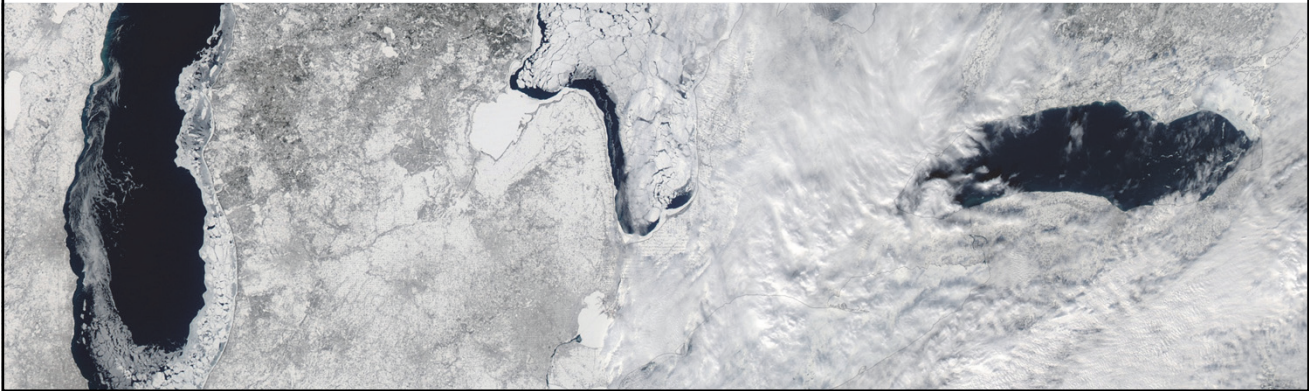


US/Global Natural Catastrophe Update



NAIC's CIPR Symposium on Implications of Increasing Catastrophe Volatility on Insurers

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



MR NatCatSERVICE

The world's largest database on natural catastrophes



NATCATSERVICE
Natural catastrophe know-how for
risk management and research

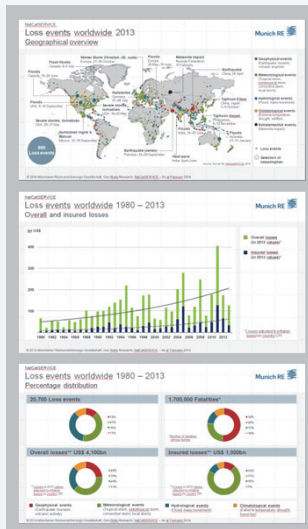


The Loss Database Today

- 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 35,000 events**

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The world's largest database on natural catastrophes



The downloadcenter provides **free** access:

- Annual statistics
- Long-term statistics
- Information on significant natural disasters
- Focus analyses
- NatCatSERVICE methodology, info brochure
- Publication Topics Geo

www.munichre.com/touchnaturalhazards/en

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US Natural Catastrophe Update

US Headlines – First Half 2014



- Insured losses in the United States in 2013 totaled \$8.6 billion – far below the 2000 to 2013 average loss of \$28.2 billion (in 2014 Dollars).
- The eastern United States experiences its coldest winter in over a decade; Resulting damage is estimated to exceed \$2 billion.
- Late onset of tornado season, caused by the extended winter, results in lowest level of insured thunderstorm loss in the past seven years.
- Early wildfire season onset in California due to persistent drought conditions.
- Minor earthquake shakes Los Angeles Basin.

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Natural disaster losses in the U.S. 2014



Based on perils

As of July 1, 2014	Number of Events	Fatalities	Estimated Overall Losses (US \$m)	Estimated Insured Losses (US \$m)
Severe Thunderstorm	27	58	8,200	6,200
Winter Storms & Cold Waves	11	84	3,400	2,400
Flood, flash flood	9	1	10	-
Earthquake & Geophysical, landslides	5	44	20	-
Tropical Cyclone	-	-	-	-
Wildfire, Heat Waves, & Drought	8	1	770	-
Totals	60	188	12,400	8,600

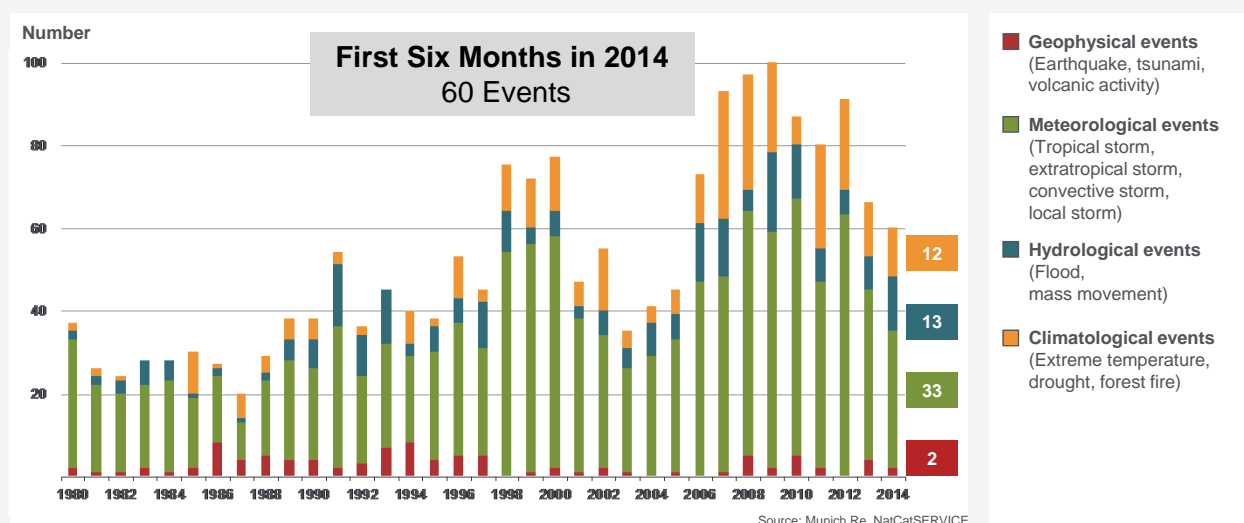
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Loss events in the U.S. 1980 – 2014



Number of events (January – June only)

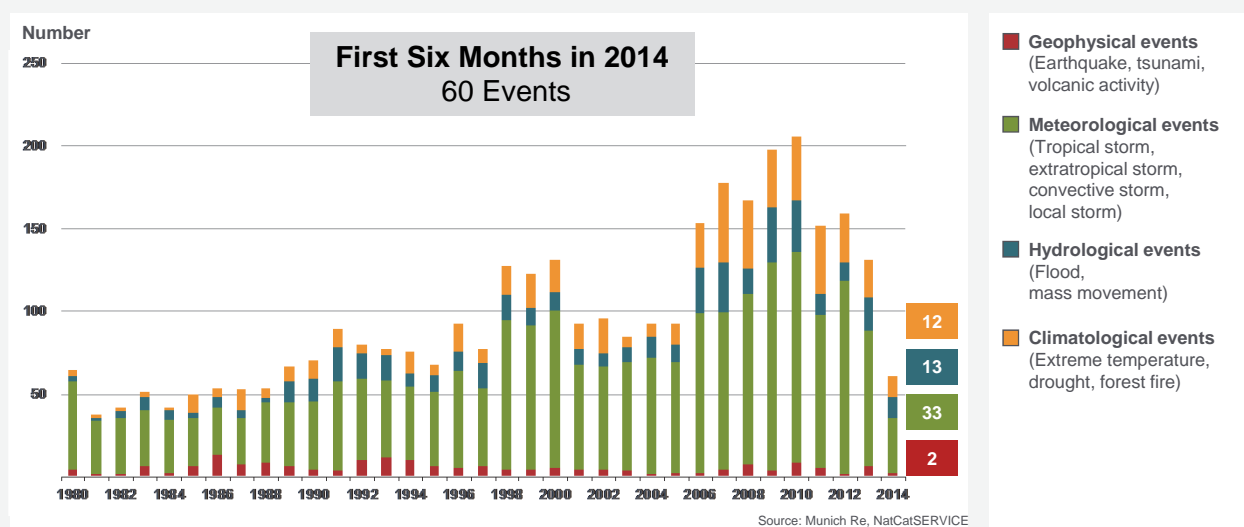


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Loss events in the U.S. 1980 – 2013

Number of events (annual totals 1980 – 2013 vs. first six months 2014)

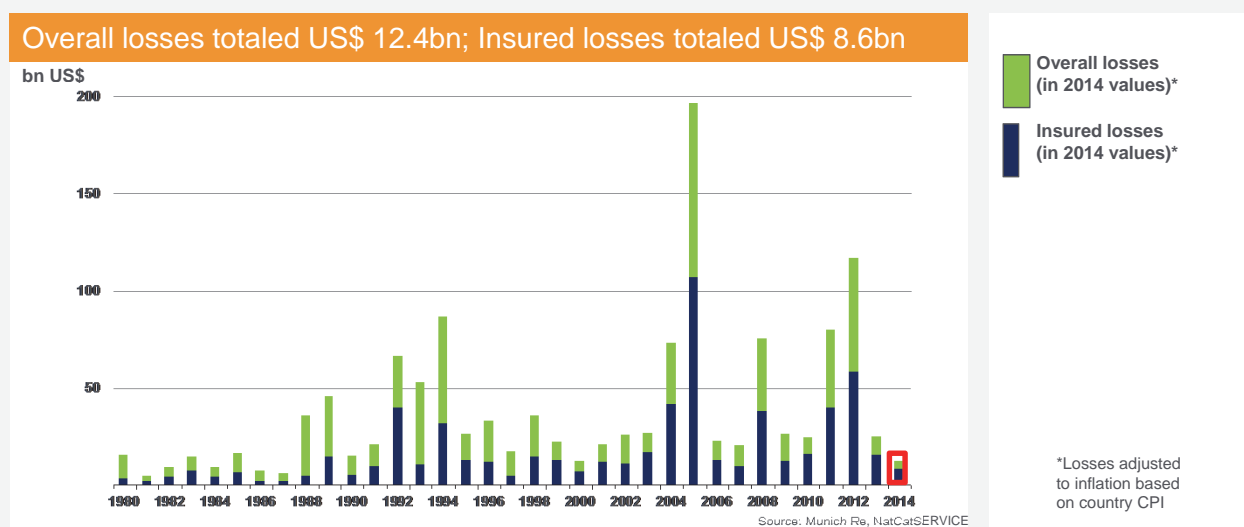


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Loss events in the U.S. 1980 – 2014

Overall and insured losses (annual totals 1980 – 2013 vs. first six months 2014)



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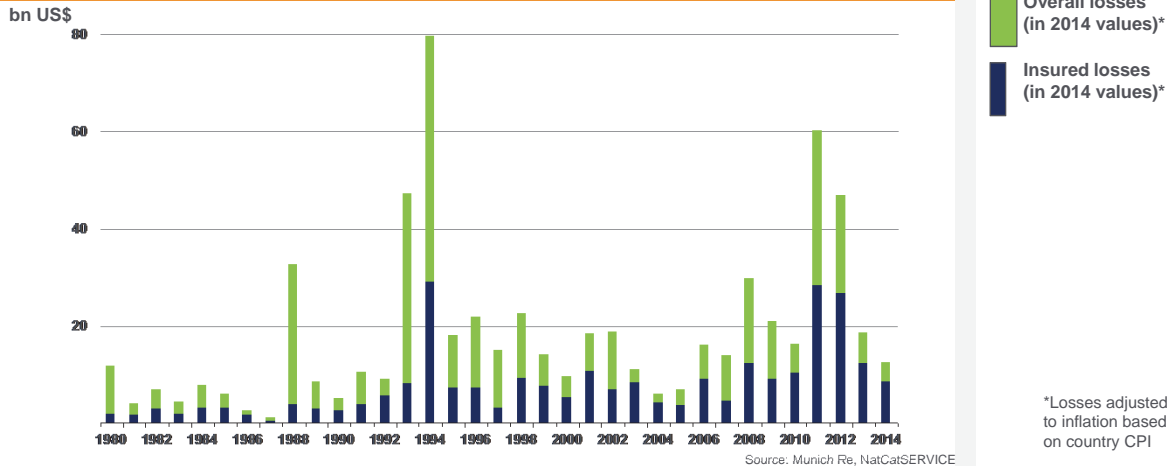
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Loss events in the U.S. 1980 – 2014

Overall and insured losses (January – June only)



Overall losses totaled US\$ 12.4bn; Insured losses totaled US\$ 8.6bn



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US Natural Catastrophe Update

US Top Events since - June 30, 2014



- Four severe storm events – wind damage, flash flooding, rain
- One Earthquake – NAPA California
- One Hurricane – Hurricane Arthur
- Wildfire – American Canyon, CA

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Notable U.S. Events in the First Half of 2014

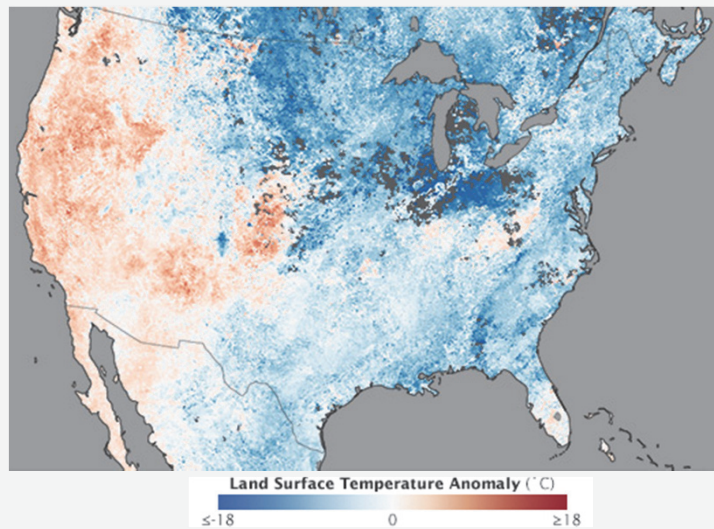


Source: Edward Stojakovic, Used under Creative Commons 2.0 License

US Natural Catastrophe Update

Winter Storms First Half 2014

Throughout the winter months, a persistent “Omega Block” pattern, combined with a weakened Polar Vortex, allowed frigid air to stream southward into eastern United States & Canada. Minimum temperatures in some locations were the lowest in 20 years. Due to the cold conditions, several significant frozen precipitation events occurred across the eastern U.S., reaching as far south as the Florida panhandle.



Land Surface Temperature Anomaly (°C)
 ≤ -18 0 ≥ 18

Source: NASA

Source: Property Claims Service
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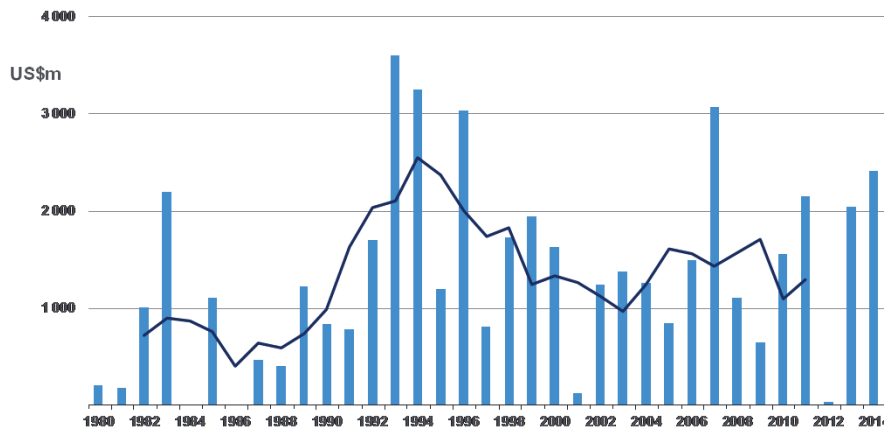
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Loss events in the U.S. 1980 – 2013

Insured losses due to winter storms*



Overall losses totaled US\$ 3.4bn; Insured losses totaled US\$ 2.4bn



Insured losses (in 2014 values)**
5 year Mean

*Winter storms include winter damage, blizzard, snow storm and cold wave

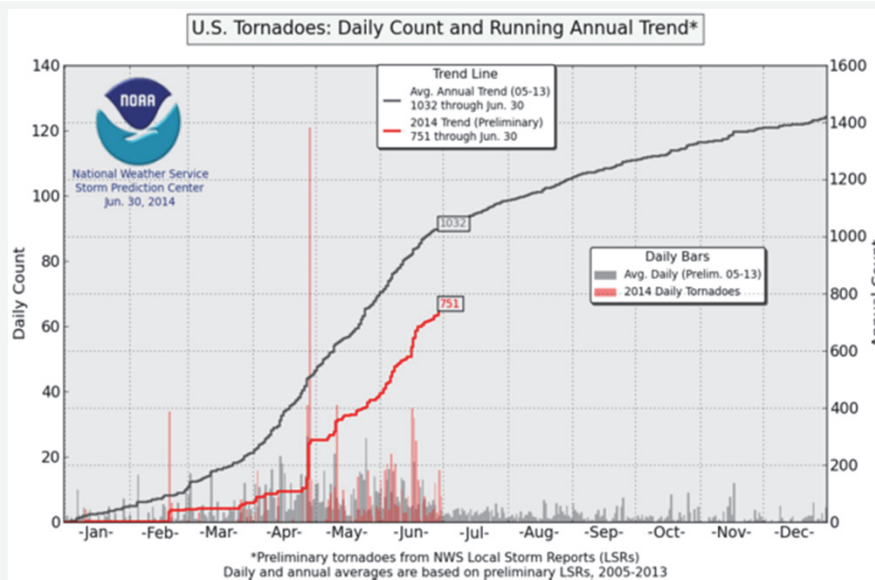
**Losses adjusted to inflation based on country CPI

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US Natural Catastrophe Update

Thunderstorms

Tornado Count for First Half 2014



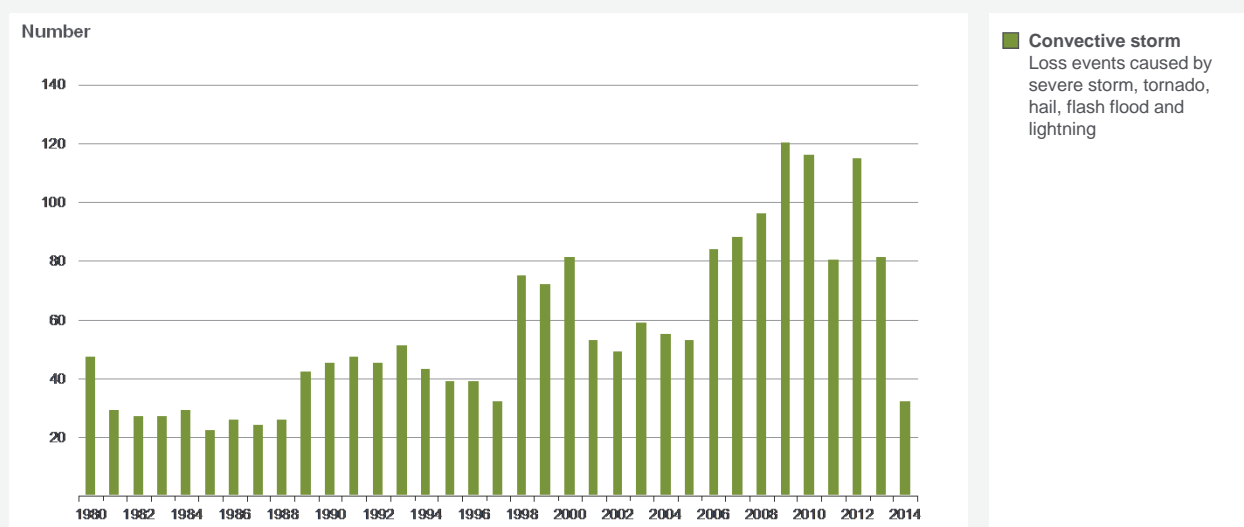
The preliminary tornado counts for the first half of 2014 are about 280 below the 2005-2013 average.

However, tornado counts in April (220) and June 2014 (313) were much higher than observed in 2013.

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Convective loss events in the U.S.

Number of events 1980 – 2013 and the half year 2014



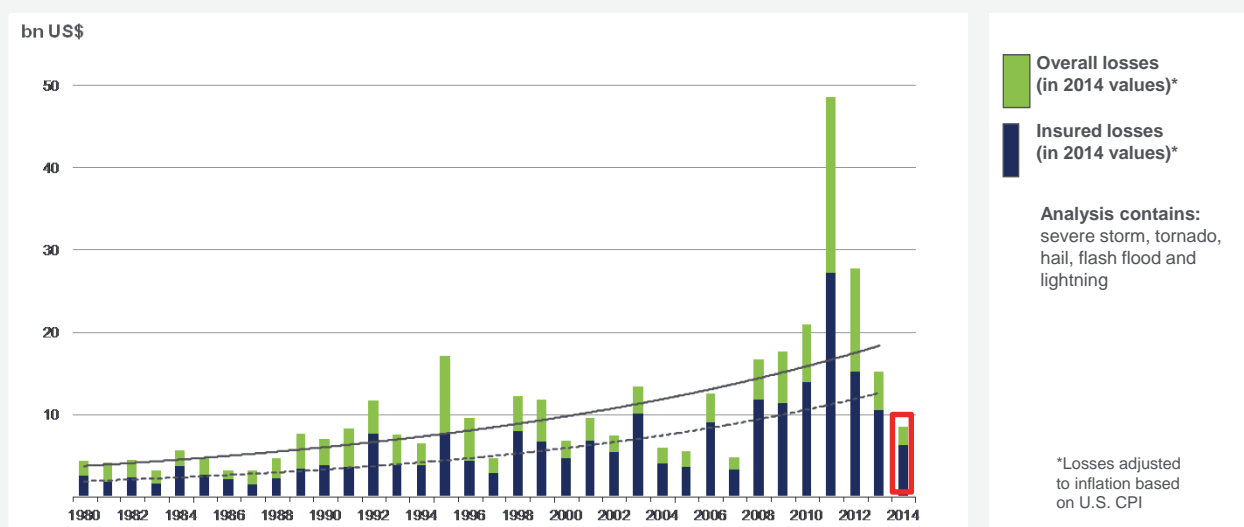
Convective storm
Loss events caused by severe storm, tornado, hail, flash flood and lightning

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Convective loss events in the U.S.

Overall and insured losses 1980 – 2013 and the half year 2014



Overall losses (in 2014 values)*
Insured losses (in 2014 values)*

Analysis contains:
severe storm, tornado, hail, flash flood and lightning

*Losses adjusted to inflation based on U.S. CPI

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US Natural Catastrophe Update

Notable Thunderstorm Events

First Half 2014



- April 28 – May 1: Large SCS outbreak over the Central Plains and Deep South. A total of 80 tornadoes have been confirmed, causing 35 fatalities. Worst hit were Mayflower, Arkansas, and Louisville, Mississippi, both hit by EF4 tornadoes. Insured losses from the outbreak are estimated at \$1.1 billion.



Source: Property Claims Service
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Source: NOAA

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US Natural Catastrophe Update

Notable Thunderstorm Events

First Half 2014



- May 18 – May 23: Large hail and non-tornadic wind event stretching from Montana to New York. Hail the size of golf balls impacted sections of Chicago and Denver, and baseball-sized hail impacted parts of Indiana and Ohio. Further east, wind gusts in excess of hurricane force felled trees and power lines across the Mid-Atlantic. Insured losses are estimated at \$1.7 billion.



Source: Property Claims Service
MR NatCatSERVICE

Source: NOAA

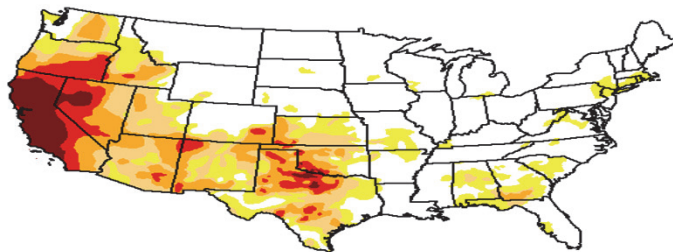
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US Natural Catastrophe Update
Current U.S. Drought Conditions



**U.S. Drought Monitor
 CONUS**

September 16, 2014
 (Released Thursday, Sep. 18, 2014)
 Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	54.91	45.09	31.11	19.95	9.32	3.72
Last Week 09/09/2014	53.90	46.10	31.27	20.31	9.47	3.70
3 Months Ago 07/17/2014	54.73	45.27	35.55	25.43	11.63	3.14
Start of Calendar Year 12/01/2013	48.24	51.76	30.95	16.67	3.96	0.37
Start of Water Year 10/01/2013	39.57	60.43	41.21	20.70	3.06	0.29
One Year Ago 09/17/2013	35.91	64.09	48.19	28.35	6.85	0.43

Intensity:
 D0 Abnormally Dry D3 Extreme Drought
 D1 Moderate Drought D4 Exceptional Drought
 D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author(s):
 Michael Brewer
 NCD/NOAA



<http://droughtmonitor.unl.edu/>

Title of presentation and name of speaker 09/11/2014 12

US Natural Catastrophe Update
Notable Wildfires
First Half 2014

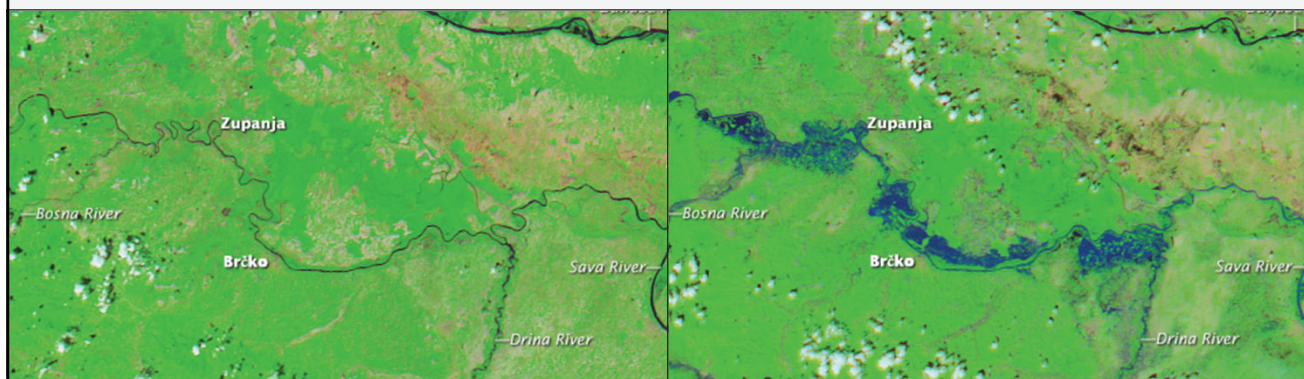


- A heat wave and strong Santa Ana winds triggered eight wildfires in San Diego County in May. Over 29,000 acres were burned, with about 60 properties destroyed. While this event was minor, continued dry conditions could lead to large fires in the fall.



Title of presentation and name of speaker 04/11/2014 20

Global Natural Catastrophes in the First Half of 2014



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Natural disaster losses worldwide 2014

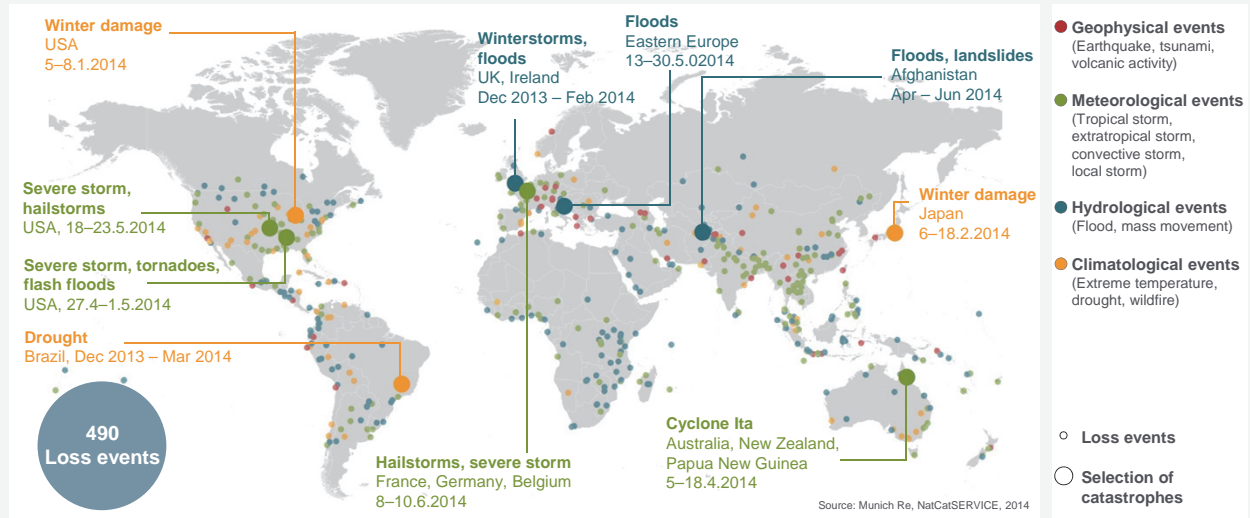
Headlines on the global view

- In the first half of 2014 losses from natural catastrophes summed up to US\$ 42 bn for direct economic losses and US\$ 17 bn for insured losses, both well below the average of the last 10 years.
- Even the biggest loss events did not exceed more than a few billion dollars.
- At 4,700 the number of fatalities was clearly below the long-term average.
- Extraordinary hard winter conditions affected the U.S. and Japan while various parts of Europe suffered from heavy rainfall, storms and floodings.
- Nearly 60 % of all insured losses occurred in North America. This is in line with the long-term average from 1980 – 2013.

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Loss events January – June 2014

Geographical overview



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Loss events worldwide 2014

Overview and comparison with previous years



	2014 (Jan – June)	2013 (Jan – June)	Average of the last 10 years 2004-2013 (Jan – June)	Average of the last 30 years 1984-2013 (Jan – June)	Top Year 1984 -2013 (Jan – June)
Number of events	490	470	410	315	620 (2012)
Overall losses in US\$ m (original values)	42,000	65,800	94,500	65,800	302,000 (2011, EQ Japan)
Insured losses in US\$ m (original values)	17,000	21,100	24,900	14,700	82,000 (2011, EQ Japan)

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Loss events worldwide 2014



The five costliest natural catastrophes for the insurance industry

Date	Region	Event	Fatalities	Overall losses US\$ m	Insured losses US\$ m
6-18.2.2014	Japan	Winter damage	51	5,000	>2,500
8-10.6.2014	Western Europe	Hailstorm	6	2,800	2,200
5-8.1.2014	United States	Winter damage		2,500	1,700
18-23.5.2014	United States	Severe storm		2,000	1,550
27.4-1.5.2014	United States	Severe storm, tornadoes, flash floods	40	1,700	1,100

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Costliest natural catastrophes since 1950



Ranked by insured losses

Year	Event	Region	Insured loss US\$m (in original values)
2005	Hurricane Katrina	USA	62,200
2011	EQ, tsunami	Japan	40,000
2012	Hurricane Sandy	USA, Caribbean	29,500
2008	Hurricane Ike	USA, Caribbean	18,500
1992	Hurricane Andrew	USA	17,000
2011	Floods	Thailand	16,000
1994	EQ Northridge	USA	15,300
2011	EQ Christchurch	New Zealand	14,600
2004	Hurricane Ivan	USA, Caribbean	13,800
2005	Hurricane Wilma	USA, Caribbean	12,500

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THANK YOU

NAIC CIPR SYMPOSIUM

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