SLEMCO)*, 542 So. 2d 1081, 1087 (La. 1989) ("When the product of the possibility of [injury] multiplied times the gravity of the harm, if it happens, exceeds the burden of precautions, the failure to take those precautions is negligence"); *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) (L. Hand, J.) ("if the probability be called P; the injury, L; and the burden, B; liability depends upon whether B is less than L multiplied by P: i.e., whether B less than PL").

[55] FEMA defines a 100-year flood as a flood with a 1% likelihood of occurring or being exceeded in any given year, based on historical data. FEMA, Flood Zones, http://www.fema.gov/flood-zones. Climate change has increased the risk of a 100-year flood in many areas such that the actual chance of such a flood is great than 1%.

[56] Long-term projections of future weather and climate conditions often provide a wide range of possible outcomes. *See, e.g.*, *See, e.g.*, C. Rosenzweig, W. Solecki, A. DeGaetano, M. O'Grady, S. Hassol, P. Grabhorn, Responding to climate change in New York State: the ClimAID integrated assessment for effective climate change adaptation, Ann. N. Y. Acad. Sci., 1244 (2011), pp. 2–649, *available at* http://www.nyserda.ny.gov/climaid (predicting sea level rise in New York City between 15 and 75 inches by 2100). Some courts may be unpersuaded that governments should be held liable for failing to act on uncertain projections. Nonetheless, such projections may play a larger role in courts' liability determinations as scientists continue to refine climate models, increasing both their accuracy and precision.

disaster should be based on its cumulative chance over a relevant period of time – perhaps from the time the government defendant should have been aware of the relevant climate projections to the date of the event – rather than in one particular year;[57] since resiliency measures are implemented for the long term, it is irrelevant to the question of breach whether a natural disaster occurs one year versus the next.

For the purposes of applying the Hand formula, the magnitude of the harm should be measured by the predicted loss of property and life likely to result from a particular event. Hurricane Sandy caused over $50 billion in damage,[58] and Hurricane Katrina left in its wake over $100 billion in damage.[59] Even if such events are infrequent, the extent of the devastation they cause justifies taking precautionary measures to minimize potential damage.[60]

More states and cities are facing choices regarding whether to make large upfront investments to prevent future damage. In 2010, Nashville, Tennessee experienced severe flooding from torrential rain that killed ten people and caused more than $2 billion in private property damage and $120 million in public infrastructure damage.[61] Despite the region's vulnerability to this type of weather event, five years later the Nashville Metro Council rejected a $100 million flood-protection proposal.[62] While there may have been good reasons to vote against the proposal – for example, some criticized the plan for providing greater flood protection to downtown Nashville at the expense of other neighborhoods – it is clear that the city should take action to

[57] The cumulative risk of a particular event increases as the time span increases. For example, while the risk of a 100-year flood may be approximately 1% within the next year, there is at least a 26% chance of a 100-year flood over the next 30 years. United States Geological Survey, *100-Year Flood–It's All About Chance* (April 2010), *available at* http://pubs.usgs.gov/gip/106/pdf/100-year-flood-handout-042610.pdf.

[58] U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), Service Assessment Hurricane/Post-Tropical Cyclone Sandy, October 22–29, 2012 (May 2013), *available at* http://www.nws.noaa.gov/os/assessments/pdfs/Sandy13.pdf.

[59] NOAA, The Deadliest, Costliest, And Most Intense United States Tropical Cyclones from 1851 to 2010 (and other frequently requested hurricane facts) (Aug. 2011), *available at* http://www.nhc.noaa.gov/pdf/nws-nhc-6.pdf.

[60] *In re City of New York*, *supra* note 54, at 242 (comparing, without quantifying, "[t]he probability … of a scenario where the pilot [of the Staten Island Ferry] would become incapacitated … [with] [t]he gravity of … resulting injury to its passengers" against the burden of enforcing a safety measure that would have prevented the accident to finding New York City negligent); *Duty and Breach*, *supra* note 34, at 781-82 ("Sandy also underscores the need for local governments to appreciate fully the costs of, to date, low probability yet unprecedented and devastating events.").

[61] The Tennessean, 20 Things to Know About The 2010 Flood, http://www.tennessean.com/story/news/local/2015/04/30/nashville-flood-20-things-to-know/26653901/.

[62] Richard Fausset, *Nashville Council Rejects $100 Million Flood-Protection Plan*, N.Y. TIMES, June 10, 2015, *available at* http://www.nytimes.com/2015/06/11/us/nashville-council-rejects-100-million-flood-protection-plan.html?_r=0.

prevent future devastation. If and when a similar flood event occurs in the future, a $100 million dollar resiliency plan may end up seeming like a great investment.[63]

Of course, many other factors are relevant to whether a governments' failure to act was reasonable, including the precision and accuracy of available climate projections, access to technical and monetary resources, the extent to which the precautions would have reduced or eliminated the damage, any negative consequences of the precautionary measures beyond their expense, and alternative measures taken by the state or city to adapt to climate change. It remains to be seen whether a court would impose a greater obligation to act on a wealthy state or local government with clear climate risks than a cash-strapped state with less exposure to natural disasters. For example, New York City had a $1.6 billion budget surplus in fiscal years 2015 and 2016,[64] and the city's vulnerabilities to climate change have been extensively studied and documented.[65] Ultimately, the plaintiff "need[s] to prove the unreasonableness of [the] defendant's actions in light of the well-established science of climate change."[66] While certainly a "formidable task," increasing knowledge of climate change risks should increase the potential for liability.[67]

2.2.3 Damages

Establishing the damage element of a negligence claim in this context would not differ materially from a typical negligence case. A litigant would have to show that he suffered an injury to his person or property. These types of injuries are "especially present in the climate adaptation

[63] Association of State Floodplain Managers, *Don't Just Respond and Replace: Respond, Replace, and Make Resilient!*, *available at* http://www.floods.org/ace-files/documentlibrary/Hot_Topics/SmartSandyRecoveryTipsFromStateFloodplainManagers10-31-12.pdf ("Federal and industry studies have confirmed that for every dollar invested in flood hazard mitigation, approximately five dollars is saved in disaster payouts and economic disruption."); FEMA, *What is Mitigation?*, https://www.fema.gov/what-mitigation ("[R]igorous building standards adopted by 20,000 communities across the country are saving the nation more than $1.1 billion a year in prevented flood damages.").

[64] Reuters, *New York City to have $1.6 bln budget surplus – comptroller*, http://www.reuters.com/article/2015/02/24/usa-newyorkcity-budget-idUSL1N0VY39120150224.

[65] *See, e.g.*, C. Rosenzweig, W. Solecki, A. DeGaetano, M. O'Grady, S. Hassol, P. Grabhorn, Responding to climate change in New York State: the ClimAID integrated assessment for effective climate change adaptation, Ann. N. Y. Acad. Sci., 1244 (2011), pp. 2–649, *available at* http://www.nyserda.ny.gov/climaid. *Compare*, Associated Press, *Missouri City Opts Not to Pay for Flood Protection,* N.Y. Times (July 2, 2014), *available at* http://www.nytimes.com/aponline/2014/07/02/us/ap-us-mississippi-river-towns-struggle.html?_r=0.

[66] *Litigating Climate Change Adaptation, supra* note 30, at 11145.

[67] *Id.*

context."[68] For example, where flooding causes widespread property damage or a heat wave increases mortality rates, many people will have suffered a clear and legally cognizable injury. Nonetheless, some states impose statutory dollar limitations to limit the amount that can be recovered against a government entity.[69]

2.2.4 Causation

To establish the causation prong of a claim for negligent failure to prepare for climate change, the plaintiff would need to show, as in any negligence case, that the defendant's breach of duty was the proximate cause of the plaintiff's injury. The question in this context is whether the government's failure to take reasonable measures to protect people from the natural disaster at issue caused the damage.

The plaintiff must identify measures the government could have taken to prevent the injury.[70] If the plaintiff claims that the government was negligent in failing to upgrade a storm drain system, for example, the litigant must show that if the government had upgraded the system, he would not have suffered the alleged loss.[71] Plaintiffs should challenge the city's failure to upgrade or build or upgrade specific infrastructure, rather than the city's failure to consider climate change impacts in its planning documents, since the latter theory would also require the plaintiff to establish that the infrastructure would have been upgraded if the planning had been carried out. Challenging government plans also raises immunity issues, since planning decisions are generally considered discretionary.[72]

The litigant would *not* need to show that the natural disaster at issue was caused by climate change.[73] Instead, the effect of climate change on the likelihood of the weather event would be a

[68] *Id.*, at 11148.

[69] *See, e.g.*, Colo. Rev. Stat. Ann. § 24-10-114; Ga. Code Ann. § 50-21-29; Minn. Stat. Ann. § 466.04.

[70] *See Rooney*, *supra* note 27 (plaintiffs' claim that city's negligent maintenance of sewer system caused flood damage survived summary judgment motion where plaintiffs presented evidence that clogged sewers caused the flooding and city had notice of the condition); *Gaylord ex rel. Gaylord v. Morris Twp. Fire Dep't*, 853 A.2d 1112, 1116 (Pa. Commw. Ct. 2004) (Municipal liability arising from real property ownership only available where the defect of the land itself causes the injury).

[71] *See id.*

[72] *See City of St. Petersburg*, *supra* note 46.

[73] Issues of causation raise more difficult questions in the context of a climate nuisance suit, since "current atmospheric levels of GHGs result from the cumulative emissions of millions or billions of emitters since the onset of the industrial revolution[, and] no specific injury can be attributed to any specific polluter." Michael Gerrard, *What Litigation of a*

factor in the determination of breach and foreseeability, as discussed above.[74] Indeed, the causation analysis would be almost identical for a case brought on the basis of a disaster with little or no connection to climate change, as long as that disaster was foreseeable.[75] Courts have imposed liability on the basis of private property owners' failure to act to prevent damage from natural disasters. For example, in California, the owners of an unreinforced building were found to be negligent when they failed to retrofit the building, and two people inside were killed during an earthquake.[76] A government could be held to the same standard in connection with publically owned property.

As natural disasters become more likely – and, therefore, more foreseeable – due to climate change, governments face the risk of being found liable for refusing to take reasonable actions to prepare for the impacts of climate change. This type of litigation can serve the duel purposes of compensating plaintiffs for injuries and encouraging governments to better adapt to climate change.

3. FRAUD

A fraud claim provides another potential avenue for litigants seeking to hold governments accountable for preparing for climate change impacts. State officials who knowingly misrepresent or obscure information about climate change may impede state residents from acting to protect themselves from the impacts of climate change. While successful claims against governments for fraud in the policy context are exceedingly rare, and possibly non-existent, this paper argues that this legal theory should be further explored in light of recent government efforts to mislead citizens regarding climate change risk.

Climate Nuisance Suit Might Look Like, YALE L. J. ONLINE (Sept. 2011); *Litigating Climate Change Adaptation*, *supra* note 30, at 11145 (observing that "establishing the causal link between a defendant's emissions and the alleged harms" would be the most challenging task for a plaintiff seeking tort remedies from greenhouse gas emitters).

[74] *Litigating Climate Change Adaptation*, *supra* note 30, at 11150 ("Attributing extreme weather events to climate change…will occur at the state of establishing defendant's breach of duty….").

[75] Rong-Gong Lin Ii, Rosanna Xia And Doug Smith, *Liability for quake losses a big concern for L.A. property owners,* L.A. TIMES (May 4, 2014), *available at* http://www.latimes.com/local/la-me-earthquake-liability-20140505-story.html.

[76] *Myrick v. Mastagni*, 185 Cal. App. 4th 1082, 111 Cal. Rptr. 3d 165 (Cal. Ct. App. 2010).

State Representative Pat McElraft created an uproar when she spearheaded a bill in North Carolina delaying the use of sea level rise projections in the development of coastal policies.[77] House Bill 819, which became law on August 3, 2012, provided that the state shall not define sea level rise rates until 2016, and it directs the state's Coastal Resources Commission to issue a sea level rise assessment by 2015.[78] While some charged that the law forced the state to ignore climate science, McElraft claimed that the law simply allowed the state to "step back" while more accurate models were developed.[79]

Some states have gone further by suppressing discussion of climate change impacts. Employees in Florida Governor Rick Scott's administration were directed not to discuss climate change or sea level rise.[80] Former Florida Department of Environmental Protection (FLDEP) employee Kristina Trotta described her experience working at the state agency under Governor Scott. In August 2014, a FLDEP administrator informed staff members that they were no longer allowed to talk about, in word or substance, climate change or sea level rise. When staff members pushed back, the administrator stated that this policy was what the Governor wanted and that, as a state agency, they were obligated to comply. From then on, DEP staff members in Ms. Trotta's department were barred from discussing climate change or incorporating climate change into their strategic planning. Managers later threatened to fire Ms. Trotta when an internal communication was revealed showing her dissent from the policy against discussing climate change.

In Wisconsin, Governor Scott Walker appointed agency heads who moved to silence discussion of climate change by their employees. Matt Adamczyk, Wisconsin's State Treasurer and one of the three-member Board of Commissioners of Public Lands, tried to fire the agency's executive secretary for co-chairing, years earlier, a state task force on climate change.[81] When his motion to fire her failed, Mr. Adamczyk pushed through a rule banning agency staff from working on or discussing climate change issues.[82] Governor Walker also appointed a former construction

[77] Alon Harish, *New Law in North Caronline Bans Latest Scientific Predictions of Sea-Level Rise*, ABC News (Aug. 2, 2012), *available at* http://abcnews.go.com/US/north-carolina-bans-latest-science-rising-sea-level/story?id=16913782.

[78] 2012 N.C. Sess. Laws 202 § 2.

[79] Harish, *supra* note 77.

[80] Telephone Interview with Kristina Trotta, *supra* note 1.

[81] Carpenter, *supra* note 2.

[82] *Id.*

company owner as the Secretary of Wisconsin's Department of Natural Resources (DNR). Under Secretary Stepp, DNR scientists reported a "chilling effect" on discussion of politically controversial subjects, including climate change.[83] For example, a DNR land use expert was directed to stop contacting communities to gauge their interest in climate change adaptation.[84]

In New Jersey, the Department of Environmental Protection (NJDEP) under Governor Chris Christie failed to mention climate change or sea level rise in its public communications on Hurricane Sandy, although the concept of "resiliency" is mentioned many times.[85] While the Sierra Club alleged that this omission was deliberate, the NJDEP denied that the omissions were politically motivated.[86] The Christie administration has done more than omit key words from public documents, however. The 2011 State budget eliminated funding for NJDEP's Office of Climate Change and Energy.[87] Governor Christie also withdrew the state of New Jersey from the Regional Greenhouse Gas Initiative, a carbon emission trading system.[88]

Commentators have speculated that competition for "the vast donations and outside expenditures of fossil fuel magnates" could motivate certain governors "to discourage their state's employees from honestly researching or discussing climate change with the public."[89] Could these state officials, or people who work for them, be exposing themselves to liability for fraud by preventing state residents from learning relevant information about climate change risk? That question is addressed below.

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[83] *Id.*

[84] *Id.*

[85] Ben Adler, *Why is Chris Christie silent on climate change, even as New Jersey is threatened by rising seas?*, Grist (Jan 9, 2014), http://grist.org/climate-energy/why-is-chris-christie-silent-on-climate-change-even-as-new-jersey-is-threatened-by-rising-seas/.

[86] *Id.*

[87] New Jersey Office of Management and Budget, Fiscal 2011 Budget in Brief, at 41, *available at* http://www.state.nj.us/treasury/omb/publications/11bib/BIB.pdf. An Act making appropriations for the support of the State Government and the several public purposes for the fiscal year ending June 30, 2011 and regulating the disbursement thereof, P.L.2010, CHAPTER 35, approved June 29, 2010, Senate, No. 3000, *available at* http://www.njleg.state.nj.us/2008/Bills/AL09/68_.PDF

[88] Mireya Navarro, *Christie Pulls New Jersey From 10-State Climate Initiative*, N.Y. TIMES, May 26, 2011, *available at* http://www.nytimes.com/2011/05/27/nyregion/christie-pulls-nj-from-greenhouse-gas-coalition.html?_r=0

[89] Ben Adler, *Scott Walker doesn't want Wisconsin officials talking climate*, Grist (Jun 22, 2015), http://grist.org/politics/scott-walker-doesnt-want-wisconsin-officials-talking-climate/.

3.1 Government Immunity

Sovereign immunity poses an even greater obstacle in the context of claims for fraud than for negligence. Like the federal government, which retains sovereign immunity for claims against the government arising out of "misrepresentation" and "deceit,"[90] many states explicitly retain immunity from fraudulent misrepresentation claims against the government.[91] Even where sovereign immunity does not completely shield governments from misrepresentation claims, major hurdles remain. For example, in Minnesota, claims for negligent misrepresentation of fact against state and local officials are available, but only where the official is the exclusive source of the information sought.[92] Narrow immunity waivers, varying widely among states, exist,[93] but overcoming an immunity challenge poses a major challenge in seeking compensation for misleading statements by state officials. The remainder of this section puts the immunity issue aside in order to explore the question whether a government could be liable for obscuring information about climate change risks.

[90] 28 U.S.C. § 2680(h); *Omegbu v. United States*, 475 F. App'x 628, 629 (7th Cir. 2012) (holding that plaintiff's fraud claim was barred by the FTCA's exception for misrepresentation and deceit); *Ramirez v. United States*, 567 F.2d 854, 856 (9th Cir. Cal. 1977) (holding "the misrepresentation exclusion presumably protects the United States from liability in those many situations where a private individual relies to his economic detriment on the advice of a government official").

[91] Alaska Stat. Ann. § 09.50.250 (retaining sovereign immunity for claims arising from a government agent's misrepresentation or deceit); Hawaii Rev. Stat. §662-15 (same); Idaho Code §6-904 (same); Tex. Civ. Prac. & Rem. Code Ann. § 101.057 (retaining sovereign immunity for intentional torts in general); *Fin. Healthcare Associates, Inc. v. Pub. Health Trust of Miami-Dade Cnty.*, 488 F. Supp. 2d 1231, 1236 (S.D. Fla. 2007) (sovereign immunity bars fraud claims in Florida); *Oliver v. Noxubee Cnty. Tax Dep't*, 200 F.3d 815 (5th Cir. 1999) (fraud is outside the scope of Mississippi's sovereign immunity waiver); Cal. Gov't Code § 818.8 ("A public entity is not liable for an injury caused by misrepresentation by an employee of the public entity, whether or not such misrepresentation be negligent or intentional."); *Sulehria v. New York*, No. 13-CV-6990, 2014 WL 4716084, at *7 (S.D.N.Y. Sept. 19, 2014) (New York State is immune from common law fraud claims); Utah Code Ann. § 63G-7-201 (a misrepresentation by an employee is immunized whether or not the misrepresentation is negligent or intentional); Vt. Stat. Ann. tit. 12, § 5601 (Vermont immune to claims for misrepresentation, deceit, and fraud); Iowa Code Ann. § 669.14 (Iowa retains immunity for claims alleging misrepresentation and deceit).

[92] *Mohler v. City of St. Louis Park*, 643 N.W.2d 623, 637 (Minn. Ct. App. 2002); *Home Town Mortgage, Inc. v. State*, No. A05-1443, 2006 WL 1073385, at *6 (Minn. Ct. App. Apr. 25, 2006).

[93] E.g., Cal. Gov't Code § 822.2 (public employees not liable for injury caused by misrepresentation unless he is guilty of "actual fraud, corruption or actual malice").

3.2 Fraud Elements

A basic fraud claim alleges that the defendant made a knowing misrepresentation of a fact which induced the plaintiff to act or to fail to act, ultimately causing injury to the plaintiff.[94] A plaintiff who moves to a coastal area or decides not to leave a flood prone region on the basis of government assurances and later experiences flood damage could have a colorable claim with an egregious enough set of facts. Imagine, for example, that a state develops localized flooding data not available elsewhere, and a state official intentionally conceals the data from the public, thereby inducing people to reside in a flood prone area.[95]

Generally, the defendant in a fraud case is the person who made the alleged misrepresentation. In some states, however, a person who causes someone acting as his agent to commit a fraud is subject to liability.[96] A government official may not, therefore, avoid liability for fraud simply by directing his agents to deliver a misleading message about climate change risk rather than delivering the message himself.

Proving that the government official defendant made a "knowing" misrepresentation may provide a significant hurdle for a plaintiff seeking to hold the official liable for fraud. The government official defendant would likely deny that he knew his statements regarding climate change impacts were false.[97] Even if a litigant cannot prove that a state official *actually* knew about the risks of climate change, however, he may be able to show that the official deliberately shielded himself from this information and, therefore, willfully blinded himself to the falsity of his statements denying or downplaying climate change risks.[98]

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[94] 37 C.J.S. Fraud § 12; *see also* 37 Am. Jur. 2d Fraud and Deceit § 22 ("A common law fraudulent deception must be actually false, known to be false by the perpetrator, and reasonably relied upon by a victim who incurs damages."). Of course, the exact elements of a common law fraud claim vary from state to state.

[95] *See* discussion of the manslaughter case against Mayor René Marratier, *infra*.

[96] *See, e.g., Kolbe & Kolbe Millwork, Co. v. Manson Ins. Agency, Inc.*, 983 F. Supp. 2d 1035 (W.D. Wis. 2013); *Derby City Capital, LLC v. Trinity HR Servs.*, 949 F. Supp. 2d 712, 725 (W.D. Ky. 2013), *reconsideration denied*, (Aug. 20, 2013); *Mais v. Allianz Life Ins. Co. of N. Am.*, 34 F. Supp. 3d 754, 762 (W.D. Mich. 2014).

[97] *In re Bernard L. Madoff Inv. Sec. LLC*, 515 B.R. 117, 139 (Bankr. S.D.N.Y. 2014) ("actual knowledge" implies a high level of certainty and absence of any substantial doubt regarding the existence of a fact.).

[98] The doctrine of willful blindness arises often in the criminal law context, *see, e.g.*, *United States v. Jinwright*, 683 F.3d 471, 479 (4th Cir. 2012) (finding that willful blindness may satisfy the knowledge requirement in a criminal tax prosecution), but it is also applicable in civil cases. *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2069, 179 L. Ed. 2d 1167 (2011) (applying the doctrine of willful blindness to a civil lawsuit for induced patent infringement); *Bullock v.*

Under the doctrine of willful blindness, a defendant cannot escape guilt or liability for fraud "by deliberately shielding [himself] from clear evidence of critical facts that are strongly suggested by the circumstances."[99] Courts have reasoned that those who purposely keep themselves in ignorance are just as culpable as those with actual knowledge.[100] The willful blindness doctrine applies in the context of fraud cases.[101] To support a finding of willful blindness, the defendant must 1) subjectively believe that there is a high probability that a fact exists and 2) take deliberate action to avoid learning of that fact.[102] Thus, the defendant "can almost be said to have actually known" these facts.[103]

A plaintiff could establish the first element by showing that the government official subjectively believed that there is a high probability that the risk of natural disasters is increasing. It is not necessary to show that the official believed that climate change is caused by human activity, since the cause of the increased risk has limited bearing on the question of whether preparation is warranted. It would be sufficient to show that the official believed that there is a high probability that the risk of natural disasters is increasing and that his statements downplaying or denying climate change risks are false.

If a government official has stated on record that he believes climate change is occurring (but perhaps doubts its causes or extent), his statements may provide direct evidence of subjective knowledge. Alternatively, the defendant's knowledge may be proven through circumstantial

BankChampaign, N.A., 133 S. Ct. 1754, 1759 (2013) (finding willful blindness sufficient to establish violation of fiduciary duty where actual knowledge of wrongdoing is lacking in bankruptcy case).

[99] *Global-Tech*, *supra* note 98, at 2069 .

[100] *Id.*; *United States v. Wert-Ruiz*, 228 F.3d 250, 258 (3d Cir. 2000) ("Deliberate ignorance cannot become a safe harbor for culpable conduct."); *United States v. Jewell*, 532 F.2d 697, 700 (9th Cir. 1976) (reasoning that "deliberate ignorance and positive knowledge are equally culpable.").

[101] *United States v. Sigillito*, 759 F.3d 913, 939 (8th Cir. 2014) (holding that a district court did not abuse its discretion in providing a willful blindness jury instruction in a fraud case); *United States v. Stadtmauer*, 620 F.3d 238, 260 (3d Cir. 2010) (same); *Int'l Floor Crafts, Inc. v. Dziemit*, 420 F. App'x 6, 16 (1st Cir. 2011) ("Massachusetts appears to support a willful blindness instruction in civil fraud suits."); *Iowa Pub. Employee's Ret. Sys. v. Deloitte & Touche LLP*, 919 F. Supp. 2d 321, 344 (S.D.N.Y.), *aff'd sub nom., Iowa Pub. Employees' Ret. Sys. v. Deloitte & Touche LLP*, 558 F. App'x 138 (2d Cir. 2014) (applying the willful blindness doctrine to an aiding and abetting civil fraud claim).

[102] *Global-Tech*, *supra* note 98, at 2069.

[103] *Id.,* at 2070-71 (Willful blindness is narrower than negligence or recklessness. A claim of negligence requires proof that the defendant should have known the critical facts, and recklessness requires that the defendant knew of a substantial and unjustified risk).

rather than direct evidence.[104] A wide range of indirect evidence could support an inference that an official was aware of the increasing risk of natural disasters. Such evidence might include statements made to the official, indirect statements made by the official,[105] documents and data presented to the official, and the official's recent experience with increasingly frequent natural disasters in the state. Where a plaintiff can uncover evidence that a high-level policy maker was presented with clear and credible data regarding climate change, he may be able to prove that the official believed that there is a high probability that climate change is occurring. While establishing that the defendant believes there is a "high probability" of the fact in question requires more than showing that he should have known of the falsity of his statements,[106] "'positive' knowledge is not required."[107] The doctrine of willful blindness holds accountable "those who don't know because they don't want to know."[108]

With respect to the second element, the plaintiff must show that the defendant took deliberate action to avoid learning that the risk of natural disasters is increasing. The Walker and Scott administrations have banned or discouraged discussion of climate change. If verified, the state officials' actions would provide a clear example of deliberate action to shield themselves from evidence of future risk of natural disasters. Other situations sufficient to establish conscious avoidance of relevant facts might include a governor or agency head who directs his employees to downplay the effects of climate change in official reports. This scenario occurred several years ago in Texas, where appointees of Governor Rick Perry heavily edited a report on Galveston Bay, removing references to the human causes of climate change and the expected rate of future sea level rise.[109]

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[104] *United States v. Keene*, 341 F.3d 78, 83 (1st Cir. 2003) (finding that the question whether there was knowledge or willful blindness of the crime at issue "may turn exclusively on circumstantial evidence.").

[105] *United States v. Brooks*, 681 F.3d 678, 702 (5th Cir. 2012) (looking to statements made to the defendant and by the defendant to determine whether he was aware of a high probability that his conduct was illegal).

[106] *Stadtmauer*, *supra* note 101, at 257.

[107] *Jewell*, *supra* note 100, at 700.

[108] *United States v. Heredia*, 483 F.3d 913, 918 (9th Cir. 2007).

[109] Suzanne Goldenberg, *Rick Perry officials spark revolt after doctoring environment report,* THE GUARDIAN (Oct. 14, 2011), *available at* http://www.theguardian.com/environment/2011/oct/14/rick-perry-texas-censorship-environment-report; Kate Sheppard, *Perry Officials Censored Climate Change Report,* MOTHER JONES (Oct. 12, 2011), *available at* http://www.motherjones.com/politics/2011/10/perry-officials-censored-climate-report; Jessica Wentz, *Government Officials' Liability After Extreme Weather Events: Recent Developments in Domestic and International Case Law,* Climate Law

In the face of these kinds of facts, it would be difficult for a state official to overcome a claim that he consciously avoided learning of the risks of climate change merely by arguing that he did not have access to the necessary information. Indeed, this excuse was rejected in the trial of French Mayor tried for manslaughter after a severe flood killed twenty-nine people in the small town of La Faute-sur-Mer. In 2010, Cyclone Xynthia hit the French coast, causing widespread fatalities and more than one billion euros of damage. In La Faute-sur-Mer, rapidly rising flood waters from the storm trapped people in their homes, drowning them.[110] An investigation into the cause of these fatalities uncovered that local officials, including La Faute-sur-Mer's Mayor, René Marratier, encouraged residential development in an extremely flood-prone area known as the "deadly bowl" and failed to take adequate precautions to protect homes from flooding or warn residents of the risk. The Mayor and other government officials were charged with manslaughter. The Mayor claimed, in his defense, that he and his town council lacked the technical resources to evaluate storm risks. In announcing its verdict sentencing Marratier to four years in prison, the court scolded Marratier for ridiculing the contributions of modern science and rejecting precautionary measures initiated by higher officials.[111] The court also found that the Mayor was fully aware of the flood risks but deliberately concealed the risk to avoid hindering real estate development.

Some states also require the plaintiff in a fraud case to establish that the defendant made the false statements in question with intent to induce the plaintiff to act.[112] Members of the North Carolina Legislature have been accused of questioning the accuracy of existing sea level rise projections for the benefit of their campaign contributors.[113] According to the Institute for Southern

Blog (Feb. 18, 2015), http://blogs.law.columbia.edu/climatechange/2015/02/18/government-officials-liability-after-extreme-weather-events-recent-developments-in-domestic-and-international-case-law.

[110] B. Kolen, et al., *Learning from French experiences with storm Xynthia; damages after a flood,* Delft University of Technology Repository Hydraulic Engineering Reports (Sept. 1, 2010), *available at* http://repository.tudelft.nl/view/hydro/uuid%3A7969fbd4-1136-40b7-abdb-5165e61efc3f/.

[111] Jonathan Scoll, *The Back Page: The Mistake by the Sea*, Nat. Resources & Env't, Spring 2015, at 64.

[112] *See, e.g., Abu Dhabi Commercial Bank v. Morgan Stanley & Co. Inc.*, 888 F. Supp. 2d 478, 484 (S.D.N.Y. 2012) (listing the elements of a fraud claim under New York law); *Perlman v. Time, Inc.*, 64 Ill. App. 3d 190, 194, 380 N.E.2d 1040, 1044 (1978) (stating the elements of a fraud claim in Illinois).

[113] Sue Sturgis, *The big money behind the assault against sea level rise science in North Carolina*, The Institute for Southern Studies (July 11, 2012), http://www.southernstudies.org/2012/07/the-big-money-behind-the-assault-against-sea-level-rise-science-in-north-carolina.html; J.C. Moore Online

Studies, real estate development groups are major donors to elected officials in North Carolina, and the same interest groups pushed for legislation delaying consideration of sea level rise data in the state's coastal development process.[114] Evidence that government officials denied the risk of climate change impacts in order to maintain their state's tax basis or to please contributors could support a claim that the officials intended to induce the plaintiff to act.

A fraud claim against a government entity based on officials' false statements regarding climate change impacts would be extremely difficult to win. Sovereign immunity issues, as well as the challenges involved in establishing government officials' knowledge and intent, provide major hurdles. Nonetheless, courts and litigants should consider using this area of law to attempt to hold state and local governments accountable for deliberately obscuring information citizens need to protect themselves and their property from natural disasters. As North Carolina Representative Deborah Ross stated in response to her state's ban on using sea level rise projections to determine coastal policies, "Ignorance is not bliss. It's dangerous."[115]

4. TAKINGS CLAIM

It may also be possible to bring a case against a state or local government for an unlawful taking of private property without just compensation where the government fails to prevent the impacts of climate change.[116] Indeed, takings claims pose fewer threshold obstacles than the negligence and fraud claims discussed above, since they are generally not barred by sovereign immunity in state court.[117]

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[114] *Id.*

[115] Reuters, *North Carolina lawmakers reject sea level rise predictions* (July 3, 2012), *available at* http://www.reuters.com/article/2012/07/03/us-usa-northcarolina-idUSBRE86217I20120703.

[116] For an extremely informative discussion of government liability under the Takings Clause for failure to act to protect private property, *see* Serkin, *supra* note 45.

[117] *Jachetta v. United States*, 653 F.3d 898, 909 (9th Cir. 2011) ("'sovereign immunity may not stand in the way of recovery in state court' because of the "self-executing" character of the Takings Clause."); *see also Sanitation Dist. No. 1 v. Arnsperger*, No. 2011-CA-001748, 2014 WL 4520177, at *4 (Ky. Ct. App. Sept. 12, 2014), *as modified* (Dec. 5, 2014) (it is well-established sovereign immunity is no bar to inverse or reverse condemnation); *First English Evangelical Lutheran Church of Glendale v. Los Angeles County, Cal.*, 482 U.S. 304, 316 n.9 (1987); *Chambers v. State*, No. 05-12-01178-CV, 2013 WL 4568380, at *2 (Tex. App. Aug. 26, 2013), *reh'g overruled* (Oct. 18, 2013), *review denied*, (Feb. 7, 2014) (The Texas Constitution grants consent to bring takings claims against the state).

Starting in the 1950s, the United States Army Corps of Engineers (the Corps) built the Mississippi River Gulf Outlet (MRGO), a 76-mile channel between New Orleans and the Gulf of Mexico intended to provide a shorter shipping route.[118] Although MRGO was designed to be 500 feet wide, decades of use eroded the channel to more than triple its design width.[119] MRGO's increased width allowed the channel to carry a much greater volume of water, exposed a greater surface area to wind causing more severe waves, and carried saltwater inland, destroying buffer wetlands. When Hurricane Katrina hit New Orleans in 2005, several levees and storm walls surrounding MRGO were destroyed, and the city was devastated by the resultant flooding.[120]

In the aftermath of the hurricane, hundreds of plaintiffs sued the United States government to recover damages for flooded property. Although a series of cases brought under the Federal Tort Claims Act (FTCA) were unsuccessful because the government was found to be immune from suit,[121] a more recent decision in a case brought under the Takings Clause of the Fifth Amendment of the United States Constitution found the government liable for damages. Under the Takings Clause, "private property [may not] be taken for public use, without just compensation."[122] The Fourteenth Amendment extended this prohibition to states and municipalities.[123] Many state constitutions also contain a takings clause closely mirroring the federal clause[124] or providing broader protections by prohibiting the government from merely damaging private property without compensation.[125]

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[118] Michael Gerrard, *Hurricane Katrina Decision Highlights Liability for Decaying Infrastructure*, New York Law Journal (May 10, 2012).

[119] *Id.*

[120] *Id.*

[121] In those cases, the Fifth Circuit Court of Appeals at first affirmed the trial court's finding of liability, but then issued a subsequent ruling finding that the government was immune from the plaintiffs' claims, because its actions in connection with the design and maintenance of MR-GO were largely discretionary. *In re Katrina Canal Breaches Litigation*, 673 F.3d 381 (5th Cir. 2012) (finding the federal government liable for Hurricane Katrina flood damage caused by the Corps' failure to armor the banks of MRGO); *In re Katrina Canal Breaches Litigation*, 696 F.3d 436 (5th Cir. 2012) (reversing the Circuit Court's prior decision and finding the federal government immune from suit under the discretionary function exception to the FTCA).

[122] U.S. Const. amend. V.

[123] *Chicago, Burlington & Quincy Railroad Co. v. City of Chicago*, 166 U.S. 226 (1897).

[124] *See, e.g.*, Conn. Const. art. I, § 11 ("The property of no person shall be taken for public use, without just compensation therefor"); Wis. Const. art. I, § 13 (the same).

[125] *See, e.g.*, Alaska Const. art. I, § 18 ("Private property shall not be taken or damaged for public use without just compensation."); Ariz. Const. art. II, § 17 ("No private property shall be taken or damaged for public or private use

In *Saint Bernard Parish Government v. United States*,[126] Judge Susan Braden of the United States Court of Federal Claims found that the Corps' negligent design and failure to maintain MRGO exacerbated flood damage in parts of New Orleans. The increased flooding, although temporary, wrongfully deprived land owners of the use of their property requiring compensation. Judge Braden's decision relied heavily on a 2012 Supreme Court case, *Arkansas Game and Fish Commission v. United States*, which held that temporary flooding caused by government action is not categorically exempt from Takings Clause liability.[127] The plaintiffs in *Saint Bernard Parish* avoided the sovereign immunity issues that prevented the FTCA litigants from recovering damages, because the United States has waived sovereign immunity for claims brought under the Takings Clause through the Tucker Act.[128]

That the government was held liable for inadequately preparing federally-constructed and maintained infrastructure for severe weather events in *Saint Bernard Parish* is significant in light of the increasing risk of such events due to climate change. Notably, *Saint Bernard Parish*, if it survives appeal, expands government liability from situations in which the government deliberately causes flooding, for example by releasing water from a dam, to include situations in which inaction by the government exacerbates flooding from severe weather through its failure to properly design or maintain federally owned property.[129] Professor Christopher Serkin has argued that the Takings Clause can serve as a basis for affirmative governmental obligations to protect private property more generally and cites sea level rise as "an ideal illustration" of an environmental shift that could require governments to act.[130] While governments obviously do not have an obligation to protect all property from all intrusions, a duty arises where the state exercises regulatory control over the injury-causing condition or where the state is complicit in creating the conditions

without just compensation having first been made…"); Ark. Const. art. II, § 22 ("…private property shall not be taken, appropriated or damaged for public use, without just compensation therefor.")

[126] *St. Bernard Parish Gov't v. United States*, No. 05-1119, 2015 WL 2058969 (Fed. Cl. May 1, 2015).

[127] *Arkansas Game & Fish Comm'n v. United States*, 133 S. Ct. 511, 515 (2012).

[128] 28 U.S.C.A. § 1491 (granting jurisdiction to the Court of Federal Claims for claims for "damages in cases not sounding in tort").

[129] Notably, Saint Bernard Parish is not the first case to support the idea that a government can commit a taking through the failure to act. An earlier case in Florida state court held that "government inaction – in the face of an affirmative duty to act – can support a claim for inverse condemnation." *Jordan v. St. Johns Cnty.*, 63 So. 3d 835, 839 (Fla. Dist. Ct. App. 2011).

[130] Serkin, *supra* note 45, at 388.

responsible for harm to the property.[131] This developing area of law will have broad implications for state governments seeking to prepare for – or deliberately deciding not to prepare for – climate change impacts.

Some legal scholars, including John Echeverria of Vermont Law School, have expressed concern that *Saint Bernard Parish* and *Arkansas Game and Fish Commission* allow the takings doctrine to improperly invade the traditional domain of tort law.[132] The apparent expansion of takings liability ushered in by these cases, however, will likely be tempered by the fact specific analysis required in cases asserting claims for temporary takings due to flooding or other natural disasters. As Judge Braden explained, a plaintiff asserting a claim for a temporary taking must establish: (1) a protectable property interest under state law; (2) the character of the property and the owners' "reasonable-investment backed expectations"; (3) foreseeability; (4) causation; and (5) substantiality.

The first prong merely requires the plaintiff to show that he has an ownership interest in the property alleged to be taken through government inaction.[133] With respect to the owners' reasonable investment backed expectations, courts inquire whether the plaintiff was aware of the risks facing his property. In *Saint Bernard Parish*, the court concluded that "although Plaintiffs' properties were in a floodplain and 'had experienced flooding in the past,' that flooding was not 'comparable' to the flooding during Hurricane Katrina and subsequent hurricanes and severe storms giving rise to the temporary takings claim at issue."[134] Professor Serkin has posited that "an 'ecological change' can interfere with owners' expectations just as much as an explicit legal transition."[135] As climate change causes increasingly severe natural disasters, more courts could

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[131] *Id.*, at 377-78 (noting that "if the government…were responsible for global warming then the duty to act would be stronger still); *see also City of St. Petersburg*, *supra* note 46, at 1086 (once a governmental entity creates a known dangerous condition which may not be readily apparent to one who could be injured by the condition…the governmental entity must take steps to avert the danger or warn [of] that danger); *Teall*, *supra* note 46 (defendant city may be held liable if it created a dangerous or defective condition); Delarosa v. State, 21 Ariz. App. 263, 265, 518 P.2d 582, 584 (1974) (state not entitled to notice of a dangerous condition that it has created or caused to be created).

[132] *Ruling in MR-GO Takings Lawsuit,* Takings Litigation (May 2, 2015), http://takingslitigation.com/2015/05/02/ruling-in-mr-go-takings-lawsuit/.

[133] *See St. Bernard Parish*, *supra* note 126, at *27.

[134] *Id.*, at *28 (citing *Arkansas Game & Fish*, *supra* note 127, at 522).

[135] Serkin, *supra* note 45, at 352.

find that a property owner's past experience with severe weather does not adequately put him on notice of future risk.

The foreseeability prong of a temporary takings claim invites an inquiry into "the degree to which the [government's] invasion is … the foreseeable result of government action."[136] In *Saint Bernard Parish*, the court found that it was foreseeable that MRGO would intensify flooding in New Orleans based on a variety of environmental factors, including increased erosion on MRGO's banks and increased storm surge.[137] The plaintiffs were also able to establish a causal connection between the Corps' failure to maintain MRGO and flooding during Hurricane Katrina, since the Corps' inaction was the cause of the erosion, increased storm surge, and other exacerbating factors.[138]

Finally, a plaintiff alleging a temporary takings claim must show a sufficiently severe economic impact on his property to constitute a legally cognizable interference.[139] Moreover, the plaintiff must establish that the government's inaction caused the diminished property value; in other words, the government must have had the ability to protect the property at issue.[140] In *Saint Bernard Parish*, the Plaintiffs established this element by showing that their properties were flooded because of the Corps' negligent maintenance of MRGO and that they lost their ability to access or use their properties for a "significant" time period – ranging from a few weeks to a few months – following Hurricanes Katrina and Rita.[141]

The argument for using the Takings Clause to impose an affirmative duty to protect private property, at least in cases where the government's past actions create vulnerabilities to natural disaster risk, is emerging. Such cases could promote climate change adaptation by encouraging governments to weigh the costs and benefits of both action and inaction in the face of the increasing risk of natural disasters.

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[136] *St. Bernard Parish*, *supra* note 126, at *28 (citing *Arkansas Game & Fish*, *supra* note 127, at 522).

[137] *Id.*, at *29-30.

[138] *Id.*, at *31-45.

[139] *Id.*, at *52 (citing *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978)).

[140] Serkin, *supra* note 45, at 382-83, 395 (noting that a taking does not occur where "the action that the government could have taken but did not would have been within the range of appropriate governmental actions" or where the action would not have been "financially plausibly considering the property").

[141] *St. Bernard Parish*, *supra* note 126, at *53.

5. CONCLUSION

This article has identified three possible legal claims against governments who fail to take action to prepare their states or cities for climate change impacts. Although the success of a particular case will of course depend on the facts presented and the idiosyncrasies of applicable state law, governments should be aware that inaction is no guarantee against legal liability. As the potential costs of climate change mount, litigation can impose liability on governments that do not take action to prevent the damage.