2010 HALF-YEAR NATURAL CATASTROPHE REVIEW

July 7, 2010

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Agenda

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Welcome/Introduction
Terese Rosenthal

U.S. Natural Catastrophe Update
Carl Hedde

Global Natural Catastrophe Update
Dr. Peter Hoppe

Economic Implications of Natural Catastrophe Losses
Dr. Robert Hartwig

Questions and Answers

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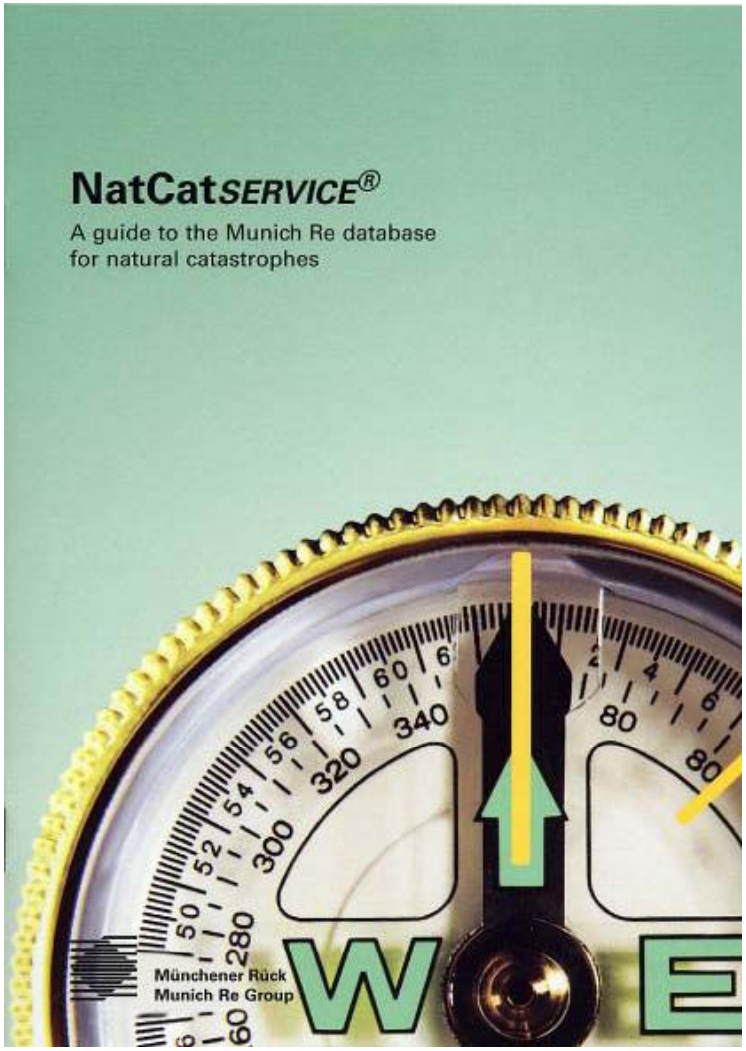
U.S. NATURAL CATASTROPHE UPDATE

Carl Hedde, SVP, Head of Risk Accumulation
Munich Reinsurance America, Inc.

MR NatCat*SERVICE*

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 28,000 events**

2010 Headlines

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- Series of winter storms in the Mid-Atlantic and New England states create highest peril losses since 2003.
- Late start to thunderstorm season; one of the lowest YTD insured losses over the past 10 years.
- Major floods in Tennessee and Rhode Island.
- Two powerful earthquakes affect California, but limited damage due to remote locations.
- Seasonal forecasts indicate “active to very active” hurricane season; Potential development of La Niña conditions may be a factor.

Insured Natural Disasters Losses in the United States
First Six Months of 2010

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As of June 30, 2010	Fatalities	Estimated Overall Losses (US $m)	Estimated Insured Losses (US $m)
Severe Thunderstorms	28	5,230	3,006
Winter Storm	25	3,500	2,385
Flood	50	2,367	609
Earthquake	0	200	125
Tropical Cyclone	0	Minor	Minor
Wildfire	0	9	0

Source: MR NatCat*SERVICE*

Natural Disasters in the United States, 1980 – 2010

Number of Events (January – June Only)

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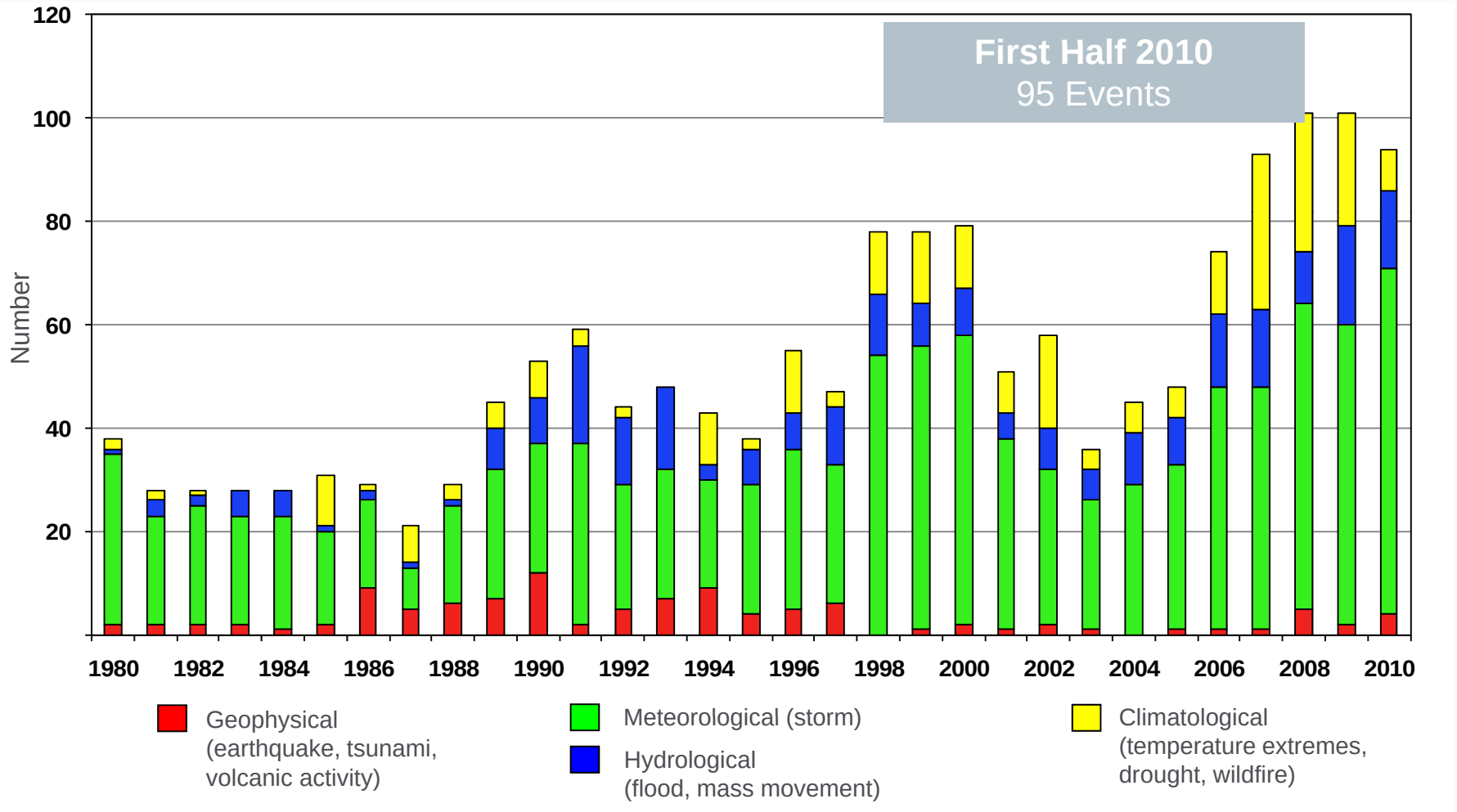
The number of events has more than doubled since 1980.



Source: MR NatCat*SERVICE*

Natural Disasters in the United States, 1980 – 2010

Number of Events (Annual Totals 1980 – 2009 vs. First Half 2010)

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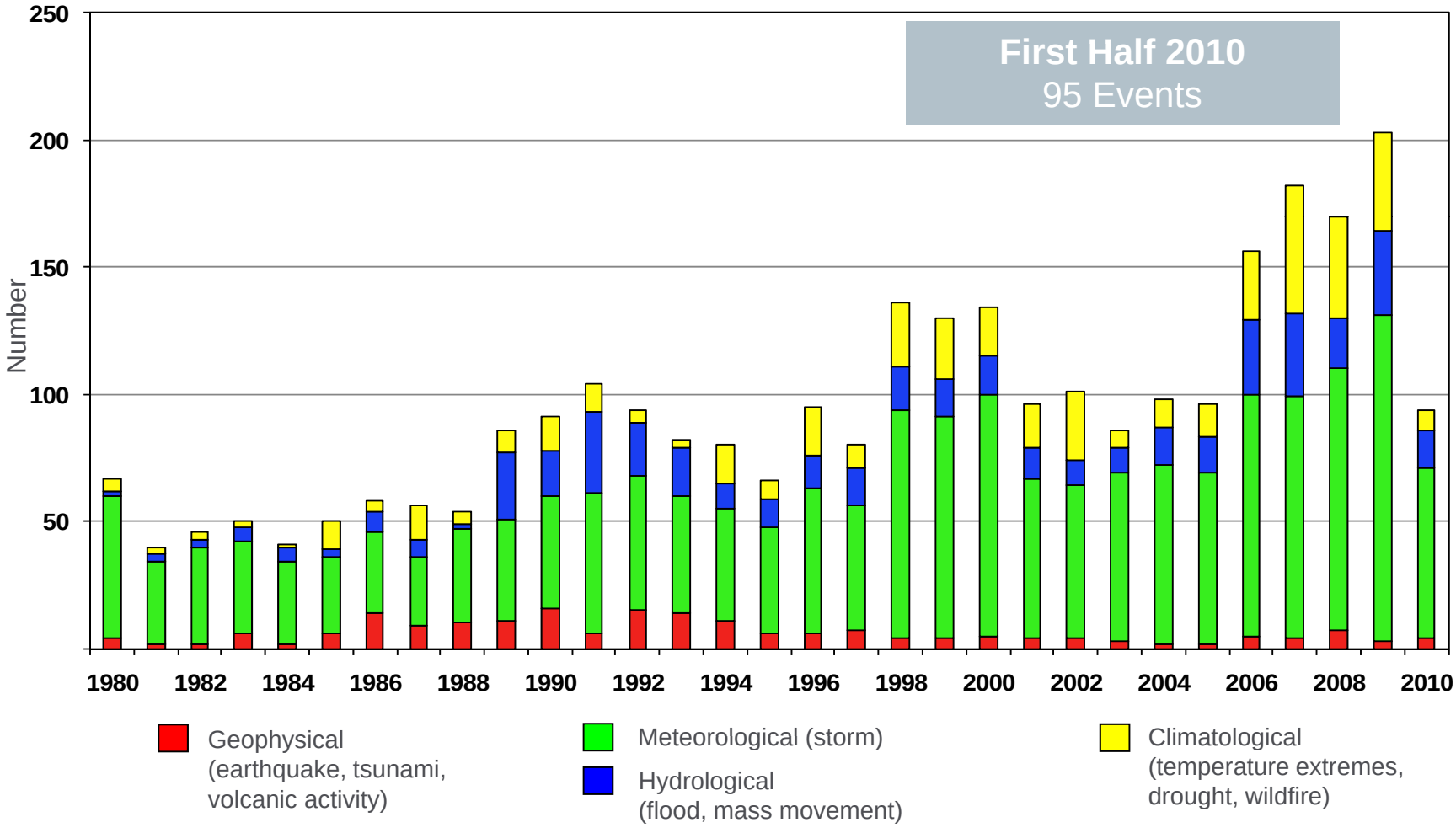
Number of events in first half of 2010 is close to the annual totals from five of past ten years.



Source: MR NatCat*SERVICE*

U.S. Winter Storm Loss Trends

Annual totals 1980 – 2009 vs. First Half 2010

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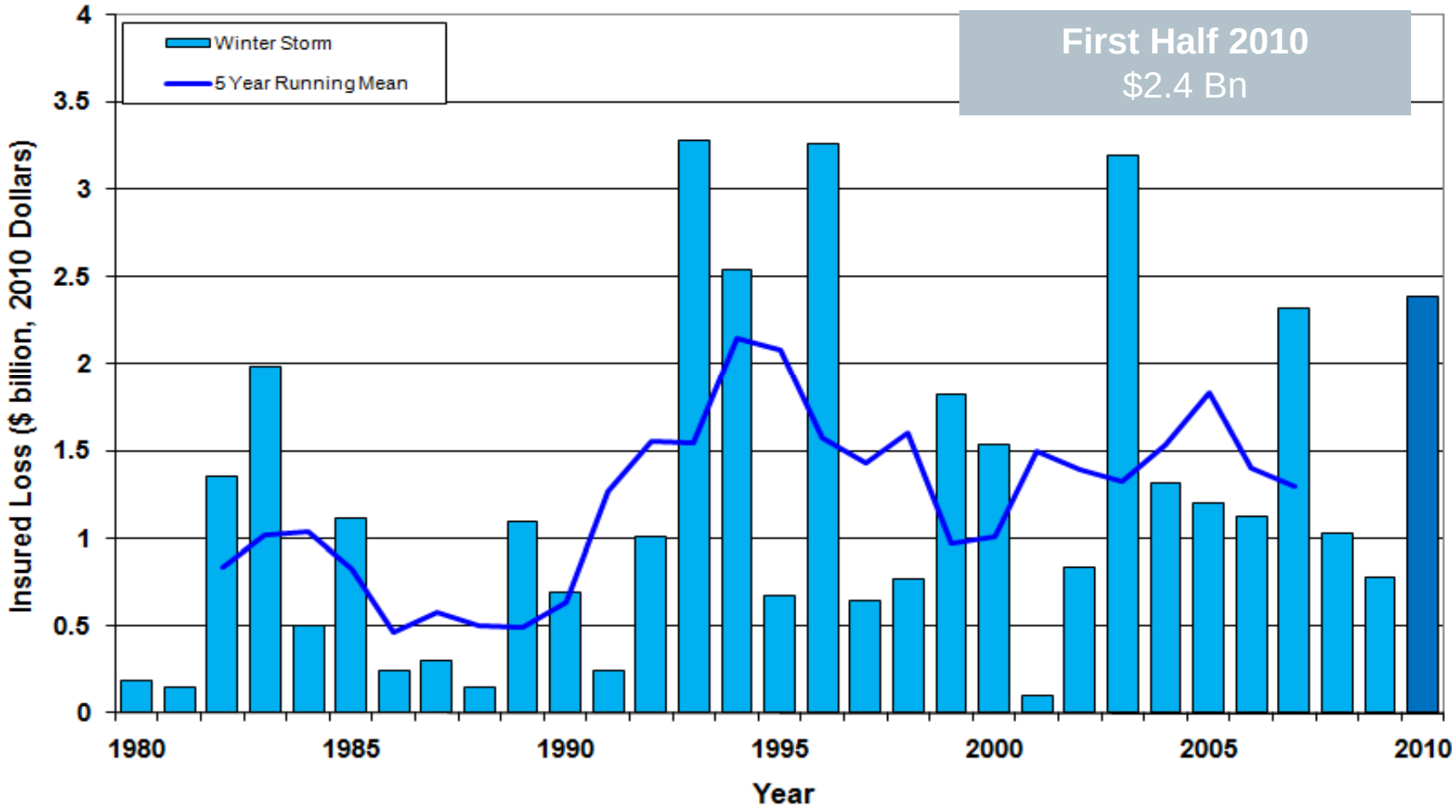
Average annual winter storm losses have increased over 50% since 1980.



Source: Property Claims Service, MR NatCat*SERVICE*

February Mid-Atlantic Winter Storms

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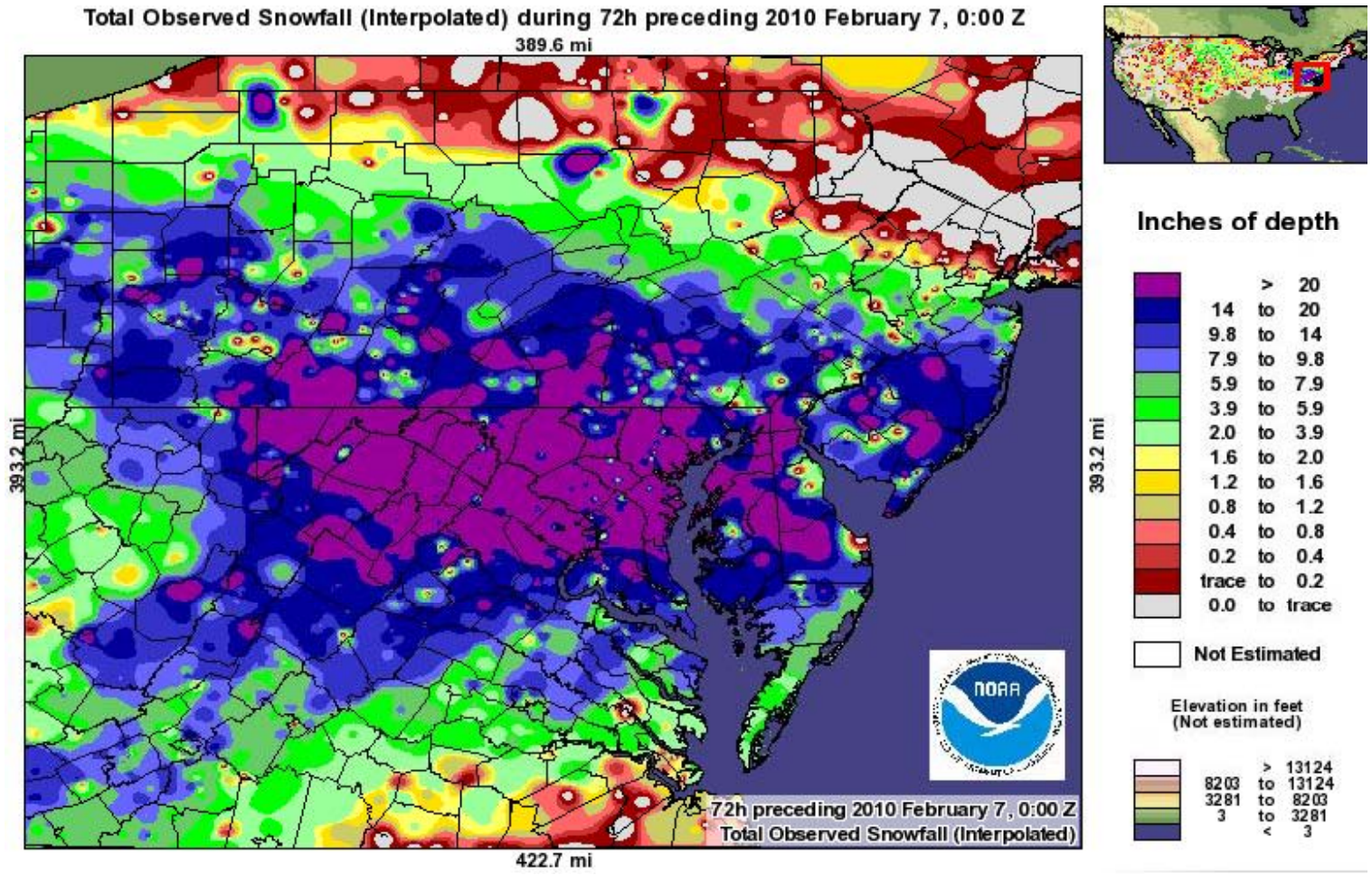
February 4-7, 2010



Source: Property Claims Service, MR NatCat*SERVICE*

February Mid-Atlantic Winter Storms

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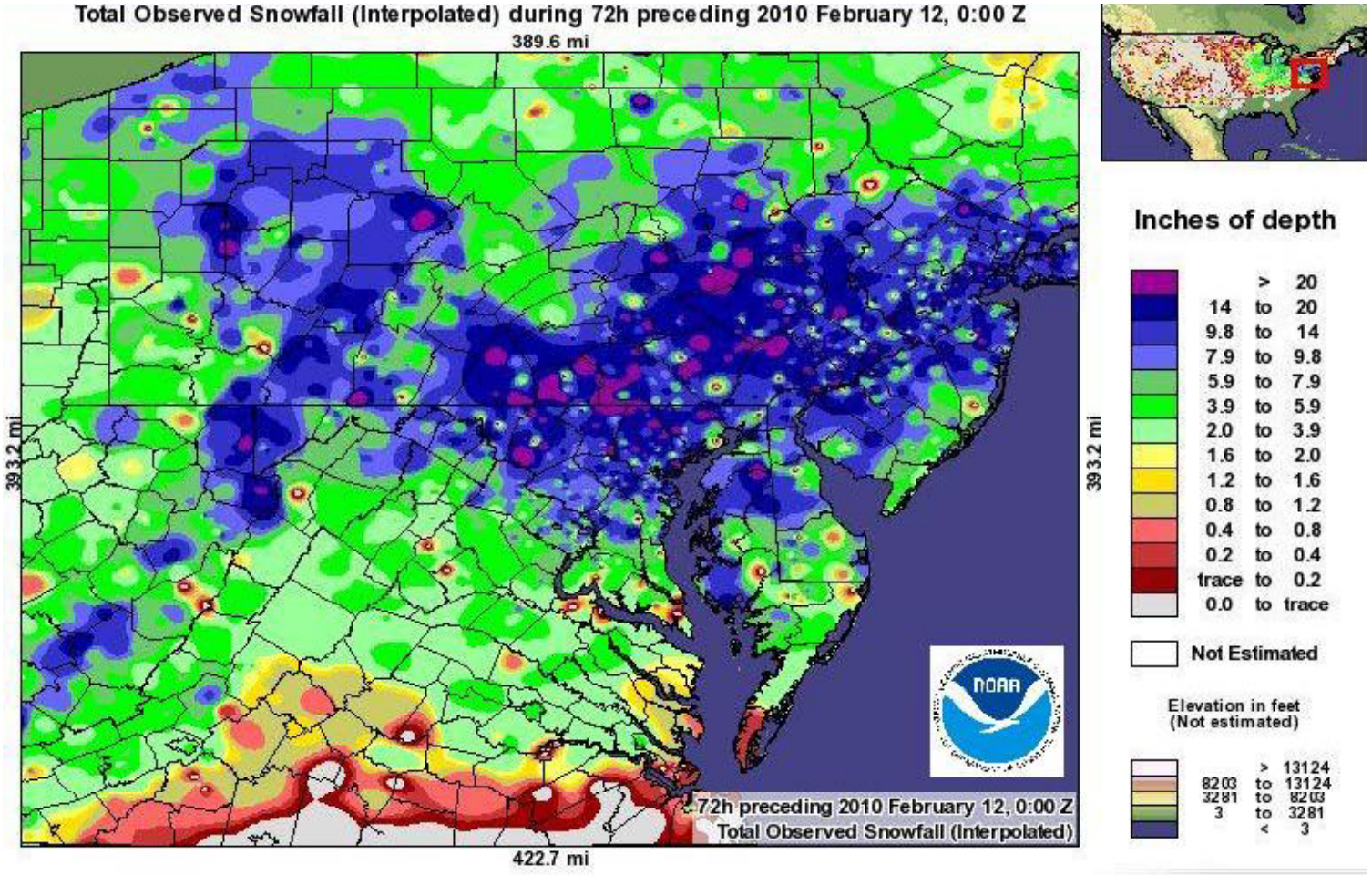
February 10-12, 2010



Source: Property Claims Service, MR NatCat*SERVICE*

February Mid-Atlantic Winter Storms

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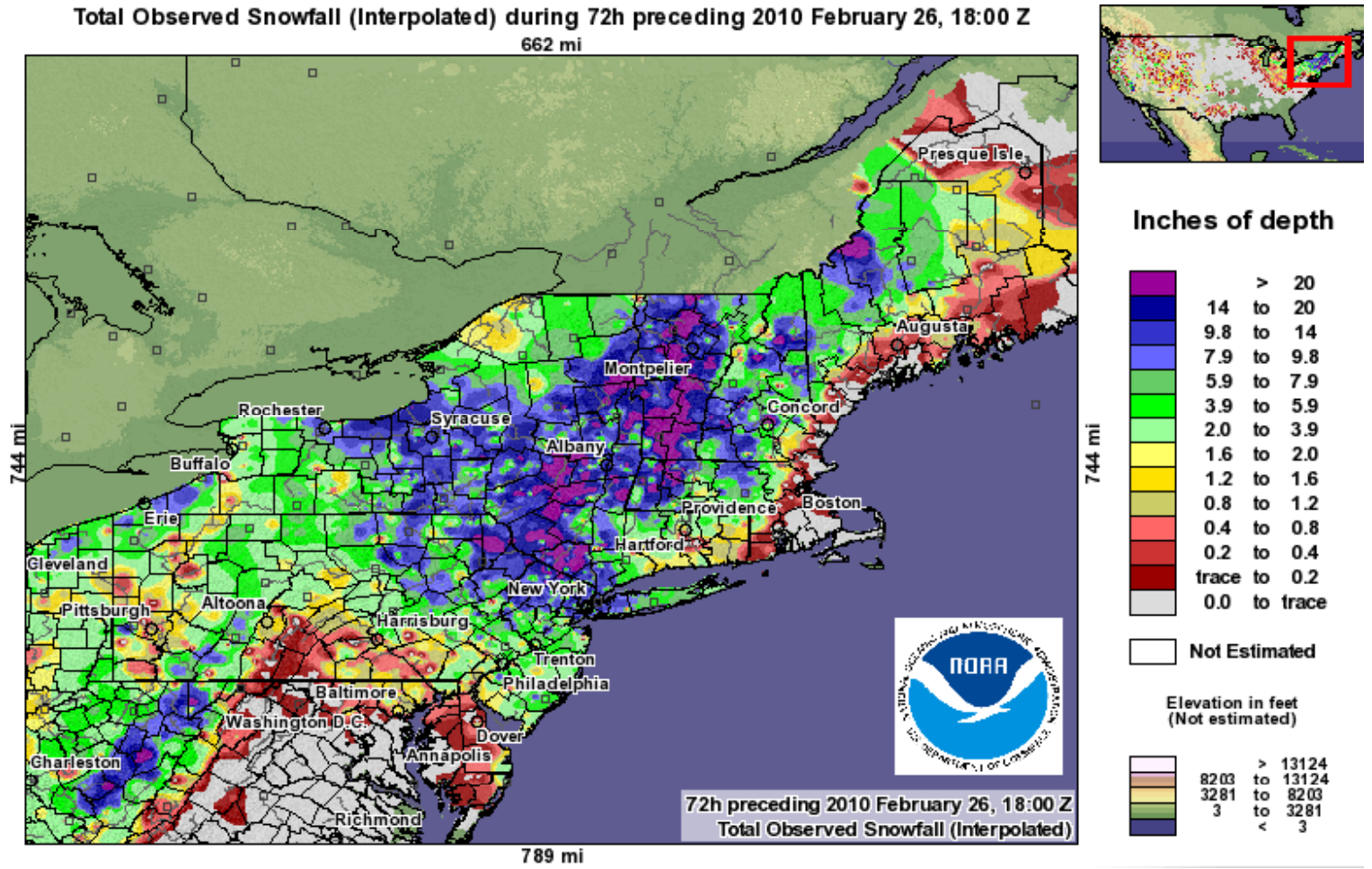
February 24-26, 2010



U.S. Thunderstorm Loss Trends

January – June Only, 1980 - 2010

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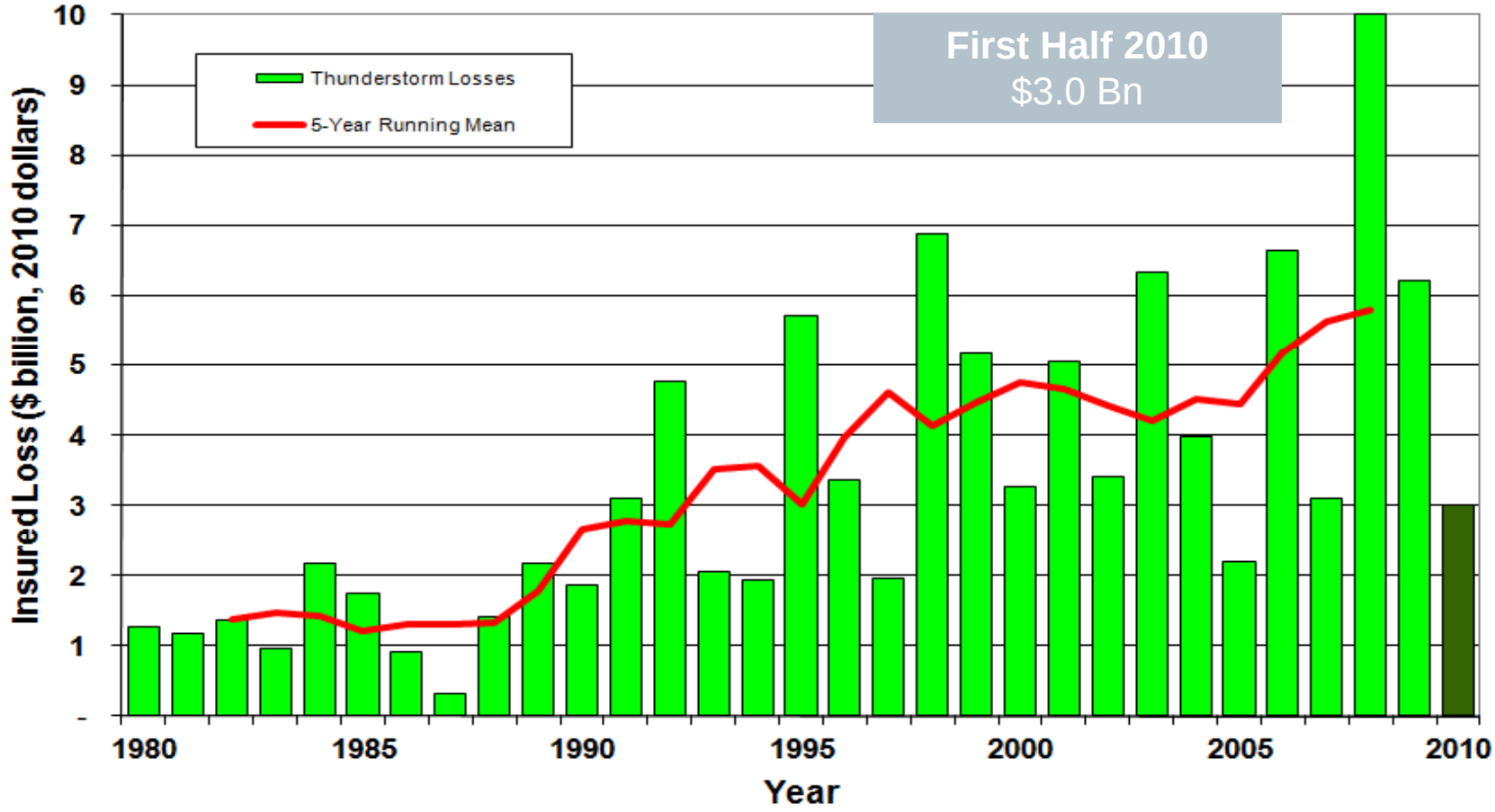
Thunderstorm losses for the period January – June in 2010 were about $3 billion below the 5-year average.



Source: Property Claims Service, MR NatCat*SERVICE*

U.S. Thunderstorm Loss Trends

Annual Totals 1980 – 2009 vs. First Half 2010

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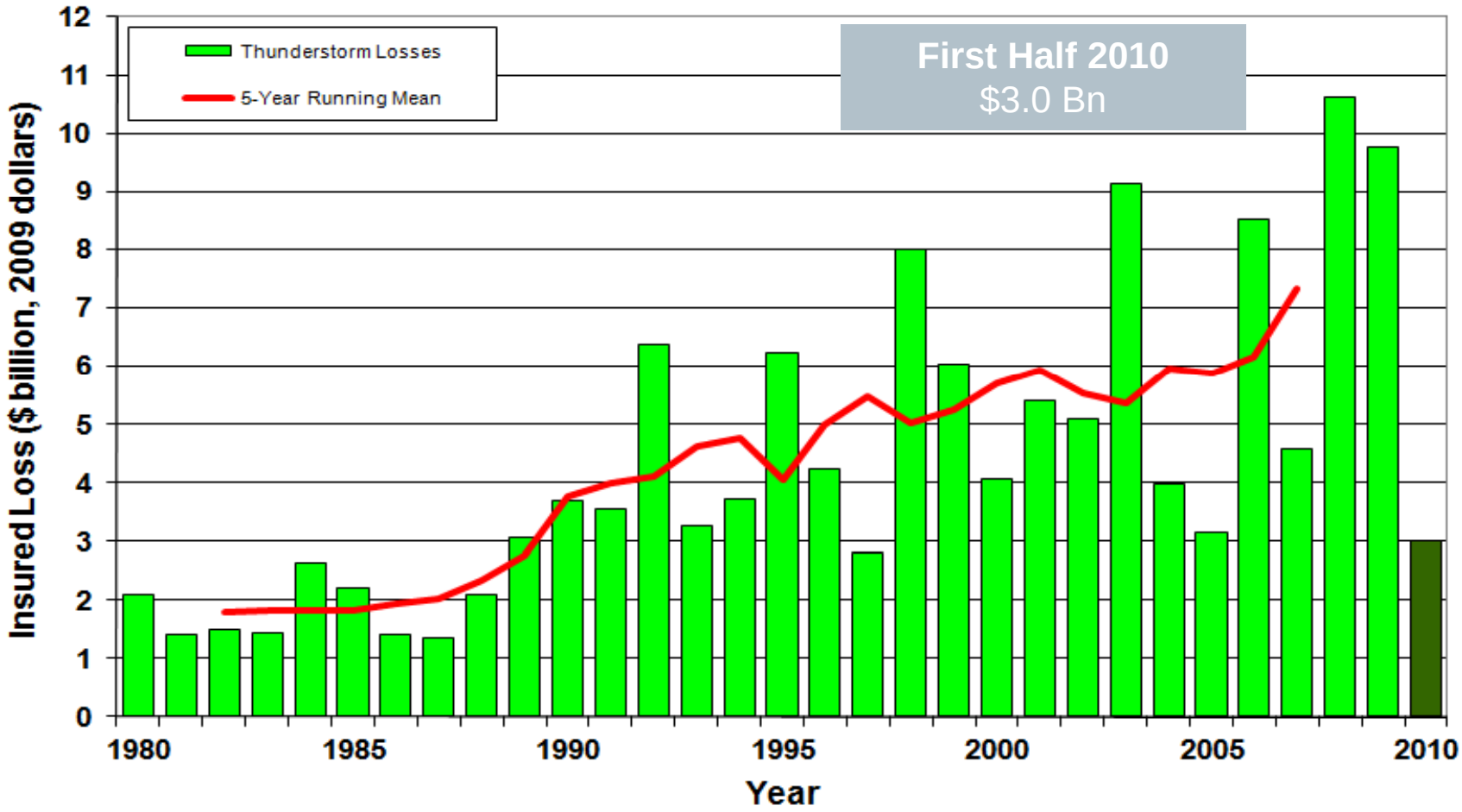
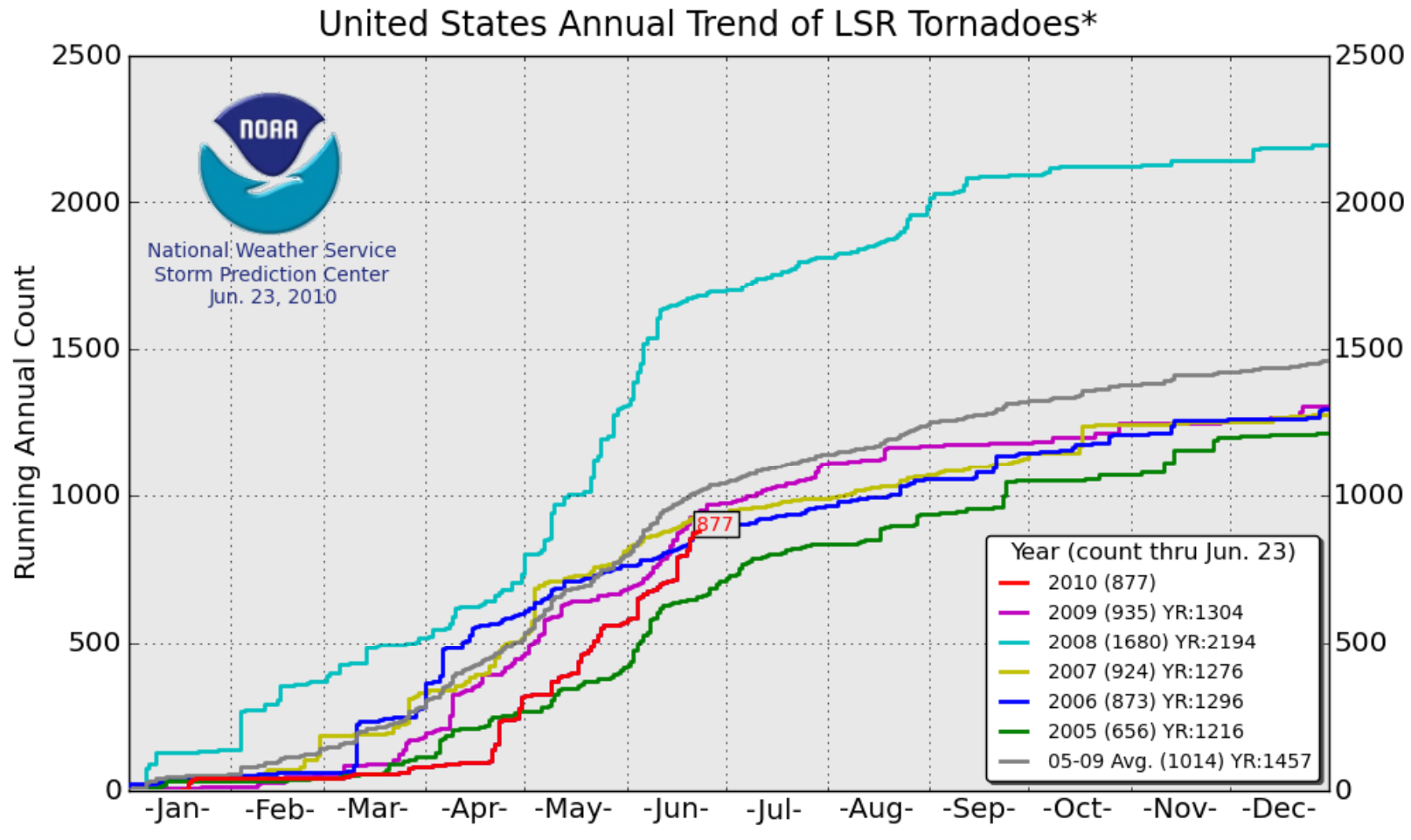
Thunderstorm losses have quadrupled since 1980.



Source: Property Claims Service, MR NatCat*SERVICE*

2010 U.S. Tornado Count



Source: NOAA

Notable Damaging Flood Events in 2010

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New England, Late March

- Up to 12” (30 cm) of rain over Rhode Island, eastern Connecticut, and eastern Massachusetts; flooding exacerbated by snow-covered ground.
- Pawtuxet River 12 feet (4 meters) above flood stage in Rhode Island
- Almost $300 million in insured losses.

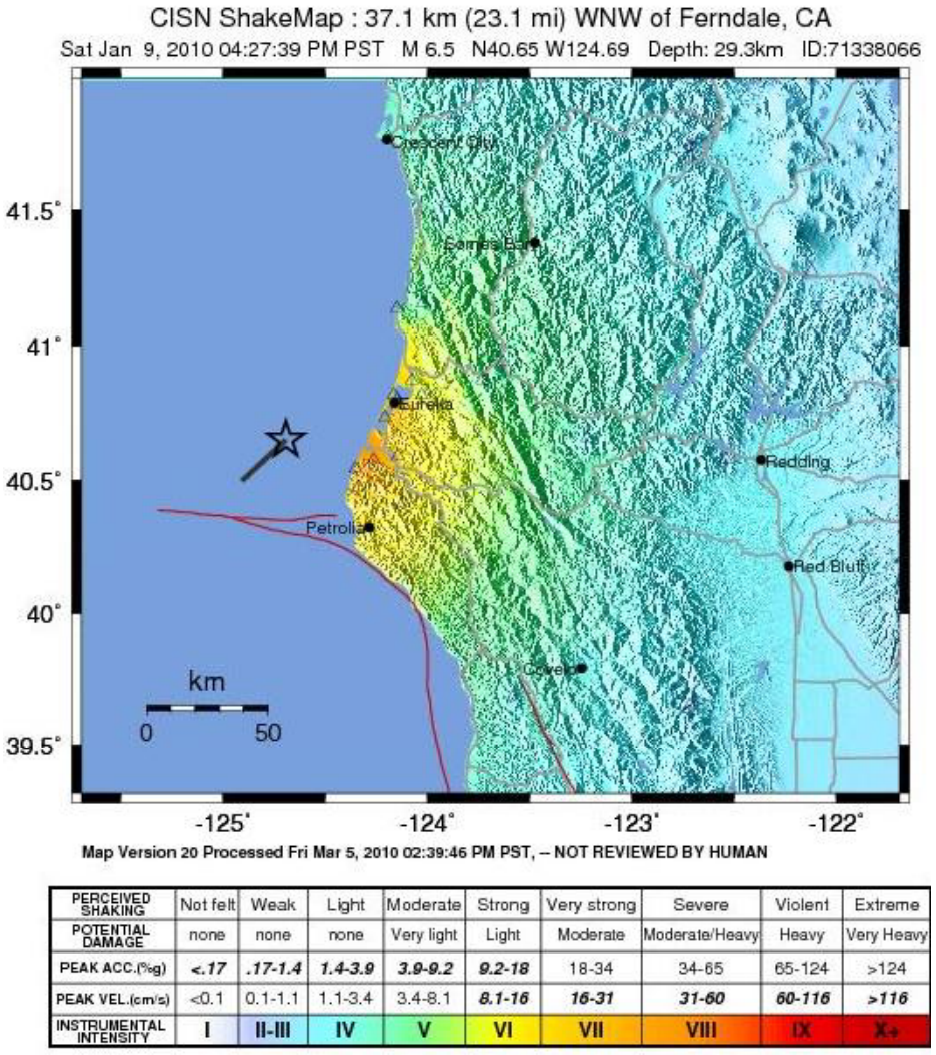
Tennessee, Early May

- Over 13” (32 cm) over Nashville metropolitan area; Cumberland River reached highest crest in Nashville since 1937.
- Grand Ole Opry and several downtown buildings sustained extensive flood damage
- Estimated $485 million in insured losses.

Notable U.S. Earthquake Events in 2010

January 9 - Offshore of Eureka, California

- Magnitude 6.5
- Primarily window and contents damage; some instances of more severe, localized damage
- Economic Losses: $50m
- Insured Losses: $25m

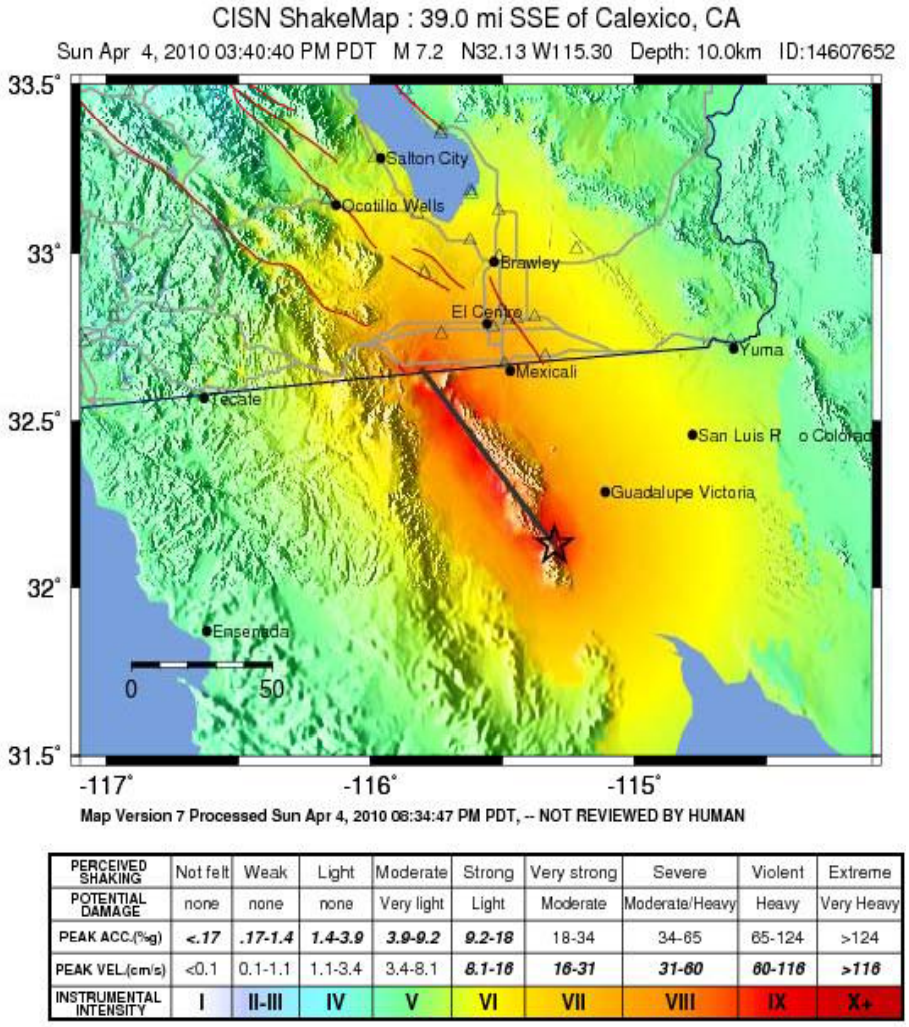


PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	*<.17*	*.17-1.4*	*1.4-3.9*	*3.9-9.2*	*9.2-18*	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	*8.1-16*	*16-31*	*31-60*	*60-116*	*>116*
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Notable U.S. Earthquake Events in 2010

April 4 - Baja California, Mexico

- Magnitude 7.2, worst shaking in unpopulated areas
- Power outages; window, contents, and nonstructural building damage; infrastructure damage
- Economic Losses: $150m
- Insured Losses: $100m



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INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

U.S. Tropical Cyclone Loss Trends, 1980 – 2010

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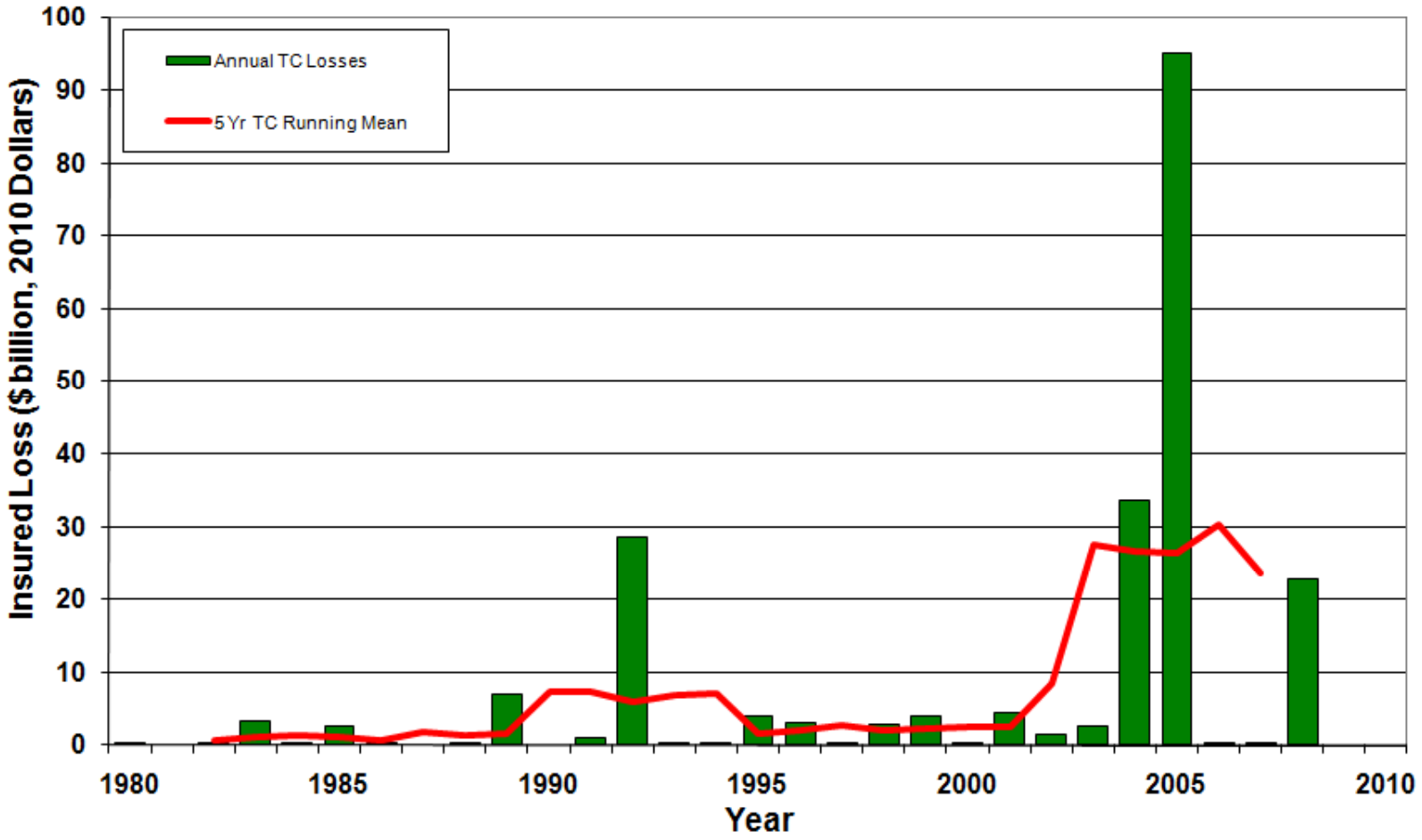
The current 5-year average (2005-2009) insured tropical cyclone loss is $23 Bn.



Source: Property Claims Service, MR NatCat*SERVICE*

2010 Atlantic Hurricane Season Forecasts

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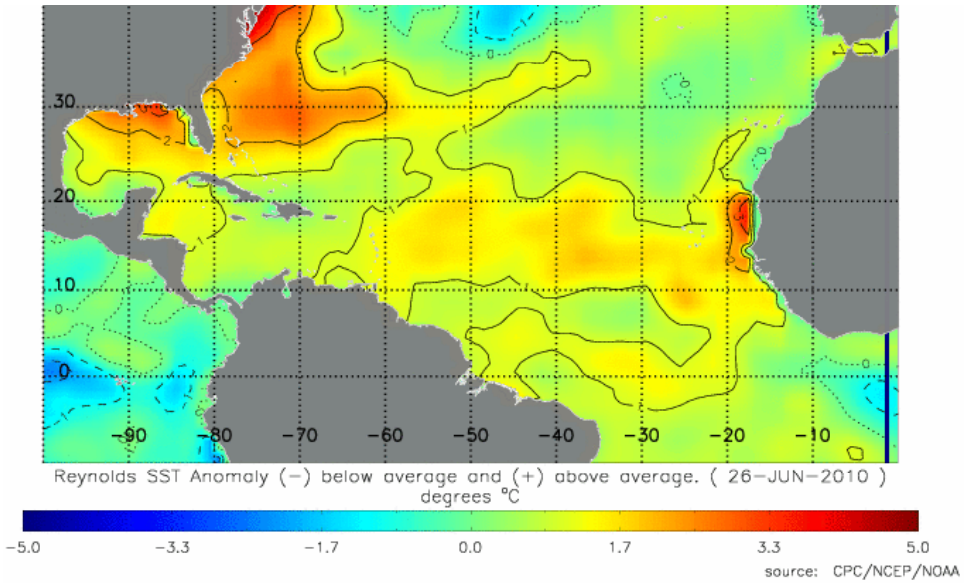
	Named Storms	Hurricanes	Major Hurricanes
NOAA	14-23	8-14	3-7
Colorado State University	18	10	5
Univ. College of London	17.7	9.5	4.4
Climatology	11	6	2

Neutral or La Niña ENSO conditions in the Pacific and warm Atlantic Sea surface temperatures have the potential to enhance the number of tropical cyclones in 2010.



Sources: NOAA, Colorado State University, tropicalstormrisk.com

The Gulf of Mexico Oil Spill and Hurricane Season

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- Oil spill should have little to no affect on hurricane track and intensity (wind speeds and size of storm surge) in region.
  - Might suppress storm formation in oil spill area, but this is uncertain.
  - Storms moving into oil spill will mix up the oil and water sufficiently to allow evaporation of water, a hurricane's energy source, to continue.
- Ocean mixing might speed biodegradation process of oil.
- Winds may spread oil and be carried inland with storm surge, but oil movement is highly dependent on storm track and location relative to the spill.

Sources: NOAA

GLOBAL NATURAL CATASTROPHE UPDATE

Prof. Dr. Peter Höppe
Head Of Geo Risks Research/Corporate Climate Center
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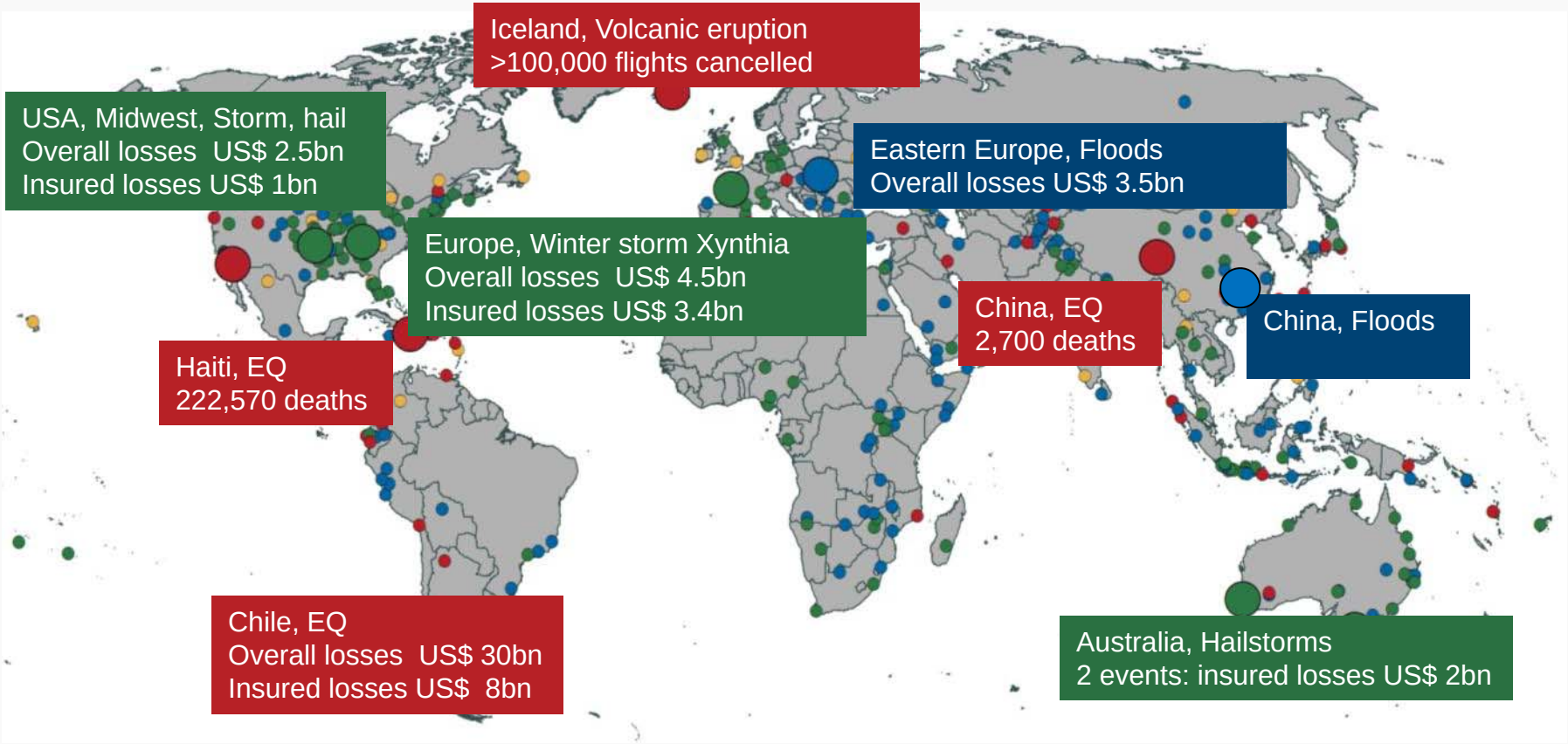
Worldwide Natural Disasters 2010

World map January – June



- Natural catastrophes
- Significant natural catastrophes
- Geophysical events (earthquake, tsunami, volcanic activity)
- Meteorological events (storm)
- Hydrological events (flood, mass movement)
- Climatological events (extreme temperature, drought, wildfire)

Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Worldwide Natural Disasters 2010

Significant Natural Disasters (January – June only)

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Deadliest Disasters			
Date	**Event**	**Area**	**Deaths**
January	Earthquake	Haiti	222.570
April	Earthquake	China	2.700
February	Earthquake	Chile	521

Costliest Disasters (Insured Losses)			
Date	**Event**	**Area**	**Insured losses in US$m**
February	Earthquake	Chile	8,000
February	Winter Storm Xynthia	Europe	3,400
March	Severe storm, hail	USA, Midwest	1,065

Costliest Disasters (Overall Losses)			
Date	**Event**	**Area**	**Overall losses in US$m**
February	Earthquake	Chile	30,000
January	Earthquake	Haiti	8,000
February	Winter storm Xynthia	Europe	4,500

Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Worldwide Natural Disasters 2010

Percentage Distribution of Insured Losses Per Continent (January – June Only)

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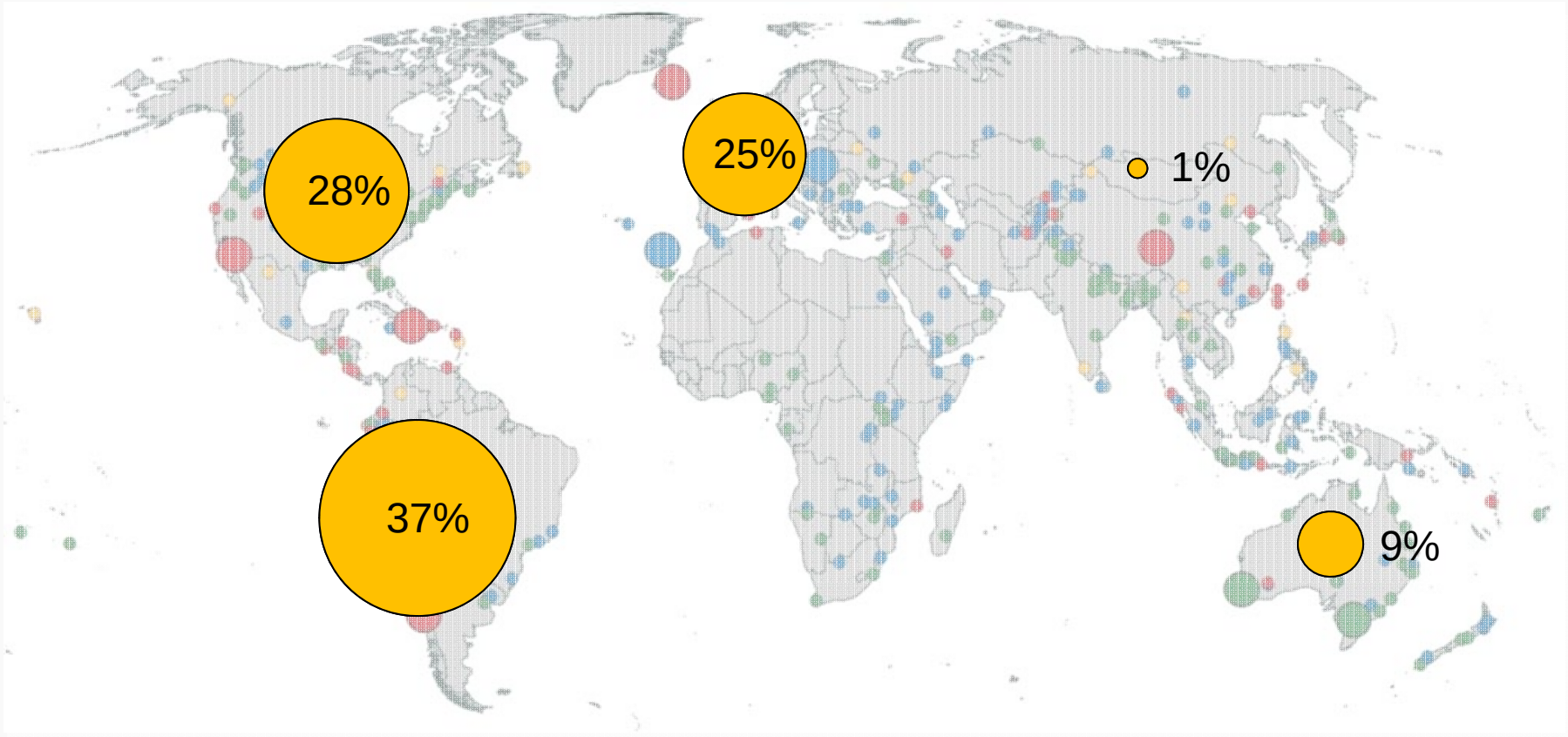
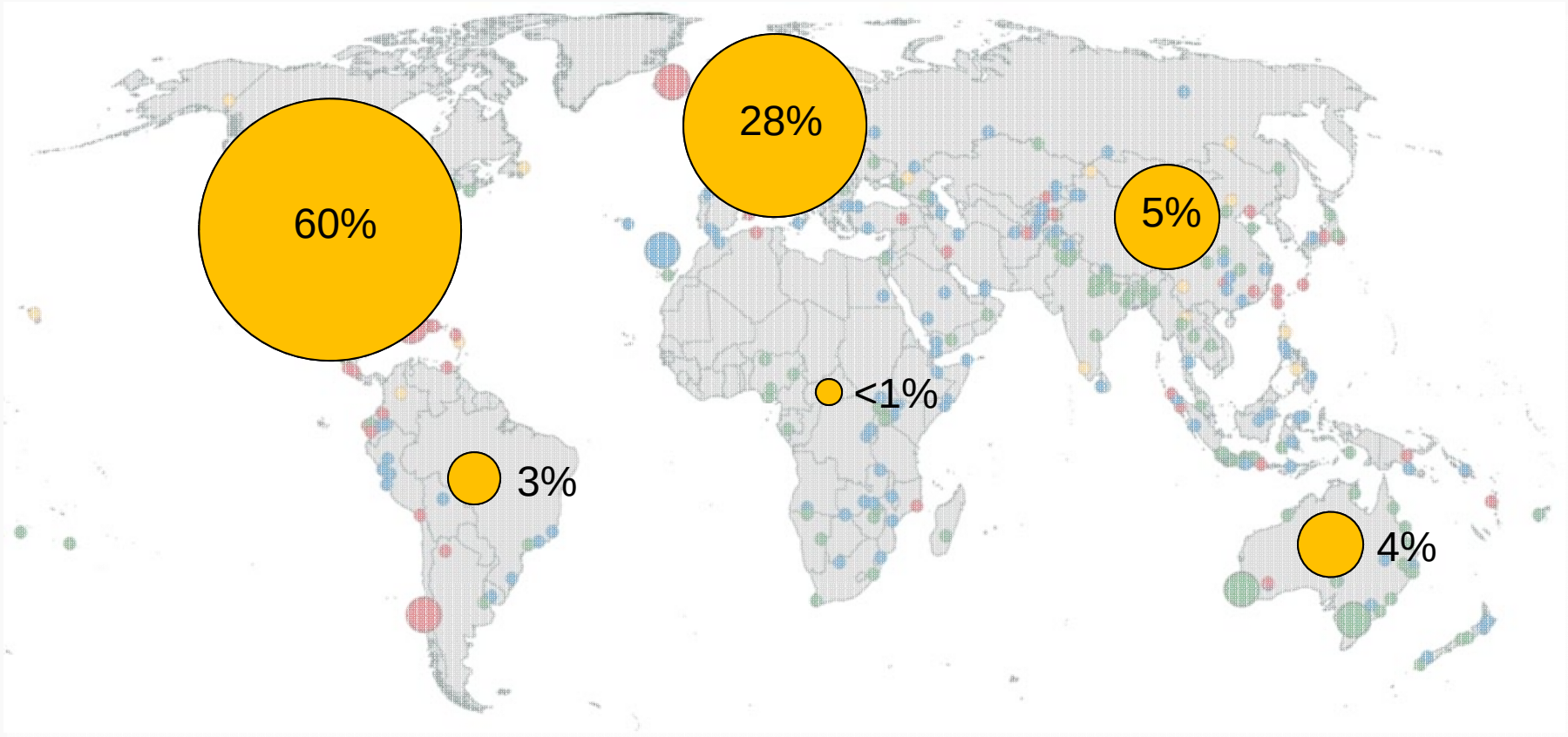
Insured losses 2010 January – June: US$ 22 Bn



Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Worldwide Natural Disasters 1980 – 2010

Percentage Distribution of Insured Losses Per Continent (January – June Only)



Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Worldwide Natural Disasters 1980 – 2010

Number of Events (January – June only)

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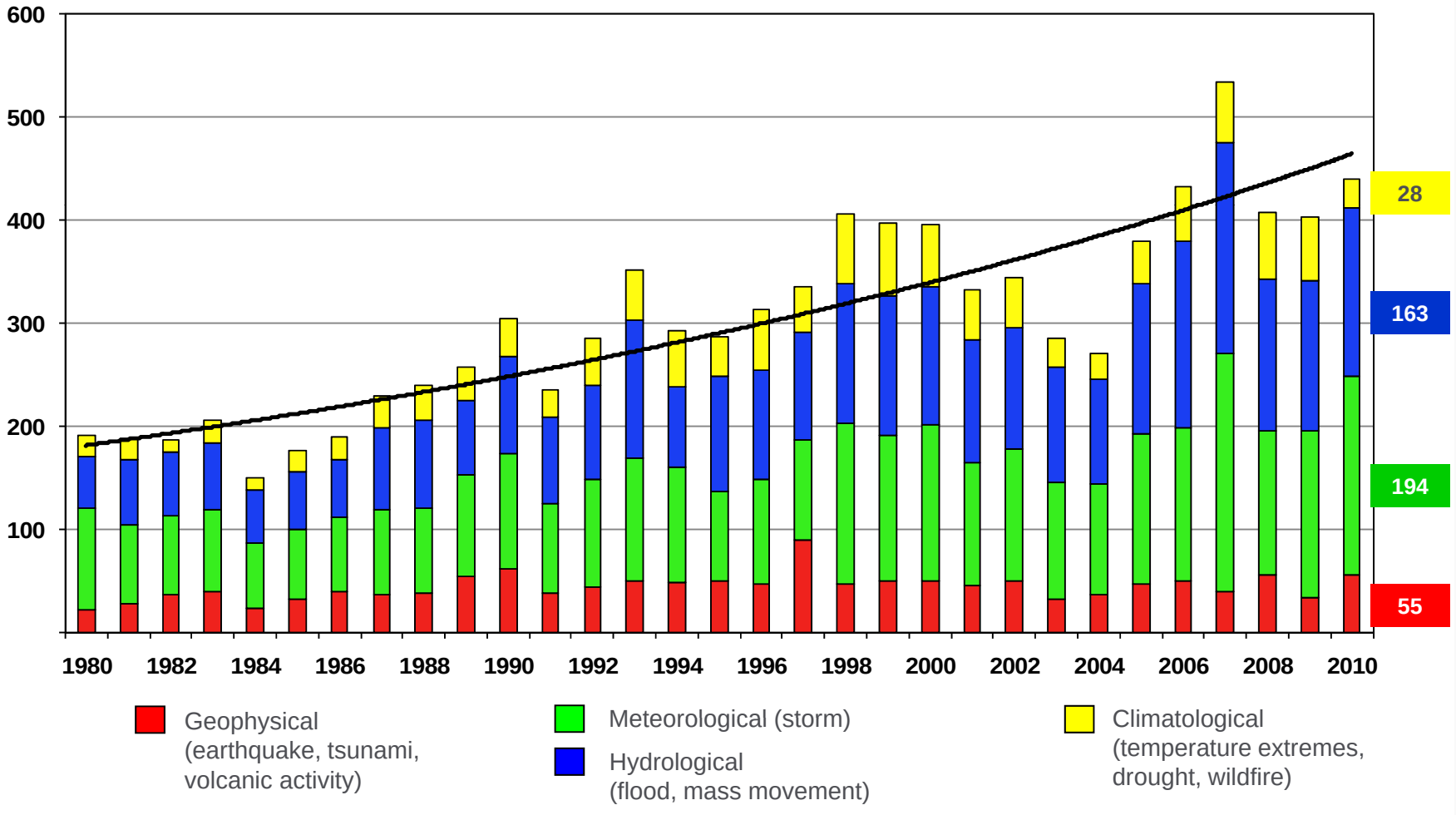
Total Number of Events January - June 2010: **440**



Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Worldwide Natural Disasters 1980 – 2010

Overall and Insured Losses

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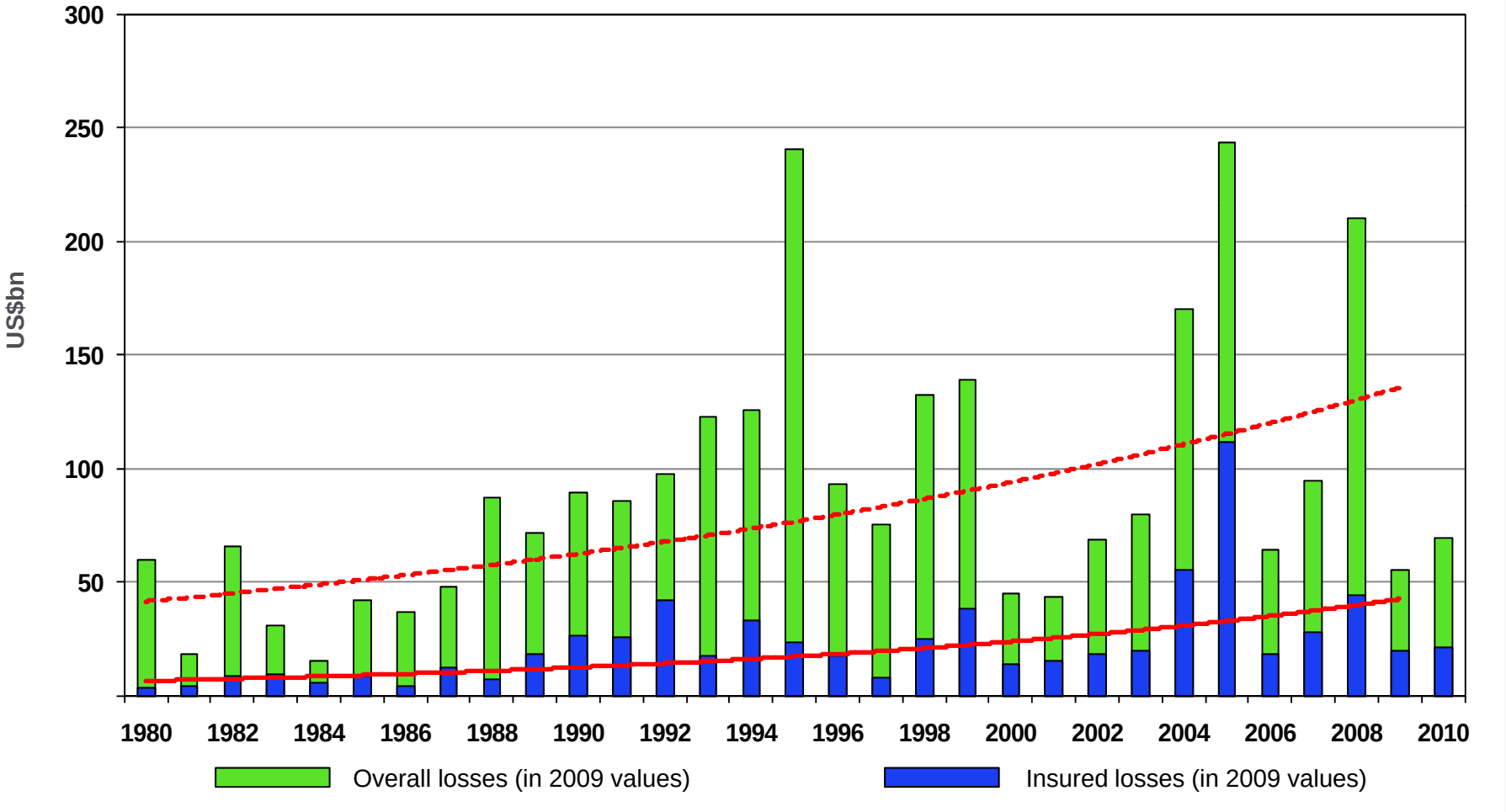
Losses: Overall = US$ 70 Bn; Insured = US$ 22 Bn



Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Worldwide Natural Disasters 2010

January – June

Chile Earthquake	5th strongest since 1900	M 8.8
Haiti Earthquake	3rd deadliest since 1900	
Iceland Volcanic Eruption	Increasing vulnerability of global society	>100,000 flights cancelled
Outstanding Floods	in 5 continents	Overall and insured losses: billions of US$

Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Worldwide Natural Disasters 2010

Earthquake in Haiti, January

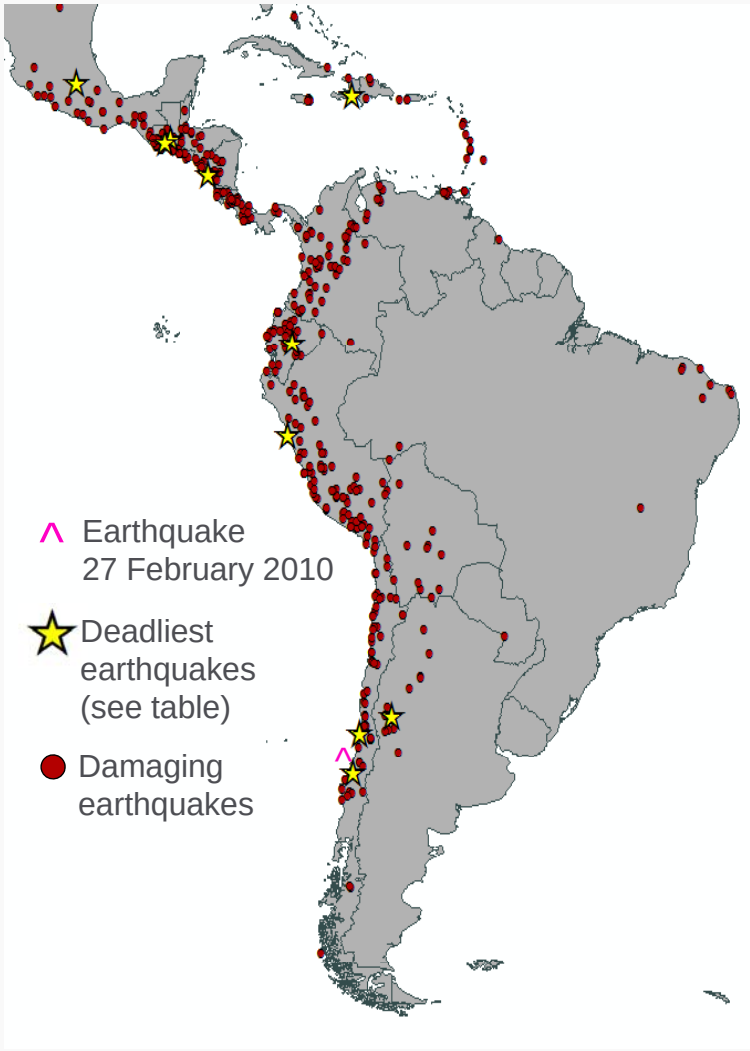
Worldwide Natural Disasters 2010

Earthquake in Chile, February

Deadliest/Costliest Earthquakes 1900 – June 2010
in Central America, South America, Caribbean

Date	Affected Area	Fatalities
12.1.2010	Haiti: S, Port-au-Prince, Petionville, Jacmel, Carrefour, Leogane, Petit Goave, Gressier	222,570
31.5.1970	Peru: NW, Coast line, Chimbote; Mt. Huascarán, Trujillo, Yungay, Huaráz	67,000
25.1.1939	Chile: C, Concepción, Chillan	28,000

Date	Affected Area	Overall losses (US$m, original values)
27.2.2010	Chile: Concepción, Bio Bio, Talcahuano, Coronel, Dichato, Chillán	30,000
12.1.2010	Haiti: S, Port-au-Prince, Petionville, Jacmel, Carrefour, Leogane, Petit Goave, Gressier	8,000
19.9.1985	Mexico: C, Mexico City, Guerrero, Jalisco, Michoacan, Acapulco, Colima, Ciudad Guzman	4,000

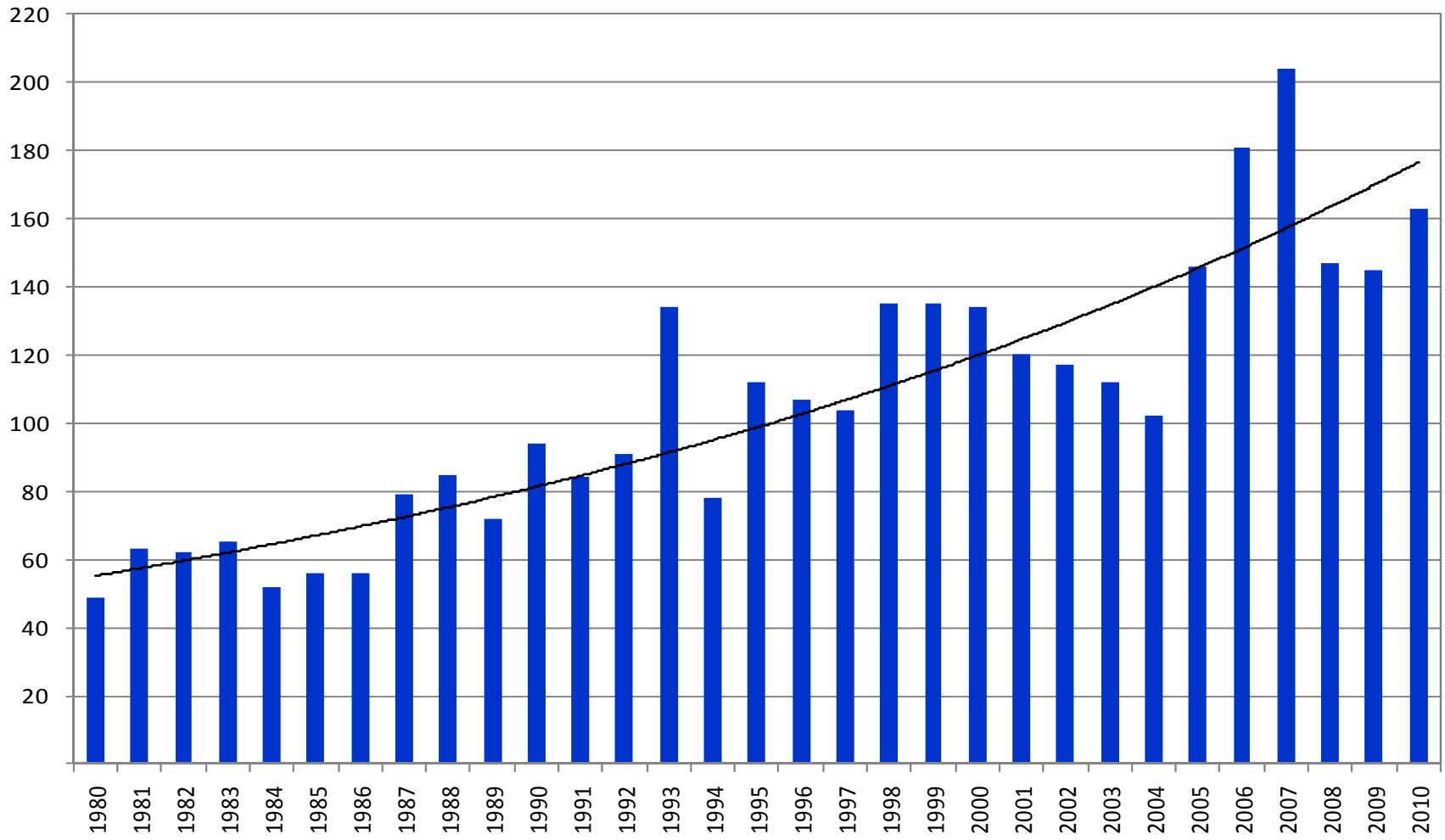


Worldwide Natural Disasters 2010

Flood Disasters in 4 Continents

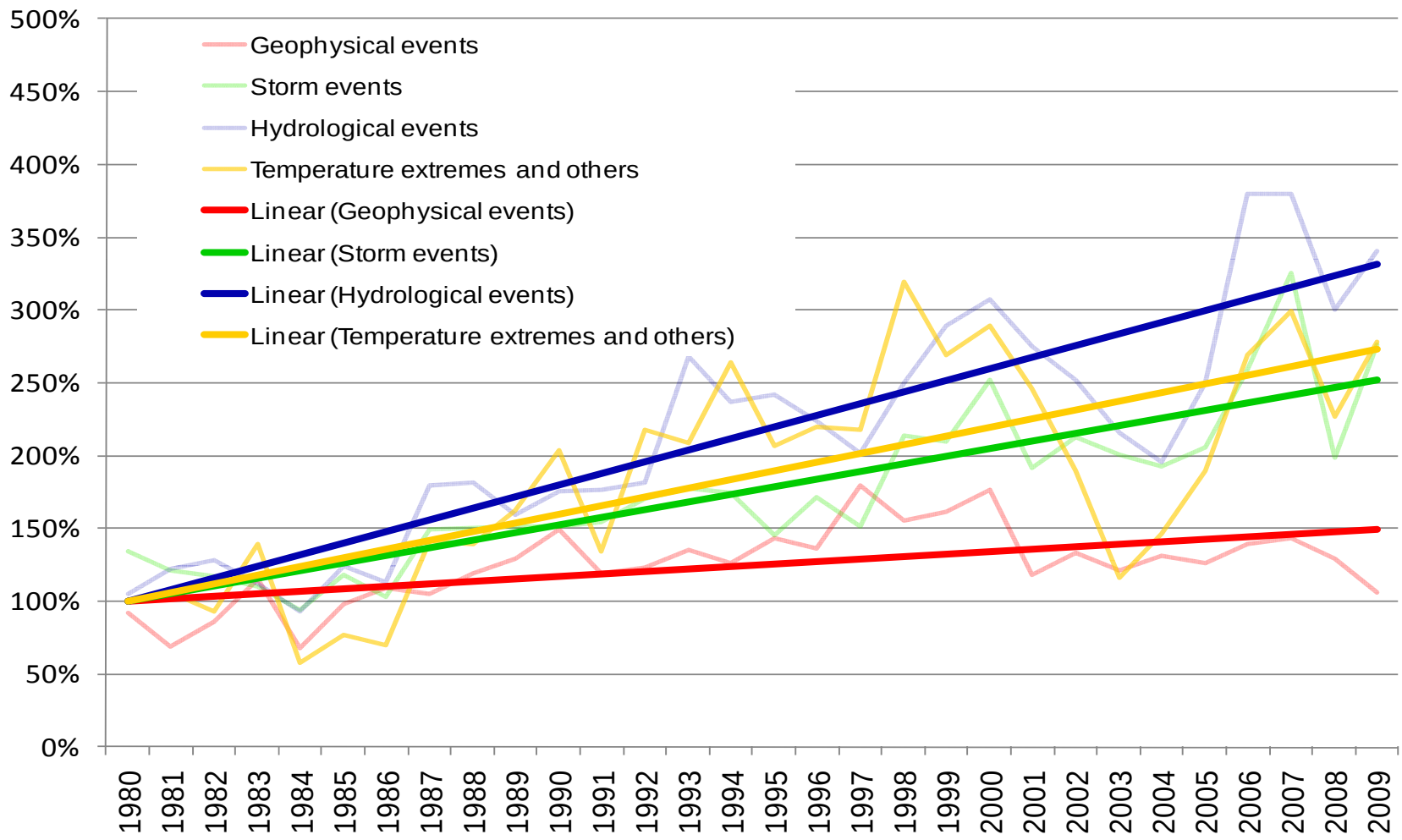
Worldwide Flood Disasters 1980 – 2010

Number of Events (January – June only)



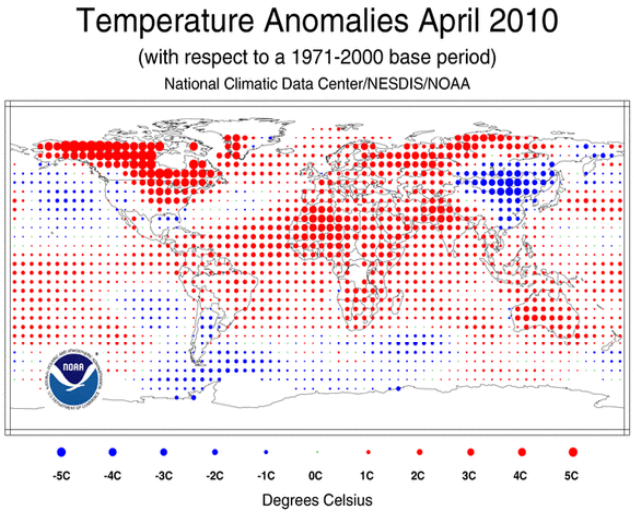
Worldwide Natural Disasters 2010

Number of Events – Relative Trend



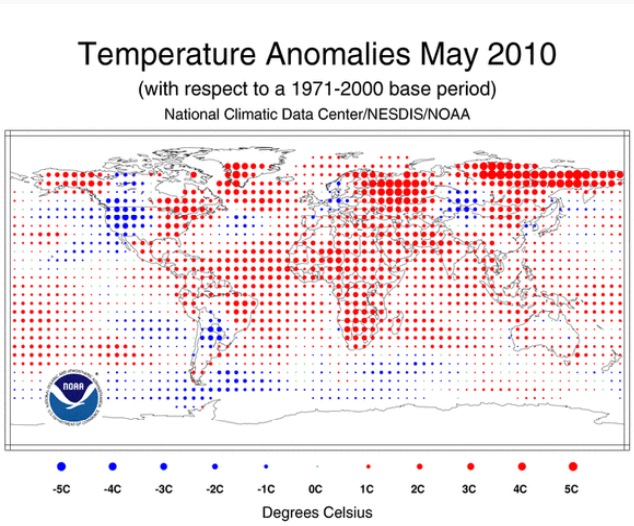
Source: Geo Risks Research, NatCatSERVICE – As at July 2010

Global Warming Sets New Records



2010:

January	4th warmest
February	6th warmest
March	1st warmest
April	1st warmest
May	1st warmest



The combined global land and ocean average surface temperature for May 2010 was 0.69°C (1.24°F) above the 20th century average of 14.8°C (58.6°F).

This is the warmest such value on record since 1880.

Source: Geo Risks Research, NatCatSERVICE – As at July 2010
Data Source: NOAA

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Economic Implications of Natural Catastrophe Losses: *First Half 2010 & Special Discussion the Deepwater Horizon Disaster*

July 7, 2010

Robert P. Hartwig, Ph.D., CPCU, President & Economist

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

Tel: 212.346.5520 ♦ Cell: 917.453.1885 ♦ bobh@iii.org ♦ www.iii.org

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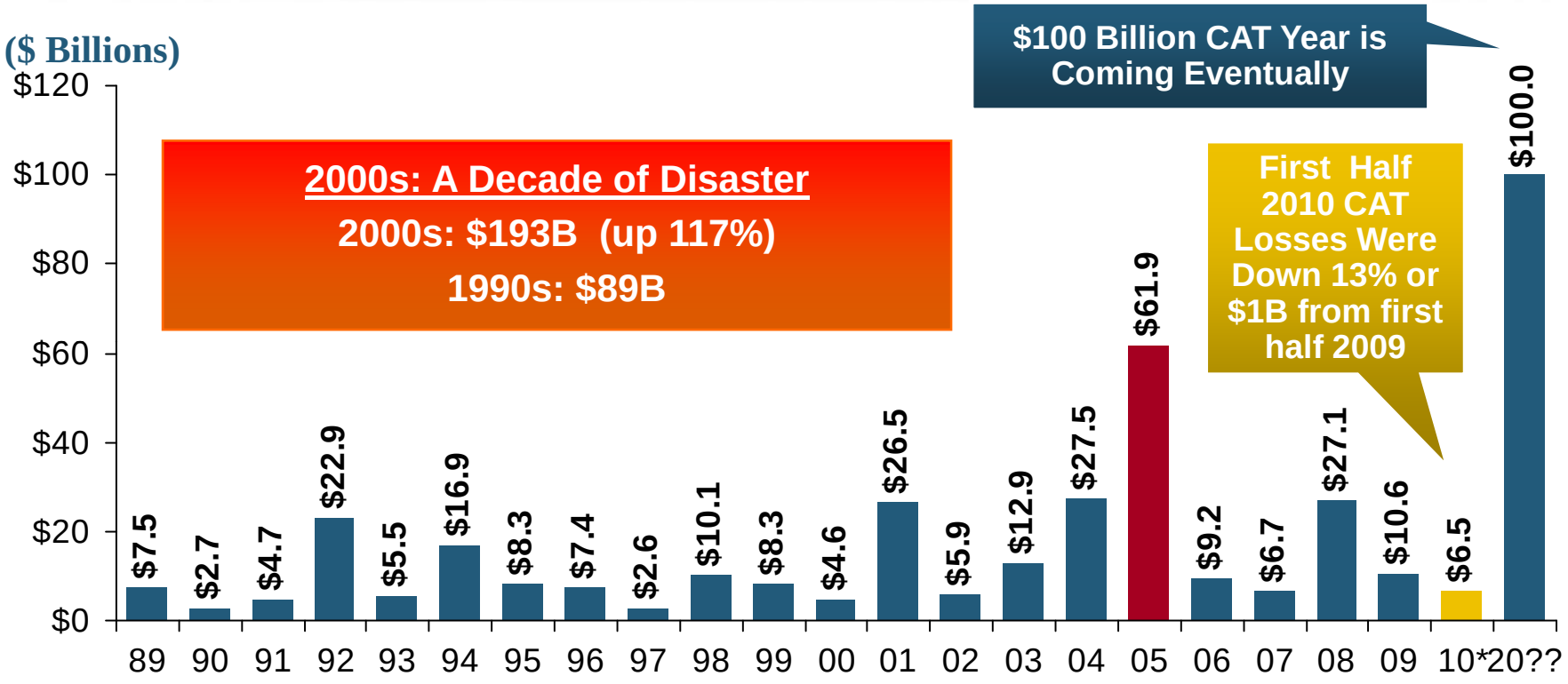
US Insured CAT Losses Through the First Half of 2010 Are Running Close to Average

US Insured Catastrophe Losses



2010 CAT Losses Are Running Below 2009, *So Far*
Figures Do Not Include an Estimate of Deepwater Horizon Loss

*Through June 30, 2010.

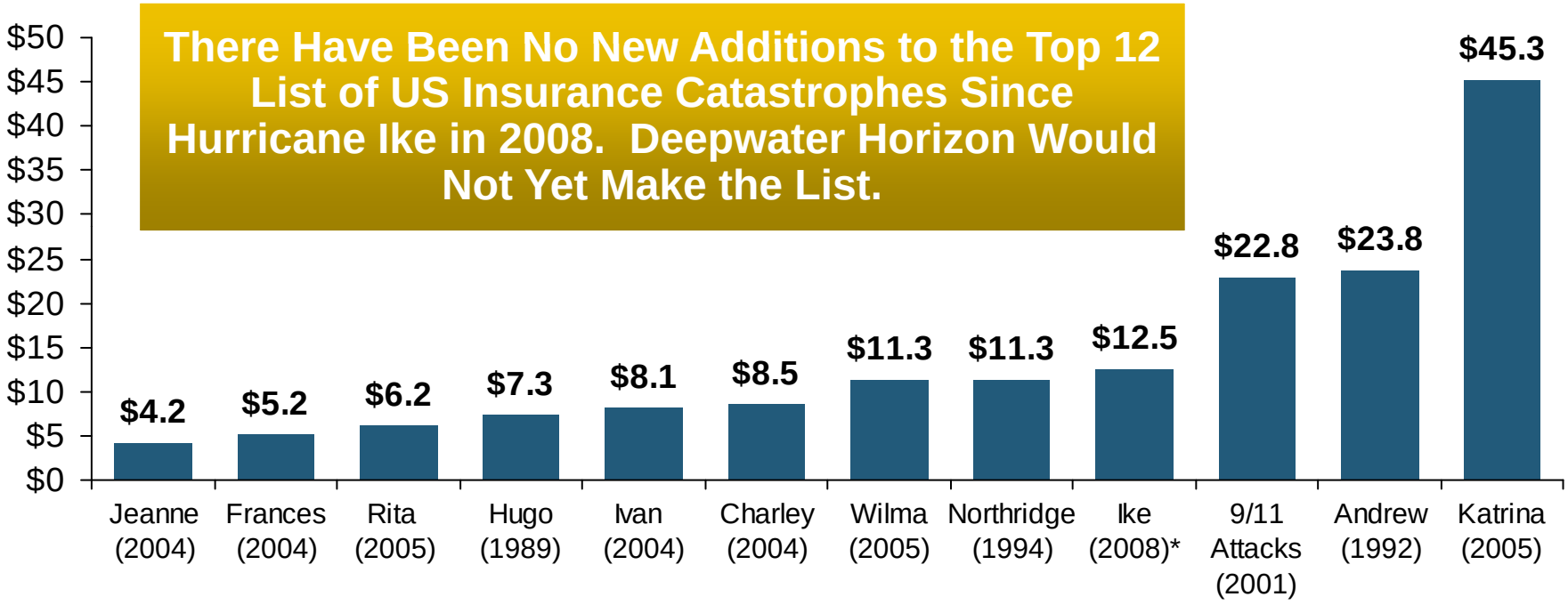
Note: 2001 figure includes $20.3B for 9/11 losses reported through 12/31/01. Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = $12.2B.

Sources: Property Claims Service/ISO; Munich Re; Insurance Information Institute.

Top 12 Most Costly Disasters in US History

INSURANCE INFORMATION INSTITUTE

(Insured Losses, 2009, $ Billions)



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.

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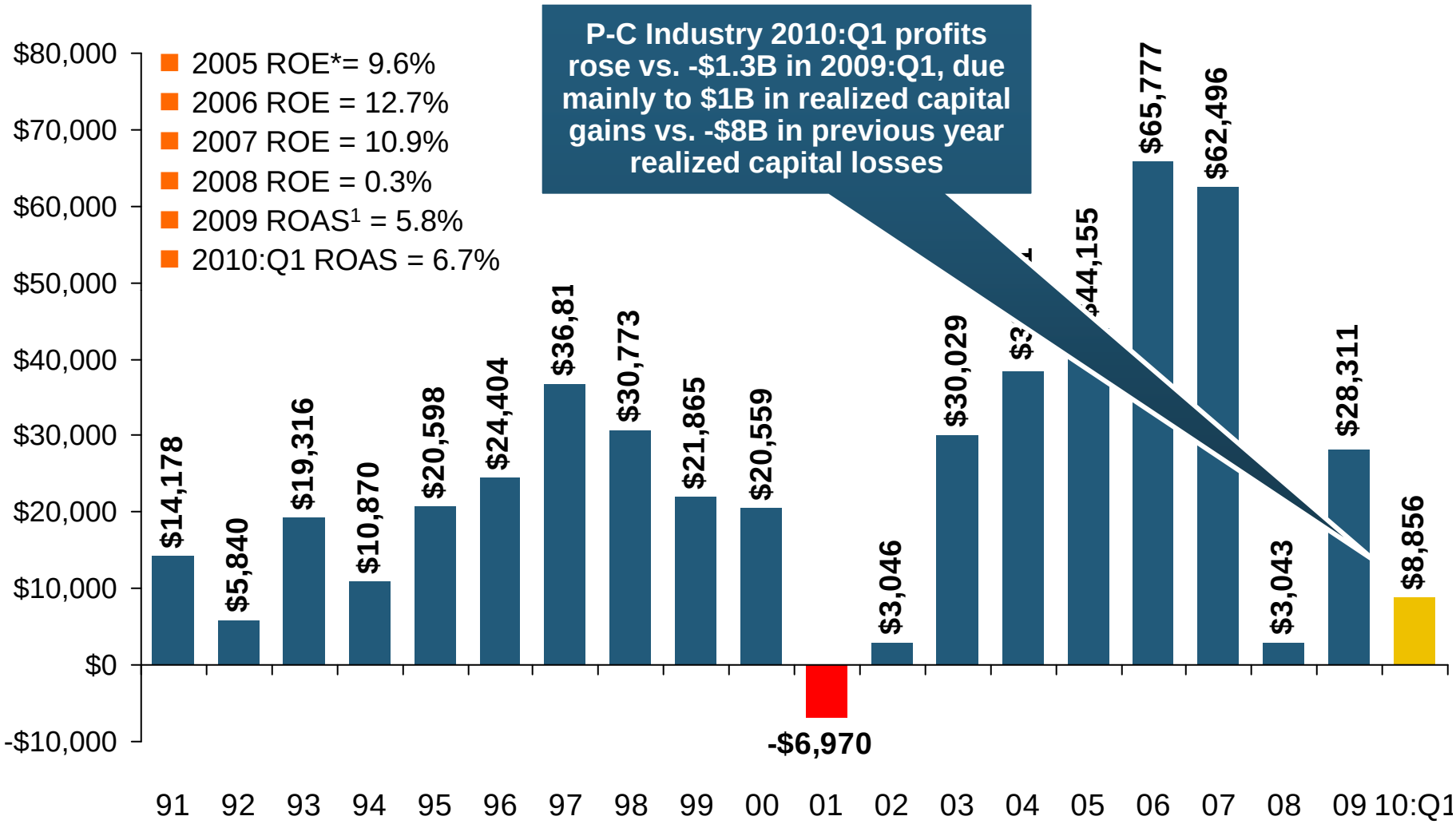
Financial Performance

Lower Catastrophe Losses, Easing of Crisis Bolstered Results

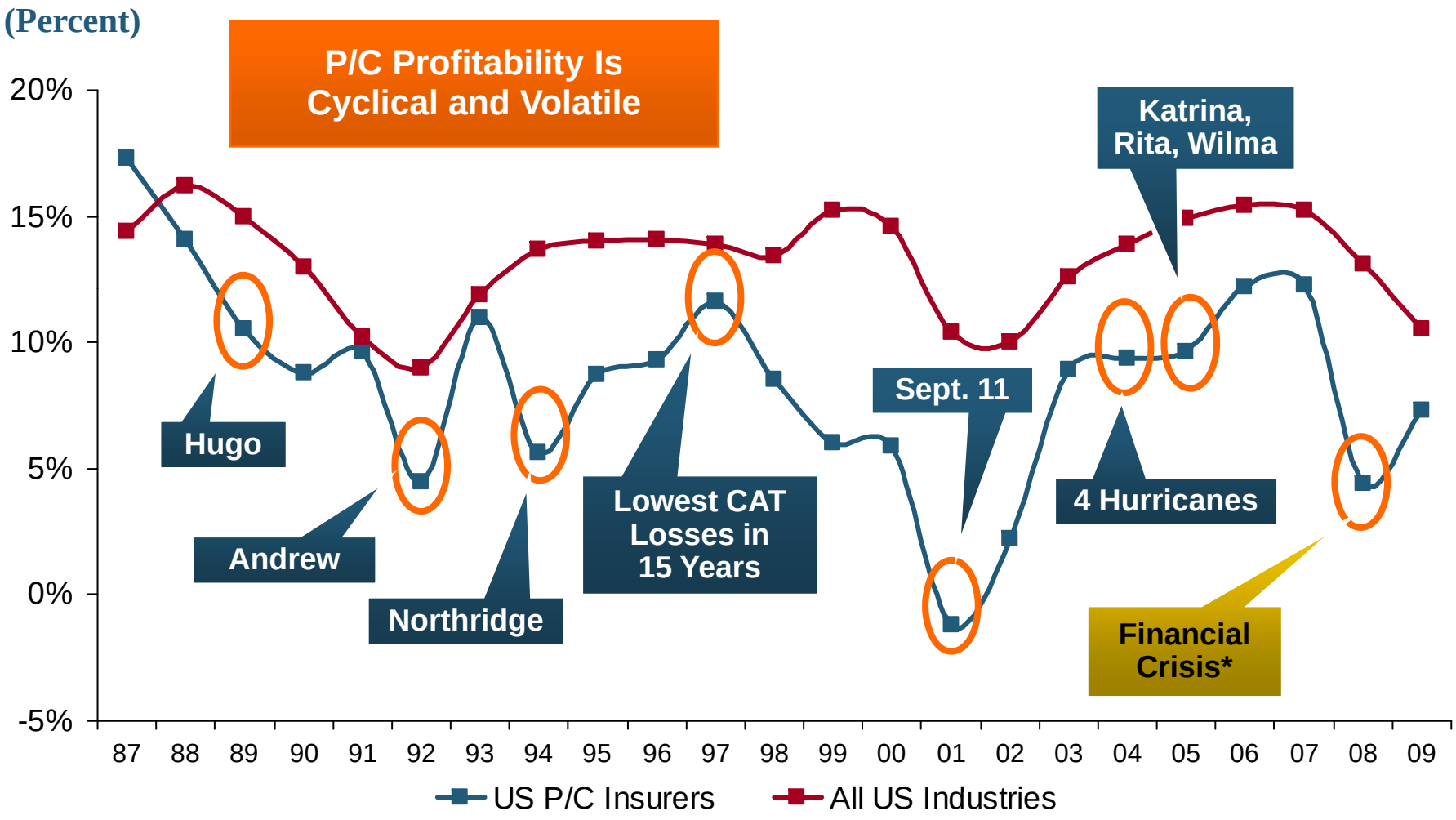
P/C Net Income After Taxes 1991–2010:Q1 ($ Millions)



* ROE figures are GAAP; [1]Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields an 8.3% ROAS for 2010:Q1, 7.3% for 2009 and 4.4% for 2008. 2009 net income was $34.5 billion and $20.8 billion in 2008 excluding M&FG.

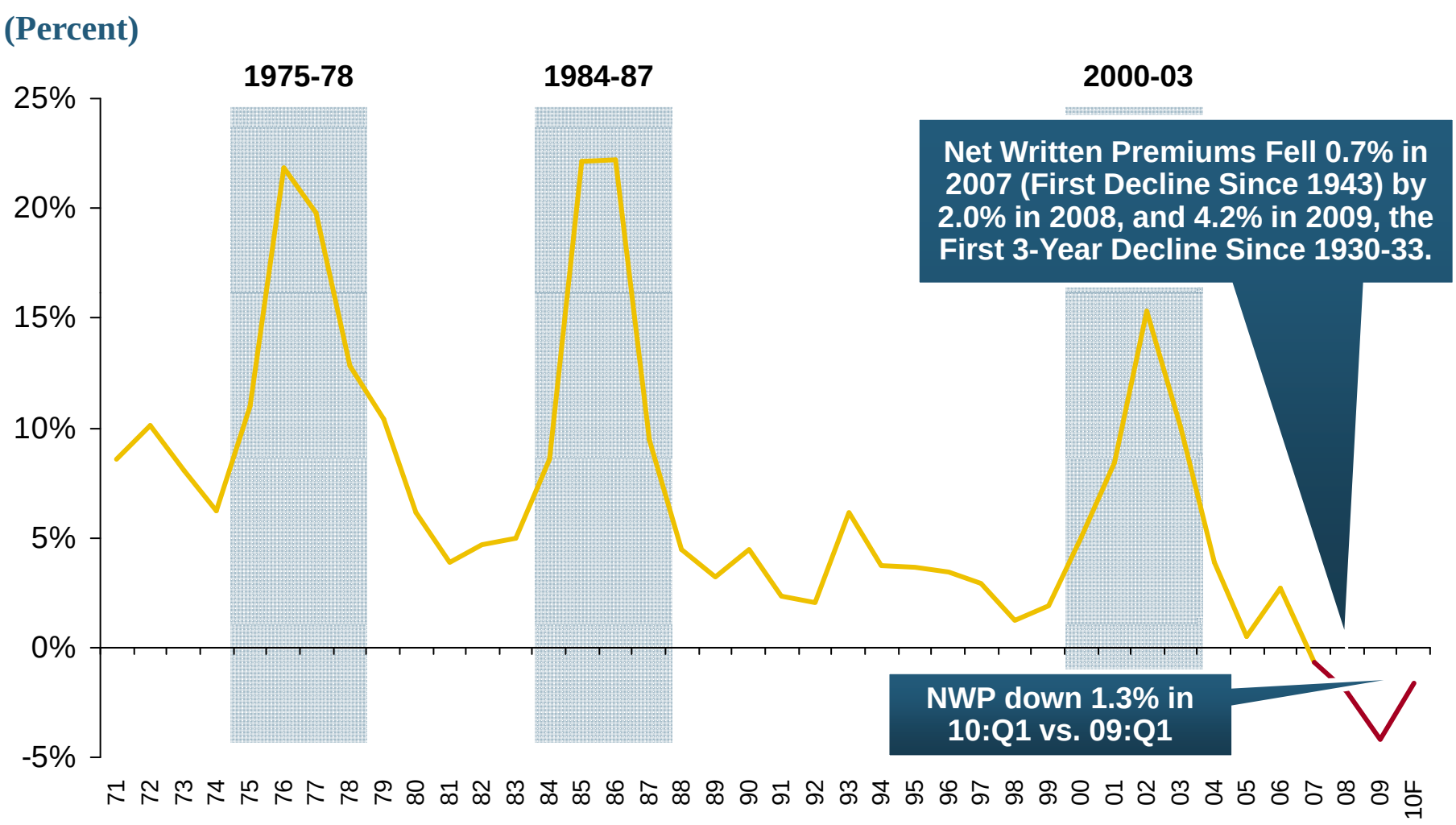
Sources: A.M. Best, ISO, Insurance Information Institute

ROE: P/C vs. All Industries 1987–2009*



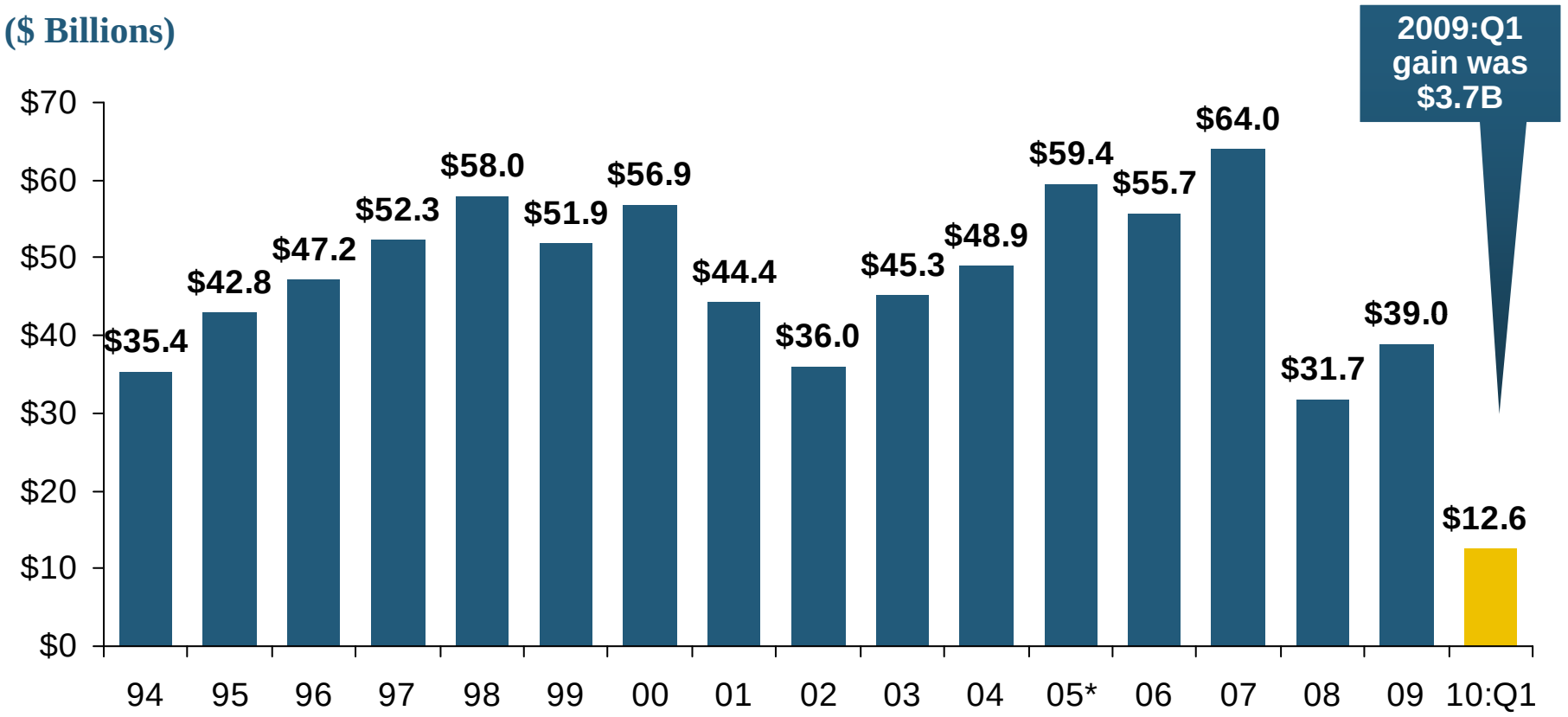
* Excludes Mortgage & Financial Guarantee in 2008 and 2009.
Sources: ISO, *Fortune*; Insurance Information Institute.

Premium Growth Remains Negative So Far in 2010: Positive Growth in 2011?



Shaded areas denote "hard market" periods
Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute.

Property/Casualty Insurance Industry Investment Gain: 1994–2010:Q1[1]



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

[1] 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.

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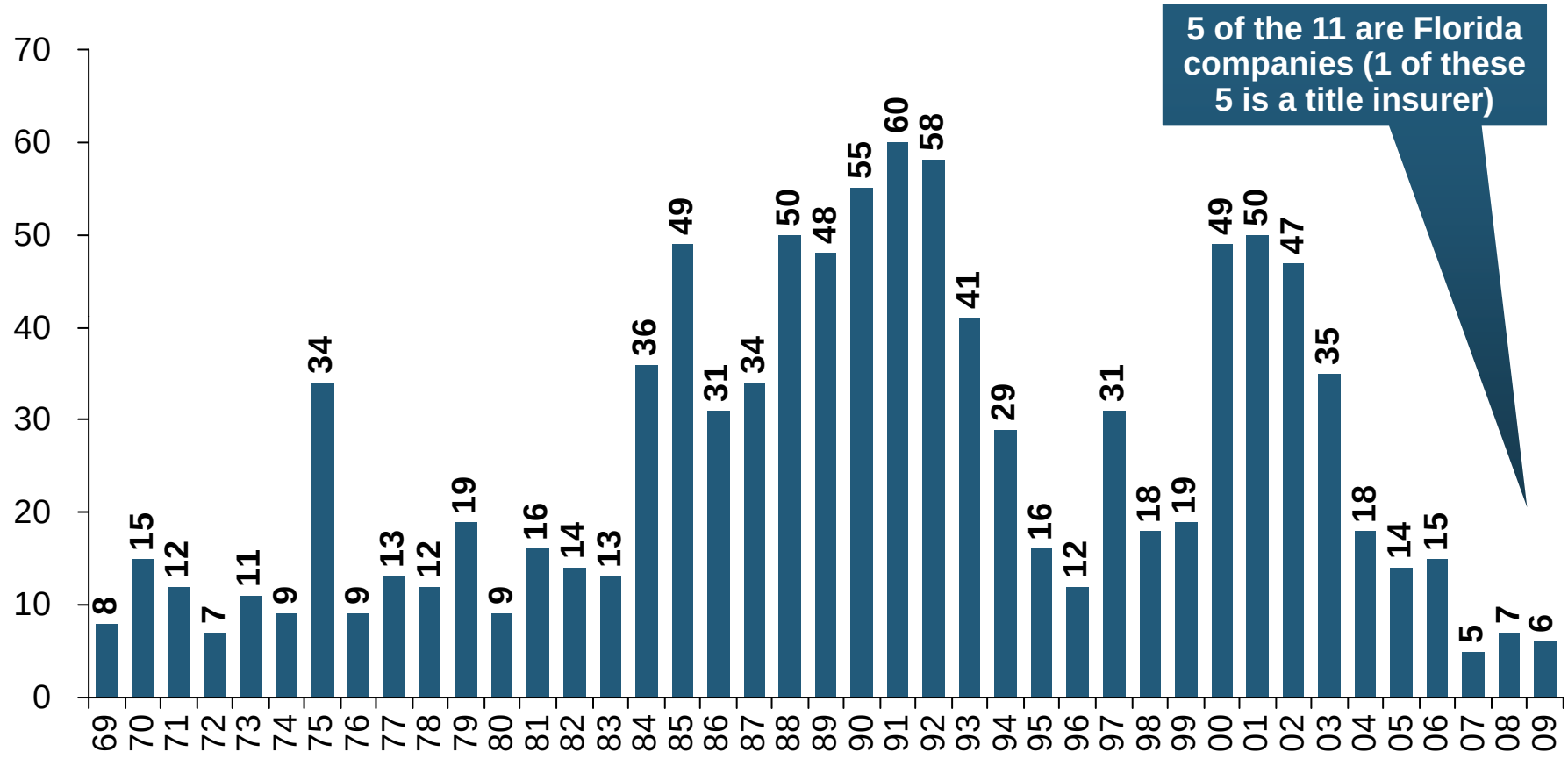
Financial Strength & Ratings

Industry Remains Strong Despite Lingering Impacts of the Global Financial Crisis

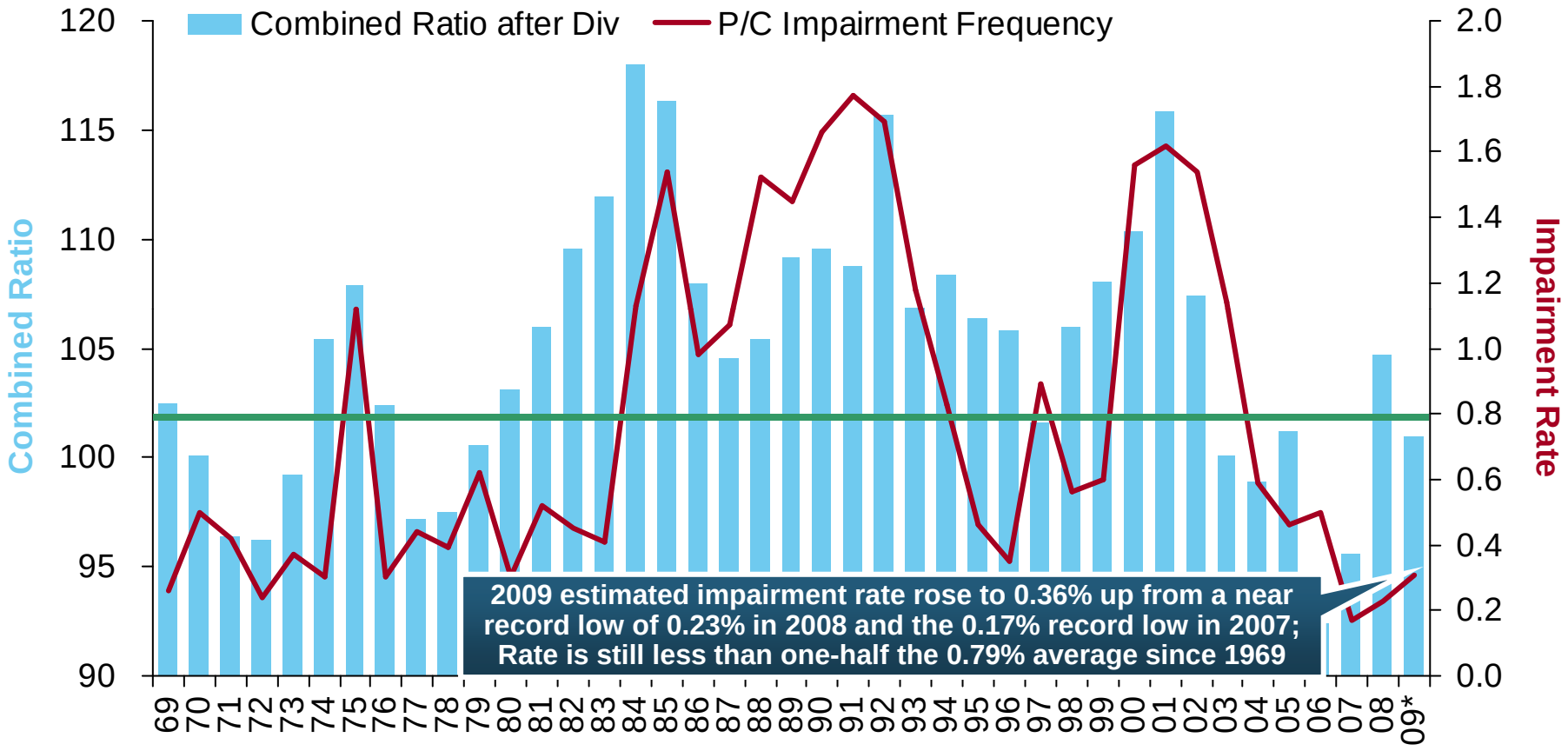
P/C Insurer Impairments, 1969–2009



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.

P/C Insurer Impairment Frequency vs. Combined Ratio, 1969-2009

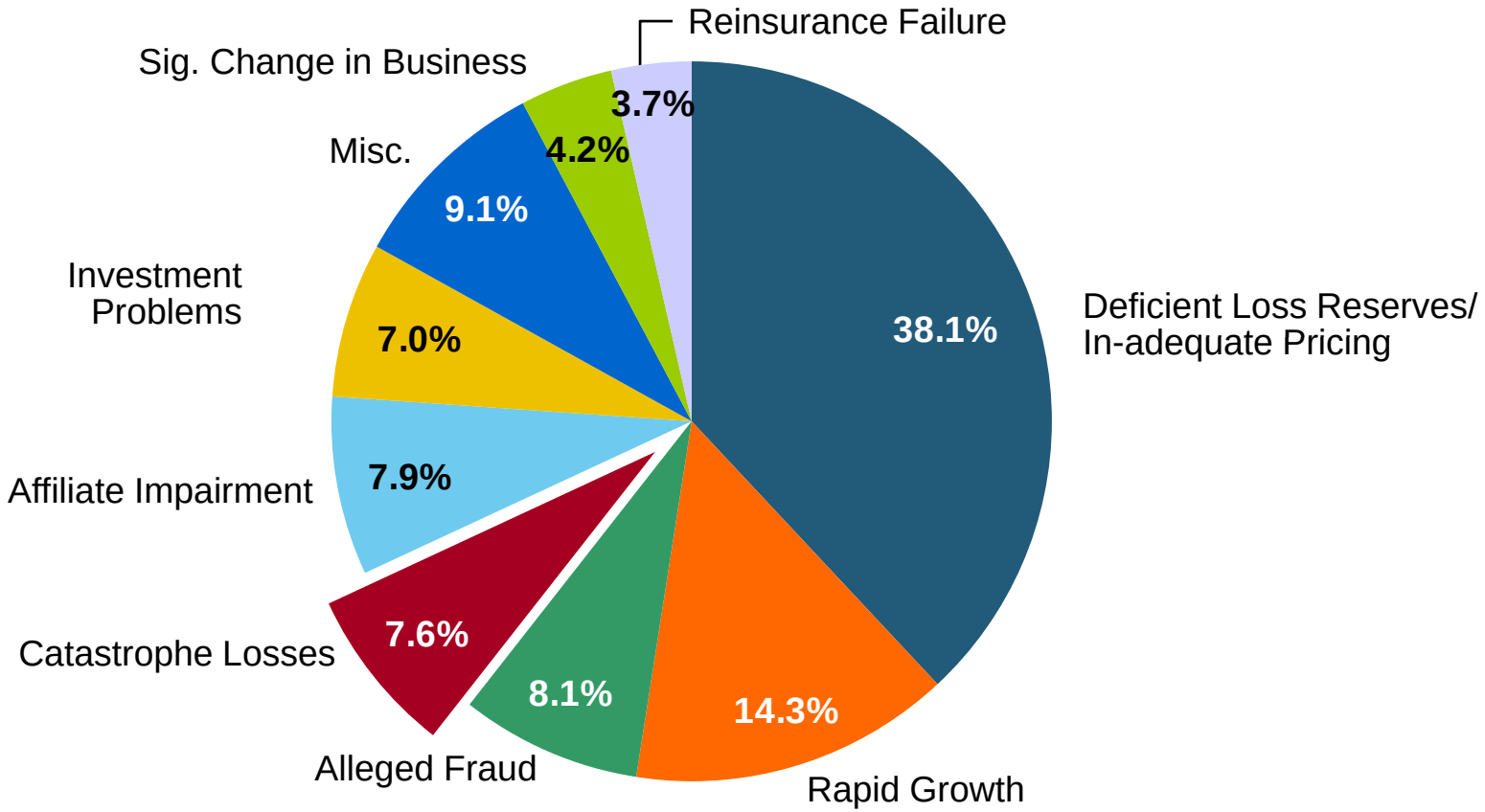


Impairment Rates Are Highly Correlated With Underwriting Performance and Reached Record Lows in 2007/08

Source: A.M. Best; Insurance Information Institute

Reasons for US P/C Insurer Impairments, 1969–2008

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



Source: A.M. Best: *1969-2008 Impairment Review*, Special Report, Apr. 6, 2008

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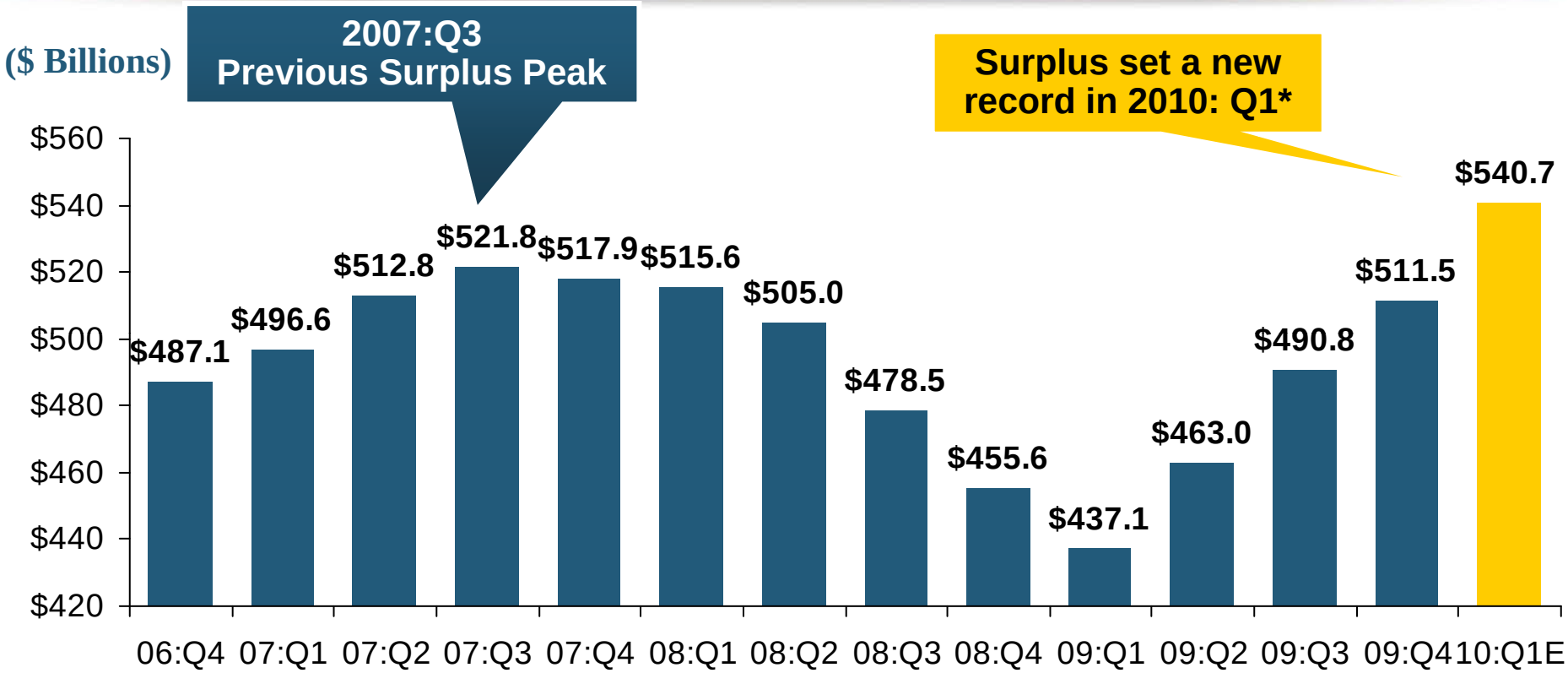
Capital/Policyholder Surplus (US)

Improving Financial Markets, Lower CAT Losses are Restoring Capacity

Policyholder Surplus, 2006:Q4–2010:Q1E



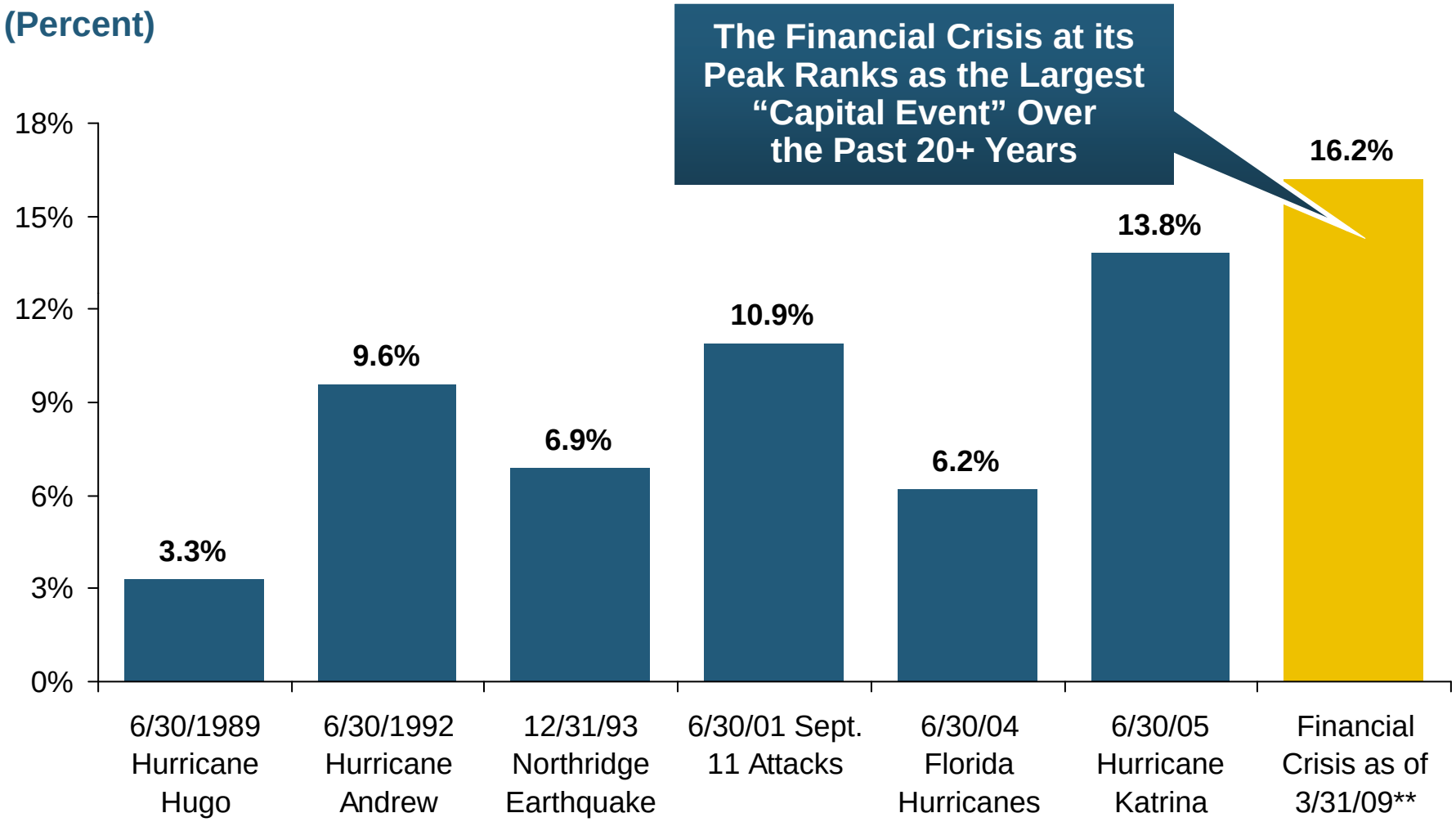
*Includes $22.5B of paid-in capital from a holding company parent for one insurer's investment in a non-insurance business

Quarterly Surplus Changes Since 2007:Q3 Peak

08:Q2: -$16.6B (-3.2%)	**09:Q2: -$58.8B (-11.2%)**
08:Q3: -$43.3B (-8.3%)	**09:Q3: -$31.8B (-5.9%)**
08:Q4: -$66.2B (-12.9%)	**09:Q4: -$10.3B (-2.0%)**
09:Q1: -$84.7B (-16.2%)	***10:Q1: +$18.9B (+3.6%)***

Sources: ISO, A.M .Best.

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



* 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

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The Deepwater Horizon Disaster: *Insurance Market Impacts*

Download Full PowerPoint Presentation at:

www.iii.org/presentations

Gulf Oil Spill Spreading As Mitigation Efforts Continue

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Officials now say that between 35,000 and 60,000 barrels per day (1.47-2.52 million gallons per day) of oil have been spilling, up from their initial estimates of 210,000 gallons or 5,000 barrels per day. Efforts continue to contain the leak and mitigate the resulting environmental damage.

Sources: NASA Satellite Imagery; U.S. Dept. of Interior.

Largest International Oil Well Blowouts by Volume, as of July 6, 2010

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Date	Well	Location	Bbl Spilled
April 20 2010-present	**Deepwater Horizon**	**Gulf of Mexico, USA**	**est. 3,750,000 thru July 6***
June 1979-April 1980	Ixtoc I	Bahia del Campeche, Mexico	3,300,000
October 1986	Abkatun 91	Bahia del Campeche, Mexico	247,000
April 1977	Ekofisk Bravo	North Sea, Norway	202,381
January 1980	Funiwa 5	Forcados, Nigeria	200,000
October 1980	Hasbah 6	Gulf, Saudi Arabia	105,000
December 1971	Iran Marine International	Gulf, Iran	100,000
January 1969	Alpha Well 21 Platform A	Pacific, CA, USA	100,000
March 1970	Main Pass Block 41 Platform C	Gulf of Mexico	65,000
October 1987	Yum II/Zapoteca	Bahia del Campeche, Mexico	58,643
December 1970	South Timbalier B-26	Gulf of Mexico, USA	53,095

*Based on estimate of 50,000 barrels per day for 75 days derived from from Flow Rate Technical Group whose members include U.S. Geological Survey (USGS), NOAA, Bureau of Ocean Energy Management (part of DOE) and outside academics. Does not include offset for any amounts recovered.

Source: American Petroleum Institute (API), 09/18/2009; http://www.api.org/ehs/water/spills/upload/356-Final.pdf and updates from the Insurance Information Institute.

Insured Losses Significant, But Manageable

- **Insured Loss:**
  - The loss is a major event for the offshore energy insurance and reinsurance market
  - Companies with direct exposure to the Deepwater Horizon oil rig are insured for losses totaling between $1.4 billion and $3.5 billion, according to initial reports
  - The risks are well-syndicated, with the insured loss spread across a broad range of insurers and reinsurers on a global scale
  - Since BP, which owns 65% of the Deepwater Horizon consortium self insures, a large portion of the losses ***will not*** hit the insurance industry.
  - Lawsuits against equipment manufacturers, suppliers and sub-contractors, and business interruption claims, will likely increase total insured losses.
  - BP said it will assume liability for all legitimate claims caused by the oil spill. Primary liability for clean up costs will be with BP consortium.

Source: Insurance Information Institute (I.I.I.); Barclays Capital research note 05/10/10; Credit Suisse research note 05/11/10

Deepwater Horizon Oil Rig Loss: Types of Coverage That Might Apply

- **Business Interruption/Loss of Production Income:** provides coverage for energy businesses against loss due to temporary interruption in oil/gas supply from an offshore facility as a result of physical loss or damage to an offshore facility.
- **Comprehensive General Liability:** provides coverage for claims an energy business is legally obligated to pay as a result of bodily injury or property damage to a third party.
- **Environmental/Pollution Liability:** provides coverage for bodily injury, property damage, and clean up costs as a result of a pollution incident from a designated site.
- **Operators' Extra Expense (Control of Well):** provides coverage for costs incurred by energy businesses when regaining control of a well after a "blowout". Coverage may include redrilling expenses incurred in the restoration of a well after a 'blowout' as well as the legal expenses emanating from an incident such as the sinking of a rig, or oil spill.
- **Physical Damage:** provides coverage for physical damage or loss to a company's offshore property and equipment, including offshore fixed platforms, pipelines and production and accommodation facilities.
- **Workers compensation/employers liability:** covers energy businesses for claims arising out of injury or death of employees incurred while in the line of duty.

Source: http://www.iii.org/insuranceindustryblog/; http://www.iii.org/articles/offshore_energy_facilities_insurance_considerations.html

Top 20 Property Damage Losses in the Hydrocarbon Industry (1)

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Rank	Date	Plant type	Event type	Location	Property Loss (2) U.S. $ Millions
1	Jul. 7, 1988	Upstream	Fire/explosion	North Sea, UK (Piper Alpha)	$1,600
2	Oct. 23, 1989	Petrochem	Vapour cloud explosion	Texas, USA	1,300
3	Mar. 19, 1989	Upstream	Fire/explosion	Gulf of Mexico, USA	750
4	Sep. 12, 2008	Refinery	Hurricane	Texas, USA	750
5	Jun. 4, 2009	Upstream	Collision	North Sea, Norway	750
6	Aug. 23, 1991	Upstream	Structural Failure	Sleipner, North Sea, Norway	720
7	May 15, 2001	Upstream	Explosion/fire/sinking	Campos Basin, Brazil	710
8	Sep. 25, 1998	Gas processing	Vapour cloud explosion	Victoria, Australia	680
9	Apr. 15, 2003	Upstream	Riot	Escravos, Nigeria	650
10	Apr. 24, 1988	Upstream	Fire	Campos Basin, Brazil	640
11	Sep. 21, 2001	Petrochem	Explosion	Toulouse, France	610
12	Jun. 25, 2000	Refinery	Vapour cloud explosion	Mina Al-Ahmadi, Kuwait	600
13	May 4, 1988	Petrochem	Explosion	Nevada, USA	580
14	Jan. 19, 2004	Gas processing	Fire/explosion	Skikda, Algeria	580
15	May 5, 1988	Refinery	Vapour cloud explosion	Louisiana, USA	560
16	Nov. 1, 1992	Upstream	Mechanical damage	North West Shelf, Australia	470
17	Nov. 14, 1987	Petrochem	Vapour cloud explosion	Texas, USA	430
18	Dec. 25, 1997	Gas processing	Fire/explosion	Sarawak, Malaysia	430
19	Jul. 27, 2005	Upstream	Fire/explosion	Mumbai High field, India	430
20	Jan. 20, 1989	Upstream	Blowout	North Sea, Norway	410

Deepwater Horizon will become among the top two most expensive property losses in history for energy insurers.

Some 167 crew members lost their lives in a July, 1988 fire and explosion aboard the Piper Alpha oil platform in the North Sea. The incident caused property damage losses of $1.6 billion in 2009 dollars. Losses for the ongoing Gulf oil spill are still being tallied.

(1) According to the report, "these costs, to the extent insurance is applicable, are paid by property ins. underwriters
(2) Inflated to December 2009 values.
Source: Marsh Energy Practice.

Sample of Most Costly Oil Tanker Spills*

Date	Spill Name	Location	Estimated Size of Loss
1989	EXXON VALDEZ	Alaska	Clean up: $2.5 billion. Total costs (incl. fines, penalties and claims settlements): $7 billion. Court cases continue, final costs unknown.
1978	AMOCO CADIZ	France	Est. cost $282 million, of which about half for legal fees and accrued interest.
1993	BRAER	UK	Est. cost $83 million. Clean up costs extremely low. Some $61 million paid out in fishery-related damages.
1996	SEA EMPRESS	UK	Clean up: $37 million. Total costs: more than $60 million.
1997	NAKHODKA	Japan	Compensation settled at approx. $219 million.
1999	ERIKA	France	Claims still being processed. Likely to exceed the $180 million available under '92 Civil Liability and Fund Conventions.

*Where published data is available, caution is advised, as certain notoriously expensive cases can easily skew the analysis

Sources: International Tank Owners Pollution Federation; http://www.itopf.com/spill-compensation/cost-of-spills/

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Hurricanes & Oil Spills

What Does History Tell Us?

Probabilty of Landfall of at Least One Major Hurricane (CAT 3-4-5) in 2010*

Region	Average Over Last Century	2010 Forecast*
Entire U.S. Coastline	52%	76%
U.S. East Coast Incl. FL Peninsula	31%	51%
Gulf Coast from FL Panhandle to Brownsville, TX	30%	50%
Caribbean	42%	65%

The Probability of a Major Hurricane Making Landfall Somewhere Along the US Coast is Greatly Elevated in 2010, Including a 50% Chance Along the Oil Spill-Impacted Gulf Coast

*Forecast as of June 2, 2010.
Source: Colorado State University, Department of Atmospheric Sciences; Insurance Information Institute.

Outlook for 2010 North Atlantic Hurricane Season*

Forecast Parameter	Average (1950-2000)	2010 Forecast*
Named Storms	9.6	18
Named Storm Days	49.1	90
Hurricanes	5.9	10
Hurricane Days	24.5	40
Major Hurricanes	2.3	5
Major Hurricane Days	5.0	13
Accumulated Cyclone Energy	96.1	185
Net Tropical Cyclone Activity	**100%**	**195%**

The 2010 Hurricane Season is Expected to Be Nearly Twice as Active as the Long-Run Average (195% of Normal)

*Forecast as of June 2, 2010.
Source: Colorado State University, Department of Atmospheric Sciences; Insurance Information Institute.

What Would a Hurricane Do to the Deepwater Horizon Oil Spill?

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- **What history tells us:**

- A hurricane has never passed over a sizable oil spill before, so there is considerable uncertainty about what might happen.
- The closest call was after the Ixtoc I blowout Jun. 1979 – Apr. 1980. Category 1 Hurricane Henri passed just north of the main portion of the oil spill on Sept. 16 and 17.
- A NOAA/AOML report on the Ixtoc spill found that the winds did not blow long enough or strongly enough to control the direction of the oil flow.
- However, the combination of swells from Hurricane Henri and wind-driven waves from a non-tropical low pressure system scoured beaches of over 90% of their oil.
- Ixtoc blowout experience shows us that if a sandy beach is already fouled by oil, a hurricane can help clean up the mess. However, along shores with marshlands, the majority of oil will probably remain stuck.

Source: Dr. Jeff Masters' WunderBlog 05/26/10

What Would a Hurricane Do to the Deepwater Horizon Oil Spill?

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- **Transport of oil by hurricanes:**

- Shores that are already fouled by oil may benefit from a hurricane, but the oil cleaned off those shores then becomes someone else's problem.
- A hurricane moving through the Gulf of Mexico spill will very likely result in much higher damage to the coast, spreading the oil over a larger region and bringing oil to shore, even if diluted.
- Loop Current eddy: oil moving south due to a hurricane's winds may get trapped in the 250-mile wide eddy, resulting in broad spinning oil slick stuck in Gulf of Mexico for days or weeks after a hurricane, leading to a warming effect on the Gulf waters.
- Loop Current eddies often act as high-octane fuel for hurricanes. Warming of eddy by oil pulled into it by a passing hurricane could lead to explosive intensification of next hurricane that passes over the eddy.
- Rapid intensification of Hurricanes Katrina and Rita were both aided by the passage of those storms over Loop Current eddies.

Source: Dr. Jeff Masters' WunderBlog 05/26/10

What Would a Hurricane Do to the Deepwater Horizon Oil Spill?

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- **Other unknowns:**

- ***Storm surge and oil:*** if a hurricane hits the oil spill what would the hurricane's storm surge do with the oil/dispersant mixture? Potential impact on residential areas and vegetation.
- ***Winds and oil:*** winds from a hurricane hurl ocean sea spray miles inland, often causing major defoliation and tree damage far beyond where the storm surge penetrates.
- ***Rain and oil:*** hurricanes evaporate huge amounts of water from the ocean and convert it to rain. In general, no need to worry about oil dissolving into the rain, since oil and water don't mix.
- ***Lightning and oil:*** hurricane winds are so fierce that any surface oil slick of flaming oil would quickly be disrupted and doused by wave action and sea spray.

Source: Dr. Jeff Masters' WunderBlog 05/26/10

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Florida is America's Most Dysfunctional but Not Most Uninsurable Property Insurance Market

Rate Suppression, Not Hurricanes Are the Principal Source of Dysfunctionality

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Florida is America's #1 Catastrophe Problem

Exposure is Huge and Can Only Grow in the Future Despite Real Estate Collapse

Total Value of Insured Coastal Exposure in 2007*

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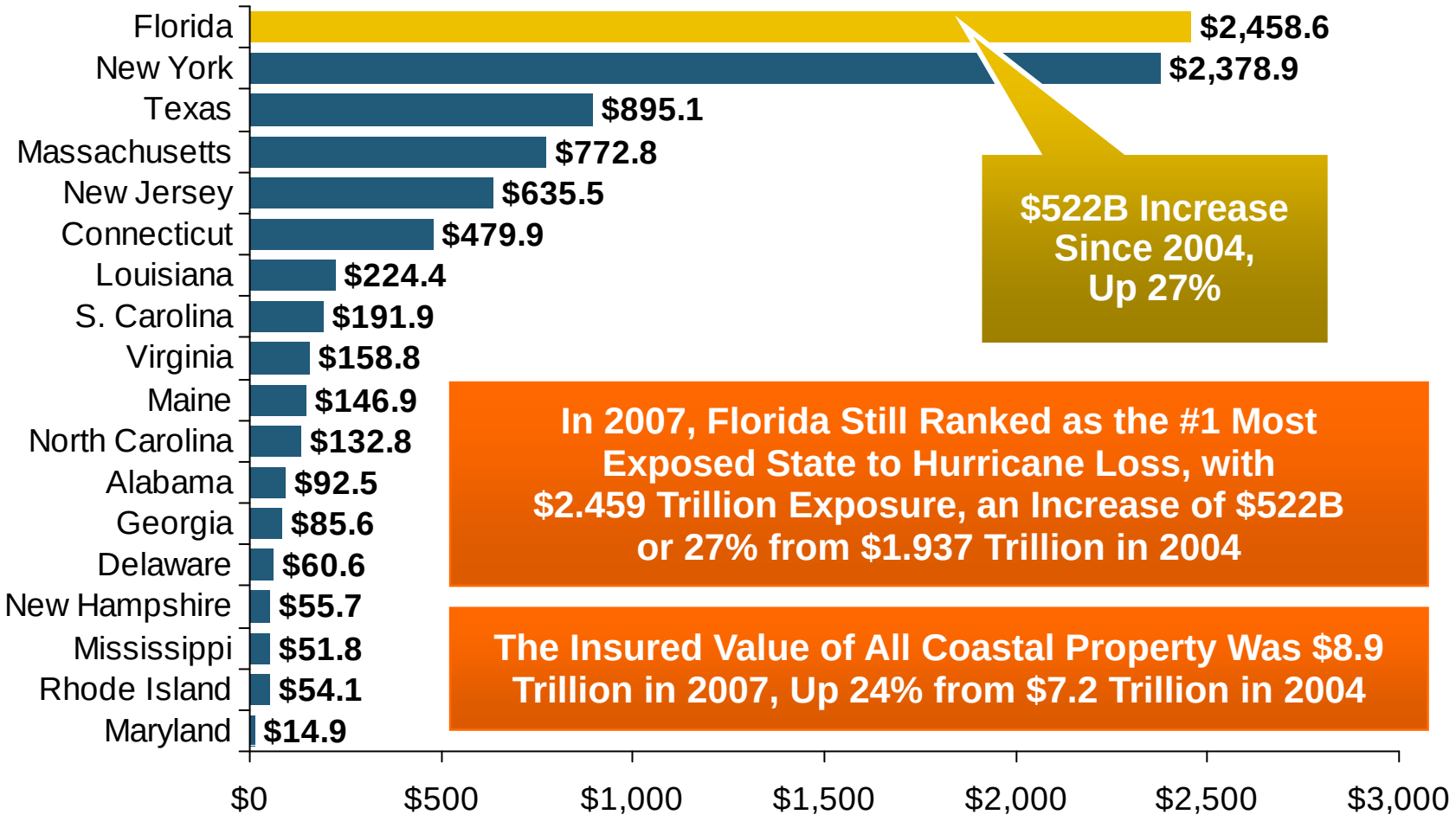
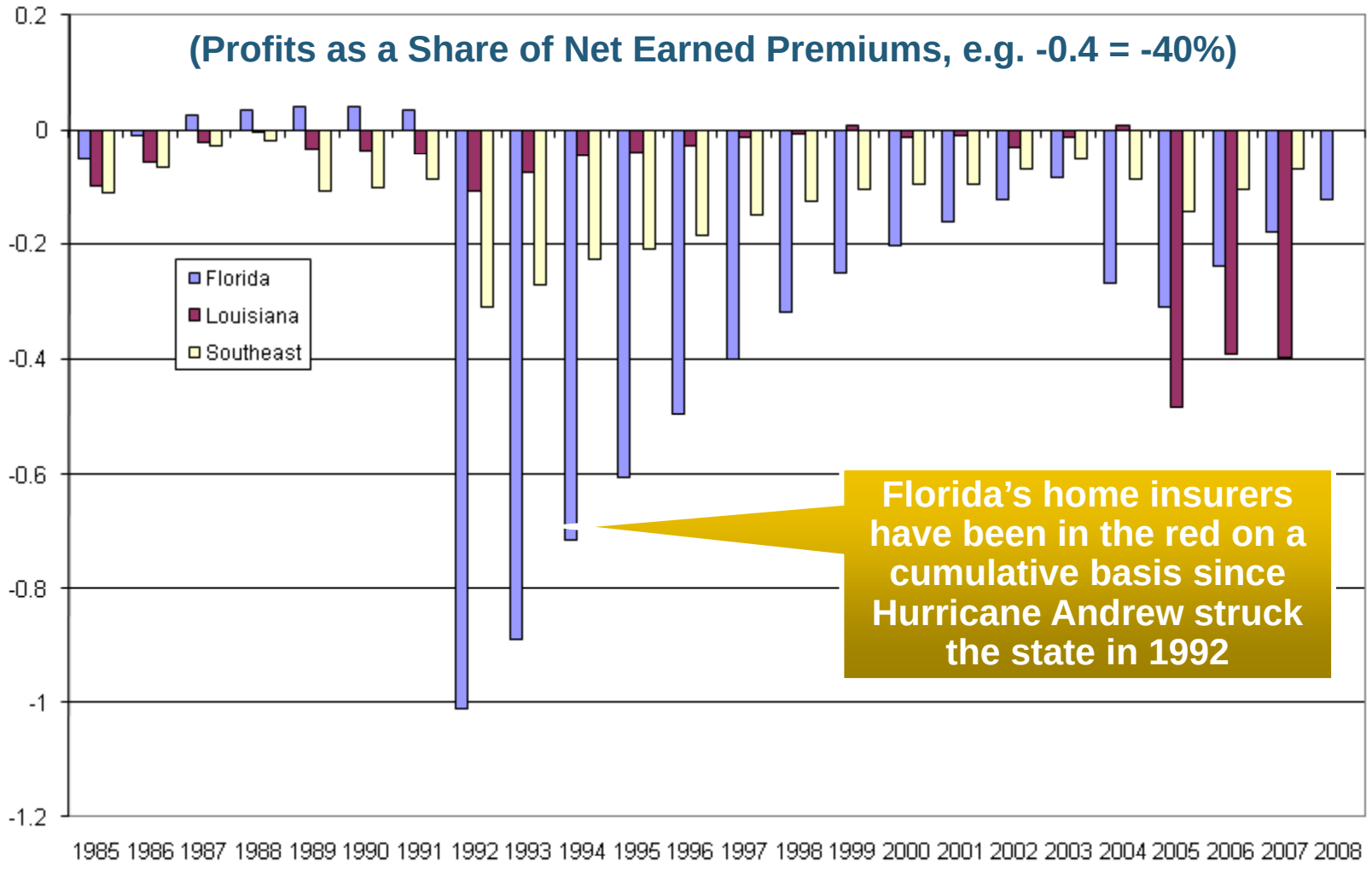
($ Billions)



*Latest available.
Source: AIR Worldwide

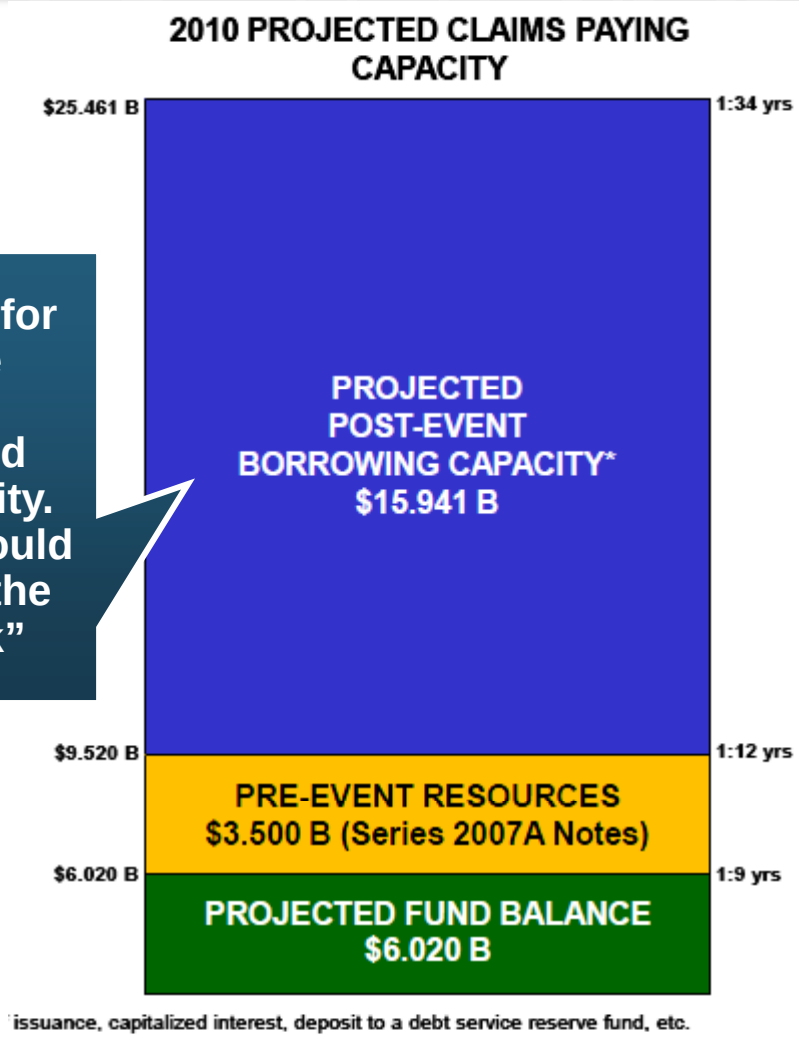
Cumulative Profits on Homeowners Insurance Transactions in FL: 1985–2008



Note: Southeast states are AL, FL, GA, LA, MS, NC, SC and TX.

Source: Robert W. Klein (2009), "Hurricane Risk and Property Insurance Markets: An Update and Extension," Wharton Risk Center Working Paper #2009-10-07 based on data from NAIC Report on Profitability by Line by State and author's calculations.

Overview of FHCF Claims-Paying Capacity Funding Sources, Assuming 100% TICL Take-Up, 2010



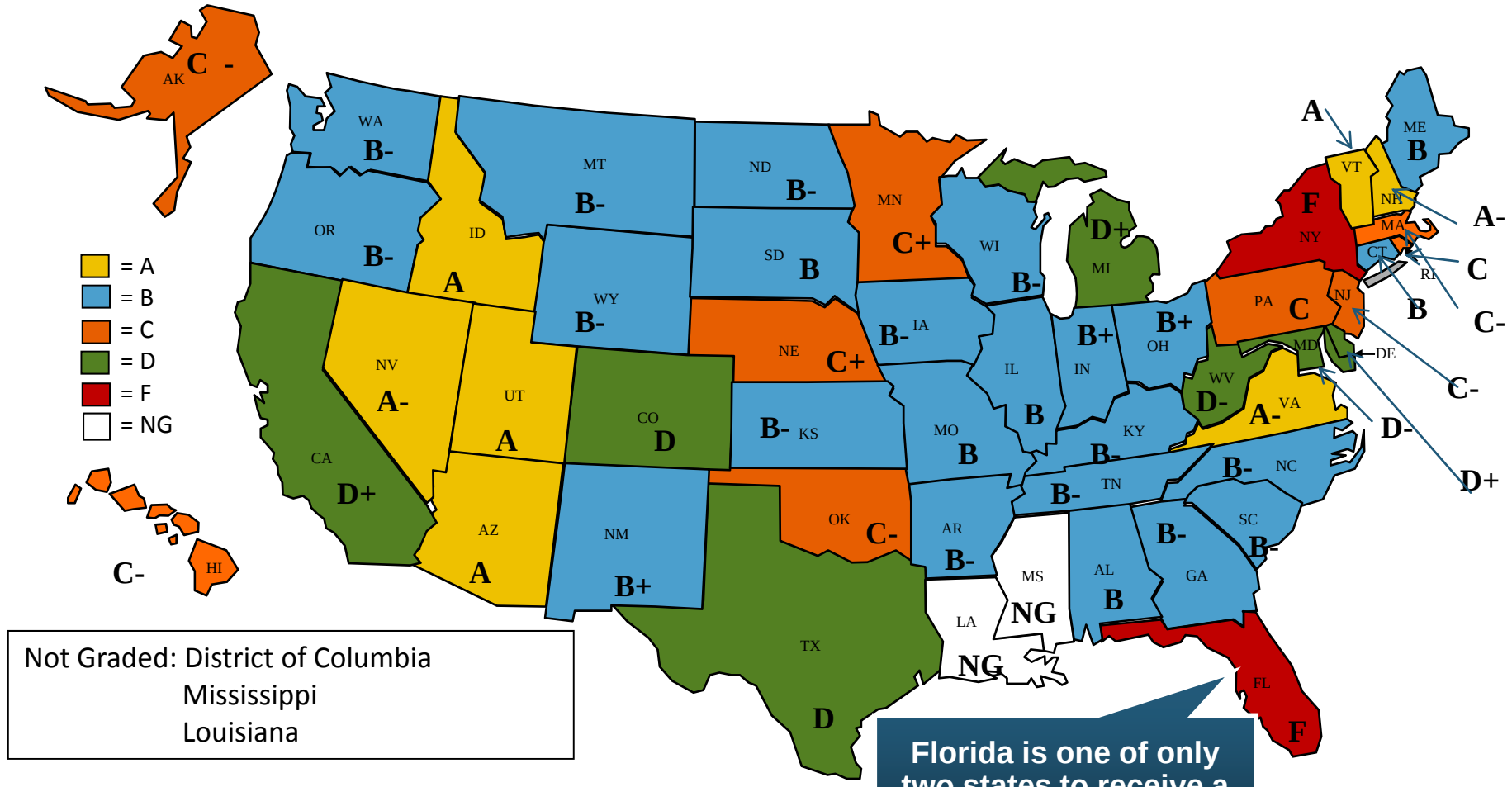
Borrowing accounts for the majority of the FHCF's theoretical/projected claims paying capacity. A private reinsurer would be required to have the "money in the bank"

Heavy Reliance on Borrowing Brings Many Risks

- **-Capacity shortfall**
- **-Credit market seizures**
- **-Interest rate spikes**
- **-Vulnerability to global systemic financial market risk**
- **-Credit risk**

Source: Florida Hurricane Catastrophe Fund, *Claims Paying Capacity*, May 2010; Insurance Information Institute.

2010 Property and Casualty Insurance Report Card: Regulatory Burden



Source: Heartland Institute, *2010 Property and Casualty Report Card: A State-by-State Analysis of Regulatory Burden,* May 2010.

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