

Risk and Reinsurance

Raghuveer Vinukollu, Ph.D

Sustainable Business Initiative, NJM Insurance Group, April 2017



New Jersey by the Numbers

New Jersey Facts and Figures

- Total population: 8.8 million people (2010 Census)
- Population in coastal counties: 3 million people (34% of state population)
- The leisure, hospitality and recreation sector of the economy generated \$43.4 billion of the 2010 gross state product, equating to 8.9% (NJ Bureau of Labor Market Information 2012).
 - Most tourism is generated by the Jersey Shore
- The Barnegat Bay generates \$4 billion in annual economic activity, \$2.3 billion in ecosystem services and \$2 billion in annual wages (APP 2012).
- Economic sensitivity due to weather variability is 8 – 10% of GSP (Lazo et al. 2011).

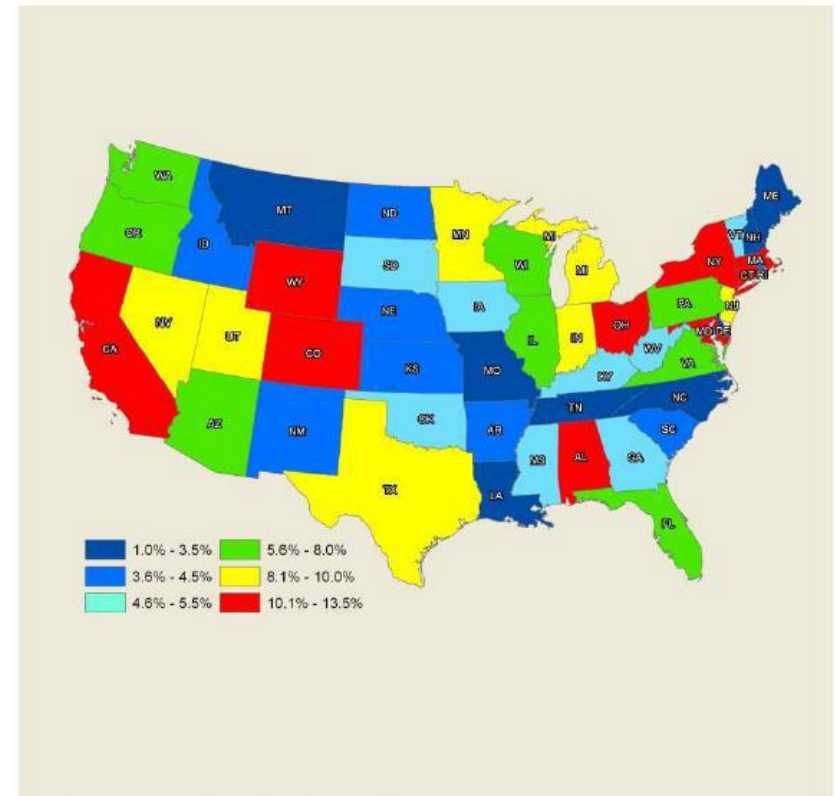


Fig. 5. State sensitivity to weather variability as a percentage of total GSP.

Source: Lazo et al. (2011)

The Aftermath of Superstorm Sandy

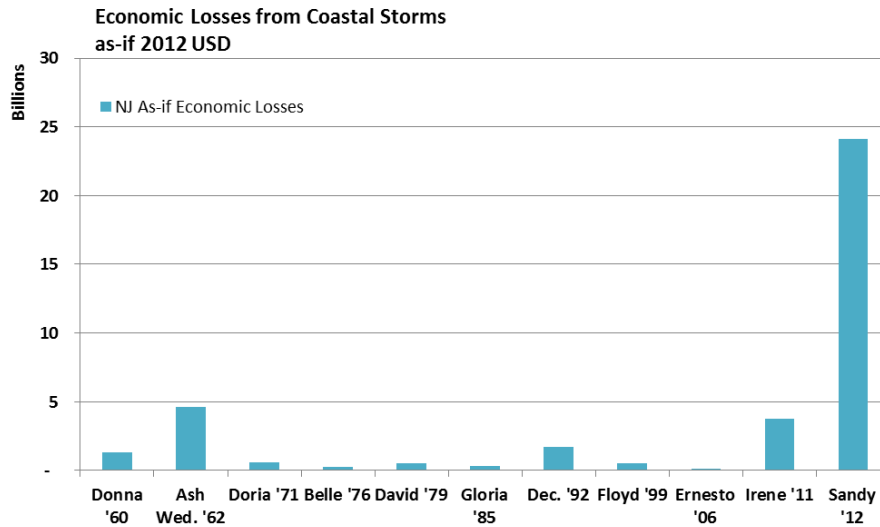


Source: NJ.com

- Severe damage to infrastructure, mass transit and the highway system
- On average, 30 – 40 feet of beach lost along the coast. (Associated Press 2012)
- 72,000 buildings in New Jersey impacted by the storm (FEMA 2012)
- Estimated \$30 billion in physical economic damage according to Governor Chris Christie's office
- Insured losses in New Jersey estimated around \$4 billion (PCS)
- Total NFIP losses are estimated at approximately \$12 billion (Business Insurance 2012)
- ~ 19,000 small businesses sustained damage of \$250,000 or more with total business losses estimated at \$8.3b, about 1% of NJ GSP in 2012. (Source: http://chrissmith.house.gov/uploadedfiles/floor_remarks_on_sandy_jan_2_2013.pdf)
- Approximately 20% businesses were closed permanently

Sandy's Place in History

Economic Losses from Coastal Storms in New Jersey

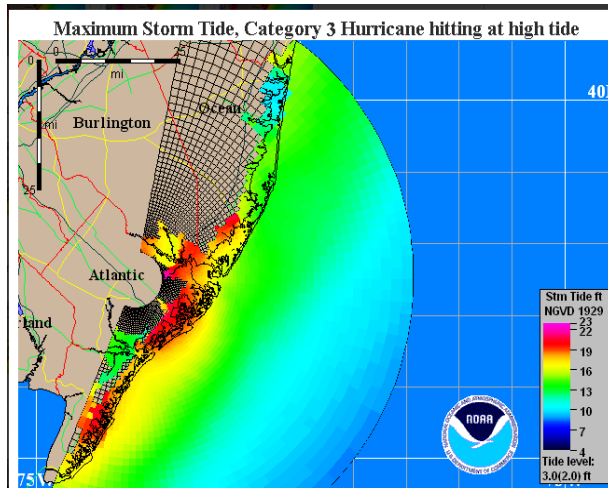


Source: NJ.com

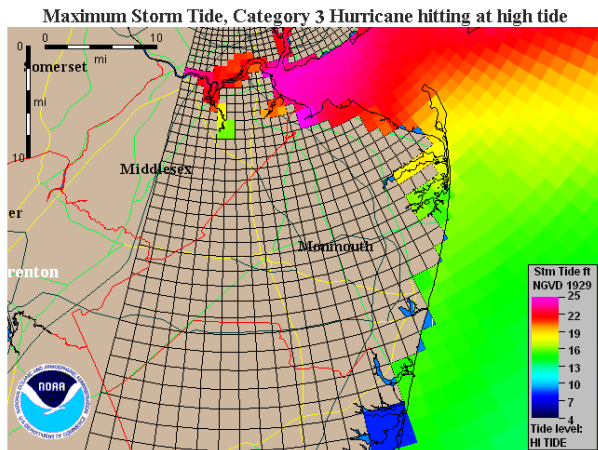
Estimated economic losses from Sandy are **5 - 6** times the second largest event, the Ash Wednesday 1962 nor'easter

Coastal Hazards

Storm Surge



- Sandy's storm tide ranged from 8 – 14.3 feet in the NY/NJ metro area
 - Sea level at the Battery has increased 10 – 15 inches in the last 100 years
 - This sea level rise, thought to be half natural and half anthropogenic, exacerbated Sandy's storm surge
- A category 3 hurricane striking the NJ coast TODAY at high tide would bring a storm tide between 10 and 25 feet
- With another 1 – 2 feet of anthropogenic sea level rise projected to occur by 2050, another storm less intense than Sandy will be able to generate higher storm tides by mid-century

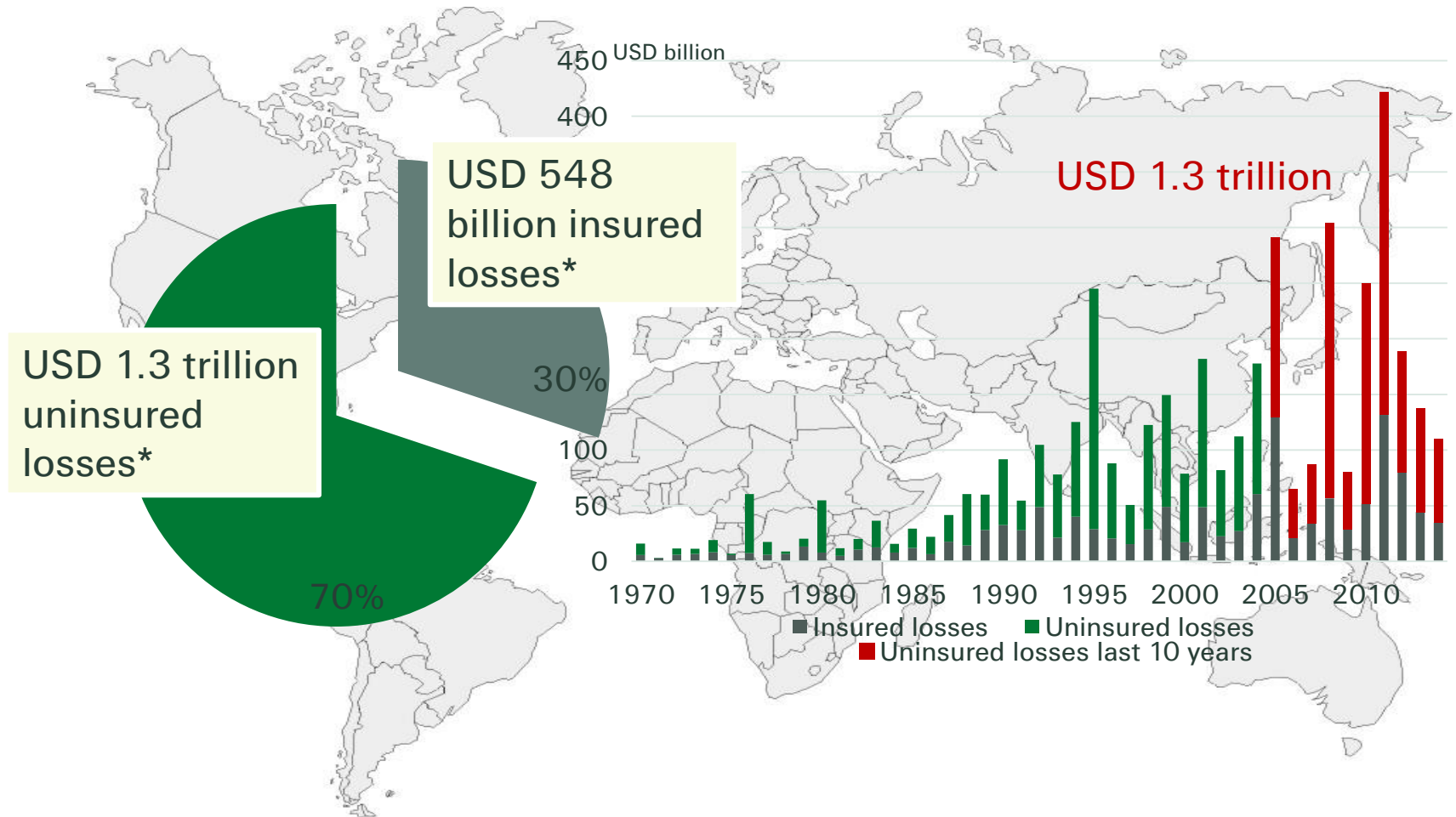


Source: NOAA/NHC

A photograph of a flooded underground parking garage at night. A person's silhouette is visible in the background, standing in the water. The water reflects the warm, yellowish lights from the ceiling. The scene is dimly lit, with the primary light source being the overhead fixtures. The text "How big is the natural catastrophe protection gap?" is overlaid in white on a semi-transparent dark band across the middle of the image.

How big is the natural
catastrophe protection gap?

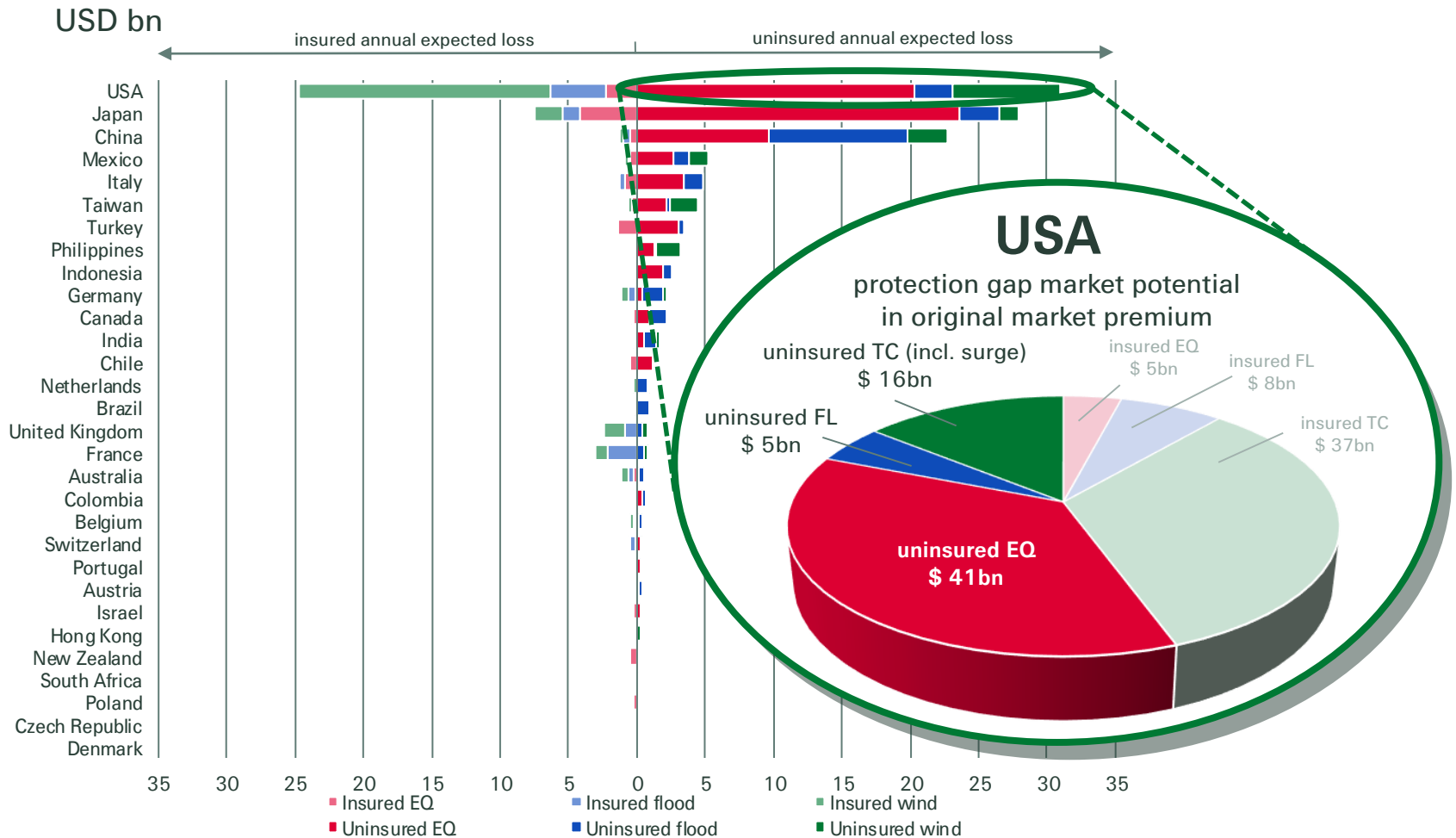
Global natural catastrophe losses totalled USD 1.8 trillion* over the last decade, with 70% uninsured



* in 2014 dollars

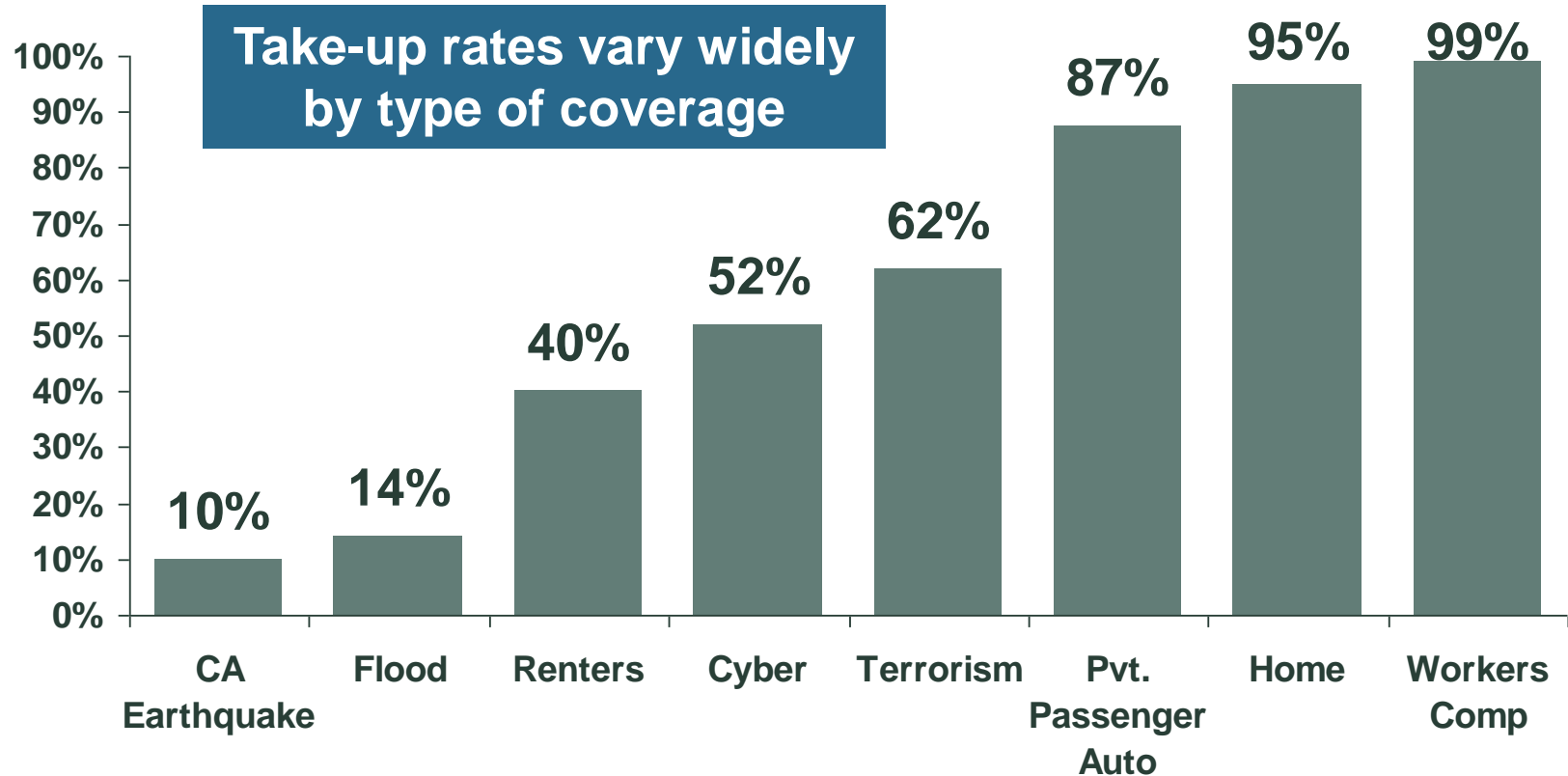
Source: Swiss Re Economic Research & Consulting and Cat Perils.

The Nat Cat Protection Gap: An Enormous Business Potential for the Insurance Industry



Source: Swiss Re Economic Research & Consulting and Non-Life Risk Transformation.

Take-Up Rates for Various Types of Insurance in the U.S.



Sources: I.I.I.; CA Earthquake (WSJ, <http://www.wsj.com/articles/california-pushes-homeowners-to-insure-against-earthquakes-1440980138>); Flood and Renters (I.I.I. June 2015 Pulse Survey); Cyber (Advisen, 2015); Terrorism (Marsh Global Analytics, *2014 Terrorism Risk Insurance Report*, April 2014; data for 2013); Pvt. Passenger Auto (Insurance Research Council, *Uninsured Motorists*, 2014 Edition, data for 2012); Home and Workers Comp (I.I.I. estimates); Insurance Information Institute research.

Edit and position
this text.



An example of Small Business impacted by Sandy

Source: <http://www.inc.com>

5. Memphis Pig Out



CREDIT: Courtesy Company

Strassburg and her husband Mark had to take on second jobs--she in magazine advertising sales and he as a dog walker--to keep their barbecue restaurant in business. In the immediate aftermath of Sandy, Strassburg said she sold all of her jewelry to help pay for the \$10,000 in electrical repairs. They needed an additional \$55,000 to replace heating and cooling systems, freezers, compressors, and signage. They collected just \$5,000 from a standard business insurance policy,

and lacked flood insurance.

The SBA offered the Memphis Pig Out owners a disaster recovery loan of \$60,000 in the spring of 2013, but Strassburg says she turned it down because it came too late. The New Jersey Economic Development Agency eventually came through with a \$50,000 grant in October of 2013, which paid for back taxes and insurance. Strassburg says sales declined 30 percent in each of the two years following Sandy, and have only now returned to pre-Sandy levels, at about \$500,000 annually.

PUBLISHED ON: OCT 29, 2015

Risk Management

- **Common Things to Know**

- Know the potential risks or perils for your area
- Disaster preparedness: Be proactive than reactive

- **Insurance**

- Make Sure You're Covered
- Enough coverage
- Time Element / Loss of Income / Contingent Business Interruption

Some Common Assumptions

- Insurance coverage: Most realize after an event that their insurance policy excludes Flood insurance.
- Federal and state government is going to provide grants and loans.
- The levee is going protect my property independent of the strength of the storm.
- The FEMA FIRM maps show that my property is outside the Special Flood Hazard Area (SFHA).

We make the world more resilient

Best's News Service via Bestwire - March 29, 2017 03:18 PM

 [Print This Page](#)

New Orleans Chief Resilience Officer: A Key to Resilience Is Insurability

NEW ORLEANS - Jeffrey Hebert, chief resilience officer, New Orleans, said an important element in recovering from Hurricane Katrina's damage was making sure that building codes and other standards would help improve insurers' confidence in underwriting in the city. Hebert spoke with A.M. BestTV at the Exceedance 2017 conference in New Orleans.



Jeffrey Hebert

View the video version of this interview at: <http://www.ambest.com/v.asp?v=hebert317>

Following is an edited transcript of the interview.

Q: Could you tell us what happened to the insurance industry here after Katrina?

A: After Katrina, there was a real thought process about how to bring the city back. The first thing we did was reach out to a lot of the insurance industry to understand. We knew that in order to rebuild the city we had to have viable insurance products for people who live here.

A lot of the things that we did very early on legislatively were about transforming our building codes, transforming other different types of laws that we had to put in place to make sure insurers felt comfortable coming back into the market after the devastation of Hurricane Katrina. That was very at the top of our mind in the beginning because we really understood that being able to have a place be insurable was directly connected to the viability of us being able to come back.

Q: How resilient is this city today?

A: New Orleans is far more resilient than we were after Katrina. Katrina exposed a lot of issues on the federal and national level as well as the state and local level here. A lot of reforms have been made from 2005 to where we are today. A lot of those reforms were put in place before Hurricane Sandy in New York. In fact, we worked with New York on putting even more reforms into place after Hurricane Sandy.

We are all more resilient. We still have a long way to go.



Legal notice

©2017 Swiss Re. All rights reserved. You are not permitted to create any modifications or derivative works of this presentation or to use it for commercial or other public purposes without the prior written permission of Swiss Re.

The information and opinions contained in the presentation are provided as at the date of the presentation and are subject to change without notice. Although the information used was taken from reliable sources, Swiss Re does not accept any responsibility for the accuracy or comprehensiveness of the details given. All liability for the accuracy and completeness thereof or for any damage or loss resulting from the use of the information contained in this presentation is expressly excluded. Under no circumstances shall Swiss Re or its Group companies be liable for any financial or consequential loss relating to this presentation.