BAD WEATHER? THEN SUE THE WEATHERMAN!

PART II: LEGAL LIABILITY FOR PRIVATE SECTOR FORECASTS

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Private sector forecasters need to ensure that their exposure to lawsuits is limited

With increasingly sophisticated computer technology and models, weather forecasts have become demonstrably more precise in recent decades. Yet scientists cannot predict the future with 100% precision. Inaccurate or inadequate forecasts can lead to financial or even 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 forecaster liability, if any, arises under the U.S. legal system?

This article is the second of a two-part review. Part I (Klein and Pielke 2002) discussed several court decisions resolving lawsuits against the federal or state government based on inaccurate or inadequate weather-related forecasts that led to personal injury or property damage. The decisions indicated that the discretionary function and misrepresentation exceptions to the Federal Tort Claim Act (FTCA) likely would provide immunity for most claims against the federal government based on weather forecasts. Even if immunity were unavailable, the federal government is unlikely to be found negligent simply because a weather forecast turns out to be wrong.

Most published court decisions involve the federal government as the provider of weather forecasts. But if private sector weather forecasting continues to grow at the rate it has in recent decades, lawsuits against these forecasters may also increase. In the context of meteorology, the phrase "private sector" is frequently used with various, and sometimes conflicting, meanings (Pielke et al. 2001, manuscript submitted to *Bull. Amer. Meteor. Soc.,* hereafter USWRP). The focus of this article is primarily relevant to the subset of the private sector frequently called "commercial meteorology." Included under this definition of the "private sector" are the members of the Commercial Weather Services Association (CWSA) and The National Council of Industrial Meteorologists (NCIM), as well as other companies and consultants not members of these trade groups who provide meteorological services to their customers.[1] Our review may have relevance to other businesses that provide predictions, such as in the industries of catastrophe modeling or weather derivatives. Commercial meteorology had an estimated

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$500 million in revenues in 1999, up from $200 million in 1990 (Guth 2000).

Governmental immunity does not protect private sector forecasters, so other legal issues will arise in lawsuits against these forecasters (see Fischer 1995). This article reviews the few published court decisions involving claims against private sector weather forecasters, as well as claims for forecasts in other contexts.[2]

CLAIMS AGAINST PRIVATE SECTOR WEATHER FORECASTERS. The following two decisions involve claims against private sector weather forecasters. In the first, the court refused to impose on The Weather Channel a duty to viewers who rely on forecasts to their detriment. The second decision illustrates the type of lawsuit that private companies providing forecasts to commercial clients may face.

Brandt v. The Weather Channel.[3] A man drowned when a storm threw him from his boat. The complaint alleged that the man monitored The Weather Channel before going out on the boat, and The Weather Channel had neither issued a small craft warning nor forecasted bad weather.

The court declined to impose on television weather broadcasters a duty to viewers who watch and rely on their forecasts. This duty could extend to anyone who relied to his or her detriment on a faulty forecast, such as construction workers who pour concrete based on a forecast of dry weather. It also could be applied to non-weather-related forecasts, such as traffic reports. "It is clear that to impose such a duty would be to chill the well established first amendment rights of the broadcasters. It is well established that mass media broadcasters and publishers owe no duty to the general public who may view their broadcasts or read their publications." Imposing liability for weather forecasts would be contrary to public policy. "Because prediction of weather is precisely that—a prediction—a weather forecaster should not be subject to liability for an erroneous forecast. Predicting possible future events whose outcome is uncertain is not an exact science for which a broadcaster should be held liable."

The court also noted that there was no enforceable contract between the decedent and The Weather Channel. Even though the outcome was tragic, the man was merely a viewer of a television broadcast and, as such, The Weather Channel owed no contractual duty to him.[4]

Grossman v. Citrus Associates of the New York Cotton Exchange. A trading advisor in the frozen concentrated orange juice (FCOJ) market and his clients brought this action alleging a conspiracy to manipulate the price of FCOJ contracts, causing the plaintiffs substantial monetary losses. According to the complaint, Freese-Notis, a private weather forecasting firm in the business of issuing weather reports to customers for a fee, disseminated false and erroneous forecasts of low temperatures for the orange groves with intent to manipulate the FCOJ market.

To determine whether there was an issue for trial, the court examined whether the factual context of the case rendered the plaintiffs' claim implausible. If the claim simply made no economic sense, the plaintiffs then would be required to come forward with more persuasive evidence to support their claim than would otherwise be necessary. The court noted that the claims against Freese-Notis made no economic sense. Freese-Notis was in the business of providing weather forecasts to customers in weather sensitive businesses. Issuing inaccurate forecasts could lead to customer dissatisfaction and loss of business. The complaint alleged no pecuniary or other interest of Freese-Notis that might have been advanced by the alleged conspiracy. The court concluded that the complaint failed to sufficiently demonstrate that Freese-Notis' conduct caused whatever monetary loss the plaintiffs suffered. "Freese-Notis, a private weather forecasting firm, did not hold enough power in the FCOJ futures contract market to, on its own, create a scare worth reporting in a major metropoli-

[1] See www.weather-industry.com and www.ncim.org. A broader definition of the "private sector" might include those businesses (and related trade organizations) that manufacture weather instruments, radar, and terminals, and other research and development that compose the public and private infrastructure of weather research and operations. An even broader definition would include companies and trade organizations in the media, for example, the Internet, newspaper, and television, that receive revenue for weather content. See USWRP for discussion.

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

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

[4] Compare this result to reports that government authorities considered charging a Brazilian television weather forecaster with the offense "sounding a false alarm" for forecasting cold, driving rains on New Year's Eve that never materialized (BBC News 2002).

tan newspaper." Plaintiffs acknowledged that the publicly available U.S. government computer forecasts are the real "movers and shakers" in the FCOJ futures contract market.

The plaintiff's later argued that Freese-Notis had publicly issued an intentionally misleading weather forecast while privately telling favored clients something different, thus placing them in the position to pursue a different market strategy. The court rejected this contention because it lacked a factual basis.

CLAIMS BASED ON OTHER TYPES OF FORECASTS. Under what circumstances can a private sector weather forecaster be held liable for providing inaccurate forecasts to a client? This issue has not been addressed in any published court decision the authors were able to find. This situation undoubtedly will be the context in which future weather forecast-related lawsuits will arise. In an effort to shed some light on the kinds of legal issues courts will face in deciding such cases, this article next briefly discusses a sampling of court decisions involving forecasts and predictions that arose in contexts quite different than weather forecasting.

Misrepresentation. In general, only statements concerning past or present facts may give rise to a claim of fraudulent misrepresentation. Forecasts of future events cannot form the basis for a fraud action (*Chedick v. Nash*). Numerous exceptions exist that are chipping away at this rule of nonliability, however. For example, one may be liable for a misrepresentation that relates to a future event if it was made with the intention of perpetrating a fraud (*Peterson v. Baloun*). When a person positively states that something is to occur, knowing the contrary to be true, the statement will support an action in fraud (*Chedick*). Statements about the future may constitute fraud if the person making the statement possessed superior knowledge of the underlying facts (*Davis v. McDonald's Corp.*), held himself out to be specially qualified to make the statements (*In re Jogert*), or knew of facts that would prevent the event from occurring (*John Doe v. Maharishi Mahesh Yogi*). However, one cannot be liable for making a financial forecast or projection simply because it ultimately proves incorrect, as long as it had a reasonable basis (*Platsis v. E. F. Hutton & Co.,*).

Securities law. A well-developed body of law exists in the securities area regarding liability for forecasts. For years, the Securities and Exchange Commission (SEC) prohibited disclosure of statements from companies predicting future business outcomes, also known as forward-looking statements. Perhaps realizing this approach was inconsistent with the security law's philosophy of full disclosure, the SEC changed its policy in the early 1970s to allow predictive statements to be made. Due to this change, both predictive statements and fraud actions based on such statements greatly increased.

The elements of a claim for misleading predictive statements under the securities laws are that the defendant intentionally made a misstatement or omission of material fact in connection with the purchase or sale of a security upon which the plaintiff justifiably relied and that proximately caused injury to the plaintiff. The following case applies this law to claims that predictive statements were misleading.

In *Rubinstein v. Collins*, the court noted that whether liability is imposed for predictions under the securities law depends on whether the predictive statement was "false" when made. This determination does not depend on whether the prediction proves to be wrong; instead, "falsity is determined by examining the nature of the prediction—with emphasis on whether the prediction suggested reliability, bespoke caution, was made in good faith, or had a sound factual or historical basis." Predictions containing false statements of fact that do not have a reasonable basis and that were made with an intent to deceive, manipulate, or defraud, or with reckless indifference, will result in liability. Where the defendants either knew or were recklessly indifferent to the fact that their predictions did not have a reasonable basis, they could be liable for securities fraud. (See also *Searls v. Glasser*: "an inability to foresee the future does not constitute fraud . . . as long as those statements had a reasonable basis when made.")

Rate-making decisions. Questions about the validity of forecasts also arise in rate-making decisions. *United Parcel Service, Inc. v. United States Postal Service* held that "the [U.S. Postal] Service makes projections about its costs and revenue that may or may not come to pass; projections are no more than educated guesses. The use of projections for future costs and revenues necessarily will involve some imprecision when actual data becomes available. Of course, the Service must make its estimates in good faith."

Negligent release of mental patients from custody. Physicians and psychiatrists may face liability if they fail to predict the dangerousness of a mental patient who they release from custody if the patient then injuries another person. While courts recognize the difficul-

ties inherent in predicting whether a patient presents a serious danger of violence, they require that physicians exercise a reasonable degree of care ordinarily exercised by other members of their profession under similar circumstances when they predict a patient's potential for violence. A prediction of future behavior that turned out to be wrong is insufficient to establish liability as long as the physician exercised reasonable care (*Durflinger v. Artiles*).

Life care contracts. Under a life care contract an elderly person pays a lump sum to a retirement community, generally determined by life expectancy tables. In return, he or she is provided with lifetime care, even if he or she lives longer than expected. Problems arise when the life expectancy prediction does not turn out to be accurate and the elderly person dies soon after entering into the contract. Courts generally uphold these contracts against claims that they are unfair, recognizing that life expectancy tables are just predictions based on averages and each party takes the risk that the decedent's life span will vary from that predicted by the mortality tables. (*See Gold v. Salem Lutheran Home Association, Bower v. The Estaugh, Guthmann v. La Vida Lena.*)

Insurance cancellation moratorium. Hurricane Andrew struck Florida in August of 1992, causing over $25 billion in damage and resulting (directly or indirectly) in 44 deaths in that state. In the aftermath, 10 property-casualty insurers became insolvent and others were financially impaired. The State of Florida responded to the insolvencies by enacting a moratorium prohibiting insurers from canceling or not renewing property insurance based on the risk of hurricane claims, unless the insurer could demonstrate that the proposed cancellations or nonrenewals were necessary to avoid an unreasonable risk of insolvency. The legislation provided that, "in no event shall any insurer be required to risk more than its total surplus to any objectively defined probable maximum loss resulting from one Florida hurricane loss event."

Prudential Property & Casualty Insurance Co. v. Department of Insurance interpreted the meaning of this law when Prudential Property and Casualty Insurance Company of Indiana (PRUPAC) applied for an exemption from the moratorium. PRUPAC claimed that it was being required to risk more than its total capital and surplus to any objectively defined probable maximum loss resulting from one Florida hurricane event.

The state argued that the phrase "objectively defined probable maximum loss" in the moratorium meant the probability that a hurricane event leading to probable maximum loss will occur in the near future, while PRUPAC argued that it meant that a hurricane event and loss could be reasonably anticipated to occur with a degree of probability at some unspecified time in the future. The court concluded, "from a statistical standpoint, we acknowledge that no one can predict exactly when such a hurricane event will occur; it can only be shown that as a matter of reasonable probability such a storm event will occur during a stated period at an unspecified time in the future."

DISCUSSION. Although these decisions arose in quite different contexts and present different legal issues, they provide an indication of the types of legal claims that a client could bring against a private sector forecaster for issuing an incorrect forecast. A forecaster could be sued by a client for making an incorrect forecast if the forecaster did not use reasonable care in making the forecast. Generally, professionals must use reasonable care in performing services for clients. For professionals, reasonable care is generally defined as exercising "the skill and knowledge normally possessed by members of that profession" (American Law Institute 1965). Liability may be found if the professional's failure to use reasonable care is a substantial factor in causing actual loss or damage to the client.

A forecaster's duty of reasonable care would mean issuing forecasts "prepared according to the standards of a reasonably prudent meteorologist, including reporting facts about the current state of the weather accurately" (Loper 1988).[5] The focus at trial would be on whether the forecaster used "forecasting methods widely accepted and normally used by recognized forecasters for that purpose" (Gray and Simmons 1995). Expert testimony from other meteorologists could help determine whether the forecasting process strayed from acceptable standards (Loper 1988). The court would also have to decide whether the plaintiff relied on the forecast and whether the forecast was a substantial factor in causing the plaintiff's injuries.

A forecaster could be sued for fraud in the unlikely event that he or she knowingly made a false forecast to induce action by the plaintiff and the plaintiff suffered harm or loss by justifiably relying on the forecast (American Law Institute 1965, 1977). As noted

[5] The National Weather Service provides data and products to the private sector "as is" and disclaims any liability for use of its data by another user (P. Weiss 2001, personal communication).

earlier, statements concerning future events may constitute fraudulent misrepresentation if made with intent to deceive, or if the speaker is specially qualified or has superior knowledge to make the statement. An example of a rare case in which a forecaster could be found liable for fraud would be the intentional falsification of a forecast for some purpose such as influencing a weather derivative contract.

Given these various conditions necessary for forecaster liability, it is understandable that some authors have characterized the threat of liability to private sector forecasters as "remote" or "minimal" (Loper 1988; Gray and Simmons 1995). But in our litigious society it is impossible to state with any assurance that the threat is nonexistent. And even if the likelihood of a private sector forecaster facing liability is small, he or she still may have to expend considerable resources to defend a lawsuit. So what can private sector forecasters do to protect themselves from liability?

The private sector forecasting industry could lobby the legislature to enact a statutory limitation of liability on its behalf. Other industries have obtained this kind of protection. For example, the Communications Decency Act of 1996 limits the liability of providers of interactive computer services, such as America Online (AOL), for harm resulting from the dissemination of defamatory or otherwise harmful information that third parties make available through such services. States often provide immunity for nonprofit corporations, as well as for employers who provide truthful references for former employees. Other liability limitations include caps on the amount of damages a plaintiff may recover in a medical malpractice case or that a guest can recover against an innkeeper for lost property.

These immunity statutes are often passed to promote the development of certain industries or practices. The private sector weather forecasting industry would have to persuade legislators that immunity was essential to the further development of private sector weather forecasting and that this was a highly desirable and socially beneficial goal. Given present relations between public and private providers of weather information, such a strategy may be premature.

Absent an immunity statute, private sector weather forecasters could include limitation of liability clauses in their contracts with their clients. In general, one may contractually limit liability for harm caused by ordinary negligence. Courts are often hostile to these clauses, however, particularly when they deprive an injured party of recovery for harm that is caused intentionally or recklessly or when they result from an unequal bargaining relationship between the contracting parties (Lord 1998). Even if the clause is not expressly forbidden, courts will strictly construe it against the professional. Some jurisdictions permit liability limitations only if they limit liability to an agreed-upon amount (Lord 1998). Given the variety of approaches taken by different jurisdictions, forecasters may wish to obtain legal advice concerning the use of such a clause. Given a valid and applicable limitation of liability clause, a private sector forecaster should be able to obtain dismissal of a lawsuit without having to face a trial on the merits of the suit.

A superior form of protection for private weather forecasters is professional liability insurance. If an insured forecaster is sued, the insurance company will defend a lawsuit that falls within the terms of the policy. Policies may exclude coverage for certain types of acts such as fraud.

Of course, the best defense against liability is, first, for a company and its employees to make their forecasts in good faith using reasonable care. Second, companies should engage in a rigorous evaluation of their forecasts products. This would provide evidence of the skill of their forecast products generally, which may be useful should a liability issue arise, but could also help to scale their customers' expectations about the accuracies and uncertainties of the products and services that they are purchasing. Third, the company's services agreement should clearly warn customers that forecasting is not a precise science. While these measures will help to avoid lawsuits in the first place, lawsuits may still be filed. Consequently, liability insurance makes sense.

CONCLUSIONS. Lawsuits against private sector weather forecasters for forecasts may increase in the coming years as the private sector expands its forecasting activities, especially if companies make inflated or unfounded claims of their ability to forecast the weather accurately. Thus, companies have to be cognizant of the trade-offs between using claims of forecast accuracy as a marketing tool and the exposure to liability that will result from unfounded claims of capabilities. Absent statutory immunity or a valid limitation of liability clause, private sector forecasters who are sued will have to defend lawsuits for inaccurate forecasts on their merits.

The decisions discussed above provide some guidance as to how such lawsuits could be resolved. At one end of the spectrum, forecasters will not be found liable simply because a forecast is erroneous. Courts in the past have recognized that forecasts are fallible and people who rely on such forecasts assume the risk that a particular prediction may not be realized. The issu-

ance of probabilistic forecasts introduces additional technical considerations (e.g., in evaluating forecast "goodness") but does not appear to contradict these general findings related to liability. At the other end of the spectrum, a forecaster should be found liable if a forecast was based on a deliberate, knowing falsehood or withholding of information.

Most cases likely will fall in a gray area, where it will be alleged that, while the forecast may have been made in good faith, it strayed from established professional standards. Rigorous verification of forecasts would offer valuable information to producers of forecasts about how to market their products honestly, to users of forecasts about how to use predictive information effectively, and to the court system when it is called upon to evaluate whether a forecast or forecast process meets the applicable professional standard.

In summary, our forecast for the legal liability of private sector forecast providers is "partly cloudy." Private sector forecasters should take steps to ensure that their exposure is limited and insured as much as possible, so that those partly cloudy skies do not develop into powerful storms.

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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.

Case	Citation
Brandt v. The Weather Channel	42 F. Supp. 2d 1344 (S.D. Fla), *aff'd,* 204 F.3d 1123 (11th Cir. 1999)
Grossman v. Citrus Associates of the New York Cotton Exchange	706 F. Supp. 221 (S.D.N.Y. 1989)
Chedick v. Nash	151 F.3d 1077, 1081 (D.C. Cir. 1998)
Peterson v. Baloun	715 F. Supp. 212, 216 (N.D. Ill. 1989)
Davis v. McDonald's Corp.	44 F. Supp.2d 1251, 1261 (N.D. Fla. 1998)
In re Jogert	950 F.2d 1498, 1507 (9th Cir. 1991)
John Doe v. Maharishi Mahesh Yogi	652 F. Supp. 203, 208 (D.D.C. 1986)
Platsis v. E. F. Hutton & Co.	642 F. Supp. 1277, 1293 (W.D. Mich. 1986)
Rubinstein v. Collins	20 F.3d 160 (5th Cir. 1994)
Searls v. Glasser	64 F.3d 1061, 1066 (7th Cir. 1995)
United Parcel Service v. United States Postal Service	184 F.3d 827, 834 (D.C. Cir. 1999)
Durflinger v. Artiles	727 F.2d 888 (10th Cir. 1984)
Soutear v. U.S.	646 F. Supp. 524 (E.D. Mich. 1986)
Gold v. Salem Lutheran Home Association	1 Cal. Rptr. 343 (Cal. 1959)
Bower v. The Estaugh	369 A.2d 20 (N.J. Sup. Ct. App. Div. 1977)
Guthmann v. La Vida Lena	709 P.2d 675 (N.M. 1985)
Prudential Property & Casualty Insurance Co. v. Department of Insurance	626 So. 2d 994 (Fla. Ct. App. 1993)

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