Coastal Inundation Threats to the Economy and National Security

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Natural Catastrophes in the USA
1980 – 2012

Number of events

2012 Total: 184 events

Source: Munich Re
Overall losses (in 2012 values) for natural catastrophes in the USA from 1980 to 2012. Insured losses in the U.S. in 2012 were the second highest on record. 2012 Losses: Overall: $101.1B, Insured: $57.9B. Source: Munich Re.
Top 12 Most Costly Hurricanes in U.S. History
(Insured Losses, 2012 Dollars, $ Billions)

10 of the 12 most costly hurricanes in insurance history occurred over the past 9 years (2004—2012)

Hurricane Sandy could become the 3rd costliest hurricane in US insurance history

Hurricane Irene became the 12th most expensive hurricane in US history in 2011

*I Estimate as of 12/09/12 based on estimates of catastrophe modeling firms and reported losses as of 1/12/13. Estimates range up to $25B. Sources: PCS; Insurance Information Institute inflation adjustments to 2012 dollars using the CPI.
Top 16 Most Costly Disasters in U.S. History
(Insured Losses, 2012 Dollars, $ Billions)

Hurricane Sandy could become the 4th or 5th costliest event in US insurance history

12 of the 16 Most Expensive Events in US History Have Occurred Over the Past Decade

*Estimate as of 12/09/12 based on estimates of catastrophe modeling firms and reported losses as of 1/12/13. Estimates range up to $25B. Sources: PCS; Insurance Information Institute inflation adjustments to 2012 dollars using the CPI.
The number of federal disaster declarations set a new record in 2011, with 99, shattering 2010’s record 81 declarations.

There have been 2,101 federal disaster declarations since 1953. The average number of declarations per year is 35 from 1953-2012, though that few haven’t been recorded since 1995.

47 federal disasters were declared in 2012


1. Catastrophes are defined as events causing direct insured losses to property of $25 million or more in 2009 dollars.
2. Excludes snow.
3. Does not include NFIP flood losses
4. Includes wildland fires
5. Includes civil disorders, water damage, utility disruptions and non-property losses such as those covered by workers compensation.

Source: ISO’s Property Claim Services Unit.
Federal Disasters Declarations by State, 1953 – 2013: Highest 25 States*

Over the past 60 years, Texas has had the highest number of Federal Disaster Declarations.

Federal Disasters Declarations by State, 1953 – 2013: Lowest 25 States*

Over the past 60 years, Wyoming and Rhode Island had the fewest number of Federal Disaster Declarations.

Federal Aid Requests for States With Greatest Sandy Impact & Federal Aid Proposals


States Requested Enormous Sums in Sandy Aid in the Middle of the “Fiscal Cliff” Debate, Causing Delays

- **New York**: $33B to repair subways, hospitals and other facilities; $9B to upgrade infrastructure against future storms
- **New Jersey**: $29.5B to repair schools, roads, bridges, businesses, homes and other facilities; $7.4B to for mitigation and prevention against future storms
- **Connecticut**: $3.2B to bury power lines, upgrade transmission systems, build sewage treatment plants and other mitigation projects
- **Congress Approval**: Total $60B

**Billions**

- New York: $33.0B (Repair) + $9.0B (Mitigation/Prevention) = $42.0B
- New Jersey: $29.5B (Repair) + $7.4B (Mitigation/Prevention) = $36.9B
- Connecticut: $3.2B
- Congress Approval: $60B
Resiliency Strategies

- Assess community resiliency
  - Building stock, critical facilities, infrastructure, supply chain
- State/ local Chief Risk Officer
- State authority over local safety/health and security actions
- Evaluate business interruption financing
- Improve building code and enforcement
- Develop a private sector emergency response capability
- Incorporate extreme weather and climate into state/local federal decision making
- Use nature to mitigate risk (Coastal Barrier Resources Act)
- Provide tax credits, disaster financing and/or a revolving loan fund for mitigation
- Reduce the Federal share of disaster assistance to communities or provide incentives for mitigation
Rating the States
Atlantic and Gulf Coast States
Is the NTSB a prototype for resiliency assessment?