A Case Study of Hurricane Katrina and Sandy Claims

Responding to Catastrophic Storm Losses

By Aaron R. White, Frank Di Grande, and Michael S. Beach

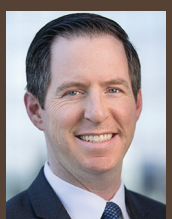
Court decisions resulting from Hurricanes Katrina and Sandy have further defined policy terms and the rights, responsibilities and obligations of insurers and their policyholders.

Since the turn of the millennium, the insurance industry has learned significant and valuable information from claims associated with major catastrophes, including Hurricane Katrina in 2005 and Hurricane Sandy in 2012.

Hurricane Katrina and Hurricane Sandy were the costliest and the third-costliest natural disasters in U.S. history, respectively. Since 1970, half of the 15 costliest natural disasters in the United States have occurred in the past 10 years. Hurricanes Katrina and Sandy were caused by what experts consider meteorological anomalies, compared with predictable and known weather threats. Some of the more frequently occurring meteorological events, including Katrina and Sandy, affected areas of the country previously thought to be reasonably protected by geographic, natural, and manmade barriers.

The meteorological patterns of Hurricane Katrina and Hurricane Sandy deviated from the norm, and these deviations greatly affected the scope of losses sustained by the residents and businesses of the geographic areas hit by the hurricanes.

This article analyzes the critical meteorological information causing these two catastrophic hurricanes, as well as the important legal precedent developed after each weather event. This forms the basis from which insurers now predict catastrophic weather events, underwrite coverage, and handle and consider special circumstances based on changes in conditions—including previously unanticipated or under recognized risks that may create ambiguities in the way that insurers, insureds, and the courts, interpret insurance policies.



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The Situation Room

Recent catastrophic natural disasters, some greater than ever historically recorded, have caused insurers to develop systems to assist to manage risk and exposure, through the use of tactical, ground zero, or situation rooms, as front line tools. Most, if not all, insurers have established internal divisions responsible for predicting, monitoring, and advising about potentially catastrophic events, including hurricanes, tornados, torrential rainfalls, floods, snow storms, and periods of deep freeze. Through the use of technology, many insurers are developing procedures for providing advance notice, instructions, and warnings to their insureds through Twitter, Facebook, e-mail, text message, and automated phone messages. The notices and warnings provided to insureds include information about potential catastrophic weather events that may affect the insureds' respective geographic locations.

These tactical and situation divisions also assist insurers to highlight and pinpoint geographic areas of potential concern and allow the insurers to cross-reference those areas with the locations of their customers. This assists the insurers to evaluate potential risk, but also to mobilize, in advance, claim and adjusting teams, and to prepare them for adjusting these potential catastrophic events. Many of these insurers also use the tactical and situation divisions to communicate with their insureds immediately after significant weather events to ensure their safety and to initiate the claim process when necessary.

Hurricane Katrina

The Federal Emergency Management Agency (FEMA) maintains that Katrina was "the single most catastrophic natural disaster in U.S. history."

Meteorological History

The 2005 hurricane season was one of the most destructive and busy hurricane seasons in history. Hurricane Katrina was an extremely destructive Category 5 hurricane, which began its deadly path on August 23, 2005, near the Bahamas. According to the National Hurricane Center (NHC), Katrina first strengthened off of the east coast of Florida, becoming a tropical storm and then making landfall at the southern tip of Florida, passing across and into the warm waters of the Gulf of Mexico. Katrina next strengthened over the warm waters of the Gulf of Mexico. Originally forecasted to strike land along the Florida panhandle and Alabama, the forecast later in the day on August 26, 2005, shifted the track to the west, placing Louisiana, and its largest city, New Orleans, directly in the path. The change in Katrina's track caused states of emergency to issue in Louisiana, Mississippi, and Alabama, which placed significant focus on the potential direct strike on New Orleans, a city with an approximate population of 1.3 million residents in its greater metropolitan area.

On August 27, 2005, Katrina was upgraded to Category 3 intensity, and it became the third major hurricane in the season. Soon afterward an eye-wall replacement cycle disrupted the intensity of the maximum winds and doubled the radius of the storm. Early on August 28, 2015, Katrina was upgraded to a Category 4 hurricane with maximum sustained winds of 145 miles per hour. By 7:00 a.m. on the 28th, Katrina became a Category 5 hurricane with maximum sustained winds of 175 miles per hour and gusts of 215 miles per hour, with central pressures as low as 902 nbar. At the time, Katrina's minimum pressure was the fourth most intense on record (surpassed later in 2005 by Rita and Wilma).

On the afternoon of August 28, Katrina was positioned 180 miles from the mouth of the Mississippi River with tropical force winds extending 230 miles from the center of the storm and hurricane force winds extending 105 miles from the center.

Katrina made its second landfall, first along the Gulf Coast, near Buras-Triumph, Louisiana, at approximately 6:00 a.m. on August 29, 2005, as a Category 3, with hurricane-sustained winds of 125 miles per hour. At landfall Katrina's hurricane winds extended 120 miles from center. Katrina proceeded up the eastern Louisiana coastline, and communities in Plaquemines, Saint Bernard Parrish, and Saint Tammy Parrish were severely damaged by storm surge and strong winds in the eye wall. The eye wall eventually grazed eastern New Orleans.

Because Katrina was so large, highly destructive eye-wall winds and strong winds on the northeastern side of the storm pushed record storm surges onto shore into the entire Mississippi Gulf Coast, including towns such as Waveland, Bay Saint Louis, Pass Christian, Long Beach, Gulfport, Biloxi, and in Alabama, Bayou La Batre. The storm surge peaked at 28 feet in Saint Bay Louis, Mississippi, and towns such as Pass Christian, and 13 feet as far away as Mobile, Alabama, the highest storm surge in Mobile since 1917.

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Statistics and Damages

FEMA estimates that the total damage for Katrina was $108 billion, resulting in the "costliest hurricane in U.S. history." Deaths related (directly or indirectly) to Katrina totaled 1,833, with more than 1,500 occurring in Louisiana. More than half of the deaths in Louisiana were of individuals over the age of 74.

Private Insurance Payments

Insurance companies have paid an estimated $41.1 billion on 1.7 million different Katrina-related claims for damage to vehicles, homes, and businesses in six states. Sixty-three percent of the losses occurred in Louisiana and 33 percent occurred in Mississippi. By 2007, 99 percent of the 1.7 million personal property claims had been settled by insurers. Courtesy of Insurance Information Institute (2010). The efficiency

of the claim process was affected by impassible roads, severe utility disruptions, curfews, and the displacement of entire communities.

National Flood Insurance Payments

The National Flood Insurance Program paid out $16.3 billion in claims, with $13 billion being paid for claims in Louisiana.

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Effect on New Orleans and the Gulf Coast

Torrential rains and storm surge caused by Katrina caused levies to fail and flood 80 percent of the city of New Orleans. Seventy percent of New Orleans' occupied housing, 134,000 units, was damaged in the storm. Forty percent of the deaths in Louisiana were caused by drowning.

More than one million people in the Gulf region were displaced by the storm. At their peak, hurricane relief shelters housed 273,000 people. Later, approximately 114,000 households were housed in FEMA trailers.

Hurricane Sandy

The National Oceanic Atmospheric Association (NOAA) claims that since it began recording the size of storms, only one tropical storm or hurricane has been larger than Sandy.

Meteorological History

According to data from the National Hurricane Center (NHC), Sandy developed from a tropical wave in the western Caribbean Sea on October 22, 2012, quickly strengthened, and was upgraded to "tropical storm" Sandy six hours later. On October 24, 2012, Sandy became a hurricane, made landfall near Kingston, Jamaica, reemerged a few hours later into the Caribbean Sea, and strengthened into a Category 2 hurricane. On October 25, 2012, Sandy hit Cuba as a Category 3 hurricane, then weakened to a Category 1 hurricane. Early on October 26, 2012, Sandy moved through the Bahamas. On October 27, 2012, Sandy briefly weakened to a tropical storm and then restrengthened to a Category 1 early on October 29, 2012.

On October 29, 2012, a banded eye redeveloped while Sandy was still over the Gulf Stream, and convection organized. Later on October 29, 2012, Sandy began transitioning into an extratropical storm after the western periphery of the circulation began interacting with a cold front. The storm revolved around an upper-level low over the eastern United States, and also to the southwest of a ridge over Atlantic Canada that the NHC has described as "highly anomalous." As a result, Sandy took a turn to the north and northwest, rather than out into the North Atlantic Ocean. After the turn, Sandy again intensified, reaching a secondary peak of 100 mph (160 km/h).

Importantly, Sandy's convection diminished while she accelerated toward the New Jersey coast, due to becoming involved with the low to the west. The pressure continued to drop, which indicated that the system was intensifying because of baroclinic instability. The NHC declared Sandy a post-tropical cyclone at about 2100 UTC (coordinated universal time) that afternoon, while located just offshore from southern New Jersey. This declaration affected the coverage available to thousands of insured parties. About two and half hours later, the storm made landfall approximately 5 miles (8 km) northeast of Atlantic City near Brigantine, New Jersey. Sandy's intensity at landfall was originally estimated at 80 mph (130 km/h), but the strongest recorded winds were located offshore, east and southeast of the center.

When it reached into the cold waters of the Atlantic, Sandy transitioned from a tropical to a non-tropical system, and as a result and during the process, the wind field greatly increased, with gale-force winds extending northeastwards 520 miles from the center, and 12-foot-high seas covered a diameter of ocean 1,500 miles across. Tropical storm force winds at landfall were felt in a 1500-mile diameter. Despite its size, the winds were not extreme, and rainfalls were not sizeable compared to other hurricanes.

Sandy's significant size caused extreme volumes of ocean water to flood the East Coast, from southeastern Massachusetts to the Outer Banks of North Carolina. The winds and water caused the catastrophic flooding to occur in New Jersey and the New York metropolitan area and parts of Long Island Sound. The storm made landfall with a storm surge occurring near the time of high tide along the Atlantic Coast. The trajectory of Sandy was influenced by the "Fujiwhara effect," which occurs when two nearby cyclonic vortexes orbit each other and close the distance between the circulations of their low pressure areas.

Statistics and Damages

Sandy was the deadliest and most destructive hurricane of the 2012 Atlantic hurricane season, and the second-costliest hurricane in United States history (behind Katrina). Estimates as of 2015 assessed damage to have been about $75 billion, a total surpassed only by Hurricane Katrina. At least 233 people were killed along the path of the storm in eight countries.

Effect on the Northeastern United States

In the United States, Sandy affected 24 states, including the entire Eastern Seaboard, from Florida to Maine, and west across the Appalachian Mountains to Michigan and Wisconsin, with particularly severe damage in New Jersey and New York. The storm damaged or destroyed at least 650,000 homes, and 8 million customers lost power. Its storm surge hit New York City on October 29, 2015, flooding streets, tunnels, and subway lines and cutting power in and around the city. Damage in the United States amounted to $71.4 billion.

Damage was estimated to $29.4 billion in New Jersey, with 30,000 homes significantly destroyed and 42,000 structures sustaining damages. Sandy was responsible for 38 deaths in New Jersey. The damage to New Jersey coastal communities was caused predominantly by storm surge. Astronomically high tides that were caused by a full moon

and a rare spring, high-tides cycle, with the highest tides reaching the ocean front and Rariton Bay area and a storm surge of 5 to 9 feet. The tide reached 13.3 feet above the lower level in Sandyhook, New Jersey, and within 45 minutes, collapsed the pier. At the entrance to New York, the New York harbor buoy reported breaking seas of 32.5 feet. Estimates suggest that waves reached 12 to 24 feet along the ocean front of New Jersey, and along Monmouth County most ocean front barrier island homes were either destroyed or moved by storm surge. Statistics Courtesy of the National Climactic Data Center (NCDC).

Private Insurance Payments

Sandy caused $18.75 billion in insured property losses, excluding flood insurance claims covered by the National Flood Insurance Program, according to Property Claim Services (PCS), a division of Verisk Analytics. New York and New Jersey suffered the largest private insurance losses from Sandy.

National Flood Insurance and FEMA Payments

More than 2,100 FEMA housing inspectors were dispatched to inspect the losses. The National Flood Insurance Program paid approximately $6.4 billion in flood-related claims. FEMA and the U.S. Small Business Administration have disbursed nearly $16.9 billion for recovery since Hurricane Sandy made landfall on the East Coast three years ago. Courtesy of FEMA, http://www.fema.gov/news.

Claims and Resulting Litigation

Hurricane Katrina and Hurricane Sandy each occurred under unusual weather patterns, and each significantly weakened before making landfall. Both caused significant storm surge, which resulted in thousands of claims requiring insurers to evaluate wind versus flood coverage issues. Many more anti-concurrent cause or efficient proximate cause claims occurred for which insurers relied on engineers to evaluate each particular claim to determine if the wind and flood claims occurred concurrently and were distinguishable. Further, many of the losses resulting from Katrina and Sandy considered whether ensuing losses triggered coverage.

Many thousands of claims related to Hurricane Katrina in Louisiana were denied due to floods caused by the failure of manmade levies, where insureds argued that flood exclusions in their policies, did not contemplate, nor include, floods caused by the negligence of third parties, including the Army Corp of Engineers. Because of the timing of the weakening Sandy, many insurers denied claims in coastal communities affected by storm surge and flooding where the recorded wind speeds were not as severe as expected, resulting in little wind damage but catastrophic flood damage instead.

As expected, significant litigation resulted soon after these catastrophic storms. This litigation has assisted insurers and their insurers to understand the coverage, limitations on coverage, rights, and remedies available to each party under the applicable insurance contracts.

Hurricane Katrina Litigation

The most precedent-setting litigation to emerge from Hurricane Katrina had been the *Katrina Canal Breaches Litigation*, *Tuepker v. State Farm*, and *Corban v. USAA,* discussed more below.

Katrina Canal Breaches Litigation

On the morning of August 29, 2005, Hurricane Katrina struck along the coast of the Gulf of Mexico, devastating portions of Louisiana and Mississippi. In the city of New Orleans, some of the most significant damage occurred when levees along three major canals—the 17th Street Canal, the Industrial Canal, and the London Avenue Canal—ruptured, permitting water from the flooded canals to inundate the city. At one point in Katrina's aftermath, approximately 80 percent of the city was submerged in water. Insurers writing coverage in the areas inundated by floods, caused in part by the failure of levies, in large part denied coverage based on flood exclusions included in the policies. Insureds argued that their policies' flood exclusions in this context were ambiguous because they did not clearly exclude coverage for an inundation of water induced by negligence.

These significant disputes resulted in multiparty litigation known as *In re: Katrina Canal Breaches Litigation*, filed in the United States District Court for the Eastern District of Louisiana, and ultimately appealed to the Fifth Circuit Court of Appeals. *See In Re: Katrina Canal Breaches Litigation,* 495 F. 3d 191 (5th Cir. 2007). The claimants asserted that the water damage "was not the result of flood, surface water, waves, [tidal] water, tsunami, breach, overflow of a body of water, seepage under or over the outfall canal wall or spray from any of the above but was water intrusion, caused simply from a broken levee wall."

Sandy caused $18.75 billion in insured property losses, excluding flood insurance claims covered by the National Flood Insurance Program, according to Property Claim Services (PCS), a division of Verisk Analytics.

Several of the insurers' policies contained the following flood exclusion:

> We do not insure for loss caused directly or indirectly by any of the following. Such loss is excluded regardless of any other cause or event contributing concurrently or in any sequence to the loss…
>
> **Water Damage**, meaning:
>
> "…Flood, surface water, waves, tidal water, overflow of a body of water, or spray from any of these, whether or not driven by wind."

Other policies at issue contained the following flood exclusion:

> We do not insure under any coverage for any loss which would not have occurred in the absence of one or more of the following excluded events. We do not insure for such loss regardless of: (a) the cause of the excluded event; or (b) other causes of the loss; or (c) whether other causes

acted concurrently or in any sequence with the excluded event to produce the loss; or (d) whether the event occurs suddenly or gradually, involves isolated or widespread damage, arises from natural or external forces, or occurs as a result of any combination of these.

Water Damage, meaning:

"(1) flood, surface water, waves, tidal water, overflow of a body of water, or spray from any of these, all whether driven by wind or not…"

The court determined, in light of these definitions, that the flood exclusions were unambiguous in the context of this case and that what occurred here fit squarely within the generally prevailing meaning of the term "flood."

The policies also defined "caused by" as "any loss that is contributed to, made worse by, or in any way results from that peril."

Under Louisiana law, ambiguity may also be resolved through the use of the reasonable-expectations doctrine, *i.e.*, "by ascertaining how a reasonable insurance policy purchaser would construe the clause at the time the insurance contract was entered." *La. Ins. Guar. Ass'n*, 630 So.2d at 764 (quoting *Breland v. Schilling*, 550 So.2d 609, 610–11 (La.1989)). But "[e]xclusionary provisions in insurance contracts are strictly construed against the insurer, and any ambiguity is construed in favor of the insured." *Ledbetter v. Concord Gen. Corp.*, 665 So.2d 1166, 1169 (La.2006) (citing *Garcia v. St. Bernard Parish Sch. Bd.*, 576 So.2d 975, 976 (La.1991)).

The plaintiffs in the litigation first contended that because the term "flood" was not defined in the policies, it was ambiguous. But the fact that a term used in an exclusion "is not defined in the policy itself… alone does not make the exclusion ambiguous; instead, [the court] will give the term its generally prevailing meaning." *Am. Deposit Ins. Co.,* 783 So.2d at 1287 (citing La. Civ. Code art. 2047); *see also Hendricks v. Am. Employers Ins. Co.,* 176 So.2d 827, 830 (La. Ct. App. 1965).

The plaintiffs also maintained that because the insurers could have more explicitly excluded floods that are caused in part by negligence, their failure to do so in these policies made the flood exclusions ambiguous because the insurer defendants knew about the availability of policy forms that more explicitly excluded floods caused in part by man, but the insurers they elected not to amend their policies. The court rejected the plaintiffs' arguments that the flood exclusions in the policies were ambiguous in light of more specific language used in other policies.

The court first applied the general rules of contract construction set forth in the Civil Code. *La. Ins. Guar. Ass'n,* 630 So.2d at 764. Under those rules, the court determined that the words of a contract should be construed by their "generally prevailing meaning." La. Civ. Code Ann. art. 2047; *see also Katrina Breaches Litigation,* 495 F.3d at 207. The court relied on dictionaries, treatises, and jurisprudence as helpful resources to ascertaining a term's generally prevailing meaning.

The court indicated that the most straightforward definition came from the American Heritage Dictionary: "An overflowing of water onto land that is normally dry." *American Heritage Dictionary of the English Language* 674 (4th ed.2000).

The court also considered the discussion of "flood" in the Columbia Encyclopedia, which specifically included in the definition the inundation of water resulting from the bursting of a levee: "Inundation of land by the rise and overflow of a body of water. Floods occur most commonly when water from heavy rainfall, from melting ice and snow, or from a combination of these exceeds the carrying capacity of the river system, lake, or ocean into which it runs."

The court also considered decisions of courts outside Louisiana that evaluated whether a flood exclusion similar to the ones in this litigation unambiguously precluded coverage for water damage resulting from the failure of a structure, such as a dam or dike, and discovered that they had uniformly declared that the inundation of water falls within the language of the exclusion. Russell G. Donaldson, Annotation, *What is "Flood" Within Exclusionary Clause of Property Damage Policy,* 78 A.L.R.4th 817 (1990 & Supp. 2007) (citing *Kane v. Royal Ins. Co. of Am.,* 768 P.2d 678 (Colo. 1989); *Bartlett v. Cont'l Divide Ins. Co.,* 697 P.2d 412 (Colo. Ct. App. 1984); and *E.B. Metal & Rubber Indus., Inc. v. Fed. Ins. Co.,* 444 N.Y.S.2d 321 (N.Y. App. Div. 1981)).

The court determined, in light of these definitions, that the flood exclusions were unambiguous in the context of this case and that what occurred here fit squarely within the generally prevailing meaning of the term "flood." *See Katrina Canal Breaches,* 495 F.3d at 213. When a body of water overflows its normal boundaries and inundates an area of land that is normally dry, the event is a flood. *Id.* This is precisely what occurred in New Orleans in the aftermath of Hurricane Katrina. Three watercourses—the 17th Street, Industrial, and London Avenue Canals—overflowed their normal channels, and the levees built alongside the canals to hold back their floodwaters failed to do so. *Id.* As a result, an enormous volume of water inundated the city. In common parlance, this event is known as a flood. *Id.*

Additionally, the court ruled that a levee is a *flood*-control structure; its very purpose is to prevent the floodwaters of a watercourse from overflowing onto certain land areas, *i.e.*, to prevent floods from becoming more widespread. *See* 50 AM. JUR. 2D *Levees and Flood Control* §1 (2006) (defining "levee" as "an embankment constructed along the edge of a river to prevent flooding"). *Id.* By definition, whenever a levee ruptures and fails to hold back floodwaters, the result is a more widespread flood. That a levee's failure is due to its negligent design, construction, or maintenance does not change the character of the water escaping through the levee's breach; the waters are still floodwaters, and the result is a flood. *See Katrina Canal Breaches Litigation,* 495 F. 3d at 215.

The plaintiffs in the case focused on the alleged negligent design, construction, or maintenance of the levees as being the

cause of the flood, and the court accepted this as true (for the purpose of assessing the motions to dismiss) and the plaintiffs' allegation that the canals' floodwaters would not have reached their property had the negligence not occurred. *Id.* at 215. This focus, however, ignored the sizeable natural component to the disaster: a catastrophic hurricane and the excess water associated with it. *Id.* The non-natural component was simply that in certain areas, man's efforts to mitigate the effect of the natural disaster failed, with devastating consequences. *Id.* Importantly, the court indicated that "it is difficult to conceive how an insurer could ever exclude the resulting loss; any natural event could be re-characterized as non-natural either because man's preventative measures were inadequate or because man failed to take preventative measures at all." *Id.*

Any time a flooded watercourse encounters a man-made levee, a non-natural component is injected into the flood, but that does not cause the floodwaters to cease being floodwaters. *Cf. Smith v. Union Auto. Indem. Co.,* 323 Ill. App. 3d 741, 257 Ill. Dec. 81, 752 N.E.2d 1261, 1267 (2001); *Id.* at 218.

The plaintiffs finally contended that the reasonable expectations of homeowners insurance policyholders would be that damage resulting from man-made floods would be covered, and policy construction required: "ascertaining how a reasonable insurance policy purchaser would construe" the clause. However, the court ruled that 'Louisiana law… precludes use of the reasonable expectations doctrine to recast policy language when such language is clear and unambiguous." 495 F. 3d at 206 (citing and quoting *Coleman v. Sch. Bd. of Richland Parish,* 418 F.3d 511, 522 (5th Cir.2005)). According to the court, the flood exclusions in the policies were unambiguous in the context of the specific facts of this case; thus, it needed not resort to ascertaining a reasonable policyholder's expectations. *Id.* at 219.

The plaintiffs in the *Katrina Canal Breaches Litigation* next asserted that because many of the policies contained a "Hurricane Deductible Endorsement," reasonable policyholders would expect those policies to cover damage resulting from a hurricane. *Id.* at 220. The court rejected this position, ruling that the plain language of the hurricane-deductible endorsements indicates that they do nothing more than alter the deductible for damage caused by a hurricane. *Id.* at 220. Nothing in the language of the endorsements purports to extend coverage for floods or to restrict flood exclusions; indeed they do not even include flood or water (other than rain) in the definition of "hurricane." Further, the endorsements state that all other provisions of the policies apply, indicating that the flood exclusions remain in effect.

The plaintiffs finally argued that the doctrine of *efficient proximate cause* was applicable to their losses. *Id.* at 222. Under this doctrine, as it is applied in many jurisdictions, when a loss is caused by a combination of a covered risk and an excluded risk, the loss is covered if the covered risk was the efficient proximate cause of the loss. Couch, *supra,* at §§101:43–:45, :53–: 55; *Id.* The efficient proximate cause of the loss is the dominant, fundamental cause, or the cause that set the chain of events in motion. *See* Couch, *supra,* at §101:45.

Many of the insurance policies involved in the litigation excluded "loss caused directly or indirectly by" flood "regardless of any other cause or event contributing concurrently or in any sequence to the loss." *Id.* at 222. This language, which the district court referred to as an anticoncurrent-causation clause, has been recognized as demonstrating an insurer's intent to contract around the operation of the efficient-proximate-cause rule. *See, e.g., TNT Speed & Sport Ctr., Inc. v. Am. States Ins. Co.,* 114 F.3d 731, 732–33 (8th Cir.1997). The court remarked that this case did not present a combination of forces that caused damage and that it therefore was not analogous to cases where Hurricane Katrina may have damaged property through both wind and water. *Cf. Tuepker v. State Farm Fire & Cas. Co.*, No. 1:05-CV-599, 2006 WL 1442489, 2006 U.S. Dist. Lexis 34710 (S.D. Miss. May 24, 2006).

The efficient proximate cause doctrine applies *only* where two or more distinct actions, events, or forces combined to create the loss. *See Pieper v. Commercial Underwriters Ins. Co.*, 59 Cal. App. 4th 1008, 69 Cal. Rptr. 2d 551, 557 (1997) ("For the efficient proximate cause theory to apply,… there must be two separate or distinct perils…. "); *Kish*, 883 P.2d at 311 ("The efficient proximate cause rule applies only where two or more independent forces operate to cause the loss."). In the *Katrina Canal Breaches Litigation,* the court ruled that there were not two independent causes of the plaintiffs' damages at play; the only force that damaged the plaintiffs' properties was flood. *Id.* at 223. To the extent that negligent design, construction, or maintenance of the levees contributed to the plaintiffs' losses, it was only one factor in bringing about the flood; the peril of negligence did not act, apart from flood, to bring about damage to the insureds' properties. *Id.*

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Tuepker v. State Farm

The case of *Tuepker v. State Farm Fire & Casualty Company*, 507 F.3d. 346 (2007), decided three months after the *Katrina Canal Breaches Litigation* case, further framed the manner with which insurers may respond to losses caused principally by storm surges when policies include anticoncurrent-causation clauses (ACC).

In *Tuepker,* Katrina completely destroyed the home of plaintiffs-appellees-cross-appellants John and Claire Tuepker. Their residence and the property contained within it were located in Mississippi, and insured by defendant-appellant-cross-appellee State Farm Fire and Casualty Company.

The Tuepkers argued in their complaint that "…regardless of whether the total damage to Plaintiffs' insured property was caused by hurricane wind, storm surge proximately caused by hurricane wind, or both, the so-called 'flood' exclusion… all whether or not driven by wind,' is not applicable here

and in any event, is modified by the 'Hurricane Deductible'." *Id.* at 348. They further argue that "[t]his 'flood' exclusion is ambiguous and deceiving when read in conjunction with… the 'Hurricane Deductible'." *Id.*

The *Tuepker* court determined that the policy's water damage exclusion "accurately describe the influx of water into the Tuepkers' home that was caused by the Katrina storm surge." *Id.* at 352. The *Tuepker* court also noted that its decision was consistent with its decision evaluating the similarly worded policies considered in the *Katrina Canal Breaches Litigation.* Specifically, the court ruled that in interpreting an almost identical water damage exclusion and applying Mississippi law, "storm surge" was "little more than a synonym for a 'tidal wave' or wind-driven flood," both of which were perils excluded by the State Farm policy. *Tuepker,* 507 F.3d at 353. As a result, the *Tuepker* court concluded that under Mississippi law, the water damage exclusion was valid and that the storm surge damaged the Tuepkers' home.

The omission of the specific term "storm surge" did not create ambiguity in the policy regarding coverage available in a hurricane.

The *Tuepker* court next analyzed the applicability of the ACC clause. *Id.* The *Tuepker* court considered another Fifth Circuit decision in which it ruled that a Nationwide Mutual Insurance Company ACC clause, which was similar to that in the State Farm insurance policy in this case, was not ambiguous under Mississippi law. *Leonard v. Nationwide Mutual Ins. Co.,* 499 F.3d 419, 430 (5th Cir. 2007). Both clearly state that excluded losses—here, any loss which would not have occurred in the absence of one or more of the excluded events—would not be covered even if a non-excluded event or peril acts "concurrently or in any sequence" with the excluded event to cause the loss in question. The *Tuepker* court further noted that "any damage caused *exclusively* by a non-excluded peril or event such as wind, not concurrently or sequentially with water damage, is covered by the policy, while all damage caused by water or by wind acting concurrently or sequentially with water, is excluded." *See Tuepker,* 507 F. 3d at 354.

Lastly, the *Tuepker* court evaluated the efficient proximate cause doctrine. *Id.* at 356. Under that doctrine, when a loss is caused by the combination of both covered and excluded perils, the loss is fully covered by the insurance policy if the covered risk proximately caused the loss. *See Leonard,* 499 F.3d at 432. Under this doctrine, if a policy covers wind damage but excludes water damage, the insured may recover for damages if it can show that the wind (the covered peril) proximately or efficiently caused the loss, notwithstanding that there were other excluded causes contributing to that loss, such as flooding. *Id.* (citing *Lititz Mut. Ins. Co. v. Boatner,* 254 So.2d 765, 767 (Miss.1971)).

The *Tuepker* court noted that the efficient proximate cause doctrine is the "default causation rule in Mississippi regarding damages caused concurrently by a covered and an excluded peril under an insurance policy." It therefore ruled, consistent with its decision in *Leonard* interpreting Louisiana law, that the ACC clause in State Farm's policy overrode the efficient proximate cause doctrine.

Corban v. USAA

The Mississippi Supreme Court also considered whether the policies issued by insurers excluded storm surge resulting from hurricane fell within water damage exclusion, whether an ACC clause excluded coverage, and which facts are to be considered by parties evaluating claims for coverage that these provisions may affect. *See Corban v. United Services Auto. Ass'n,* 20 So.3d 601 (2009). Magruder S. and Margaret Corban incurred losses caused by physical damage to their Long Beach, Mississippi, residence during Hurricane Katrina on August 29, 2005. *Id.* at 605. The Corbans had purchased a homeowner's policy and a flood policy from United Services Automobile Association Insurance Agency (USAA), both of which were in force at the time that the losses were suffered.

The Mississippi Supreme Court considered whether the Fifth Circuit Court of Appeals erred in its "*Erie*-guess" in its decisions in *Leonard* and *Tuepker* that under Mississippi insurance contract law "indivisible damage" caused by both wind and water in a hurricane was excluded under the contract terms of the homeowner's policies at issue, and whether for a hurricane loss, the efficient proximate cause is a covered event. *Id.* at 607.

The court in *Corban* noted that "storm surge is a phenomenon associated with hurricanes. Atmospheric conditions and wind forces combine to force tidal waters ashore and temporarily inundate areas of normally dry land." In *Leonard* and *Tuepker,* both the United States district court and the Fifth Circuit found that "storm surge" was included within comparable "water damage" exclusions. *See Corban,* 20 So.3d at 611. The court, quoting the *Leonard* decision, noted that "storm surge" is little more than a synonym for a "tidal wave" or wind-driven flood, both of which are excluded perils. *Id.* The omission of the specific term "storm surge" did not create ambiguity in the policy regarding coverage available in a hurricane and did not entitle the Leonards to recovery for their flood-induced damages. *Leonard,* 499 F.3d at 437–38 (footnotes omitted). As a result, the *Corban* court affirmed the Fifth Circuit's ruling that "storm surge" is contained unambiguously within the "water damage" exclusion. The *Corban* court also found that "storm surge" is plainly encompassed within the "flood" or "overflow of a body of water" portions of the "water damage" definition, and no other "logical interpretation" exists. *Martin,* 998 So.2d at 963.

The *Corban* court next evaluated USAA's ACC clause. The court ruled that this was consistent with the loss settlement provision of USAA's policy giving the option to USAA to pay for the cost to repair or restore the property to the condition "*just before the loss,*" and defined "replacement cost" as the "cost, at the time of loss." *Id.*

The court also next considered USAA's argument that the policy excluded losses caused by perils that may coexist. *Id.* In

doing so, the *Corban* court reviewed the meaning of the term "concurrently." *Id.* USAA argued that this policy excluded losses caused by perils that may coexist. The court examined the policy to determine if this assertion was supported by its language. The term "concurrently" was defined as "1. Occurring at the same time. 2. Operating in conjunction. 3. Meeting or tending to meet at the same point: Convergent." Webster's II New College Dictionary at 234; *see also* Black's Law Dictionary at 363. The *Corban* court ruled that the exclusion applied only in the event that the perils act in conjunction, as an indivisible force, occurring at the same time, to cause direct physical damage resulting in loss. *Id.* The *Corban* court again accepted the Fifth Circuit's interpretation of Mississippi law and noted that it would apply the ACC clause to exclude coverage.

The *Corban* court next considered whether the "in any sequence" provision of the exclusion affected coverage. The court ruled that the phrase "in any sequence" means "sequentially." *Id.* The term "sequentially" was defined as "1. Forming or marked by a sequence, as of notes or units." Webster's II New College Dictionary at 1008; *see also* Garner, *A Dictionary of Modern Legal Usage* at 795 ("'[s] equential' means 'forming a sequence or consequence.' "). *Id.* The court noted that the term "in any sequence" was contained within an exclusionary clause for "water damage" losses. *Id. at 615.* Because "loss occurs at that point in time when the insured suffers deprivation of, physical damage to, or destruction of the property insured[,]" this term could not be used to divest an insured's right of indemnity for a covered loss, as such an interpretation conflicts with other provisions of the USAA policy.

The *Corban* court therefore concluded that the "concurrently" and "in any sequence" provisions "irreconcilably conflict" with the "in any sequence" language, thereby creating an ambiguity. In Mississippi, a court is required to construe an "equally reasonable" interpretation of ambiguous policy provisions in favor of the non-drafting, insured party (the Corbans). *Wall,* 127 So. at 299. As a result, the *Corban* court concluded that the "in any sequence" language in the policy may not be used to divest the insureds of their right to be indemnified for covered losses. *See Martin,* 998 So.2d at 963; *Wall,* 127 So. at 300 (if "[t]he two clauses of the policy are so conflicting that they cannot stand together-one must give way to the other; and, under the principles stated, the provision most favorable to the insured must be upheld.").

The *Corban* court next evaluated the ACC clause, ruling that it applies only if and when covered and excluded perils contemporaneously converge, operating in conjunction, to cause damage resulting in loss to the insured property. *Id.* at 616. If the insured property is separately damaged by a covered or excluded peril, the ACC clause is inapplicable. *Id.* If damage is caused by a covered peril, the insured is entitled to indemnification for the covered loss because the insured's right to recover for the loss has vested. *Id.* Conversely, if the damage is caused by an excluded peril, the insured is not entitled to indemnification for that uncovered loss. *Id.* As a result, a finder of fact must determine which losses, if any, were caused by wind, and which losses, if any, were caused by flood. *Id.* For example, if the property first suffers damage from flood, resulting in a loss, and then wind damage occurs, the insured can only recover for the losses attributable to wind. *Id.*

Accordingly, the *Corban* court concluded "that the ACC clause has no application for losses caused by wind peril. An insurer may not abrogate its duty to indemnify for such loss by the occurrence of a subsequent, excluded cause or event, a position advanced by amicus Nationwide."

The lessons learned from the Mississippi Supreme Court's ruling in *Corban* have implications for the application of ACC clauses in future catastrophic weather-related losses. Insurers and their experts must carefully evaluate the available weather data to determine if the covered losses occurred before, concurrent with, or subsequent to non-covered perils. Ultimately, a battle of the experts has and will occur, with insurers bearing the heavy burden to prove that the losses are excluded under the flood exclusion of the policy. Each claim requires heightened scrutiny due to the multitude of factors involved in the coverage analysis.

Hurricane Sandy Litigation

A significant amount of litigation resulting from Hurricane Sandy between insurers and their policyholders related to the wind versus flood debate. Insurers learned lessons from the Mississippi and Louisiana courts, which interpreted the meaning of "flood," "water damage," and ensuing losses. As noted in the meteorological information above, Sandy was largely considered a tropical storm when it made landfall in New Jersey. The storm surge was significant along the Eastern Seaboard, inundating communities from southern Massachusetts to Delaware. The storm surge contributed to many claims of inundation of homes caused by storm sewer backups, and it damaged infrastructure, including utilities. Damage to electrical and natural gas utilities in parts of New York City and New Jersey caused fires, which in cases such as Breezy Point, Queens, destroyed 122 homes. Many litigated cases remain on trial dockets in New York and New Jersey, and recent written decisions affect the coverage issues being challenged in the cases.

Ultimately, a battle of the experts has and will occur, with insurers bearing the heavy burden to prove that the losses are excluded under the flood exclusion of the policy.

Amtrak v. Arch Specialty Insurance

Hurricane Sandy inundated many of the transportation systems in the southern portion of New York City with water due to storm surge. The height of the storm surge left tunnels vulnerable to floods. In the case *National Railroad Passenger Corp. v. Arch Specialty Insurance Company et al,* 124 F. Supp. 3d 264 (2015), the U.S. District Court for the Southern

District of New York evaluated an insurance coverage dispute between plaintiff National Railroad Passenger Corporation (Amtrak) and various defendant insurance companies (the insurers) that arose in the aftermath of Superstorm Sandy. The allegations in the Amtrak's complaint indicated that it purchased a set of all-risk property insurance from the insurers, as well as other non-defendant insurers, for the policy period spanning December 2011 to December 2012. Collectively, the insurance policies provided a maximum of $675 million. *Id*.

The court ruled that insurers are not "charged with reading all the policies issued" that define flood coverage, "but only the terms of their own policies."

The policies issued to Amtrak defined "flood" in one of two ways. The majority of the policies defined flood to mean "a rising and overflowing of a body of water onto normally dry land." A smaller number of insurers defined "flood" to mean a temporary condition of partial or complete inundation of normally dry land from

(1) the overflow of inland or tidal waters outside the normal watercourse or natural boundaries
(2) the overflow, release, rising, back-up, runoff or surge of surface water; or
(3) The unusual or rapid accumulation or runoff of surface water from any sour[ce].

Id.

According to the court, Sandy generated a "storm surge" that drove water from the East and Hudson Rivers onto the shore and led to the inundation of Amtrak's tunnels under the East River (referred to as the East River Tunnel or "ERT"), its tunnel under the Hudson River (referred to as the North River Tunnel or "NRT"), and certain other Amtrak property. *Id*. at 267. The process, which removed millions of gallons of water from the tunnels, left behind "chlorides" from the brackish water, but it did not remove the chlorides from the ERT and NRT. *Id*.

Amtrak alleged that the chlorides that remained in the tunnels combined with the surrounding environment to cause additional damage, described by Amtrak as a "chloride attack." *See id.* According to Amtrak, "the damage process" brought about by the chloride attack "requires a combination of chlorides, humidity and oxygen." *Id*.

As part of its damages claim, Amtrak first sought to replace the existing track bed in each tunnel, which allegedly incurred or would incur chloride damage with a "direct fixation" system. *Id.* at 268–69. According to Amtrak, while the existing track bed "necessarily" produces an "uneven walkway surface," direct fixation, which "lay [s] the rails in a concrete bed instead of ballast," "would create a continuous, level walking surface in the event of an emergency." *Id.* at 269.

Second, Amtrak sought to replace the entirety of the benchwalls within the tunnels. *Id.* The benchwalls, which run along the sides of the tunnels from "portal to portal," are structures within the tunnels that "house ducts that contain electrical wiring, equipment, cables, and other essential equipment," and they serve as a means of egress from, and access to, trains during emergencies. *Id*.

The court first found that the definitions of the term "flood" unambiguously encompassed inundation of normally dry land that was caused by storm surge. *Id.* Storm surge, as the parties agreed, pushed water beyond its usual borders and onto normally dry land. *Id*. The court noted that "indeed, Amtrak concedes that the 'colloquial' use of the word 'flood' encompasses the type of inundation that Amtrak's tunnels sustained during Superstorm Sandy." *Id.* at 270.

Amtrak engaged in a comparison of the definitions of flood contained in the policies. The policies defined flood as "surface water, flood waters, waves, tide or tidal waters, *sea surge,* tsunami, the release of water, the rising, overflowing or breaking of defenses of natural or manmade bodies of water or *wind driven water,* regardless of any other cause or [e]vent contributing concurrently or in any other sequence of loss." The court ruled that Amtrak's argument faltered at each step. First and foremost, the interpretation of "flood" that Amtrak advanced could not be reconciled with the plain language of the policies. *Id.* Multiple courts have found that storm surge "is little more than a synonym for a 'tidal wave ' or wind-driven flood." *New Sea Crest*, 2014 WL 2879839, at *3 (quoting *Bilbe v. Belsom*, 530 F.3d 314, 317 (5th Cir.2008)) (Katrina litigation).

In addition, the court evaluated the plain meaning of "flood" as defined by Merriam–Webster's Collegiate Dictionary 1233 (10th ed. 1997), to include "tidal wave" as both "an unusually high sea wave that sometimes follows an earthquake" and "an unusual rise of water alongshore due to strong winds." *Id.* at 271. Second, Amtrak's consultation of other policies to prove the meaning of the policies in issue was inappropriate. *Id.* Under New York law, extrinsic evidence should not be consulted unless an ambiguity exists. *See, e.g., W.W.W. Associates, Inc. v. Giancontieri,* 565 N.Y.S.2d 440 (1990). The court ruled that insurers are not "charged with reading *all* the policies issued" that define flood coverage, "but only the terms of their *own* policies." *Id*. The court ruled that differences among policies, therefore, cannot be used to show a "meeting of the minds" of the parties to the policy under consideration. *See id*.

The *Amtrak* court next evaluated Amtrak's "ensuing loss" argument. *Id.* at 273. Amtrak argued that even if the sublimit applied to some of Amtrak's losses arising from Superstorm Sandy, loss resulting from the chloride attack constitutes "ensuing loss" that was beyond the reach of the flood sublimit. "Ensuing loss" is a term of art in insurance law, and policies allowing for such loss provided coverage when, as a result of an excluded peril, a covered peril arises causing the damage. *Id.* at 274; *see also Platek v. Town of Hamburg,* 24 N.Y. 3d 688, 695 (2015) (quoting 2 Ostrager & Newman, Insurance Coverage Disputes Sect. 21,04[h] at 1721. Put differently, ensuing loss occurs when an insured sustains "a new loss to property that is of a kind not excluded [or subjected to a sublimit]," *Id.* at 696, 3 N.Y.S.3d (internal quotation marks

omitted), and that is "collateral or subsequent" to the excluded or sublimited loss. *See Narob Dev. Corp. v. Ins. Co. of N. Am.,* 219 A.D.2d 454, 631 N.Y.S.2d 155, 156 (1st Dep't 1995).

The court ruled that the distinction Amtrak drew between "water damage" and "chloride damage" was artificial, especially in the context of a sublimit that applied to "flood." For loss to constitute "ensuing loss" from flood, the flood must cause some sort of damage, which, in turn, creates a separate damage-causing agent that brings about "ensuing loss." *Cf. Platek,* 24 N.Y.3d at 695 (explaining that the classic example of "ensuing loss" is loss resulting from a fire caused by damage from an earthquake). Here, the damage from the flood did not give rise to a different type of peril; rather, one aspect of the flood of brackish seawater—the inundation of salt—was left behind, and it caused damage. This may have been subsequent to the moment of the influx of water, but it was not subsequent to loss caused by the flood. *Id.*

Amtrak next argued that its losses arose from three different occurrences. *Id.* at 276. "Occurrence number one is the water damage directly caused by the peril of storm surge." *Id.* "Occurrences number two and three" are the chloride damage that Amtrak suffered at the NRT and the chloride damage that Amtrak suffered at the ERT. In New York, "the meaning of 'occurrence' must be interpreted in the context of the specific policy and facts of th[e] case." *Newmont Mines Ltd. v. Hanover Ins. Co.,* 784 F.2d 127, 136 n. 9 (2d Cir.1986). The *Amtrak* court reviewed the specific—and lengthy—definition of "occurrence" incorporated into each policy and concluded that all the losses claimed by Amtrak unambiguously arose from a single occurrence. *Id.* The court ruled that all losses are still part of a group of "losses… attributable to several causes in an unbroken chain of causation" that traces back to the same "trigger," and under the second sentence of the definition of "occurrence," these losses must still be grouped together as a single occurrence. *Id.*

The remaining summary judgment issue addressed by the *Amtrak* court related to Amtrak's right to coverage for the cost of repairing undamaged portions of the track bed and benchwalls. *Id.* Each of Amtrak's insurance policies includes a "demolition and increased cost of construction" clause (the DICC clause) that provided a limited right to coverage for undamaged property.

The insurers argued that 49 U.S.C. Sect. 24902(j) exempted Amtrak from any "State or local law from which a project would be exempt if undertaken by the Federal Government or an agency thereof within a Federal enclave wherein Federal jurisdiction is exclusive." *Id.* at 278. The court ruled that neither Amtrak's observation that the FRA had, in the past, referred to NFPA 130, *see id.,* nor its speculation that the FRA may require compliance at some unknown time in the future, *cf., e.g.,* Sullivan Decl. ¶ 13 (vaguely predicting that Amtrak "expects that it will have to comply with" NFPA 130), was sufficient to create a genuine issue of fact regarding whether Amtrak's losses "cause[d] the enforcement of any law, ordinance, governmental directive or standard." Accordingly, the *Amtrak* court concluded that the repairs that Amtrak desired to make to the undamaged portions of the track bed and the benchwalls were not required by local ordinances, the FRA, or the ADA, and Amtrak was therefore not entitled to coverage for such repairs under the DICC clause. *Id.* at 279.

Spindler v. Great Northern Insurance

On March 9, 2016, the U.S. District Court for the Eastern District of New York issued its ruling in *Adam Spindler and Carrie Spindler v. Great Northern Insurance Company,* 2016 WL 899266 (E.D.N.Y. Mar. 9, 2016). In *Spindler,* the homeowners Adam and Carrie Spindler commenced an action on August 13, 2013, against Great Northern Insurance Company, alleging that Great Northern breached the terms of the Spindler's insurance policy by failing to cover a claim they submitted following damage sustained to their property. *Id.* at *1. During Hurricane Sandy, the plaintiffs' property was damaged when two Sea Ray boats, driven by the storm, repeatedly struck their dock, house, and deck.

Great Northern relied upon, among other things, the "surface water" exclusion within the policy, which stated:

> **Surface water**. We do not cover any loss caused by:
>
> - flood, surface water, waves, tidal water, overflow of water from a body of water, or water borne material from any of these, including when any such waters or water borne material enters and backs ups or discharges from overflows from any sewer or drain located outside of or on the exterior of a fully enclosed dwelling.

A recent report issued by Swiss Re cautions that Hurricane Sandy was nothing more than a harsh reminder that more powerful storms—akin to the 156-mph Norfolk-Long Island Hurricane of 1821—await the Jersey Shore and other parts of the Northeastern Seaboard.

The trial judge reviewed the magistrate judge's ruling that that damage caused by the "physical collision" of the boats with the plaintiffs' property was not contemplated by the surface water exclusion and classified the boat collisions as an "ensuing loss" that was explicitly covered by the policy. The trial judge reviewed the ensuing loss provision, which provided "coverage when, as a result of an excluded peril, a covered peril arises and causes damage." *Platek,* 24 N.Y.3d at 695. An insurance policy may exclude coverage for damage caused by the earthquake, but a subsequent fire that was a "but for" cause of the earthquake would still be covered as an "ensuing loss." *See Lantheus Med. Imaging, Inc. v. Zurich Am. Ins. Co.*, 2015 WL 1914319,

Storm, continued on page 83

Storm, from page 61
at *16 (S.D.N.Y. 2015). Deciding whether a loss was "ensuing" is necessarily intertwined with a determination of proximate cause. *See Spindler,* 2016 WL 899266, at *2. The court relied on the *Amtrak* court's ruling that ensuing loss is not a loss that occurs as a "normal and expected" result of water damage. *See National Railroad Passenger Corp. v. Arch Specialty Insurance Company et al,* 124 F. Supp. 3d at 264. The court therefore ruled that "although flood waters undoubtedly facilitated the incident, two boats breaking free from their mooring and colliding with residential property is not normal and expected damage caused by flood waters."

The *Amtrak* and *Spindler* decisions had a significant effect on litigation that ensued after Hurricane Sandy, which caused certain communities to sustain catastrophic losses. In large part, the courts interpreted "flood" and "water damage" consistently with the interpretation of the terms that resulted from Hurricane Katrina. The ensuing loss decisions in *Amtrak* and *Spindler* have influenced the coverage analysis in the many fire loss claims that resulted from inundation of electrical likes and ruptured natural gas pipes damaged by structural collapse.

The Future

A recent report issued by Swiss Re cautions that Hurricane Sandy was nothing more than a harsh reminder that more powerful storms—akin to the 156-mph Norfolk-Long Island Hurricane of 1821—await the Jersey Shore and other parts of the Northeastern Seaboard. *See* Swiss Re, The Big One: The East Coast's USD Billion Hurricane Event (2014) http://media.swissre.com. Swiss Re predicts that a storm as powerful as the 1821 storm today could swamp Atlantic City under a 15- to 25-foot storm surge. *Id.* According to the report, contrary to predictions by weather experts who indicated that Sandy was a 500-year weather event, Sandy was more like a 50-year weather event, which can be expected to occur in the future. *Id.* The report breaks down the potential effect of another 1821 hurricane in South Jersey's Atlantic and Cape May counties, as well as across the Southeast, Middle Atlantic, and Northeast states. According to the report, "despite Sandy being the third largest hurricane loss on record, the majority of New York, New Jersey, and other Northeast residents did not experience how devastating a hurricane could be." *Id.*

In its 21-page publication, Swiss Re predicts that the Middle Atlantic and Northeast region is vulnerable to storms that would double Sandy's damage in repair costs and economic losses. The historical record indicates that the 1821 hurricane was a Category 5, with terrifying storm surges and prolonged periods of 130- to 150-mph winds: "If the 1821 Norfolk-Long Island Hurricane were to happen today, it would cause 50 percent more damage than Sandy and potentially cause more than $100 billion in property losses stemming from storm surge and wind damage." *Id.*

In the report, Swiss Re reports that the 1821 hurricane is "a compelling reminder that Sandy, or at least the loss caused by Sandy, was not that unusual." In essence, the report said, Hurricane Sandy was not the "big one." As evidence of this the statistics relating to the 1821 "Norfolk-Long Island Hurricane" indicate that it roared through the Mid-Atlantic and northeastern United States in early September, passing over or near major cities and tourism regions such as the Outer Banks, North Carolina, Norfolk, Virginia, Cape May, New Jersey, and New York City, making landfall on Monday, September 3, 1821. The report indicates that the 1821 storm moved along a Mid-Atlantic coastline, which then was mostly an area of small "villages," including New York City, Philadelphia, and Washington, D.C., where hundreds of thousands of people once lived, but which now consists of numerous major cities where tens of millions reside. *Id.*

As a result of the 1821 hurricane, coastal communities in North Carolina were washed away, the Delaware Bay flooded Cape May, and on eastern Long Island, the aftermath was described by locals as "the most awful and desolating ever experienced." Further, the 1821 hurricane was so strong that it produced hurricane force winds as far north as Maine. *Id.*

Conclusion

The phenomenal weather occurrences of the past 15 years have altered the landscape of insurance underwriting and claims handling. Important lessons have been learned from two of the most costly catastrophic weather events that the United States has experienced. Court decisions resulting from Hurricane Katrina and Hurricane Sandy have further defined policy terms and the rights, responsibilities and obligations of insurers and their policy holders. It has become clear that insurers must consider evaluating each claim on an individual basis as these weather events have the potential to produce insured and uninsured losses. Insurers and their policyholders must rely heavily on independent engineering analysis of a particular loss and its specific location to reach their respective coverage positions. Repairs to regions affected by both of these storms have long been occurring. Consideration must be given to the nature and scope of the repair, including remedial measures and the protections required to ensure that future similar losses do not occur. FD