BAD WEATHER? THEN SUE THE WEATHERMAN!

PART I: LEGAL LIABILITY FOR PUBLIC SECTOR FORECASTS

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How liable is the federal or state government for inaccurate or inadequate weather forecasts?

The processes of science and decision making share an important characteristic: success in each depends upon researchers or decision makers having some ability to anticipate the consequences of their actions. It is no surprise, then, that predictions and forecasts are widely viewed as essential to decision making in contexts ranging from the individual to the global.

Weather forecasts have become demonstrably more accurate in recent decades due to increasingly powerful computers and more sophisticated models. Yet scientists cannot predict the future with 100% certainty. Inadequate or inaccurate forecasts can lead to financial loss or bodily harm. For example, it has been estimated that the annual cost of electricity could decrease by at least $1 billion if weather forecasts were 1°F more accurate (Jones 2001). In such situations, what liability, if any, arises under the U.S. legal system?

This article, the first part of a two-part review,[1] discusses several court decisions resolving lawsuits against the federal and state governments for inaccurate or inadequate weather forecasts or failure to issue weather warnings that caused injury or loss.[2] In general, claims against the *federal* government based on weather forecasting or failing to issue weather warnings have been (and likely will continue to be) resolved in favor of the government on the basis of immunity under the Federal Tort Claims Act. *State* government immunity will depend on the provisions

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[1] Part II of the review (Klein and Pielke 2002), will address some of the legal issues that may arise when a claim is made against a private sector forecaster. These articles aim to familiarize the reader with some of the legal issues that are involved when forecast are the subject of a lawsuit, rather than provide a comprehensive, law-review-style legal analysis. See Loper (1988) for a law review article discussing the liability of forecasters for negligent weather forecasts.

[2] This article limits its discussion to published court decisions. Other lawsuits involving weather forecasts may have arisen in the past. If they were concluded short of a published decision, such as through settlement, they have not been included in this review.

of a state's immunity statute, as well as how that state interprets its immunity statute.

CLAIMS BARRED BY IMMUNITY. A long-standing principle of Anglo-American jurisprudence is that the sovereign (government) cannot be sued without its consent. This "sovereign immunity" rule is based on the ancient concept that "the king can do no wrong." Congress eventually recognized the injustice of this rule and enacted the Federal Tort Claims Act (FTCA), which allows the federal government to be sued for injury or loss caused by the negligent or wrongful act or omission of a government employee acting within the scope of employment, "under circumstances where the United States, if a private person, would be liable" [28 U.S.C. see 1346(b)]. The United States is liable under the FTCA "in the same manner and to the same extent as a private individual under like circumstances" [28 U.S.C. sec. 2674].

Of particular relevance here is that the federal government continues to be immune from lawsuits based on the exercise or failure to exercise a discretionary function or duty, whether or not the discretion is abused (the "discretionary function" exception), as well as from lawsuits arising out of misrepresentation (the "misrepresentation" exception) [28 U.S.C. sec. 2680(a), (h)]. Courts will dismiss a lawsuit against the government without reaching a decision on the merits of the suit if one of these exceptions applies.

The decisions in this section involve lawsuits that were resolved in favor of the federal government, at least in part, under the FTCA or comparable principles. They are categorized by weather phenomenon for illustrative purposes, although the type of weather was irrelevant to the court's decision. They are also grouped according to whether they were decided before or after the U.S. Supreme Court's decision in *U.S. v. Gaubert,* which clarified the test for determining whether the discretionary function exception applies.

Pre-Gaubert decisions. **FLOODS.** *National Mfg. Co. v. U.S.*[3] In July 1951, the Kansas River flooded, resulting in many deaths, evacuation of thousands, and property damage in Kansas City in the hundreds of millions of dollars. Several large companies (the plaintiffs) that were affected by the flood sued the federal government. They alleged that the federal agencies responsible for collecting and disseminating information about the river negligently assured them that the river would not overflow and failed to warn them of the impending overflow in time to move their property, resulting in a significant property damage.

Of relevance here, the court held that the U.S. Weather Bureau's statutory authority gave it broad discretion to determine whether forecasting is advisable. Forecasting or neglecting to forecast are discretionary functions. As such, the FTCA discretionary function exception applied.

In addition, the plaintiffs' allegations that government employees had negligently disseminated misinformation about the floods were, in essence, a claim for misrepresentation. The misrepresentation exception to the FTCA also applied. The court dismissed the lawsuits.

Spencer v. New Orleans Levee Board. Residents of the Parish of Orleans, Louisiana, filed a lawsuit against the local levee board and others for negligently failing to close the floodgates on a canal, causing flooding to the plaintiffs' property. The levee board, in turn, sued the National Weather Service (NWS), alleging that it negligently failed to predict the weather and tidal conditions accurately and to warn the levee board. The levee board later named David Barnes, the NWS area manager, as another defendant, claiming he failed to properly supervise employees, monitor flood conditions, and warn the levee board of these conditions.

In rejecting the claim against Barnes, the court observed that federal officials are absolutely immune from tort liability for actions within the scope of their authority. All that must be shown is that "the action of the federal official bear some reasonable relation to and connection with his duties and responsibilities . . . and that the action of the official is connected with a 'discretionary function.'"[4] Application of the discretionary function requirement depends on whether the act complained of was the result of a judgment or decision that the government official must be free to invoke without fear or threat of vexatious or fictitious suits and alleged personal liability. The allegedly negligent actions of Barnes were clearly discretionary functions and within the scope of his authority. He therefore was immune from suit. For reasons unrelated to this article the court also ruled that the federal court in this case lacked jurisdiction over the NWS.

HURRICANES. *Bartie v. U.S.* On 24 June 1957, the Weather Bureau detected the beginning of Hurricane

[3] Citations for court cases mentioned in this article are listed in the appendix.

[4] While the claim against Barnes did not involve the FTCA, which is limited to claims against the United States, an FTCA-like discretionary function analysis was applied.

Audrey. On 26 June 1957, the Weather Bureau issued warnings in Louisiana that the center of Hurricane Audrey would hit late the next day. The 10:00 P.M. news broadcast stated that there was no need for alarm that night. The storm intensified overnight, however. At 1:00 A.M. on the morning of the 27th, a new forecast warned that the center of the storm would hit before noon that day. Whitney Bartie, his wife, and five children went to bed around 10:00 P.M. on 26 June. They awoke at 5:00 A.M. the next morning to the sound of water under their house. They were unable to start their car. They climbed to the roof and, one by one, were swept away to their deaths (only Bartie survived). Hurricane Audrey's winds were as high as 155 mph. It killed around 400 people, mostly from a massive storm surge.

Bartie and hundreds of others sued the federal government, claiming that the Weather Bureau was negligent in failing to give adequate warnings concerning the nature, intensity, location, path, and speed of Audrey's surge, as well as the correct time it would strike. A hurricane expert testified that, based on the level of knowledge and data that existed in 1957, predictions about a storm's location 24 hours in the future would, on average, be off by 100 to 125 miles. The expert felt that the predictions concerning Hurricane Audrey were as accurate as could be expected at the time.

The court observed that, while the advisories themselves were technically adequate, they failed to convey the urgency of the situation to persons living on the coast. While many realized there was an approaching storm, they concluded there was no need to leave until early Thursday, 27 June. The court cautioned that future warnings should use emphatic language concerning the urgency of evacuation. Warnings should inform people that the full impact of a storm is felt hours before the center arrives. Nevertheless, the court could only speculate as to whether Bartie would have acted differently if the warnings had been more explicit. Although Bartie had heard a warning and was packed to leave, he was waiting for someone to tell him that "we want all of you to move out of here." The Weather Bureau had no such duty.

The court nevertheless held that the claim was barred by the discretionary function and misrepresentation exceptions of the FTCA. A discretionary function involves more than initiating programs and activities and includes "determinations made by executives or administrators in establishing plans, specifications or schedules of operations. Where there is room for policy judgment and decision there is discretion." The court reasoned that the content and wording of the bulletins and advisories were determinations involving policy, judgment, and discretion. Weather forecasting requires specialized training and skill in a "still developing field of learning" where subjective judgment must be used in decisions that are made. Means and methods of obtaining data require the exercise of judgment and discretion, as do the means and manner of communicating with the public.

The claim was also barred by the misrepresentation exception to the FTCA. The court held that this exception applies to misrepresentations that are negligent as well as intentional. It dismissed the complaints.

THUNDERSTORMS. *Williams vs. U.S.* M. Williams, an airline copilot, was injured in a crash that occurred while trying to land during a thunderstorm. He sued the federal government, alleging in part that the NWS's negligence proximately caused the airplane crash and his resulting injuries.

The NWS had been monitoring the storm. At 5:40 P.M., it issued a severe thunderstorm warning. At 5:43, an NWS employee read the warning over the weather radio stations. At 5:48, she placed the warning on a teleautograph, the technology then used by air traffic controllers at the airport to receive NWS weather warnings. The crash occurred at approximately 5:44 P.M., four minutes before the control tower received the NWS warning. Williams contended that NWS was negligent for failing to issue timely warnings and failing to use the telephone to advise the air traffic controllers of the warning.

The court concluded that "predicting the weather is not an exact science. The forecasts or omission of forecasts is a discretionary function excepted from the Federal Tort Claims Act." Even if liability were not barred by the FTCA, the NWS was not negligent in waiting until 5:40 P.M. to issue the warning, as it was continuously monitoring weather conditions and issued the warning when conditions warranted it. Nor was it negligent in waiting eight minutes to disseminate the thunderstorm warning to the airport. "A severe storm warning is a warning to the general public and so it was disseminated by methods designed to notify the greatest number of people. Also, airplane pilots are trained to make their own evaluation of weather conditions and so are in a much better position than the general public to recognize severe weather and take the proper precautions." The court dismissed the complaint.

DROUGHT. *Schinmann v. U.S.* The plaintiffs were members of the irrigation districts that received water under contracts with the U.S. Bureau of Reclama-

tion. A consent decree specified that, in years of limited water supplies, those holding senior water rights would have their rights fully satisfied before those holding junior rights received any water. All plaintiffs held junior water rights. Total available water supply was based on water from the natural flow of rivers, government reservoirs, and return flow.

Drought conditions in late 1976 forced the bureau to invoke the provisions of the consent decree regarding allocation of water, which required it to make a calculation of the total available water supply. Over the course of several months, the bureau issued four estimates of available water supply. In the first the bureau estimated that plaintiffs would receive only 7% of their normal supply. Each successive estimate was higher than the previous one, and the plaintiffs ultimately received 83% of the water to which they were normally entitled. The plaintiffs altered their operations based on the earlier calculations, however, resulting in financial losses.

The plaintiffs claimed that the government's miscalculations were due to a gross conceptual error about how to calculate water supply. The court dismissed the case on two grounds. First, it held that the misrepresentation exception to the FTCA applied because the proximate cause of the loss was the misrepresentation of information, not the erroneous calculation of figures. The court further rejected the plaintiffs' argument that the bureau's calculations were not discretionary functions. The court concluded that the bureau's decision to issue the forecasts was grounded in social or economic policy for which Congress intended to prevent "judicial second-guessing." Thus, the claim was also barred by the discretionary function exception to the FTCA. The court noted that "a number of courts have held the discretionary function exception [applies] to negligent weather forecasts and predictions of natural disasters."

Storms at sea. *Brown v. U.S.* On 21 November 1980, several fishermen relied on the NWS's marine weather prediction of fair weather when they left port in Massachusetts. The next day brought a severe storm and they were unable to return to shore. Four fishermen died. Their estates sued, arguing that the government negligently failed to repair or replace a malfunctioning weather reporting buoy.

The lower court held that the government's actions were not shielded by the discretionary function exception. While the initial decision to have a weather monitoring and prediction system and the methods for obtaining data involved discretion, "once a system was in place and mariners began to rely on it the time for policy judgments was past" [*Brown v. U.S.* (lower court)]. The lower court further reasoned that the government established the service for the benefit of fishermen; fishermen relied on it; the government knew they would rely on it; the government therefore induced reliance and thus became obligated to use due care in how that service was operated.

The appeals court reversed. It pointed out that the government's decision to engage or not engage in discretionary functions, and the extent to which it will engage, is unfettered. It is up to the government to decide the extent of care it wants to undertake. The appeals court noted that the government had not affirmatively misstated that an operating buoy was providing data. The buoy in question had not provided data for several months before the accident. Rather, the question was whether, by deciding to issue weather reports in the first instance, the government assumed a duty to invest whatever resources it takes to achieve, in essence, a "good" forecast. The appeals court answered "no." The appeals court was concerned that, applying the lower court's reasoning, liability would not be limited to the government's failure to maintain the defective buoy, but rather would extend to any action or inaction that could impair the quality of a forecast. "An expert might testify, and a court accept, that to prepare a fully adequate weather report would call for still additional buoys, or for more advanced computers, or for more operators. Or it might find malfeasance in the processing." Yet these are decisions that Congress reserved to itself and to agencies by creating the discretionary function exception. The appeals court concluded that a weather service was a discretionary function.

The appeals court disagreed with the lower court that a duty to issue proper warnings can be limited to an identifiable group such as commercial fishermen that places special reliance on the accuracy of weather forecasts. The appeals court concluded that merely because fishermen have a special need for accurate forecasts or have come to rely on them cannot create liability where it does not otherwise exist.

The court noted that weather forecasts are a particularly poor area in which to impose a duty of judicially reviewable due care:

> A weather forecast is a classic example of a prediction of indeterminate reliability, and a place peculiarly open to debatable decisions, including the desirable degree of investment of government funds and other resources. Weather predictions fail on frequent occasions. If in only

> a small proportion parties suffering in consequence succeeded in producing an expert who could persuade a judge, as here, that the government should have done better, the burden on the fisc would be both unlimited and intolerable.

Post-Gaubert decisions. The U.S. Supreme Court's 1991 decision in *U.S. v. Gaubert* adopted a two-part test to determine whether the discretionary function exception applies. The first part examines whether the challenged conduct involves an element of judgment or choice. If so, the second part of the test examines whether the judgment is the type meant to be shielded by the discretionary function exception, which depends on whether the challenged conduct is susceptible to policy analysis. The remaining decisions discussed in this section applied the *Gaubert* test, which will be examined in greater detail in the discussion section.

Tornadoes. *Bergquist v. U.S.* In August 1990, a severe tornado struck portions of Illinois, causing millions of dollars of property damage and 29 deaths. Plaintiffs sued the federal government for damage and losses caused by the tornado, alleging that the National Weather Service failed to detect or recognize certain radar signatures indicating severe tornado activity; that it failed to adequately train and drill its radar operators and staff and to maintain and train its severe storm spotter group; that its offices failed to adequately communicate with each other and discuss weather developments; that it failed to maintain, use, and properly position certain equipment and to install and follow certain upgrades and procedures; that it failed to adequately staff and properly supervise its offices; and that it failed to relay information in a timely manner. The plaintiffs argued that the NWS's acts were not discretionary functions because they did not involve policy decisions but rather were operational tasks that the NWS was required to perform in fulfilling its statutory mandate to forecast the weather and issue warnings.

In deciding whether the discretionary function exception applied, the court examined whether the decisions made by the NWS were susceptible to a policy analysis. The court found that they were susceptible to any one of three policy analyses. First, many of the allegations were based on the NWS's allegedly inadequate technologies, staffing levels, and training, which implicate cost/budgetary policy considerations. Second, the NWS has a policy of attaining the highest rate of severe weather detection while maintaining the lowest possible false alarm rate. This policy requires the NWS to balance safety with effectiveness. Finally, there is a policy of vesting discretion in the NWS to forecast and issue warnings.

The plaintiffs argued that the NWS's discretion was limited because guidelines specified when to issue tornado warnings. The court disagreed because none of these guidelines applied to the August 1990 tornado. In any event, the guidelines did not limit the NWS's discretion but rather provided criteria to help NWS employees decide when to issue a warning. The court concluded that the NWS's day-to-day operational tasks involved the exercise of discretion in furtherance of public policy goals and were therefore covered by the discretionary function exception.

The court also concluded that the plaintiffs' claims were barred by the misrepresentation exception to the FTCA. It rejected the argument that the exception only protects the government when the losses involved resulted from commercial decisions.

As an alternative ground for its decision, the court held that liability under the FTCA could only be found if the plaintiffs' claims were comparable to a claim against a private citizen recognized in the jurisdiction where the alleged wrongdoing took place. The court reviewed the law of Illinois, where the injuries occurred, and concluded that it did not recognize a cause of action against private parties that was analogous to the plaintiffs' claims against the United States. It dismissed the complaints.

Rip currents. *Monzon v. U.S.* On 17 May 1998, the plaintiff's wife and children visited the beach adjacent to the National Park Service's Fort Matanzas National Monument. The plaintiff's wife was killed trying to rescue one of the children from a rip current. That day the National Weather Service broadcasted two hazardous weather outlooks for the area mentioning rip currents. While the NWS had contacted the beach patrol to inform it of the rip current prediction, this information was not provided to the plaintiff's wife.

The plaintiff claimed that the NWS had a duty to warn his wife of the danger of the rip currents on the day of her death. The court held that the lawsuit was properly dismissed under the discretionary function exception to the FTCA. First, the court reasoned that the Secretary of Commerce has broad discretion to decide how to forecast the weather and issue storm warnings. No federal statute, regulation, or policy required the NWS to warn of the danger of rip currents. Additionally, whether to warn beach visitors of the dangers of rip currents is the kind of governmental decision that the exception was designed to shield from liability because the government must

take cost into account in deciding whether to warn. The government could be subjected to significant costs if it were required to warn beach visitors of the danger of rip currents. The court noted the numerous cases holding that governmental weather forecasting and issuing of warnings are discretionary functions: *Brown v. U.S., Spencer v. New Orleans Levee Board, National Manufacturing v. U.S.,* and *Bergquist v. U.S.*

Icing. *Taylor v. U.S.* Survivors of passengers killed in an airplane crash sued the government, alleging that an aviation weather advisory issued by the NWS pertaining to rime icing should have covered a larger geographic area. The court held that the discretionary function exception barred the claim because determining the content of the advisory involved the exercise of discretion, judgment, or choice, and the discretion exercised involved several policy considerations. The court stated that "as a matter of public policy, . . . to open the National Weather Service to lawsuits for alleged negligent weather forecasts would ultimately destroy the National Weather Service and its efficacy. The highly unpredictable business of forecasting the weather under such circumstances would result in forecasts that were either so general or so broad as to become useless to both the general public and the aviation community."

As an alternative ground for dismissal the court noted that sovereign immunity is waived only under circumstances where the federal government, if a private person, would be liable under state law. The court concluded that a private party would not be liable under applicable state law for negligently issuing a weather forecast, and therefore dismissed the complaint.

CLAIMS NOT BARRED BY IMMUNITY. The following three decisions held that the government was not entitled to immunity for weather forecast–related decisions. The first one, *Connelly,* was decided under a state immunity statute, not the FTCA. The latter two, *Chanon* and *Springer,* were decided prior to *U.S. v. Gaubert.*

Connelly v. State of California. Floyd Connelly owned and operated three marinas on the Sacramento River. Heavy rains during December 1964 caused the river to rise to unusual heights. Connelly contacted the State Department of Water Resources (DWR) to inquire about any anticipated change in the level of the river. He was informed that the river was expected to crest at 24 feet. He relied on this information to set his marina docks to float at a maximum river height of 26 feet. The river rose to 29 feet, where it stayed for two weeks, causing extensive damage to Connelly's docks and other property.

Connelly sued, alleging that the DWR negligently provided inaccurate information as to the anticipated rise in the river. The state argued that the complaint should be dismissed because a recipient of a weather forecast cannot reasonably rely on its accuracy. The state maintained that "it is common knowledge that weather forecasts of future conditions are not statements of fact. It is understood that such predictions are subject to the vagaries of nature and that the caprice of the elements occasionally cause a weatherman's predictions to awry." The court rejected this proposition because Connelly did not rely on the mere fact that the forecast turned out to be wrong. Rather, he alleged that there was a "breakdown of some sort in the operation of the office and its river-depth measuring stations, including the possibility that there was a serious miscalculation by one of the employees," which was not detected.

The court also rejected the state's argument that forecasts of this nature are a service for the benefit of the public generally and that therefore Connelly could not claim a breach of duty owed to him specifically. The court noted that Connelly was a businessman along the river who relied on the river forecast. He had telephoned the agency to obtain specific information about the river height, identified himself as a businessman with a great deal at stake in a proper estimate of the river height, and relied on the information provided. These allegations took him outside the realm of "an amorphous public receiving general information" such that he could claim breach of a duty.

The state next argued that it was entitled to governmental immunity under state law because its actions involved the exercise of discretion. The court held that the decision to issue flood forecasts is a policy-making function that constitutes a discretionary activity within the scope of governmental immunity. However, the gathering, evaluating, and disseminating of flood forecast information are outside the scope of immunity. The court rejected the state's argument that courts should not impose liability on this sort of activity because it might induce the state to abandon the activity rather than risk liability. The court noted that the legislature provided statutory protection whenever it deemed the public interest justified insulating a specific government activity with immunity.

The court also concluded that the statute providing governmental immunity for misrepresentation only applied to interference with financial or commercial interests. Although Connelly's loss was com-

mercial, it did not result from a commercial transaction between him and the state or from the state's interference with his commercial transactions. The court therefore held that the state was not entitled to immunity and the case could proceed to trial. No additional published opinion relating to this case was located, so its ultimate resolution is unknown.

Chanon v. U.S. Fishermen W. Carter and M. Hull died when their shrimping vessel sank in the Gulf of Mexico due to damage inflicted by a severe storm. The men's estates sued the government for its forecasts. The court held the case could proceed under the FTCA.

The court noted that the Weather Service, which has for years been forecasting weather and issuing reports and warnings, was under a duty to use due care in gathering weather information, forecasting, and making available for broadcast up-to-date weather information. The court concluded that the NWS was not negligent in the manner of assembling pertinent facts or the method of formulating its forecasts and warnings:

> Weather predictions cannot be given the character of established facts. Even with today's techniques, the general public questions the reliability of the daily weather forecasts, not because of any doubt that reasonable methods are used in making such determinations, but because of the vagaries of the weather. So, a forecast that turns out to be an erroneous forecast, standing alone, should not be considered as any evidence of fault on the part of the Weather Service.

The court further held that the Weather Service owed no duty to directly broadcast weather information at any time because fishermen do not rely on such direct broadcasts. It did, however, have a duty to use due care in forwarding forecasts and warnings to commercial radio stations in the area. The court found that the Weather Service properly sent out its forecasts and warnings, but there was evidence that one warning was not broadcast on the station on which the decedents relied. Nonetheless, the Weather Service had no duty to make sure that the commercial stations actually transmitted the information provided. The complaint was dismissed.

Springer v. U.S. The pilot of a Cessna airplane and his passenger were killed when the plane crashed shortly after takeoff. The plaintiff's estate sued the federal government, claiming that the failure to warn the pilot of a severe low-level wind shear condition, about which the government knew or should have known, caused the crash. The court found that the NWS was negligent for failing to correct its forecast after information became available that the forecast was inaccurate. Specifically, the surface weather map issued most recently before the plane's departure incorrectly showed the location of a warm front. A more accurate map would have been material information to the pilot.

In discussing the applicability of the FTCA the court noted that the legislative history leading to the creation of the NWS demonstrated that the government intended to undertake responsibility for providing a reliable weather system for persons it knew would rely on it. "Given that [the NWS] undertook to provide a service that was necessary for the protection of Springer, and that Springer relied on that service, the court finds that defendant owed Springer the duty of reasonable care in operating its weather observation and aviation forecast system." The court relied on the lower court's decision in *Brown,* which was subsequently overturned on appeal. The court awarded damages of slightly over $1.4 million.

DISCUSSION. As previously mentioned, in *U.S. v. Gaubert,* the U.S. Supreme Court established a two-part test to decide whether the FTCA's discretionary function exception applies. The first part examines whether the challenged conduct was truly discretionary—that is, whether it involved an element of judgment or choice. This requirement is not satisfied—and the suit may therefore proceed—in circumstances where a "federal statute, regulation, or policy specifically prescribes a course of action for an employee to follow," because "the employee has no rightful option but to adhere to the directive."

If the conduct involved choice or discretion, the second part of the test requires that the court "determine whether that judgment is of the kind that the discretionary function exception was designed to shield." Because the discretionary function exception's purpose is to "prevent judicial 'second-guessing' of legislative and administrative decisions grounded in social, economic, and political policy through the medium of an action in tort," the exception "protects only governmental actions and decisions based on considerations of public policy." When a statute or regulation allows a federal employee to act with discretion, "it must be presumed that the agent's acts are grounded in policy when exercising that discretion." The focus of the inquiry is on the nature of the actions taken and "whether they are susceptible to policy analysis."

To summarize, if a mandatory statute, regulation, or policy leaves no room for discretion and the government complies with the mandate, it is shielded from liability. If the government violates that mandate, it is not shielded from liability. If the government is granted discretion, a strong presumption arises that its decisions are grounded in policy and thus the government is shielded from liability. To get around the discretionary function exception a plaintiff would have to show that the challenged decision, though discretionary, is not grounded in the policy of the regulatory regime. *Gaubert* made clear that decisions made at the operational level as well as those at the policy-making or planning level are covered by the discretionary function exception *if* they involve choice and judgment.

Loper (1988, 711–712) discusses an unpublished decision of a federal magistrate, *Delroy v. U.S.,* that found the NWS liable for a fatal plane crash because it had not issued a warning as required by a provision of an NWS manual that left no room for discretion. The plaintiffs in *Bergquist,* on the other hand, unsuccessfully argued that the NWS had violated requirements contained in NWS manuals and therefore the government was not entitled to immunity. The court was skeptical that forecasting could be so devoid of discretion as to be reduced to "forecasting by the numbers." It deemed the very nature of weather services to preclude such a test, and refused to take a course of action that would "have unbridled ramifications," which the court would not impose on the federal government in the area of weather forecasting. Absent a statute, rule, or policy leaving no room for discretion, the decisions reviewed in this article indicate that the federal government will continue to be shielded from liability under the discretionary function exception for its weather forecasts.

The federal government may also be shielded from liability for weather forecasts under the misrepresentation exception to the FTCA. All of the decisions reviewed that address this point have held that the misrepresentation exception applies when a claim is made that the NWS issued inaccurate or incomplete reports. *Bergquist* held that this is true regardless of whether the plaintiff seeks recovery for personal injuries or for losses resulting from commercial decisions.

Another FTCA hurdle for a plaintiff to overcome would be to prove that his or her claim against the federal government was comparable to a claim against a private citizen in the jurisdiction where the wrongdoing took place. The *Bergquist* and *Taylor* courts both concluded that the laws of the states in which those cases arose (Utah and Illinois) did not recognize a claim against a private party analogous to those that had been asserted against the NWS.

The few suits against the NWS that were not dismissed on the basis of immunity were decided prior to *Gaubert* and might be decided differently today if *Gaubert* were to be applied. Nevertheless, these decisions do illustrate that, faced with the merits, courts are unlikely to find liability simply because a weather forecast turns out to be wrong. When negligence was found in *Springer,* the act complained of was failure to issue a warning to a specific individual despite having available information, not failure to accurately predict the weather.

CONCLUSIONS. The decisions reviewed above indicate that the FTCA likely would preclude most if not all claims against the federal government based on inaccurate weather forecasts, especially given the *Gaubert* decision and the cases applying it in lawsuits against the NWS for forecast-related claims. *Bergquist, Monzon,* and *Taylor* all recognize that policy factors, such as cost and the desire not to overwarn, enter into NWS forecasting and warning decisions. However, it would be too strong a statement to say that the federal government will never face a liability risk in its forecasting enterprise. In instances where all discretion has been removed, if other FTCA requirements were met, the government's failure to follow a mandatory statute, regulation, or policy could expose it to liability. Of course, the Supreme Court could alter the *Gaubert* test to make it more difficult for the government to seek refuge in the discretionary function exception.

Governmental immunity does not, however, protect private sector forecasters. Under what circumstances can such forecasters be found liable for erroneous forecasts? Part II of this review (Klein and Pielke 2002) summarizes the few published court decisions involving claims against private sector weather forecasters based on their weather forecasts, discusses a sampling of decisions involving other types of forecasts to try to discern principles that may be applied in the weather forecast context, and offers our own forecasts about legal liability for private sector weather forecasters.

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APPENDIX: CASE CITATIONS. Listed below are the case citations for the court cases noted in this article. For a detailed explanation on legal citation, please see Peter W. Martin's *Introduction to Basic Legal Citation (2000–2001 ed.)* online at www.law.cornell.edu/citation/citation.table.html.

U.S. v. Gaubert	499 U.S. 315 (1991)
National Mfg. Co. v. U.S.	210 F.2d 263 (8th Cir.), *cert. denied,* 347 U.S. 967 (1954)
Spencer v. New Orleans Levee Board	737 F.2d 435 (5th Cir. 1984)
Bartie v. U.S.	216 F. Supp. 10 (W.D. La. 1963), *aff'd,* 326 F.2d 754 (5th Cir.), *cert. denied,* 379 U.S. 852 (1964)
Williams v. U.S.	504 F. Supp. 746 (E.D. Mo. 1980)
Schinmann v. U.S.	618 F. Supp. 1030 (E.D. Wash. 1985), *aff'd,* 811 F.2d 1508 (9th Cir.), *cert. denied,* 484 U.S. 924 (1987)
Brown v. U.S.	790 F.2d 199 (1st Cir. 1986), *cert. denied,* 479 U.S. 1058 (1987)
Brown v. U.S. (lower court)	599 F. Supp. 877 (D. Mass. 1984)
Bergquist v. U.S.	849 F. Supp. 1221 (N.D. Ill. 1994)
Monzon v. U.S.	253 F.3d 567 (11th Cir. 2001), *cert. denied,* 122 S.Ct. 1792 (2002)
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