2010 NATURAL CATASTROPHE YEAR IN REVIEW

January 10, 2011
Agenda

Welcome/Introduction
Terese Rosenthal

U.S. Natural Catastrophe Update
Carl Hedde

Global Natural Catastrophe Update
Ernst Rauch

Economic Implications of Natural Catastrophe Losses
Dr. Robert Hartwig

Questions and Answers
U.S. NATURAL CATASTROPHE UPDATE

Carl Hedde, SVP, Head of Risk Accumulation
Munich Reinsurance America, Inc.
MR NatCatSERVICE
One of the world’s largest databases on natural catastrophes

The Database Today

- From 1980 until today all loss events; for USA and selected countries in Europe all loss events since 1970.
- Retrospectively, all great disasters since 1950.
- In addition, all major historical events starting from 79 AD – eruption of Mt. Vesuvio (3,000 historical data sets).
- Currently more than 29,500 events
Insured losses in the United States in 2010 totaled $13.6 billion – much lower than the 2000 to 2009 average loss of $25.8 billion (in 2010 Dollars)

Multiple severe winter storms across the country create the highest losses from this peril since 2003.

Third consecutive year with over $9 billion in insured thunderstorm losses.

Very active hurricane season, but no hurricane landfalls in United States.

Large, damaging wildfire near Boulder, Colorado.
## U.S. Natural Catastrophe Update

### Natural Disasters in the United States, 2010

#### Insured Losses

<table>
<thead>
<tr>
<th>As of December 31, 2010</th>
<th>Fatalities</th>
<th>Estimated Overall Losses (US $m)</th>
<th>Estimated Insured Losses (US $m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe Thunderstorms</td>
<td>56</td>
<td>13,185</td>
<td>9,503</td>
</tr>
<tr>
<td>Winter Storm</td>
<td>64</td>
<td>3,734</td>
<td>2,625</td>
</tr>
<tr>
<td>Flood</td>
<td>68</td>
<td>2,933</td>
<td>1,059</td>
</tr>
<tr>
<td>Wildfire</td>
<td>1</td>
<td>314</td>
<td>210</td>
</tr>
<tr>
<td>Earthquake</td>
<td>0</td>
<td>200</td>
<td>128</td>
</tr>
<tr>
<td>Tropical Cyclone</td>
<td>8</td>
<td>200</td>
<td>120</td>
</tr>
</tbody>
</table>

Source: MR NatCatSERVICE
The number of events in the United States in 2010 set a new record.
For the second year in a row, insured losses due to weather perils in the U.S. in 2010 were the highest on record for a year without a hurricane landfall.
### U.S. Natural Catastrophe Update

#### Significant Natural Catastrophes, 2010

$1$ billion economic loss and/or $50$ fatalities

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Estimated Economic Losses (US $m)</th>
<th>Estimated Insured Losses (US $m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 13 - 15</td>
<td>Winter Storm</td>
<td>1,700</td>
<td>1,225</td>
</tr>
<tr>
<td>April 30 – May 3</td>
<td>Thunderstorms</td>
<td>2,700</td>
<td>800</td>
</tr>
<tr>
<td>May 12 – 16</td>
<td>Thunderstorms</td>
<td>2,700</td>
<td>$2,000^t$</td>
</tr>
<tr>
<td>July 20 – 25</td>
<td>Thunderstorms</td>
<td>1,050</td>
<td>$785^t$</td>
</tr>
<tr>
<td>October 4 – 6</td>
<td>Thunderstorms</td>
<td>2,000</td>
<td>$1,450^t$</td>
</tr>
</tbody>
</table>

Sources: (unmarked) - MR NatCatSERVICE, 
^t - Property Claims Services (PCS)
There were 5 significant natural catastrophes in the United States in 2010.
Overall losses from U.S. significant catastrophes totaled $8.6 billion; insured losses totaled $6.3 billion.
U.S. TROPICAL CYCLONES 2010

Source: NASA
Tropical Cyclones Impacting the United States in 2010

Source: NOAA © 2011 Munich Re
Tropical Storm Bonnie
- Landfall near Homestead, Florida on July 23
- Sustained winds at landfall of 40 mph, no damage reported

Hurricane Earl
- Brushed the Outer Banks of North Carolina on September 2
- Gusts to hurricane force experienced, but only isolated damage

Tropical Storm Hermine
- Landfall in Mexico on September 26, then tracked across Texas
- Minor wind damage and moderate flooding, $120 million insured loss
Only one tropical cyclone, Bonnie, made a direct landfall in the U.S. in 2010.

Source: NOAA
The current 5-year average (2006-2010) insured tropical cyclone loss is $4.6 billion, down $19 billion from the previous 5-year average.
OTHER U.S. NATURAL CATASTROPHE IN 2010

Source: FEMA
Insured winter storm losses in 2010 are one of the top five largest in U.S. history.

2010 Total: $2.6 Bn

Source: Property Claims Service, MR NatCatSERVICE
Average thunderstorm losses have now quintupled since the early 1980s.

2010 Total: $9.5 Bn

Source: Property Claims Service, MR NatCatSERVICE
United States Annual Trend of LSR Tornadoes*

*Preliminary tornadoes from NWS Local Storm Reports (LSRs)
Annual average is based on preliminary LSRs, 2005-2009

Source: NOAA

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Fourmile Canyon Wildfire

West of Boulder, Colorado - September 6 - 16

- Burned out of control in the Front Range foothills for several days, scorching 6,181 acres.
- An estimated 169 homes were destroyed during the fire.
- $210 million in insured losses, largest wildfire loss in Colorado history.

Map Source: Google Maps © 2011 Munich Re
GLOBAL NATURAL CATASTROPHE UPDATE

Ernst Rauch
Head of Corporate Climate Center
Munich Re
Global Natural Catastrophe Update

Natural Catastrophes in the World, 2010

Headlines

Year of earthquakes
- Haiti: >220,000 fatalities; deadliest quake since 1976 earthquake in Tangshan, China.
- Chile: Costliest disaster in 2010; 2nd costliest earthquake for the insurance industry since 1950.
- New Zealand: Costliest natural disaster in Australia/Oceania ever.

Number of events: 950
- Second highest number of events since 1980. (10-year-average: 785)

Fatalities: more than 295,000
- Since 1980, the second highest death toll. (1983: 300,000 deaths – drought Ethiopia)

Overall direct losses: >US$ 130bn
- 2010 is amongst the five costliest years since 1980.

Insured losses: US$ 37bn
- In line with 10-year-average - although there was no important hurricane loss.
## Natural Catastrophes, 2010
Overview and comparison with previous years

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2009</th>
<th>Average of the last 10 years 2000-2009</th>
<th>Average of the last 30 years 1980-2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of events</td>
<td>950</td>
<td>900</td>
<td>785</td>
<td>615</td>
</tr>
<tr>
<td>Overall losses (US$m)</td>
<td>130,000</td>
<td>60,000</td>
<td>110,000</td>
<td>95,000</td>
</tr>
<tr>
<td>Insured losses (US$m)</td>
<td>37,000</td>
<td>22,000</td>
<td>35,000</td>
<td>23,000</td>
</tr>
<tr>
<td>Fatalities</td>
<td>295,000</td>
<td>11,000</td>
<td>77,000</td>
<td>66,000</td>
</tr>
</tbody>
</table>

Source: Geo Risks Research, NatCatSERVICE
Global Natural Catastrophe Update

Natural Catastrophes, 2010
950 loss events

Selection of significant loss events (see table)

- Natural catastrophes
  - Severe storms, tornados, floods
    - United States, 30 April – 3 May
  - Severe storms, floods
    - United States, 13 -15 March
  - Flash floods
    - France, 15 June
  - Earthquake
    - Haiti, 12 Jan.
  - Earthquake, tsunami
    - Chile, 27 Feb.
  - Hurricane Karl, floods
    - Mexico, 15-21 Sept.

- Geophysical events
  - Earthquake, tsunami, volcanic activity
    - Chile, 27 Feb.
    - New Zealand, 4 Sept.

- Meteorological events
  - Storm
    - China, 22 March/6-7 March
    - Australia, 22 March/6-7 March

- Hydrological events
  - Flood
    - United States, 30 April – 3 May
    - United States, 12-16 May
    - China, 13-29 June
    - Australia, 22 March/6-7 March
    - New Zealand, 4 Sept.

- Climatological events
  - Extreme temperature, drought, wildfire

Source: Geo Risks Research, NatCatSERVICE © 2011 Munich Re
### Natural Catastrophes, 2010

#### The five costliest natural catastrophes for the insurance industry

<table>
<thead>
<tr>
<th>Date</th>
<th>Region</th>
<th>Event</th>
<th>Fatalities</th>
<th>Overall losses US$m</th>
<th>Insured losses US$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.2.2010</td>
<td>Chile</td>
<td>Earthquake, tsunami</td>
<td>520</td>
<td>30,000</td>
<td>8,000</td>
</tr>
<tr>
<td>3.9.2010</td>
<td>New Zealand</td>
<td>Earthquake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Preliminary estimation October 2010)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-28.2.2010</td>
<td>Europe</td>
<td>Winter Storm Xynthia</td>
<td>65</td>
<td>6,100</td>
<td>3,100</td>
</tr>
<tr>
<td>12-16.5.2010</td>
<td>USA</td>
<td>Severe storm, hail</td>
<td>3</td>
<td>2,700</td>
<td>2,000</td>
</tr>
<tr>
<td>4-6.10.2010</td>
<td>USA</td>
<td>Severe storm, tornadoes</td>
<td></td>
<td>2,000</td>
<td>1,450</td>
</tr>
</tbody>
</table>

*Loss estimation in progress*

Source: Geo Risks Research, NatCatSERVICE © 2011 Munich Re
Natural Catastrophes, 2010
Insured losses US$ 37bn - Percentage distribution per continent

<table>
<thead>
<tr>
<th>Continent</th>
<th>Insured losses [US$ m]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>-</td>
</tr>
<tr>
<td>America</td>
<td>23,000</td>
</tr>
<tr>
<td>Asia</td>
<td>750</td>
</tr>
<tr>
<td>Australia/Oceania</td>
<td>7,500</td>
</tr>
<tr>
<td>Europe</td>
<td>5,500</td>
</tr>
</tbody>
</table>

Source: Geo Risks Research, NatCatSERVICE
© 2011 Munich Re
Global Natural Catastrophe Update

Natural Catastrophes, 1980 - 2009
Insured losses US$ 700bn - Percentage distribution per continent

<table>
<thead>
<tr>
<th>Continent</th>
<th>Insured losses [US$ m – in 2010 values]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>2,000</td>
</tr>
<tr>
<td>America</td>
<td>475,000</td>
</tr>
<tr>
<td>Asia</td>
<td>66,000</td>
</tr>
<tr>
<td>Australia/Oceania</td>
<td>15,000</td>
</tr>
<tr>
<td>Europe</td>
<td>142,000</td>
</tr>
</tbody>
</table>

Source: Geo Risks Research, NatCatSERVICE © 2011 Munich Re
## Earthquake Chile - 27 February 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>Overall losses</th>
<th>Insured losses</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>US$ 30,000m</td>
<td>US$ 8,000m</td>
<td>&gt;520</td>
</tr>
</tbody>
</table>

Source: Geo Risks Research, NatCatSERVICE
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
<th>Region</th>
<th>Insured loss US$m, 2010 values</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Hurricane Katrina</td>
<td>USA</td>
<td>69,900</td>
</tr>
<tr>
<td>1992</td>
<td>Hurricane Andrew</td>
<td>USA</td>
<td>26,500</td>
</tr>
<tr>
<td>1994</td>
<td>EQ Northridge</td>
<td>USA</td>
<td>22,500</td>
</tr>
<tr>
<td>2008</td>
<td>Hurricane Ike</td>
<td>USA, Caribbean</td>
<td>18,700</td>
</tr>
<tr>
<td>2004</td>
<td>Hurricane Ivan</td>
<td>USA, Caribbean</td>
<td>16,000</td>
</tr>
<tr>
<td>2005</td>
<td>Hurricane Wilma</td>
<td>USA, Mexico</td>
<td>14,000</td>
</tr>
<tr>
<td>2005</td>
<td>Hurricane Rita</td>
<td>USA</td>
<td>13,500</td>
</tr>
<tr>
<td>1991</td>
<td>Typhoon Mireille</td>
<td>Japan</td>
<td>11,200</td>
</tr>
<tr>
<td>2004</td>
<td>Hurricane Charley</td>
<td>USA, Caribbean</td>
<td>9,250</td>
</tr>
<tr>
<td>1989</td>
<td>Hurricane Hugo</td>
<td>USA, Caribean</td>
<td>9,000</td>
</tr>
<tr>
<td>1990</td>
<td>Winter Storm Daria</td>
<td>Europe</td>
<td>8,500</td>
</tr>
<tr>
<td>2010</td>
<td>Earthquake</td>
<td>Chile</td>
<td>8,000</td>
</tr>
</tbody>
</table>
Global Natural Catastrophe Update

Natural Catastrophes Worldwide, 1980 – 2010

Number of events with trend

Source: Geo Risks Research, NatCatSERVICE © 2011 Munich Re
Global Natural Catastrophe Update
Natural Catastrophes Worldwide 1980 – 2010
Overall and Insured Losses

Average of the last 10 years:
Overall loss US$ 110bn
Insured loss US$ 35bn

Source: Geo Risks Research, NatCatSERVICE
© 2011 Munich Re
Global Natural Catastrophe Update

December 2010 – still ongoing, Floods Australia (Queensland)

- Record precipitation
- 75% of coal mines impacted
- 22 towns cut off
- Transport system severely impacted

© Reuters

Source: Geo Risks Research, NatCatSERVICE © 2011 Munich Re
**Global Natural Catastrophe Update**

**Natural Catastrophes, 2010**

**Floods Australia**

Costliest floods in Australia since 1980

<table>
<thead>
<tr>
<th>Date</th>
<th>Region</th>
<th>Insured losses (US$m, 2010 values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2008</td>
<td>Queensland</td>
<td>900</td>
</tr>
<tr>
<td>Jan 2008</td>
<td>Queensland</td>
<td>450</td>
</tr>
<tr>
<td>Nov 1984</td>
<td>New South Wales</td>
<td>190</td>
</tr>
<tr>
<td>March 2010</td>
<td>Queensland</td>
<td>110</td>
</tr>
</tbody>
</table>

Source: Geo Risks Research, NatCatSERVICE © 2011 Munich Re
<table>
<thead>
<tr>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>950 events - Second highest number of events since 1980</td>
</tr>
<tr>
<td>US$ 37bn insured losses - 35 % of losses due to earthquakes (30-year-average = 8 %)</td>
</tr>
<tr>
<td>Continents of Australia and South-America over-proportionally high impacted</td>
</tr>
<tr>
<td>Haiti Earthquake – &gt;220,000 deaths - deadliest natural disaster since 1983</td>
</tr>
<tr>
<td>Chile and New Zealand Earthquakes– high losses for the markets, low number of fatalities</td>
</tr>
<tr>
<td>Building codes are essential to save lives – however, insured losses are nevertheless significant</td>
</tr>
</tbody>
</table>

Source: Geo Risks Research, NatCatSERVICE  © 2011 Munich Re
Economic Financial Implications of Natural Catastrophe Losses in 2010

January 10, 2011

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Insurance Information Institute ◆ 110 William Street ◆ New York, NY 10038

Tel: 212.346.5520 ◆ Cell: 917.453.1885 ◆ bobh@iii.org ◆ www.iii.org
US Insured CAT Losses in 2010 Were Below Average Relative to the Prior Decade (2000-2009)
US Insured Catastrophe Losses

$100 Billion CAT Year is Coming Eventually

First Half 2010 CAT Losses Were Down 19% or $1.4B from first half 2009

2000s: A Decade of Disaster
2000s: $193B (up 117%)
1990s: $89B

2010 CAT Losses Were Below the 2000-2009 Average
Figures Do Not Include an Estimate of Deepwater Horizon Loss

*Estimate from Munich Re.
Note: 2001 figure includes $20.3B for 9/11 losses reported through 12/31/01. Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = $12.2B.
Sources: Property Claims Service/ISO; Munich Re; Insurance Information Institute.
Combined Ratio Points Associated with Catastrophe Losses: 1960 – 2010E

Combined Ratio Points

Avg. CAT Loss Component of the Combined Ratio by Decade

1960s: 1.04
1970s: 0.85
1980s: 1.31
1990s: 3.39
2000s: 3.52

The Catastrophe Loss Component of Private Insurer Losses Has Increased Sharply in Recent Decades

Notes: Private carrier losses only. Excludes loss adjustment expenses and reinsurance reinstatement premiums. Figures are adjusted for losses ultimately paid by foreign insurers and reinsurers.

Top 12 Most Costly Disasters in US History

(Insured Losses, 2009, $ Billions)

Hurricane Katrina Remains, By Far, the Most Expensive Insurance Event in US and World History

8 of the 12 Most Expensive Disasters in US History Have Occurred Since 2004; 8 of the Top 12 Disasters Affected FL

Sources: PCS; Insurance Information Institute inflation adjustments.
Financial Performance

Lower Catastrophe Losses, Easing of Crisis Bolstered Results
P/C Net Income After Taxes
1991–2010:Q3 ($ Millions)

- 2005 ROE*= 9.6%
- 2006 ROE = 12.7%
- 2007 ROE = 10.9%
- 2008 ROE = 0.3%
- 2009 ROAS¹ = 5.8%
- 2010:Q3 ROAS = 6.7%

P-C Industry 2010:Q3 profits were $26.7B vs.$16.4B in 2009:Q3, due mainly to $4.4B in realized capital gains vs. -$9.6B in previous realized capital losses

* ROE figures are GAAP; ¹Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 7.7% ROAS for 2010:Q3 and 4.6% for 2009. 2009:Q3 net income was $29.8 billion excluding M&FG.

Sources: A.M. Best, ISO, Insurance Information Institute
P/C Profitability Is Both by Cyclicality and Ordinary Volatile

Sources: ISO, Fortune; Insurance Information Institute figure for 2010 is actual through 2010:Q3.
Soft Market Persisted in 2010 but May Be Easing: Relief in 2011?

- Net Written Premiums Fell 0.7% in 2007 (First Decline Since 1943) by 2.0% in 2008, and 4.2% in 2009, the First 3-Year Decline Since 1930-33.

NWP was up 0.8% through 10:Q3 vs. -4.5% through 09:Q3

Shaded areas denote “hard market” periods
Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute.
Finally! Back-to-back quarters of net written premium growth (vs. the same quarter, prior year)

Sources: ISO, Insurance Information Institute.
In 2008, Investment Gains Fell by 50% Due to Lower Yields and Nearly $20B of Realized Capital Losses

2009 Saw Smaller Realized Capital Losses But Declining Investment Income

Investment gains consist primarily of interest, stock dividends and realized capital gains and losses.

* 2005 figure includes special one-time dividend of $3.2B.

Sources: ISO; Insurance Information Institute.
As of December 31, 2009

- Invested assets totaled $1.26 trillion
- Generally, insurers invest conservatively, with over 2/3 of invested assets in bonds
- Only 18% of invested assets were in common or preferred stock

*Net admitted assets. Sources: NAIC; Insurance Information Institute research.
About Half of the P/C Insurance Industry’s Bond Investments Are in Municipal Bonds

Bond Investment Facts as of 12/31/09

- Investments in “Political Subdivision [of states]” bonds were $102.5 billion
- Investments in “States, Territories, & Possessions” bonds were $58.9 billion
- Investments in “Special Revenue” bonds were $288.2 billion
- All state, local, and special revenue bonds totaled 48.2% of bonds, about 35.7% of total invested assets

As of December 31, 2009

- Special Revenue: 31.0%
- Industrial: 33.3%
- U.S. Government: 15.5%
- Foreign Govt: 6.3%
- Political Subdivisions: 11.0%
- States, Terr., etc.: 2.0%

Sources: NAIC, via SNL Financial; Insurance Information Institute research.
When P/C Insurers Invest in Higher Risk Bonds, It’s Corporates, Not Munis

The NAIC’s Securities Valuation Office puts bonds into one of 6 classes: class 1 has the lowest expected impairments; successively higher numbered classes imply increasing impairment likelihood.

Data are as of year-end 2009. Sources: SNL Financial; Insurance Information Institute.
Financial Strength & Ratings

Industry Remained Strong in 2010 Despite Lingering Impacts of the Global Financial Crisis
The Number of Impairments Varies Significantly Over the P/C Insurance Cycle, With Peaks Occurring Well into Hard Markets.

Source: A.M. Best; Insurance Information Institute.
Deficient Loss Reserves and Inadequate Pricing Are the Leading Cause of Insurer Impairments, Underscoring the Importance of Discipline. Investment Catastrophe Losses Play a Much Smaller Role.

- **Deficient Loss Reserves/Inadequate Pricing**: 38.1%
- **Rapid Growth**: 14.3%
- **Affiliate Impairment**: 7.9%
- **Catastrophe Losses**: 7.6%
- **Alleged Fraud**: 8.1%
- **Misc.**: 9.1%
- **Sig. Change in Business**: 4.2%
- **Reinsurance Failure**: 3.7%

Capital/Policyholder Surplus (US)

Improving Financial Markets, Moderate CAT Losses Are Restoring Capacity

2007:Q3 Previous Surplus Peak

Surplus set a new record in 2010:Q3*

The Industry now has $1 of surplus for every $0.77 of NPW—the strongest claims-paying status in its history.

Quarterly Surplus Changes Since 2007:Q3 Peak

- **09:Q1:** -$84.7B (-16.2%)
- **09:Q2:** -$58.8B (-11.2%)
- **09:Q3:** -$31.0B (-5.9%)
- **09:Q4:** -$10.3B (-2.0%)
- **10:Q1:** +$18.9B (+3.6%)
- **10:Q2:** +$8.7B (+1.7%)
- **10:Q3:** +$23.0B (+4.4%)

*Includes $22.5B of paid-in capital from a holding company parent for one insurer’s investment in a non-insurance business in early 2010.

Sources: ISO, A.M. Best.
Surplus as of 9/30/10 was a near-record $544.8B, up from $437.1B at the crisis trough at 3/31/09. Prior peak was $521.8 as of 9/30/07. Surplus as of 9/30/10 is now 1.7% above 2007 peak; Crisis trough was as of 3/31/09→16.2% below 2007 peak.

“Surplus” is a measure of underwriting capacity. It is analogous to “Owners Equity” or “Net Worth” in non-insurance organizations.

The Premium-to-Surplus Ratio Stood at $0.77:$1 as of 9/30/10, A Record Low (at Least in Recent History)**

* As of 9/30/10; **Calculated using annualized net premiums written based on 9-month 2010 data.

Ratio of Insured Loss to Surplus for Largest Capital Events Since 1989*

The Financial Crisis at its Peak Ranks as the Largest “Capital Event” Over the Past 20+ Years

<table>
<thead>
<tr>
<th>Event</th>
<th>Ratio (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/30/1989 Hurricane Hugo</td>
<td>3.3%</td>
</tr>
<tr>
<td>6/30/1992 Hurricane Andrew</td>
<td>9.6%</td>
</tr>
<tr>
<td>12/31/93 Northridge Earthquake</td>
<td>6.9%</td>
</tr>
<tr>
<td>6/30/01 Sept. 11 Attacks</td>
<td>10.9%</td>
</tr>
<tr>
<td>6/30/04 Florida Hurricanes</td>
<td>6.2%</td>
</tr>
<tr>
<td>6/30/05 Hurricane Katrina</td>
<td>13.8%</td>
</tr>
<tr>
<td>Financial Crisis as of 3/31/09**</td>
<td>16.2%</td>
</tr>
</tbody>
</table>

* Ratio is for end-of-quarter surplus immediately prior to event. Date shown is end of quarter prior to event.
** Date of maximum capital erosion; As of 9/30/09 (latest available) ratio = 5.9%.
Source: PCS; Insurance Information Institute
The Deepwater Horizon Disaster: *Insurance Market Impacts*

Download Full PowerPoint Presentation at: [www.iii.org/presentations](http://www.iii.org/presentations)
### Largest International Oil Well Blowouts by Volume*

<table>
<thead>
<tr>
<th>Date</th>
<th>Well</th>
<th>Location</th>
<th>Bbl Spilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 20 – July 15, 2010</td>
<td>Deepwater Horizon</td>
<td>Gulf of Mexico, USA</td>
<td>est. 4,900,000 thru July 15*</td>
</tr>
<tr>
<td>June 1979-April 1980</td>
<td>Ixtoc I</td>
<td>Bahia del Campeche, Mexico</td>
<td>3,300,000</td>
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<tr>
<td>October 1986</td>
<td>Abkatun 91</td>
<td>Bahia del Campeche, Mexico</td>
<td>247,000</td>
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<tr>
<td>April 1977</td>
<td>Ekofisk Bravo</td>
<td>North Sea, Norway</td>
<td>202,381</td>
</tr>
<tr>
<td>January 1980</td>
<td>Funiwa 5</td>
<td>Forcados, Nigeria</td>
<td>200,000</td>
</tr>
<tr>
<td>October 1980</td>
<td>Hasbah 6</td>
<td>Gulf, Saudi Arabia</td>
<td>105,000</td>
</tr>
<tr>
<td>December 1971</td>
<td>Iran Marine International</td>
<td>Gulf, Iran</td>
<td>100,000</td>
</tr>
<tr>
<td>January 1969</td>
<td>Alpha Well 21 Platform A</td>
<td>Pacific, CA, USA</td>
<td>100,000</td>
</tr>
<tr>
<td>March 1970</td>
<td>Main Pass Block 41 Platform C</td>
<td>Gulf of Mexico</td>
<td>65,000</td>
</tr>
<tr>
<td>October 1987</td>
<td>Yum II/Zapoteca</td>
<td>Bahia del Campeche, Mexico</td>
<td>58,643</td>
</tr>
<tr>
<td>December 1970</td>
<td>South Timbalier B-26</td>
<td>Gulf of Mexico, USA</td>
<td>53,095</td>
</tr>
</tbody>
</table>

*Based on official estimate by U.S. scientific teams of 53,000 barrels per day leaking from BP well immediately preceding it being capped on July 15. Includes offset for capture of approximately 800,000 barrels of oil prior to capping of well.

Long-Run Implications of Deepwater Horizon on Energy & Energy Insurance Markets

- Deepwater Horizon Will Become the Single Most Expensive Environmental Disaster in US History
- Vast Majority of Losses Will Be Paid by BP and Its Partners
- $20 Billion Compensation Fund Should Reduce Litigation
- Total Insured Losses Likely in the $3 Billion Range (still uncertain)
- Insured losses are Spread Globally Across a Wide Range of Insurers and Reinsurers
  - Although unprecedented, the event was manageable and had a minimally disruptive effect on offshore energy insurance markets
- Reaction (and Overreaction) to Spill Will Have Multi-Decade Impact on Energy Business and Insurers
  - Impacts will not be confined to offshore oil & gas industry
- Regulatory Changes Are Occurring
- Insurers Developing Products to Meet New Regulatory Requirements Imposed on Operators

Source: Insurance Information Institute
Some Property Catastrophe Issues Likely To Be in the News in 2011

A Wide Variety of Potential Concerns in the Year Ahead
Property Insurance Issues Likely To Be in the News in 2011

- **Busy 2011 Hurricane Season Anticipated**
  - 2010 was busy, but with little impact on US
  - Solvency of state-run insurers may be questioned

- **Terrorism**
  - Was a major concern in 2010, perhaps more so in 2011
  - 10th anniversary of 9/11 attack

- **Environmental Disasters**
  - Reverberations of Deepwater Horizon

- **Flood Program Reauthorization (expires 9/30/11)**

- **Sinkholes**
  - Florida’s “other” property insurance problem

- **Regulatory Issues**
  - Nearly half of the state insurance regulators in the US are new in 2011. How will they react to the challenges poses by CAT losses?

Source: Insurance Information Institute
Turnover Among Insurance Regulators is Very High in 2011

At least 22 new state insurance commissioners will take office in 2011, implying a steep collective learning curve and the need for a significant educational effort.
Florida is one of only two states to receive a grade of “F” in 2010.

Insurance Information Institute Online:

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Thank you for your time and your attention!

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THANK YOU FOR ATTENDING TODAY’S WEBINAR.