MARSH

10 Years After Hurricane Katrina: Lessons in Preparedness, Response, and Resilience

CONTENTS

INTRODUCTION

The last week of August 2015 marks the 10th anniversary of Hurricane Katrina, the costliest storm ever to make US landfall. The fallout from Katrina led to significant changes within the insurance and risk management industry. This paper and related Marsh web content look at what Katrina meant at the time and how its lessons can be used to protect your operations, your bottom line, your people, and your future. And while Katrina's anniversary lays a groundwork for discussion, similar issues are raised and risk management approaches re-evaluated after nearly every major catastrophe, from Hurricane Andrew in 1992 to Katrina in 2005 to Superstorm Sandy in 2012.

Changes over the past 10 years in property insurance, claims, analytics, risk engineering, and crisis management were all influenced by Hurricanes Katrina and Ike, Superstorm Sandy, and other events, in the US and globally. The lessons learned are cumulative, a reminder that the risk and insurance industry is constantly evolving as new challenges emerge. Individual insureds can hopefully use such lessons as they prepare to respond to catastrophes and increase their organization's resilience.

KATRINA INFLICTS LARGE-SCALE DESTRUCTION

In the early morning hours of August 28, 2005, the National Hurricane Center issued a bulletin with an ominous warning: KATRINA…NOW A POTENTIALLY CATASTROPHIC CATEGORY FIVE HURRICANE… HEADED FOR THE NORTHERN GULF COAST…

What followed was a storm that wreaked havoc on an astonishing scale, with long-lasting effects for the Gulf region. As events played out over more than a week on live television, Americans were shocked by the images of fellow citizens trapped for days on rooftops, and sweltering in seemingly lawless shelters. The response seemed haphazard, and many wondered if New Orleans would ever rebuild, never mind be the same.

Katrina's arrival in the Gulf activated evacuation plans in Louisiana, Mississippi, and Alabama, and initiated an exodus of more than 1.5 million people. Many remained in harm's way as Katrina knocked out power for about 2.5 million people, and took out more than 3 million phone lines.

Katrina's toll of human anguish and physical destruction was unprecedented in the US, and remains the single largest insured loss event in world history, causing more than $41 billion in insured property damage, with total economic damage topping $100 billion. New Orleans was the largest city in the storm's path, and was where the majority of the estimated 1,833 deaths occurred.

A combination of storm surge and weak levee construction led to flooding that inundated the city.

Storm surge was a particular peril for low-lying areas, and New Orleans' average elevation of six feet below sea level made it particularly vulnerable. During Katrina, the city's network of levees experienced three major breaches, flooding more than 75% of the city, according to the US Geological Survey. Notably, the levees on the 17th Street and London Avenue canals failed below their designed thresholds. The US Army Corps of Engineers acknowledged the engineering failures in a later report that described how New Orleans' flood defenses at the time of Katrina had been constructed in a disjointed fashion and using poor quality data.

After Katrina, nearly half a million residents and businesses in New Orleans filed damage claims against the Corps of Engineers in US District Court. The nearly eight years of litigation ended in 2013 when the federal judge overseeing it ruled that the Corps of Engineers had immunity despite flawed engineering in constructing the levees.

"The scale of destruction just hadn't been contemplated. People were hit both professionally and personally."

STEVE PETTUS
Managing Partner of Dickie Brennan and Company

RISK MANAGEMENT AND INSURANCE AFTER KATRINA

Katrina's size caused a lot of people on the Gulf Coast to do something they rarely did for storms: evacuate. Steve Pettus is a managing partner of Dickie Brennan and Company, a revered quartet of New Orleans restaurants. He recalled watching with a partner — insurance binder in hand — as the scenes of destruction were broadcast on television. Beyond the immediate concern for people's safety came worries about the business. "His question was: 'Are we covered? Are we covered?'" Pettus said. "And I said, 'Well, I think we are. I just hope everyone else agrees we are.'"

Pettus and his partner, of course, were not alone with their questions. Katrina's nature as a loss event comprising both wind and water damage exposed ambiguities in insurance policies, many of which led to claim disputes and litigation. And while computer catastrophe models were in use at the time, they proved to be greatly out of line with actual losses, putting pressure on insurers. Katrina thus became a turning point for the insurance industry on many fronts, including: CAT modeling, property policy wording, claims handling, and crisis management.

CAT MODELING

Katrina brought about a major change in thinking about catastrophe modeling, while at the same time changes in technology and analytics allowed for advances in methodologies. CAT modeling and analytics, once the domain of reinsurance buyers, have since been widely adopted in the insurance industry. Today, virtually every risk with catastrophe exposure is run through one or more models to consider potential loss scenarios. For an insured, understanding CAT exposures is a key to negotiating with insurers.

Before Katrina, the modeling of catastrophe exposures was typically done on aggregate portfolios for reinsurance purchasing. Modeling was a "nice to have" item, and was not considered from a per-risk standpoint. Since Katrina, CAT modeling has generally been used on a per-risk basis.

Katrina led to a sharp rise in the focus on data quality that has since become a driver of risk modeling. Initial loss estimates from Katrina missed the mark by a longshot in part because the data loaded into the models was inadequate, incomplete, inaccurate, or miscoded. Part of the reason for the mismatch in modeled and unmodeled insurance losses in Katrina was that the CAT models at the time had overestimated the impact of pure

THE IMPORTANCE OF HIGH-QUALITY DATA

In the 10 years since Hurricane Katrina, CAT models have become key components of property insurance underwriting, and play an important role in obtaining the most effective coverage. And to run effectively, the models depend on high-quality data.

CAT models are sensitive to uncertainty driven by poor or missing data, which can increase both the base loss projection and the uncertainty associated with the modeled loss events. This can result in higher loss estimates, which can increase premium and reduce capacity for an individual risk.

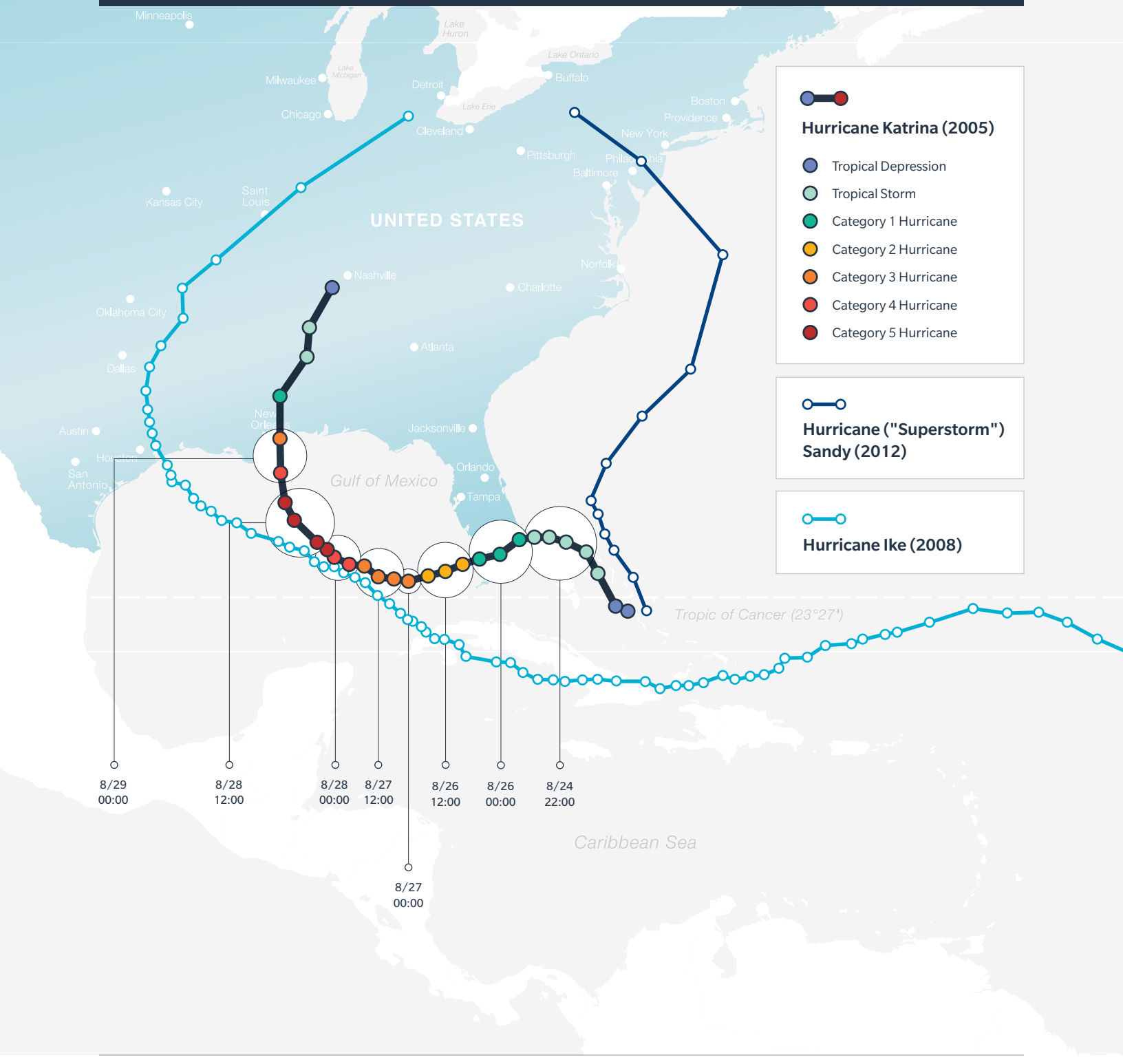
If you can improve the data quality in your CAT models, you may be able to produce better quantification and qualification of the risk being considered by underwriters, which can result in significant premium savings. A thorough review of CAT data quality can:

- Reduce loss estimates due to inaccuracies in the original data.
- Increase model accuracy.
- Decrease model uncertainty.
- Better inform underwriters.

It appears that the steady drumbeat from insurers and brokers about the importance of data quality is having an impact. In a survey of risk professionals during a recent Marsh webcast, 77% of respondents said they were confident their company provides high-quality data to underwriters about their property exposures.

FIGURE 1 Map of Hurricane Katrina's Path

Source: National Oceanic and Atmospheric Administration (NOAA)



Hurricane Katrina Timeline

August

11 — Tropical depression identified.

NORTH ATLANTIC OCEAN

11-24 — Katrina strengthened as it moved westward.

24 — Tropical Storm Katrina named over the central Bahamas

25 — Category 1 hurricane status attained before making landfall on Florida's southeastern coast with sustained winds of 80 mph.

27 — Katrina's wind field doubled in size.

28 — Escalated to Category 5; at peak intensity Katrina packed hurricane-force winds extending 90 miles from its center, and tropical storm-force winds extending 200 miles with maximum sustained winds measured at 172 mph.

29 — Katrina's eye came ashore near Buras, Louisiana as a Category 4 hurricane.

The loss record from Hurricane Katrina

Sources: NOAA, Federal Emergency Management Agency

Lives lost:	Property damage:	Economic damage:	New Orleans:
1,833	$41 billion*	$108 billion	75% of city flooded

* Excluding losses under the National Flood Insurance Program (NFIP) and insured offshore energy assets.

wind damage and underestimated the damage from flooding and storm surge. As a result, initial damage estimates identified only about one-fourth of the total damage.

Today, insurers make sure to have multiple perspectives on a particular loss potential, and insureds provide more detailed information about their properties — from location by exact latitude and longitude to the number of stories of each building to type of construction. Unique construction characteristics, like flood defense systems and first-floor building elevations, are now captured to more accurately depict and differentiate specialized risks.

Katrina also led CAT modeling companies to revise their models and update their assumptions. While the models in use pre-Katrina had looked at probable maximum losses (PMLs) and average annual losses, it became apparent that AALs were understated. For example, some insurers that experienced Katrina losses and were forced to raise capital reported that their actual catastrophe loss from the storm was more than 10 times the amount that the companies had modeled.

MODELING CHANGES CONTINUE TO FOLLOW MAJOR EVENTS

Changes in windstorm modeling also occurred after Hurricane Ike, which struck Texas and Louisiana in September 2008. Ike was unusual in the longevity of its hurricane-force winds, which persisted inland far longer than was then considered possible for a tropical cyclone, according to the National Oceanic and Atmospheric Administration (NOAA). The storm cut a swath into the upper Midwest, causing more than $13 billion in insured losses as far north as Illinois, Indiana, Ohio, and Pennsylvania. For insurers, Ike demonstrated that windstorms can have a wide, severe impact after heading inland.

For policyholders, Ike reinforced the idea that hurricane preparedness should not be limited to coastal locations. Engineering surveys done after Ike showed that for properties that complied with the latest building codes, damage was minimal. However, for other properties, the damage was greater than expected. Engineering analyses showed that roofs failed more catastrophically due to the impacts of climate-driven early deterioration, and in some cases poor construction quality.

From a modeling perspective, insurers were better prepared for the losses from Superstorm Sandy in 2012 because they had stress-tested their underwriting portfolios. But even Sandy led to further iterations in model development. For example, from a business interruption standpoint, many experts were surprised at the length of time that pooled water remained in affected areas.

PROPERTY INSURANCE

Typical for windstorms, most insured damage from Katrina was to property: Of its 1.7 million claims, 1.2 million (70%) were for property losses, according to the Insurance Information Institute. Katrina's severity led to a short-lived spike in insurance rates — nearly 20% on average, across all industries (See Figure 2).

Subsequent increases in property rates in recent years were not as sharp following other natural catastrophes — Hurricane Ike in 2008, earthquakes in New Zealand and Japan in 2011, Sandy in 2012 — in part because no event since has been as severe in terms of insured losses. Capacity for catastrophe-exposed risks shrank temporarily following Katrina, until new capital entered the market. Since then, for reasons largely unrelated to Katrina or other disasters, capital markets have injected a large amount of financing into the insurance and reinsurance sectors, generally keeping capacity and competition high and prices generally stable to declining.

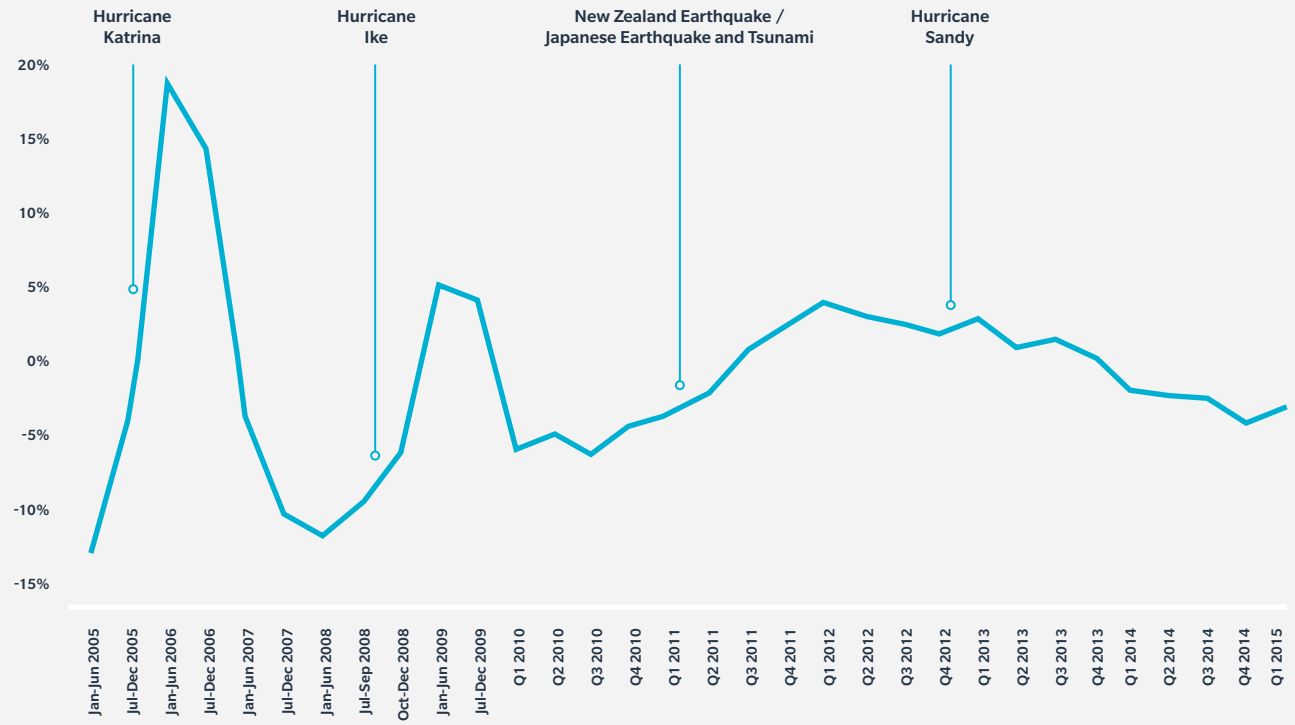
FINANCING

Sophisticated financial modeling developed since Katrina has provided a clearer view of investors' potential returns, which historically were high following major loss events. This has led to the formation of new insurance and reinsurance entities to take advantage of market demand for capacity.

Katrina also fostered a greater sophistication in financial modeling of insured risks. This took two forms: one in terms of creditworthiness and the other in attracting new forms of capital.

Rating agencies: After Katrina, credit rating agencies began to look at how insurers and reinsurers used modeling in their capital management strategies. After Katrina, companies that failed to demonstrate strong capital management for catastrophe risks faced downgrades of their credit and financial strength ratings. The rating agencies' emphasis on capital management sharpened insurers' focus on accurate risk modeling.

FIGURE 2 **Average Property Rate Changes – All Industries, 10+ Year History**
Source: Marsh Global Analytics



More so than after any other natural disaster of the past 10 years, Hurricane Katrina was followed by a sharp spike in property insurance pricing. The large amount of alternative capital that has entered the market in recent years has helped to keep prices generally stable.

Non-traditional capital: Katrina also opened the door to non-traditional forms of capital, including:

- **Sidecars:** These special-purpose vehicles provide fully collateralized reinsurance. Sidecars enable investors to commit capital to specific sets of risks for shorter durations, with a predefined exit plan. Following Katrina, many insurers and reinsurers set up sidecars to provide additional sources of underwriting capacity. Those sidecars have attracted billions of dollars in capital from hedge funds and private equity investors.
- **Insurance-linked securities:** These vehicles include CAT bonds, which were seldom used before Katrina but are now widely issued. CAT bonds offer investors potentially higher returns with defined indemnity triggers, making them an attractive alternative investment.
- **Alternative capital:** As institutional investors such as pension funds and private equity firms sought higher, uncorrelated returns, alternative capital entered the insurance and reinsurance industry. Over the past 10 years, no catastrophe has come close to the insured losses from Katrina; helping CAT-exposed risks generate significant value for investors.

That trend continues today, and global reinsurance capital stands at more than $400 billion, according to Guy Carpenter, a Marsh & McLennan Company.

INSURANCE POLICY AND CLAIMS ISSUES

After Katrina, many businesses were surprised to learn that, despite having windstorm coverage, they weren't covered for storm surge, as that was likely a flood peril on their policy — and they had not purchased coverage (see Figure 3). And yet, storm surge was responsible for most of the damage in New Orleans and surrounding areas. Many disputes over the exact cause of damage wound up in court, and many policyholders won. But a victory in court will not make up for the time and energy diverted from recovery.

Katrina claims disputes led insurers to tighten their policy wordings, particularly around the flood peril. The debate about flood coverage was still occurring when Superstorm Sandy inundated Lower Manhattan in 2012.

Nearly every major disaster serves up a reminder of the importance of reviewing a property policy and understanding the scope of coverage before a loss happens. For example, if a company has $100 million of flood coverage, what is the policy definition of "flood?" Is $100 million enough?

Since Katrina and Sandy, the use of named-storm or windstorms with storm-surge clauses have become more common, and coverage limits and how deductibles are applied have changed dramatically. There is more clarity now on risk transfer than before Katrina.

Underwriters since Katrina have generally tightened their policy wordings on business interruption and contingent business interruption. Many limit coverage to a single tier, such as a direct supplier or direct customer of the policyholder. Some policyholders were surprised to learn after Superstorm Sandy that their policies excluded flood damage if a service supplier was affected by that peril. Flooding that caused power outages, therefore, tended not to be covered.

KATRINA WIDE-AREA DAMAGE CASE STILL RESONATES

The case of *Orient-Express Hotels Ltd (OEH) v Assicurazioni Generali SpA* (2010) continues to cause disquiet across the insurance industry. It is the ongoing element of uncertainty as to how insurers will view a loss given the legal precedent that keeps the issue in debate.

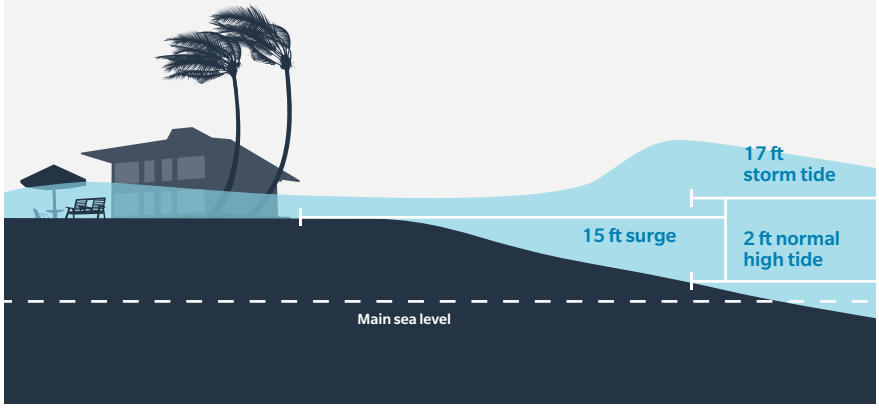
The Windsor Court Hotel in New Orleans, owned by British firm OEH, was damaged by hurricanes Rita and Katrina in 2005 and forced to close. New Orleans itself was subject to evacuation orders. OEH made a claim to insurers for the property damage and the business interruption (BI) losses.

The insurers stated that the BI loss must be "in consequence of damage," however, and claimed OEH suffered loss "in consequence of the event." Under its policy, which included a "trends" clause (similar to an "experience of the business" clause in the US), OEH could only recover for any BI losses it would have sustained "but for" the physical damage to the hotel.

The English High Court of Justice ruled that OEH should be treated as though it were an "undamaged hotel in an otherwise damaged city," and so because OEH would have received fewer guests due to conditions in the city, OEH did not receive any insurance recovery under the core coverage (some recovery was achieved under a prevention of access clause).

Some experts considered the outcome for OEH harsh, and the decision has led to questions about the BI recovery an insured can expect in the event of a natural catastrophe event.

FIGURE 3 Storm Surge
Source: NOAA



The National Oceanic and Atmospheric Administration defines storm surge as "an abnormal rise of water generated by a storm, over and above the predicted astronomical tide." Storm tide, on the other hand, involves the amount the water level rises from the combined effect of storm surge and the normal (astronomical) tide. Much of the damage from Hurricane Katrina was caused by storm surge, a fact that resulted in many thousands of insurance disputes because insureds were often not covered for storm surge. Understanding such coverage issues before a disaster can be critical for effective, rapid recovery. According to NOAA, the storm surge from Katrina measured 25 to 28 feet.

COMMON CLAIM ISSUES

The ultimate test of an insurance policy is how it responds to a claim. Following are some of the potential claims issues that were raised by Katrina and other disasters. It's not an all-inclusive list, and each example has been the subject of extensive debate in insurance and legal circles:

Business interruption: Business interruption is one of the most misunderstood coverages on an "all-risk" property form, and one that often brings difficulty in settling a claim. Following Katrina and other events, many of the difficulties arose around what is not covered in a business interruption policy. It's important to note that BI policies do not replace revenues: they are designed to replace the profits that an insured has lost and the continuing expenses that the property generates when it's not operational. For example, a continuing expense could be taxes on a property. A non-continuing expense could be heat, light, and power. Another issue that may cause misunderstanding is the indemnity period. BI is a good example of why it is important to have a thorough understanding of a policy before a loss occurs (see sidebar page 10).

Deductibles: Another claim following most large losses involves deductible applications, including by occurrence and by location, and for separate deductibles for property damage and time element. Insureds need to know if there is a definition of an occurrence in the policy and whether the deductible is per location and is applicable to all buildings.

Service interruption: Katrina involved an extensive amount of service interruption, raising the question of what is the scope of coverage for such losses. A service interruption must be caused by a peril insured against or a peril not otherwise excluded and generally deals with the service supplier, such as a utility. In the event of a service interruption loss, some insurers are likely to argue that if there is no trigger — for example, property damage — then there is not an accidental event. They could take a hard line and say a voluntary interruption is not a covered service interruption. And as in any coverage, it's important to understand the specifics of an individual policy.

Civil authority, ingress/egress: These are two extensions of coverage that come into play in almost every instance in which a government entity shuts down an area, and prohibits access to a facility, whether due to flooding, windstorm, or some other peril:

1. Civil and military authority, which has led to some debate over the years. For example, following both Hurricane Irene and Superstorm Sandy, there were discussions on the news by politicians telling people to stay home. So the debate became: Was that considered a civil military authority claim under a policy?

2. Ingress/egress, which involves access to or the ability to leave a property. This typically arises post-flood when an area is surrounded by floodwaters, and the roads are not serviceable.

Wording, again, is very important. For example, has the access to or egress from your property been "prevented" or "impaired?" It is critical to understand the exact terms and definitions.

Named windstorm or flood: Clarity is critical in any definition. Following Katrina — and again with Sandy — there were many substantial disputes that involved the definition of windstorm versus flood. One of the things that an insured should look at is whether the named windstorm definition includes "storm surge," which is basically wind-driven water. Does the flood definition exclude storm surge?

Loss management plans: At its core, loss management planning is about keeping an insured funded. When recovering from a major catastrophe, all parties need to work as allies. The insurers need to understand the insured's financial and operational goals, and vice versa. When looking at loss management plans and communication protocols, there should be agreement between parties as to the roles, responsibilities, and deliverables, as well as who has the authority to make decisions.

During Katrina, Sandy, and other disasters, when decisions had to be made in areas such as reinstatement, replacement, and mitigation, there often weren't enough people involved at a mid-management level to make those decisions. In many cases that slowed down the process, and at times led to confrontation around such issues as reconstruction alternatives, use of alternative suppliers, time element exposures, funding protocols, and partial payments. Planning helps ensure that the empowered personnel are involved, including adjusters, forensic accountants, building consultants, risk managers, financial executives, and communications.

Wide area impact: One of the most difficult claims issues following a major disaster involves the extensive geographic area that may be affected. Businesses that may not have suffered any significant damage themselves can still see their revenue plummet if a wide swath around them is damaged, thus driving away their customer base. Such claims can be extremely complicated and discussing potential loss scenarios and appropriate policy wordings with insurers and brokers ahead of time is advised.

CLAIMS FUNCTION GAINS VISIBILITY

Another notable development in the claims arena following Katrina is that insurers' claims departments generally have become more visible. Commercial policyholders are now typically encouraged to develop closer relationships with claims teams. This is part of catastrophe loss management and is thus becoming more of a topic of discussion pre-loss, along with protocols on funding claims. The end result has been a general improvement in insurers' ability to fund payments and to make partial payments following catastrophe losses.

DRILL YOUR INSURANCE POLICY

One of the recurring lessons learned from Hurricane Katrina and other disasters is the importance of understanding what your insurance policy says and how it will respond to a claim.

And yet, in the past two years, fewer than 25% of companies have tested how their property policies would respond to a loss suffered during a major catastrophe, according to a survey conducted during a recent Marsh webcast.

Nearly 150 risk professionals responded to the statement: "My organization has run a drill or exercise in order to understand how our property insurance policy would respond to a major catastrophe."

24.8%
said they had run such a drill within the last two years.

11%
said they had run a drill in the last five years.

36.6%
said they had never conducted such a drill.

27.6%
said they were not sure if such a drill had ever been conducted.

A drill of this type would involve running through a scenario with your insurer and other key stakeholders to understand what coverage would be triggered by a loss, the various definitions that would come into play, what information would need to be collected before and after the event, and more. The information gathered during such a drill can lead to improvements that may be critical to recovering promptly from a disaster.

RISK ENGINEERING

After Katrina forced thousands of businesses to shut down and New Orleans' failed flood protections came under scrutiny, risk engineering received a renewed focus. Property risk engineering looks at the design and construction of physical assets for the purpose of better protecting those properties and the people who occupy them.

Katrina, Sandy, and other disasters challenge even the best-laid plans and prompt organizations to re-evaluate them for gaps and ways to improve on them.

For example, after Sandy flooded Lower Manhattan, many companies realized the importance of moving equipment, systems, and critical assets from sub-basements. Likewise, Katrina increased awareness of the risks associated with their properties' locations. That heightened awareness — particularly to flooding — prompted many organizations to examine their protection for physical assets and their contingency plans.

In some cases, companies made engineering changes that strengthened structures to withstand certain risks; more generally, site selection is more important now when choosing locations for operations.

For example, when a client was planning a new facility, Marsh suggested that it build just two feet higher than originally drawn up. That moved the entire facility out of a flood zone, making a significant, positive difference in the client's risk profile for the location.

Manufacturers and other businesses started paying closer attention to their proximity to waterways following Katrina. However, a manufacturer must consider a number of items before simply moving an existing or planned facility: What is the cost to move operations? Could an investment in risk reduction provide enough protection to stay at a location? How would higher labor, material, and transportation costs of a move factor in?

And while engineering involves physical structures, it ultimately helps protect the people that work in them. Companies, particularly those with significant property risk, should consider engaging risk engineering and related experts to assess, quantify, and prioritize their property-related exposures. Such assessments can help show the return on investment for various mitigation strategies, thus maximizing resource and capital allocations.

"If you don't do things differently now than you did before Katrina, then you didn't go through it."

STEVE PETTUS
Managing Partner of Dickie Brennan and Company

BUSINESS CONTINUITY AND CRISIS MANAGEMENT

There were many changes in both government and private industry planning for disasters following Katrina. For example, the National Response Framework now defines how all federal agencies will respond to emergencies. That plan was updated in March 2006 based on the collective experiences in responding to Hurricanes Katrina, Wilma, and Rita in 2005. The primary improvements were focused on communication/coordination among government agencies.

Before those major disasters, most businesses had developed risk-specific plans — for example, one for hurricane, one for flooding, or one for loss of power. Yet most organizations had not "cross-walked" those plans or their supporting teams to see how they would work together. Eventually, the need to do so led to more focus on all-hazards planning and cross-company collaboration. The emphasis is not so much about responding to specific risks, but on making sure there is a broad, holistic response structure in place, with corporate level crisis management plans, emergency response plans, business continuity plans, and humanitarian support plans.

It's not uncommon for companies to update these plans after a devastating storm — regardless of whether they sustained losses or how severe the impacts. For example, two-thirds of businesses checked and updated their disaster recovery plans after Katrina, according to a Federal Emergency Management Agency (FEMA) report.

Before disaster strikes, businesses need to consider undertaking such actions as developing business continuity and crisis management plans, establishing internal and external communications procedures, putting in place and testing emergency-response plans, assessing the resilience of their supply chain, instituting data backup and recovery protocols, evaluating levels of insurance coverage, and creating post-loss claims accounting and filing systems.

CREATING YOUR PLAN

Plans should be flexible and scalable, able to be adjusted according to the facts of a particular event. An important starting point for a crisis management plan is to think about a worst case and how business continuity would be ensured. Using probable maximum loss and maximum foreseeable loss data — that is, how bad could the impact be to business — will result in a better response plan.

No company wants to shut down unless they have to. Critical decisions need to be made in advance, and can be informed by tabletop exercises that help to test plans and simulate scenarios. Whether an elaborate exercise across the enterprise or smaller, more basic drills, they help companies to see how their emergency response plans would perform as they walk through what they would do.

Among the crisis management and business continuity planning steps to take ahead of time to prepare for an event and address potential coverage issues:

- Identify locations — your own, your customers, and your suppliers — that might be exposed to direct or indirect damage or affected by power outages/surges and other service interruptions.
- Identify and/or update lists of service providers and remediation companies that can support your recovery efforts efforts — for example roofing, electrical, and restoration contractors. Finding the help needed to rebuild was one of the most difficult things for many businesses in Katrina's wake.
- Determine the extent of your reliance on supplies and suppliers, including the extent to which delays might affect your ability to deliver products or services to market.
- Identify and review potential alternative sourcing arrangements.
- Ensure business continuity strategies can be implemented — for example, consider what needs to be done to continue to meet customer demands.

- Decide what is required to protect your building and other physical assets, such as moving equipment, taping windows, and tying down HVAC systems.
- Assess crisis management procedures and tiered-response actions for when disruptions become more severe.

PREPARING YOUR EMPLOYEES

The backbone of any company is its people, and protecting them is a key crisis management consideration during an event like Katrina. And yet, only about one-third of companies in a recent Marsh survey said they are ready to help employees get back on their feet in the wake of a major disaster. About 150 risk professionals responded during a recent webcast to the statement: "My company has a plan in place that will help our employees manage the personal impact of a major disaster while at the same time rebuilding our business."

- 35% said yes.
- 32% said no.
- 32% said they were not sure.

10 STEPS TO PREPARE A CATASTROPHE RESPONSE PLAN

It doesn't take a storm the size of Hurricane Katrina to cause significant damage to your organization. Taking a sequential approach to crisis preparation and response planning can help your organization manage and recover from just about any disaster.

Following are 10 steps to keep in mind as you develop your CAT response plans.

Before a Loss

1. Identify your CAT-exposed locations.
2. Assess your supply chain for CAT exposures that could generate contingent time element losses.
3. Run CAT models for your identified exposures.
4. Assess the values exposed within your portfolio to loss from hurricane or storm surge perils and analyze modeled loss estimates for physical damage as well as direct and contingent time element losses to determine where mitigation efforts can best be directed.
5. Assess the adequacy of your insurance in terms of limits, retentions, and coverage terms and conditions.
6. Develop or re-evaluate your CAT response team, claims management, and crisis response procedures to ensure they properly address your exposures.
7. Review these plans in conjunction with your organization's operational and financial goals.

After a Loss

8. Activate your CAT response, claims management, and/or crisis response plans.
9. Monitor the progress and adjust activities as needed; establish communication protocols to ensure your organization's recovery is proceeding in support of the stated goals.
10. Conduct a post-event evaluation and improve plan where necessary.

It's important to make sure that any plan is flexible enough to handle rapidly changing situations, and to meet your company's unique circumstances.

Following are four basic humanitarian support planning steps to help your employees through a crisis — be it a hurricane, tornado, earthquake, or other disaster.

- **Help employees prepare personally.** This includes educating employees about personal preparedness, placing literature in break rooms, and inviting local community planners to talk about preparation.
- **Give employees time to prepare.** Organizations need to make sure employees understand their personal responsibilities are in order, which can help employees to stay focused while at work.
- **Provide a means to check in.** Different communication methods may be needed so that employees can report that they're safe and receive information.
- **Help people recover.** For example, providing access to equipment to clear fallen trees or help in filing personal insurance claims, and assistance in how to talk to their kids about the event — all these can make employees feel taken care of and be better able to help the business recover.

Companies that took such steps before, during, and after Katrina reported high levels of employee good will and loyalty.

BE PREPARED TO DOCUMENT LOSSES

Forensic accountants and others involved in the claims process stress that proper documentation is essential to the recovery process. Following a major disaster, areas of loss relate primarily to:

- Assets and income.
- Property damage.
- Loss of income.
- Extra expense.

Damage to buildings, furniture, fixtures, inventory, technology, data and media, technological infrastructure, and equipment are experienced frequently. When operations are interrupted, companies will experience a loss of income, an increase in expenses ("extra expense") or a combination of both.

In documenting these losses, it will be useful to have access to the following financial records immediately following an event:

- Fixed asset register and depreciation records.
- Most recent physical inventory.
- Purchase orders or estimates of all contracts for repair or replacement of damaged assets.
- Profit and loss statements for two years prior to the event for all affected locations.
- Budgets and forecasts prepared before the loss to depict anticipated loss results.

Following a loss, forensics experts recommend that a new general ledger account be created to capture all expenditures incurred as a result of the loss.

It's also important to recognize that documentation for information that may be given verbally is important. For example, consider impacts to business operations. If conversations are held with customers or suppliers that may be material to claim measurement, it is essential to document them. Likewise, as time passes, people's memories fade, or people leave. Every piece of information or recollections of events should be gathered and recorded early on in the process.

Another important consideration is to identify potential issues early on and address them with the entire claims team. These issues can include code upgrades required, changes that will be made to the pre-loss structure, or improvements to be made.

CONCLUSION

Katrina is long gone, but recovery is ongoing. Katrina and other disasters provide strong reminders that catastrophe risks can disrupt lives as well as derail business plans. The time and effort involved in recovery after a catastrophic event is influenced in large part by the actions that organizations take before an event occurs. Businesses can mitigate their risks and increase their resilience by focusing on four areas:

1. **Protect your property.** Disasters like Hurricane Katrina are defining moments for an organization. A well-developed crisis management plan, crafted with input from across the enterprise, provides an overall framework to prepare for, respond to, and recover from a catastrophe. Using appropriate risk engineering, selecting facility locations with risks in mind, identifying and addressing vulnerabilities in existing locations — all play a role in ensuring the best possible protection at your locations.

2. **Protect your profits.** Changes in CAT modeling following Katrina helped inform the development of risk financing. The output from an effective CAT model can help your company structure an efficient risk transfer program based on its risk tolerance, including its ability to withstand losses from a major CAT event. Paired with a solid crisis management plan, a customized risk transfer program can help protect your bottom line.

3. **Protect your people.** Hurricane Katrina has stayed in people's memories in large part due to the scale of human suffering it caused. Effective crisis management strategies can help safeguard your employees, their families, and the surrounding community. Make sure that employees understand your overall disaster management plans, as well as the specifics of a given event.

4. **Protect your future.** It's not possible to predict the ultimate outcome when disaster hits your business. Diligence in catastrophe management — including risk engineering, emergency planning that involves regular exercises, and data-driven risk finance — can improve resilience and accelerate recovery after an event.

"The rebuilding of New Orleans is still going on, but a lot of positive things have happened. The city is better prepared for the next time."

JAMES "BO" LABORDE
Marsh New Orleans Office Head

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About this Report

This report is based on the personal observations, insurance knowledge, and risk management experience of numerous Marsh experts. Contributors included Marsh's US Property Practice, Marsh Risk Consulting, Marsh's Claims Practice, and Marsh's New Orleans Office. Special thanks to Steve Pettus, managing partner of Dickie Brennan and Company.

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