



Coastal Crossroads: *Hurricanes and the Shifting Nature of Catastrophic Loss in the United States*

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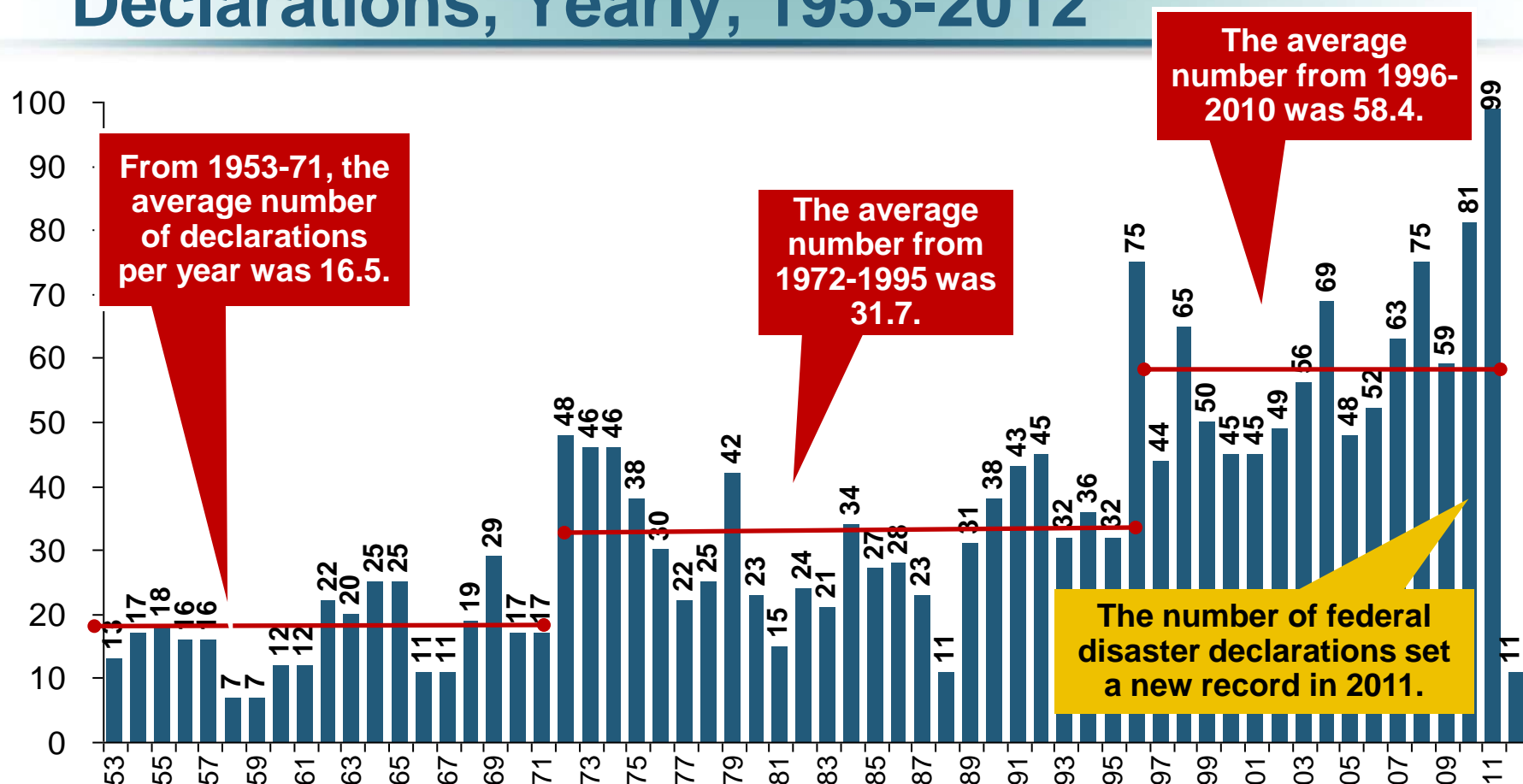
Presentation Outline

- **Federal Disaster Declarations: 1953-2012**
 - ◆ US Overall
 - ◆ State by state
- **Review of U.S. Catastrophe Loss Trends**
 - ◆ Frequency, severity, and nature of losses
- **Shifting Patterns in U.S. Insured Catastrophe Losses**
 - ◆ In recent years non-tropical events—not tropical cyclones—have been the main cause of insured loss
- **Focus on 2011-2012 Experience**
 - ◆ Analysis of severe weather by state and type
- **Q&A**

Federal Disaster Declarations Patterns: 1953-2012

**Records Were Set for Federal
Disaster Declarations in 2010 and
2011—Most Declarations Were
Unrelated to Tropical Activity**

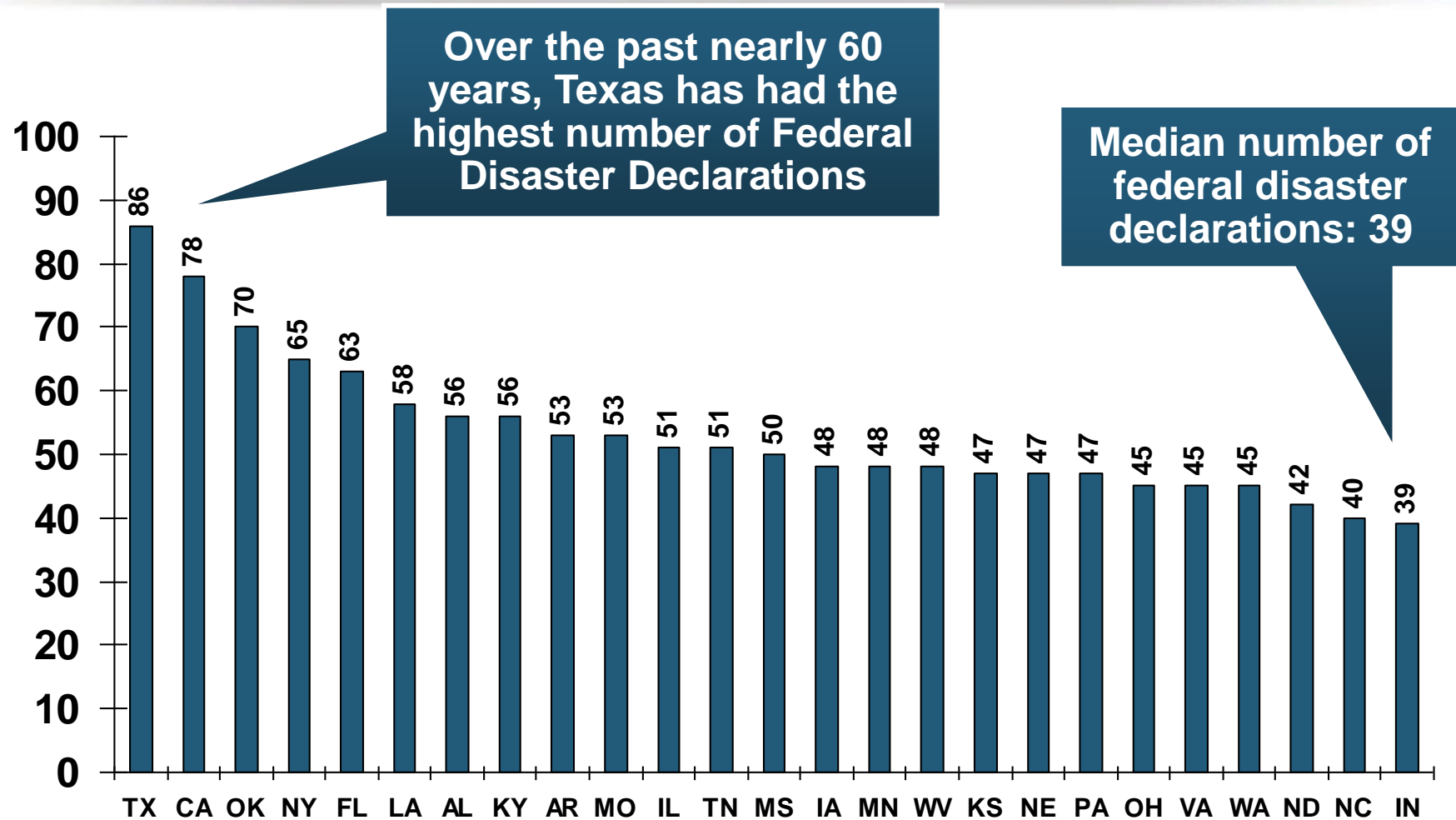
Number of Federal Disaster Declarations, Yearly, 1953-2012*



There have been 2,057* federal disaster declarations since 1953. Note that 2005 was a relatively low year for number of disaster declarations in the 1996-2010 period, but that year included Hurricanes Katrina, Rita, and Wilma.

*Through March 25, 2012. Sources: Federal Emergency Management Administration at http://www.fema.gov/news/disaster_totals_annual.fema; Insurance Information Institute.

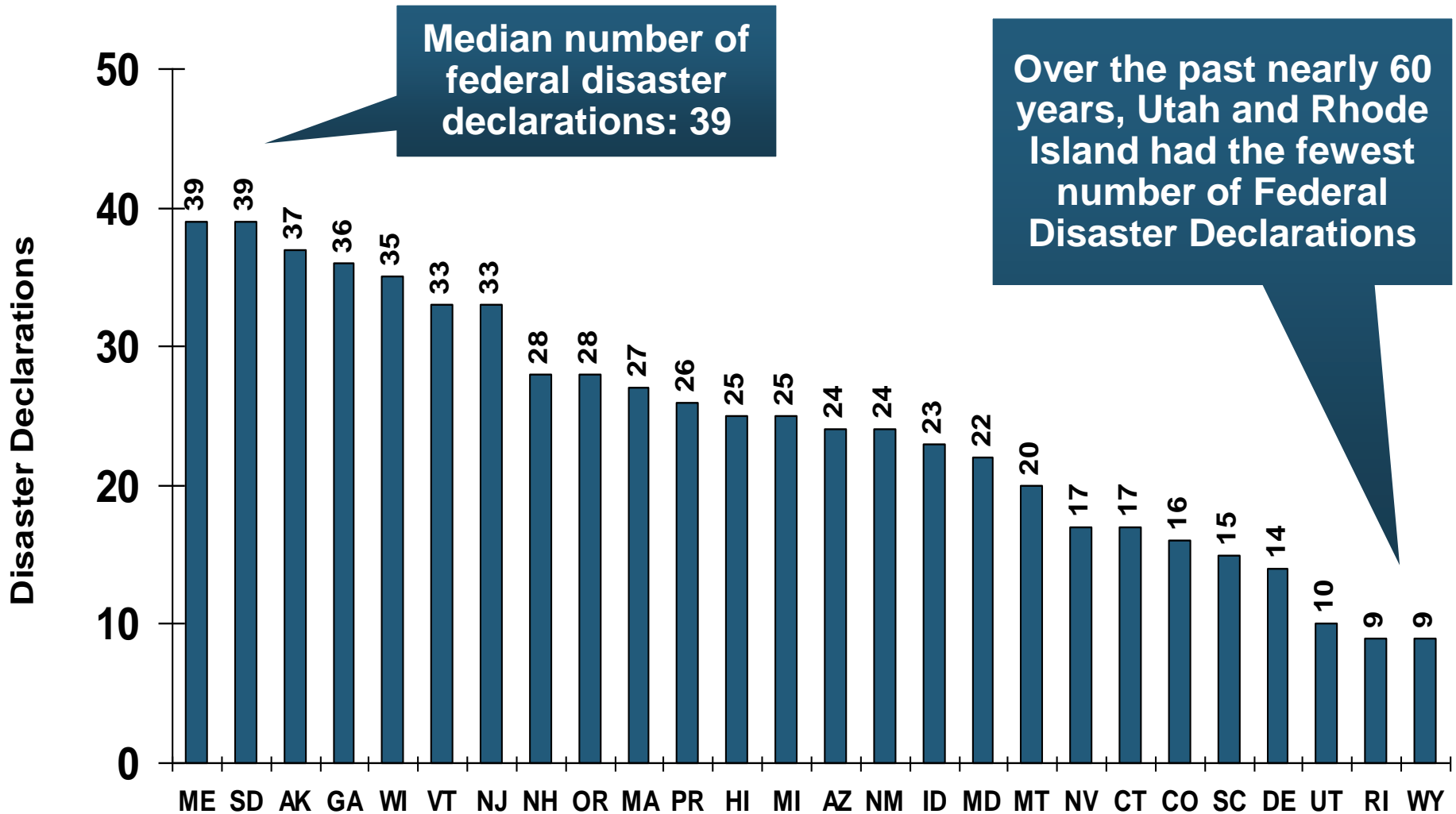
Federal Disasters Declarations by State, 1953 – 2012: Highest 25 States*



*Through Mar. 25, 2012.

Source: FEMA: http://www.fema.gov/news/disaster_totals_annual.fema; Insurance Information Institute.

Federal Disasters Declarations by State, 1953 – 2012: Lowest 25 States*



*Through Mar. 25, 2012.

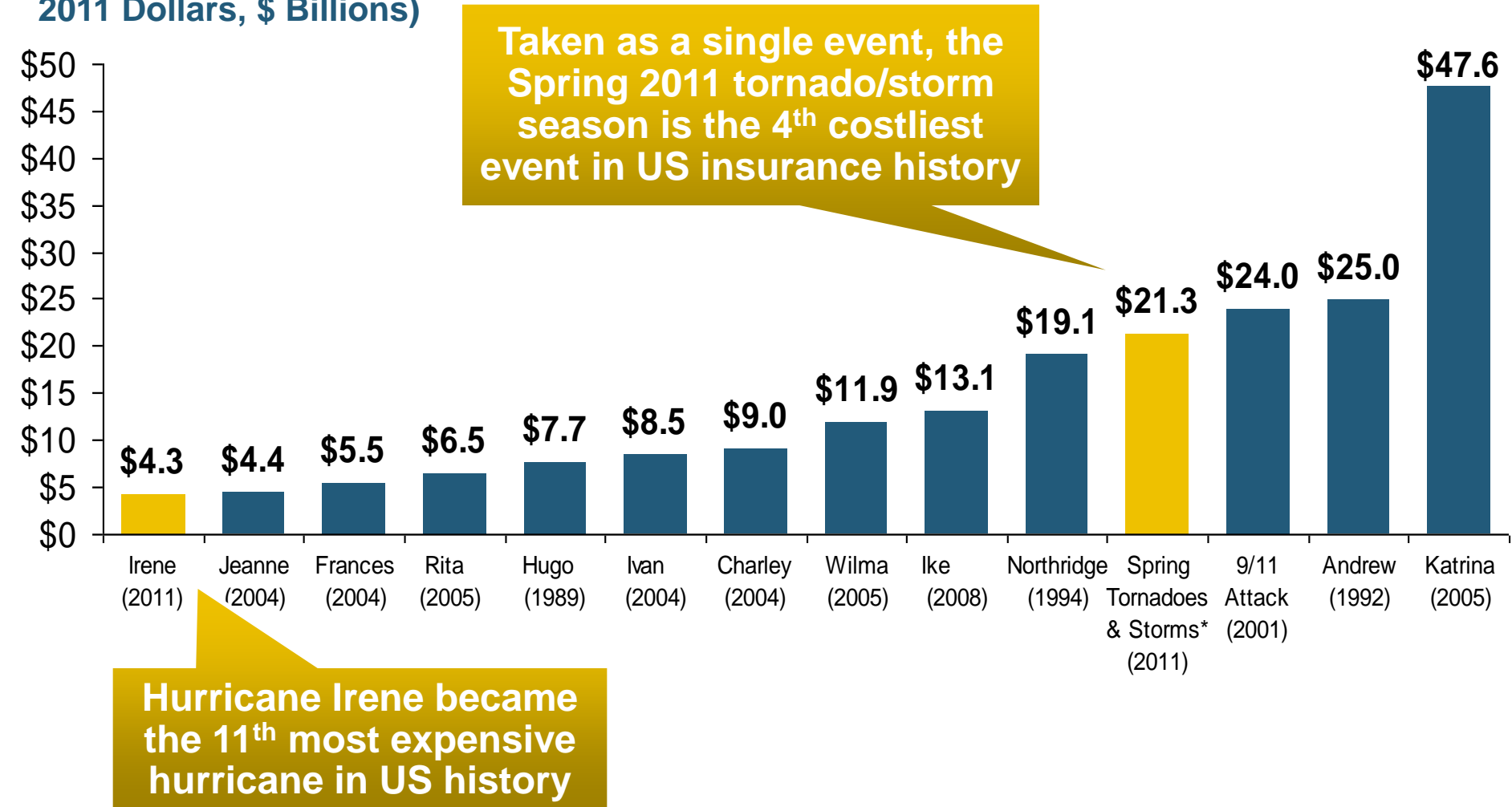
Source: FEMA: http://www.fema.gov/news/disaster_totals_annual.fema; Insurance Information Institute.

Review of U.S. Catastrophe Loss Trends

**No Matter Where You Look,
Trends for Catastrophe Losses
Are Headed Upward**

Top 14 Most Costly Disasters in U.S. History

(Insured Losses,
2011 Dollars, \$ Billions)

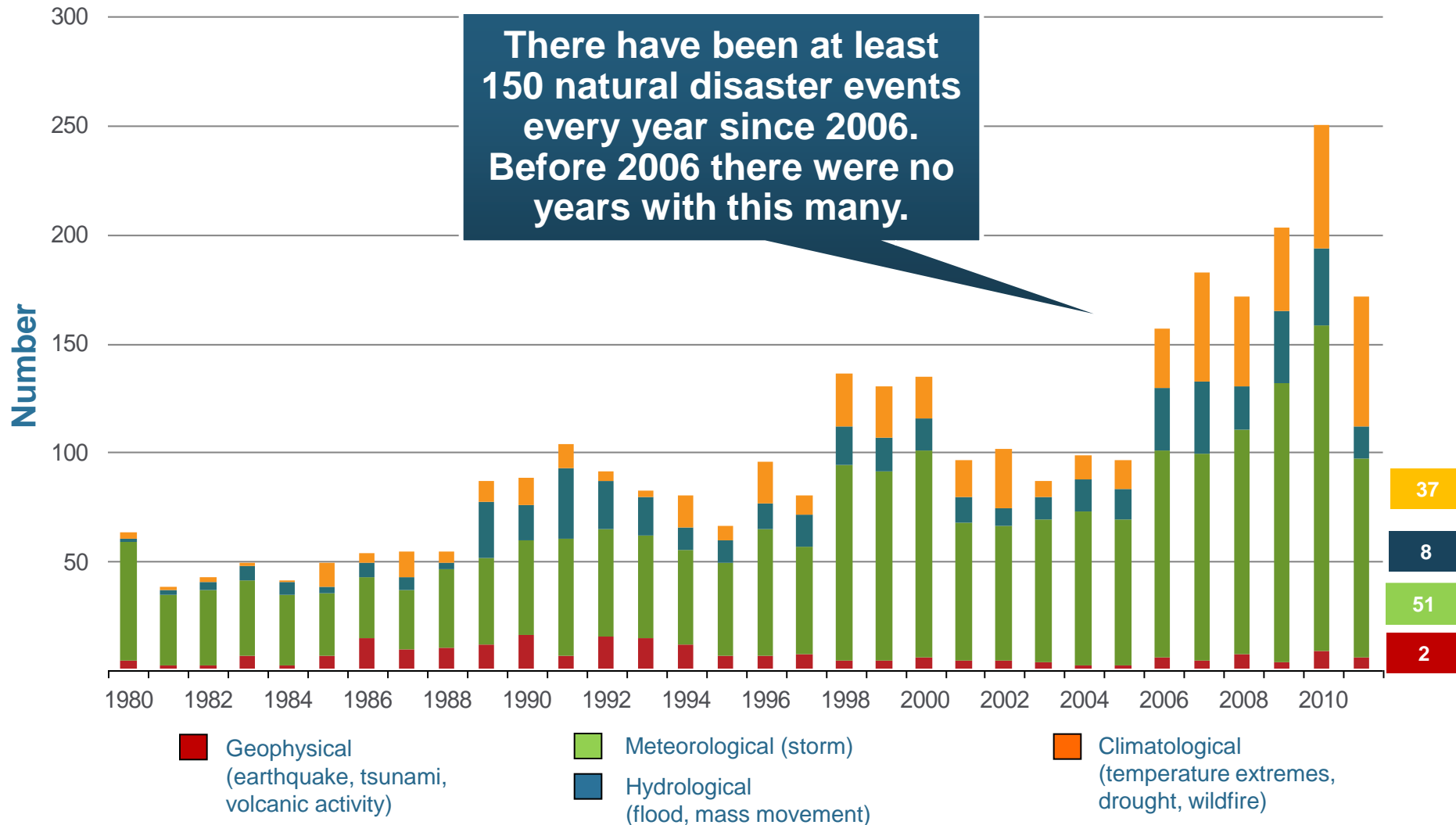


*Losses will actually be broken down into several "events" as determined by PCS. Includes losses for the period April 1 – June 30.

Sources: PCS; Insurance Information Institute inflation adjustments.

Natural Disasters in the United States, 1980 – 2011

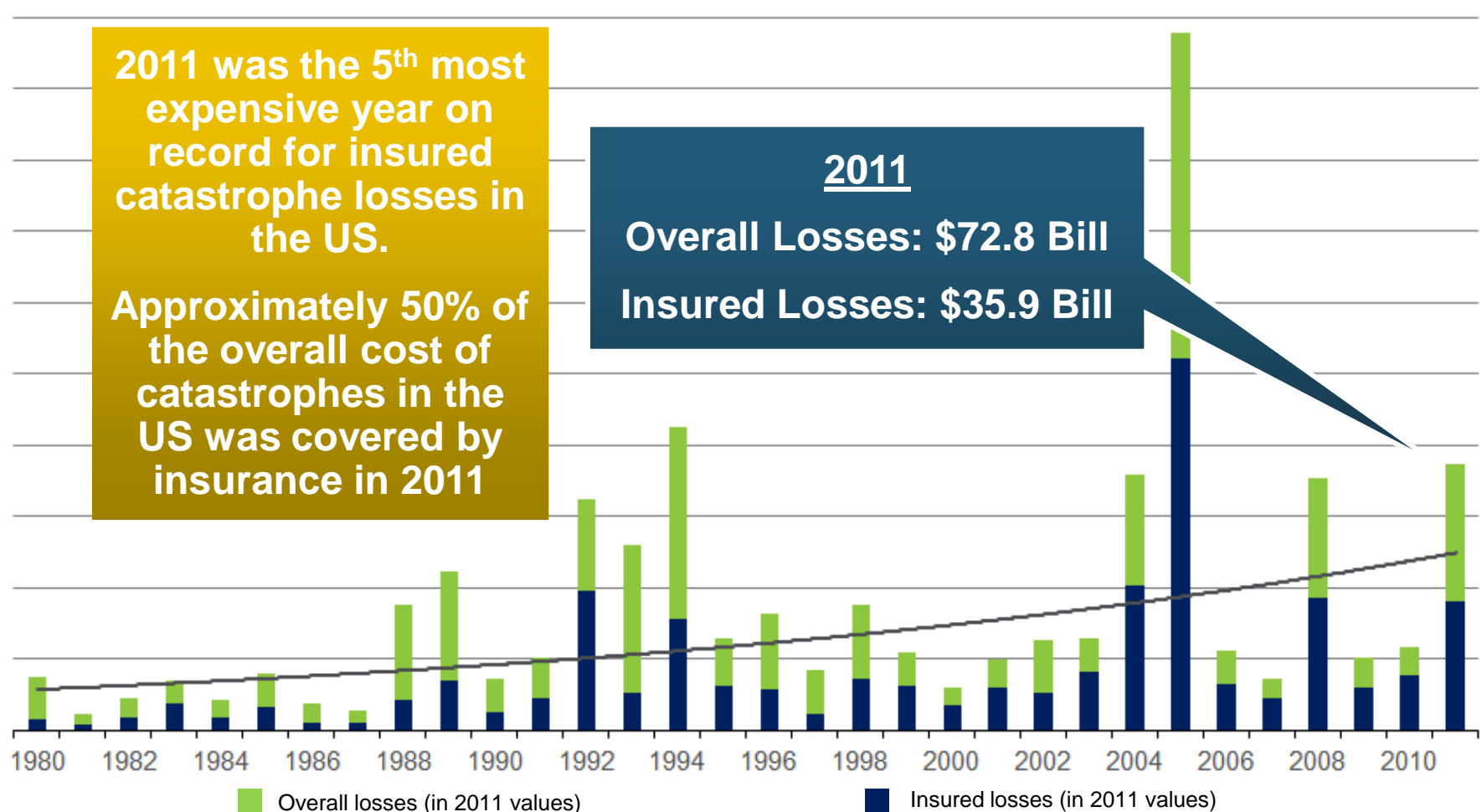
Number of Events (Annual Totals 1980 – 2011)



An Upward Trend: Losses Due to Natural Disasters in the US, 1980–2011

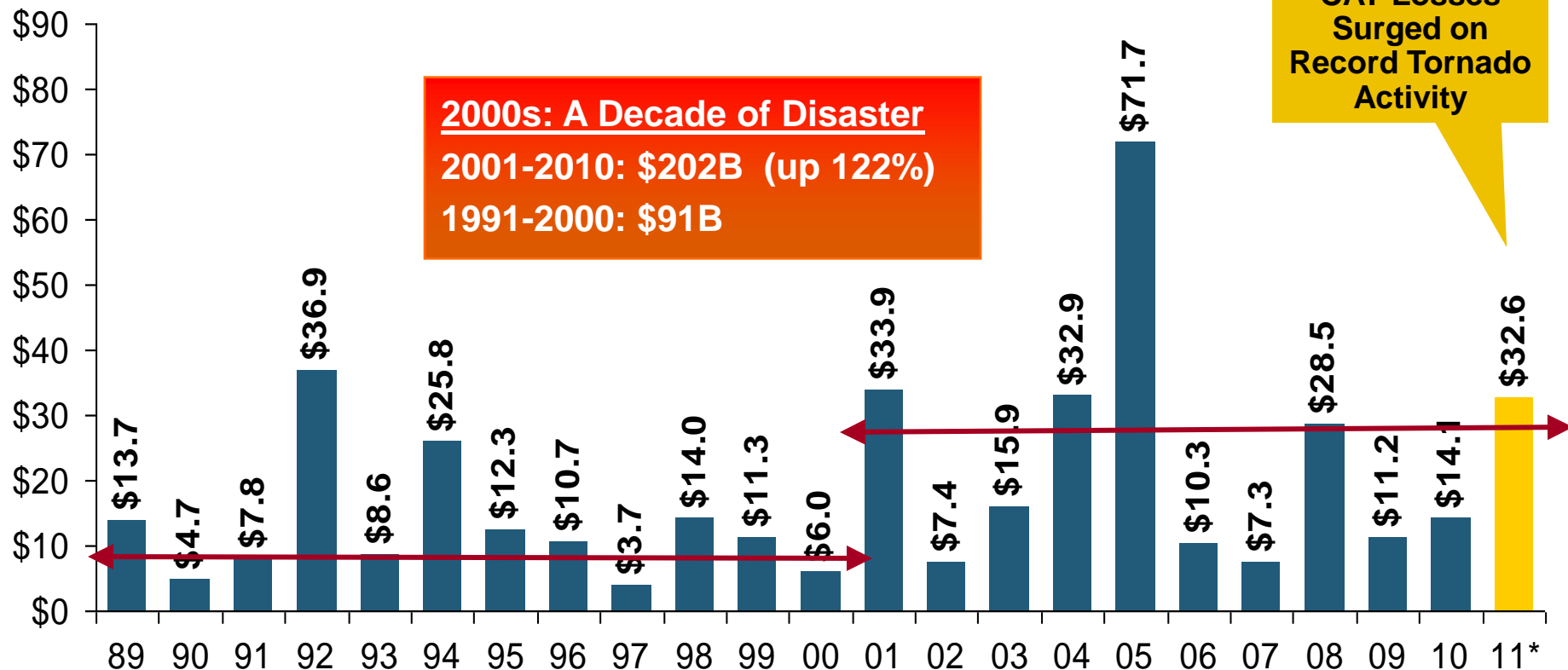
(Overall and Insured Losses)

(2011 Dollars, \$ Billions)



US Insured Catastrophe Losses, Yearly, 1989-2011*

\$ Billions of 2011 dollars



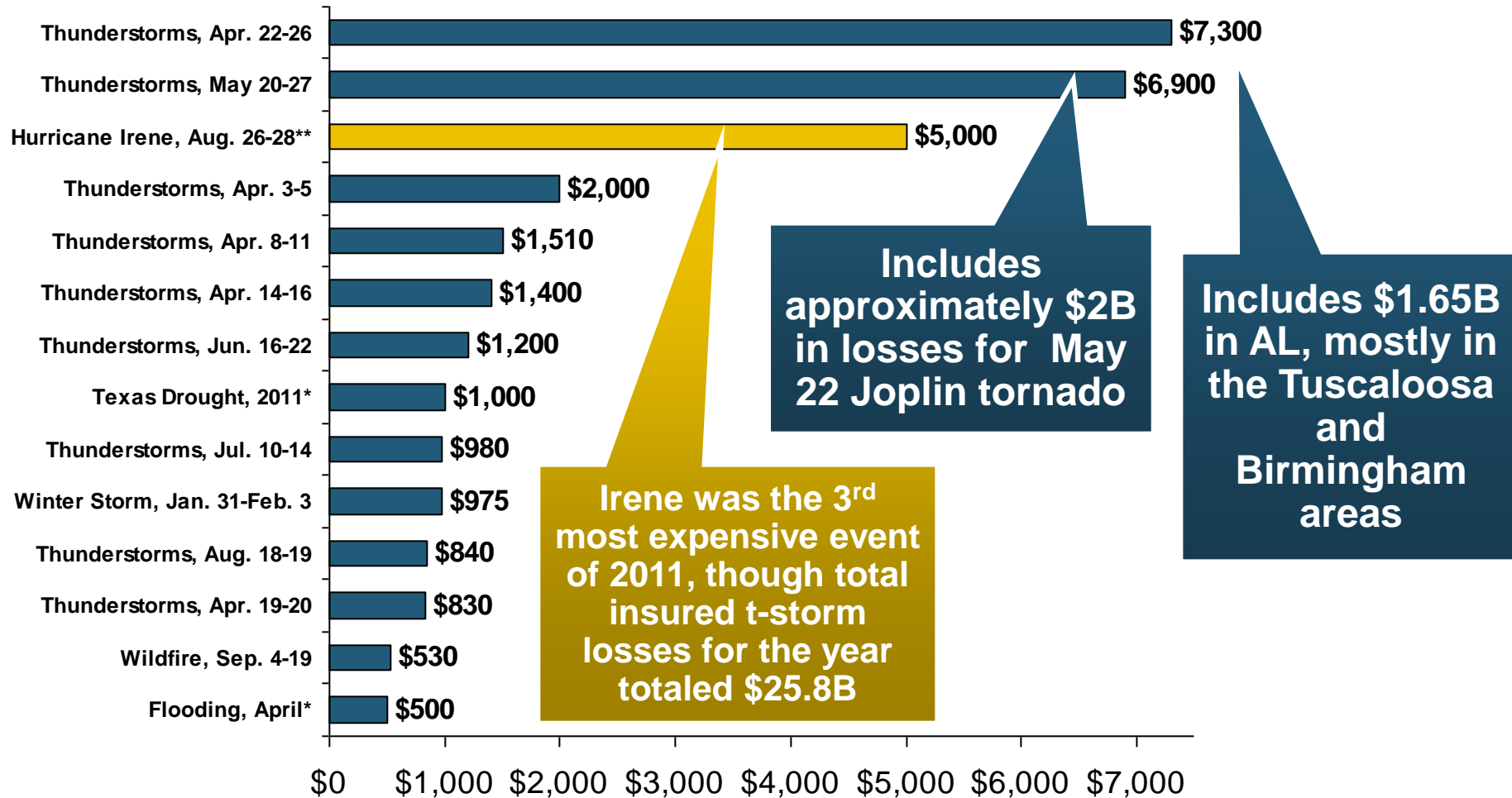
**US CAT losses in 2011 were the 5th highest in US history
on an inflation-adjusted basis**

*PCS estimate through Sept. 30, 2011.

Note: 2001 figure includes \$20.3B for 9/11 losses reported through 12/31/01 (\$25.9B 2011 dollars). Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = \$12.2B (\$15.6B in 2011 dollars.)

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

2011's Most Expensive Catastrophes, Insured Losses



**Includes \$700 million in flood losses insured through the National Flood Insurance Program.

Source: PCS except as noted by "*" which are sourced to Munich Re; Insurance Information Institute.

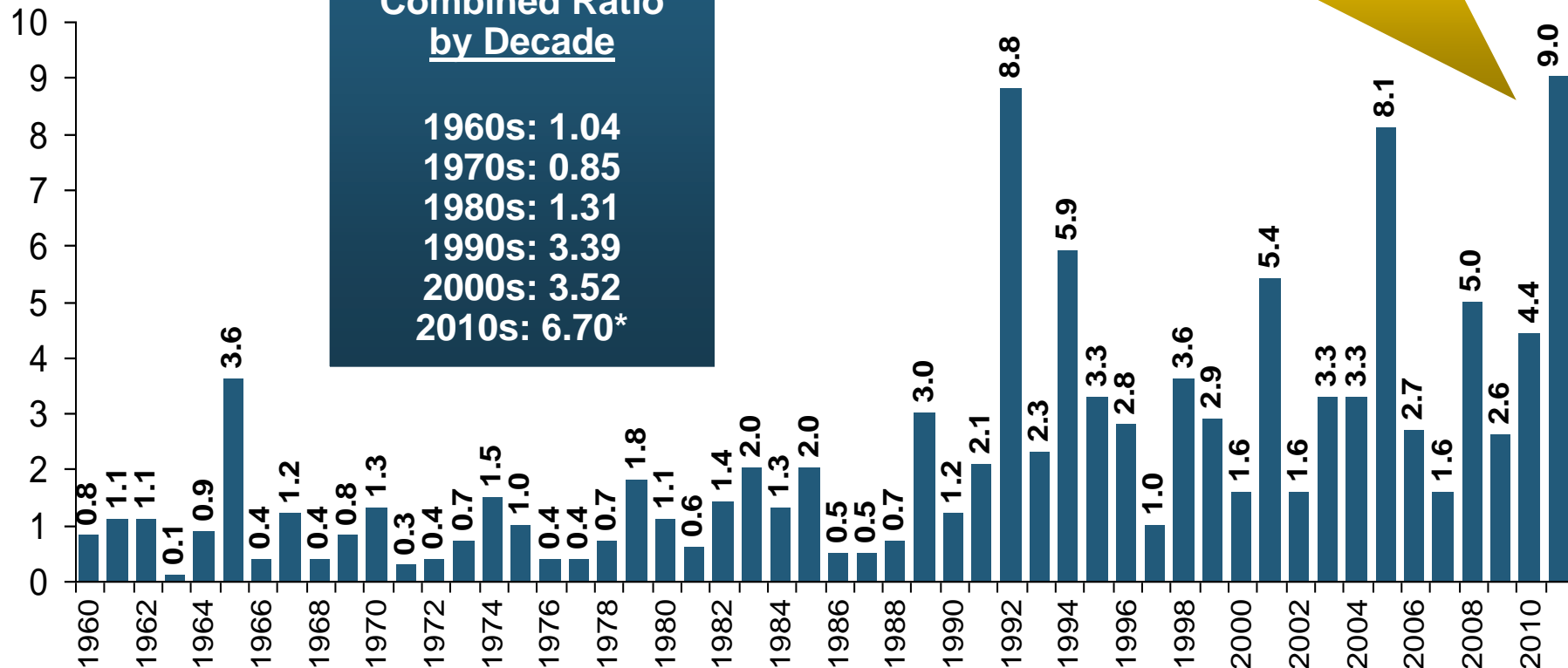
Combined Ratio Points Associated with Catastrophe Losses: 1960 – 2011*

**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
2010s: 6.70*

**2011 spike was driven mainly
by tornados/T-storms**



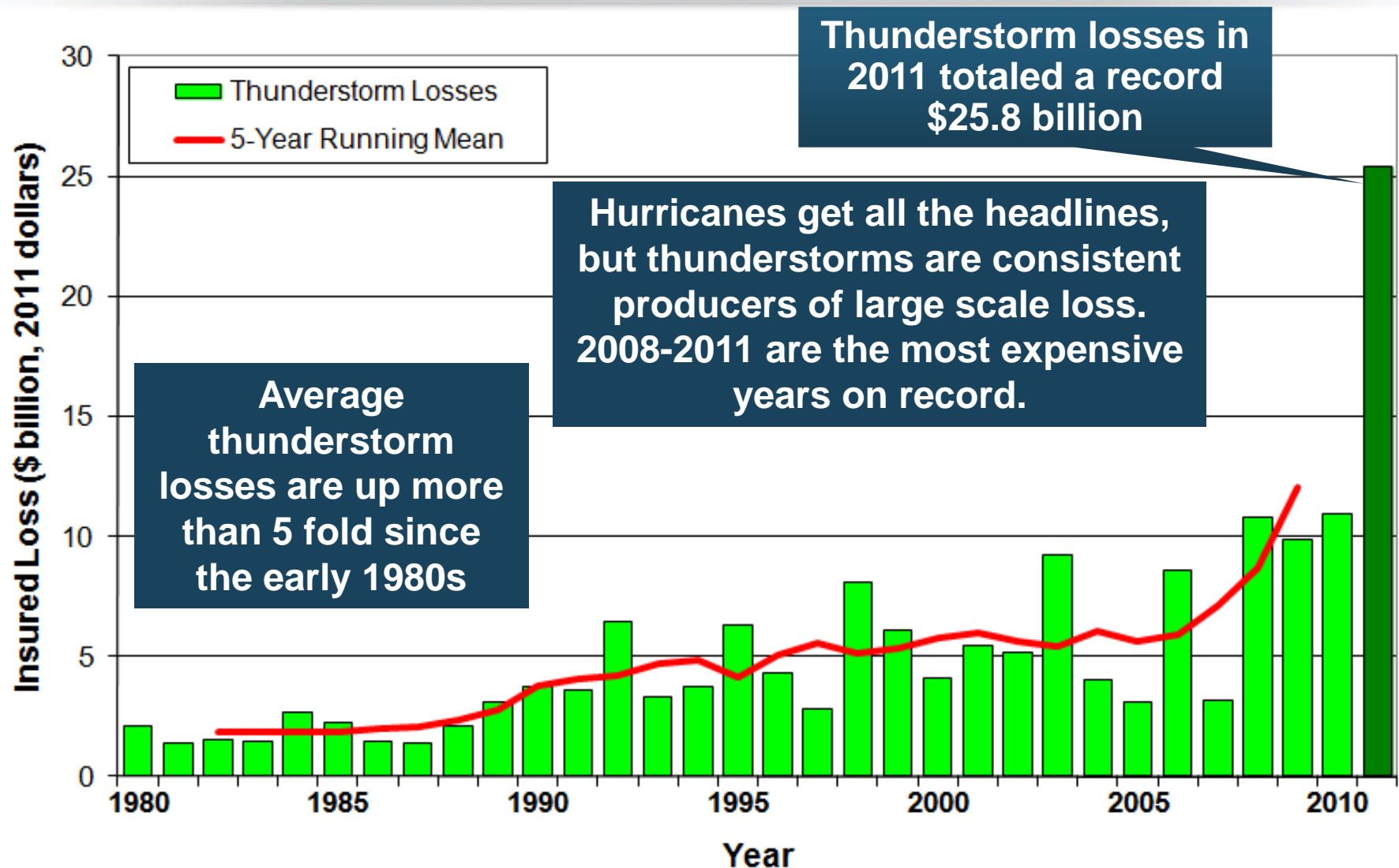
The Catastrophe Loss Component of Private Insurer Losses Has Increased Sharply in Recent Decades—Only in Part Due to Tropical Activity

*Insurance Information Institute estimates for 2010 and 2011 based on A.M. Best data.

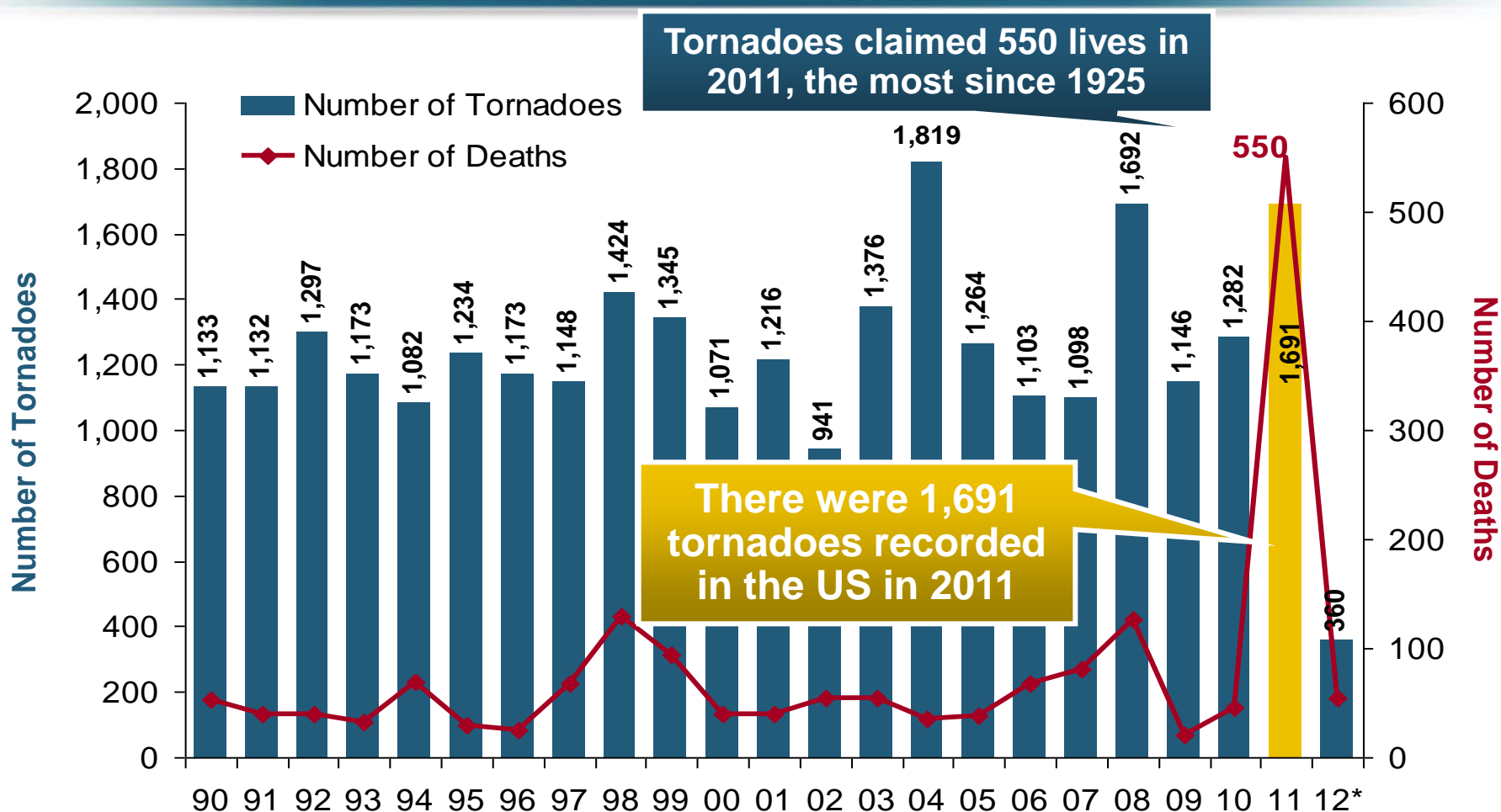
Notes: Private carrier losses only. Excludes loss adjustment expenses and reinsurance reinstatement premiums. Figures are adjusted for losses ultimately paid by foreign insurers and reinsurers.

Sources: ISO; Insurance Information Institute.

U.S. Thunderstorm Loss Trends, 1980 – 2011



Number of Tornadoes and Related Deaths, 1990 – 2012*

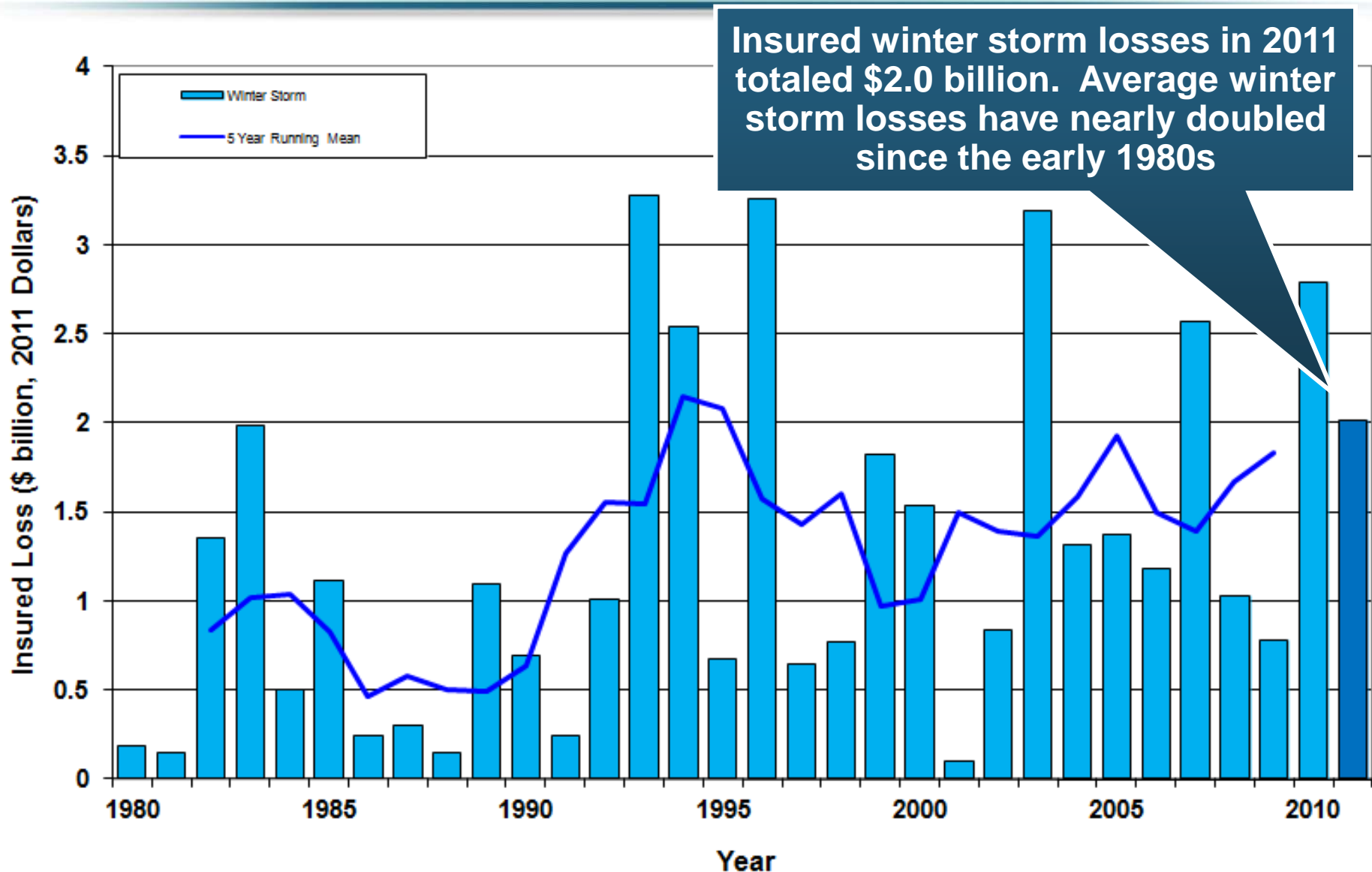


2012 Tornado Losses Is Off to a Ominous Beginning. First Half 2011 Insured Losses from Tornadoes and Thunderstorms Topped \$21B.

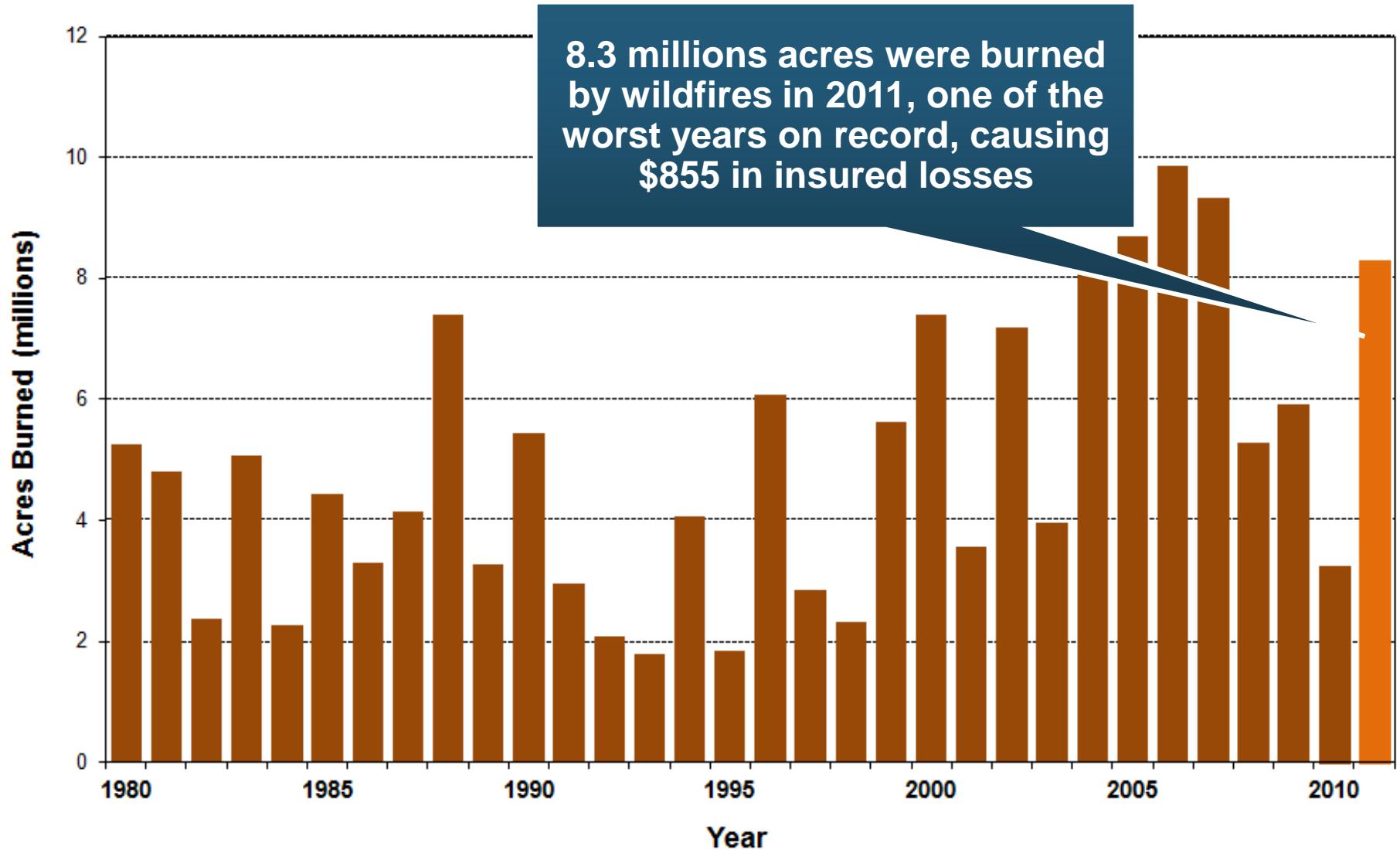
*Through March 23, 2012.

Source: U.S. Department of Commerce, Storm Prediction Center, National Weather Service at <http://www.spc.noaa.gov/climo/online/monthly/newm.html>

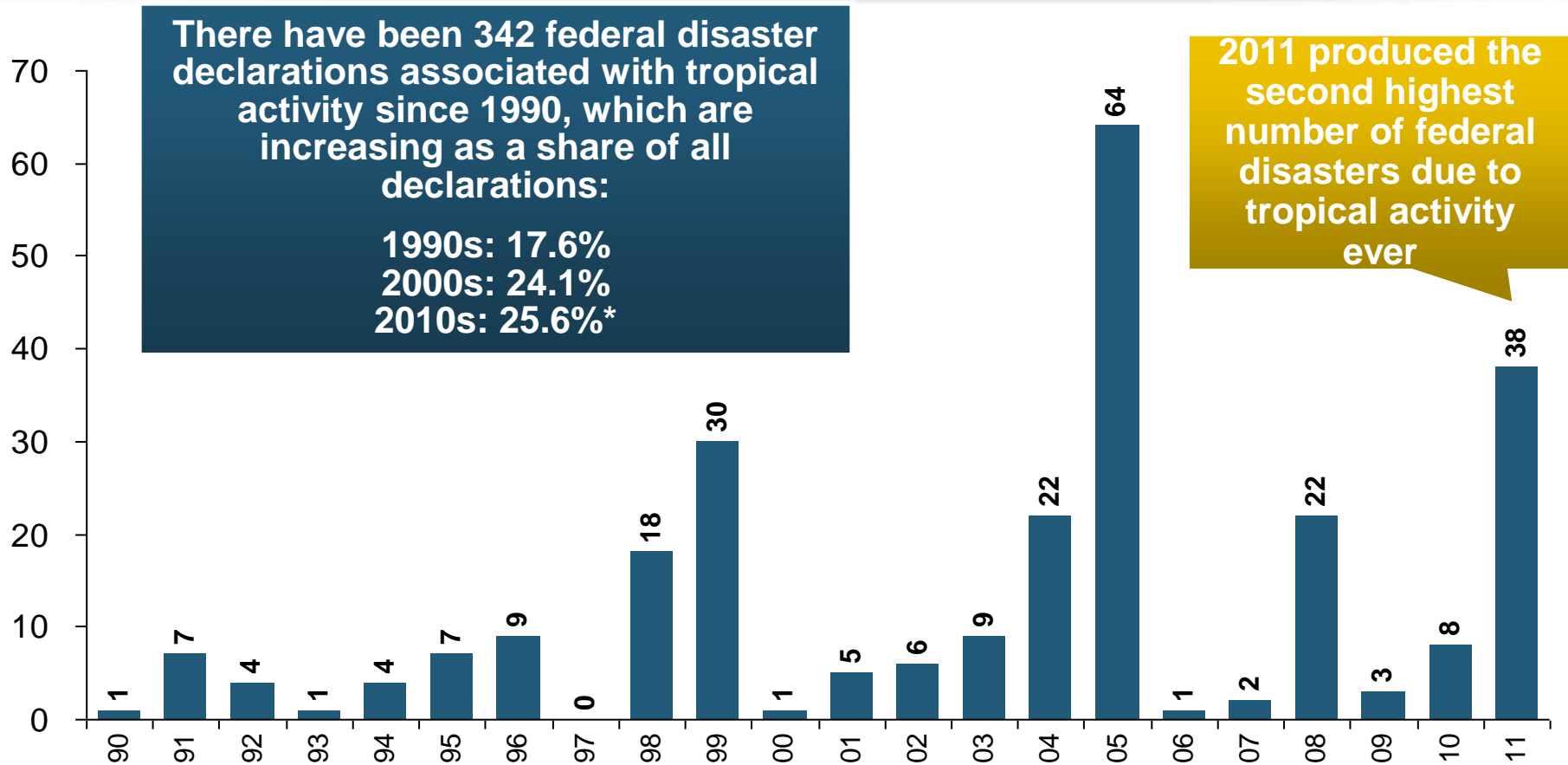
U.S. Winter Storm Loss Trends, 1980 – 2011



U.S. Acreage Burned by Wildfires, 1980 – 2011



Number of Federal Disaster Declarations Associated w/ Tropical Systems, 1990-2011



The Share of Federal Disaster Declarations Associated with Tropical Activity Has Been Rising

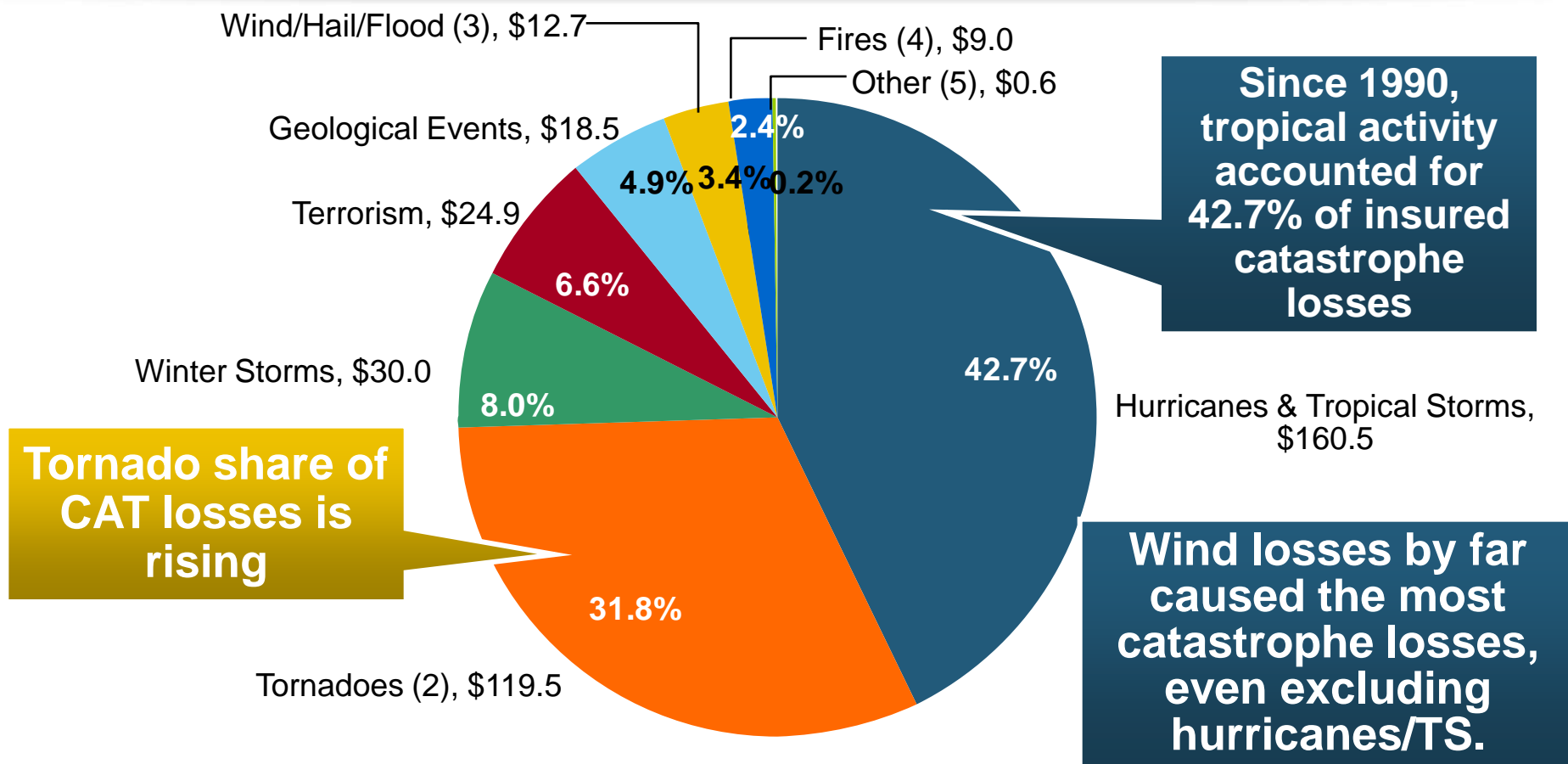
*Consists of data for 2010 and 2011.

Source: Federal Emergency Management Administration: http://www.fema.gov/news/disaster_totals_annual.fema ; Insurance Information Institute research.

Shifting Patterns in Insured Catastrophe Losses

**Insured Losses from Tropical
Activity Have Diminished in the US,
but Other Catastrophes Have Filled
the Void**

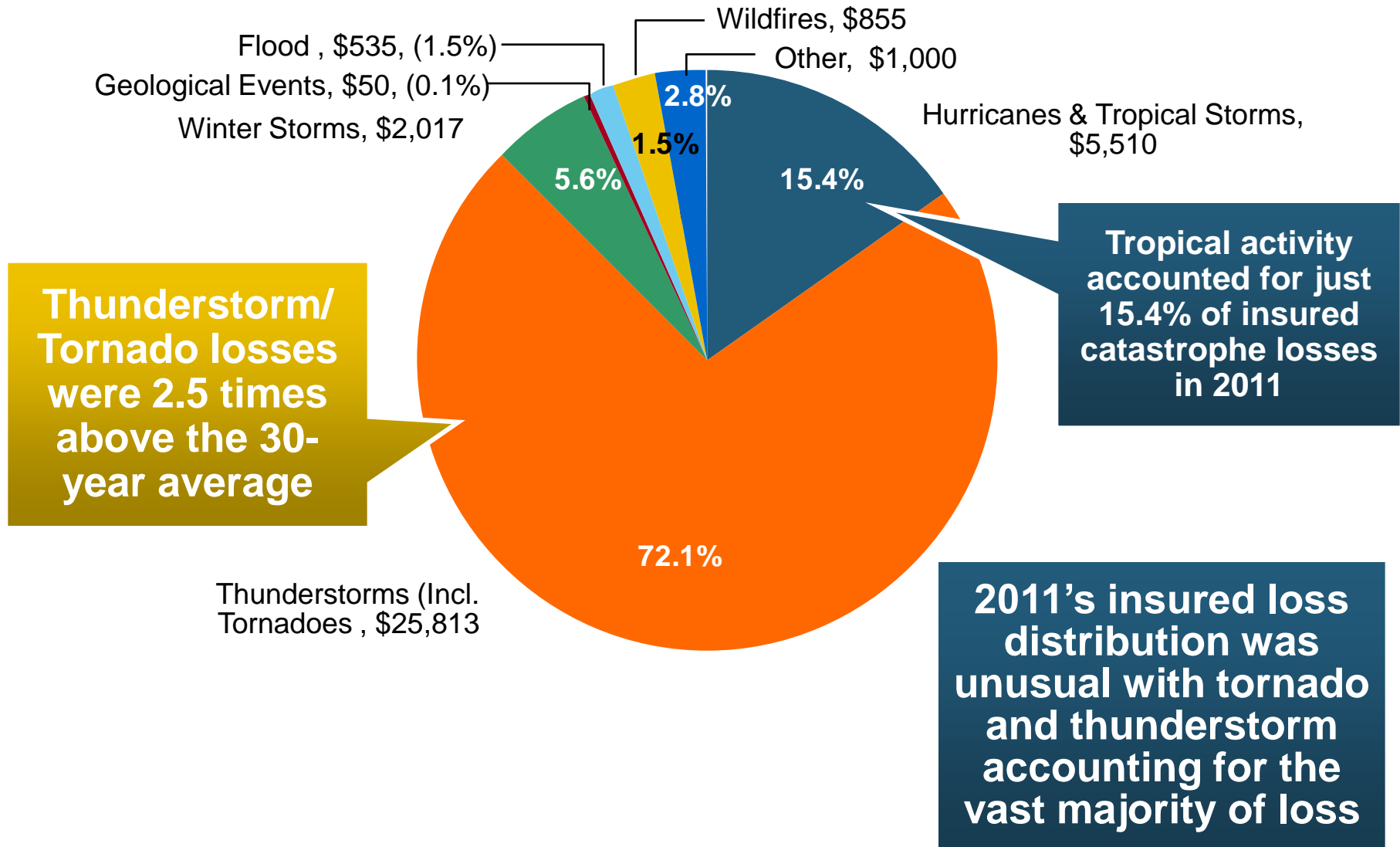
Inflation-Adjusted U.S. Catastrophe Losses by Cause of Loss, 1990–2011:H1¹



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.

U.S. Insured Catastrophe Losses by Cause of Loss, 2011 (\$ Millions)



Natural Disaster Losses in the United States: 2011

As of Jan. 1, 2012	Number of Events	Fatalities	Estimated Overall Losses (US \$m)	Estimated Insured Losses (US \$m)
Severe Thunderstorm	69	617	\$46,548	\$25,813
Winter Storm	9	67	\$2,708	\$2,017
Flood	14	20	\$2,705	\$535
Earthquake	5	1	\$257	\$50
Tropical Cyclone	3	0	\$10,700	\$5,510*
Wildfire	58	15	\$1,922	\$855
Other	2	33	\$8,000	\$1,000

The Changing Nature of Insured Catastrophe Losses in the US

- **Historically the Majority of Insured Catastrophe Losses in the US Was Associated With Hurricanes and Tropical Storms**
 - ◆ Hurricanes still account for the majority of the Top 15 catastrophes, but other types of catastrophes are displacing hurricanes
 - ◆ Thunderstorms (including tornados, large and high winds) are the leading cause of insured loss from 2008-2011 and so far in 2012
 - ◆ A trend/pattern appears to be emerging: More frequent and more intense thunderstorm activity
 - ◆ It is unclear if the recent low level of landfalling tropical cyclones is part of a trend or a longer-term oscillation in activity
- **Since 2008, Insured Thunderstorm Losses Totaled Approximately \$60 billion Compared with About \$20 Billion for Tropical Events**
 - ◆ This means that insured catastrophe losses over the past 4 years have occurred predominantly in non-coastal areas
 - ◆ Midwest, Plains, Mid-Atlantic regions have been hit hard
 - ◆ Inland sections of coastal states have also been hit hard (e.g., AL, MS, NC)
- **Higher Catastrophe Losses Are Pressuring Property Insurance Markets**
 - ◆ Rates are rising in many areas hit hard by catastrophe losses in recent years.



2011-12: Nowhere to Run, Nowhere to Hide

**Most of the Country East of
the Rockies Suffered Severe
Weather in 2011**

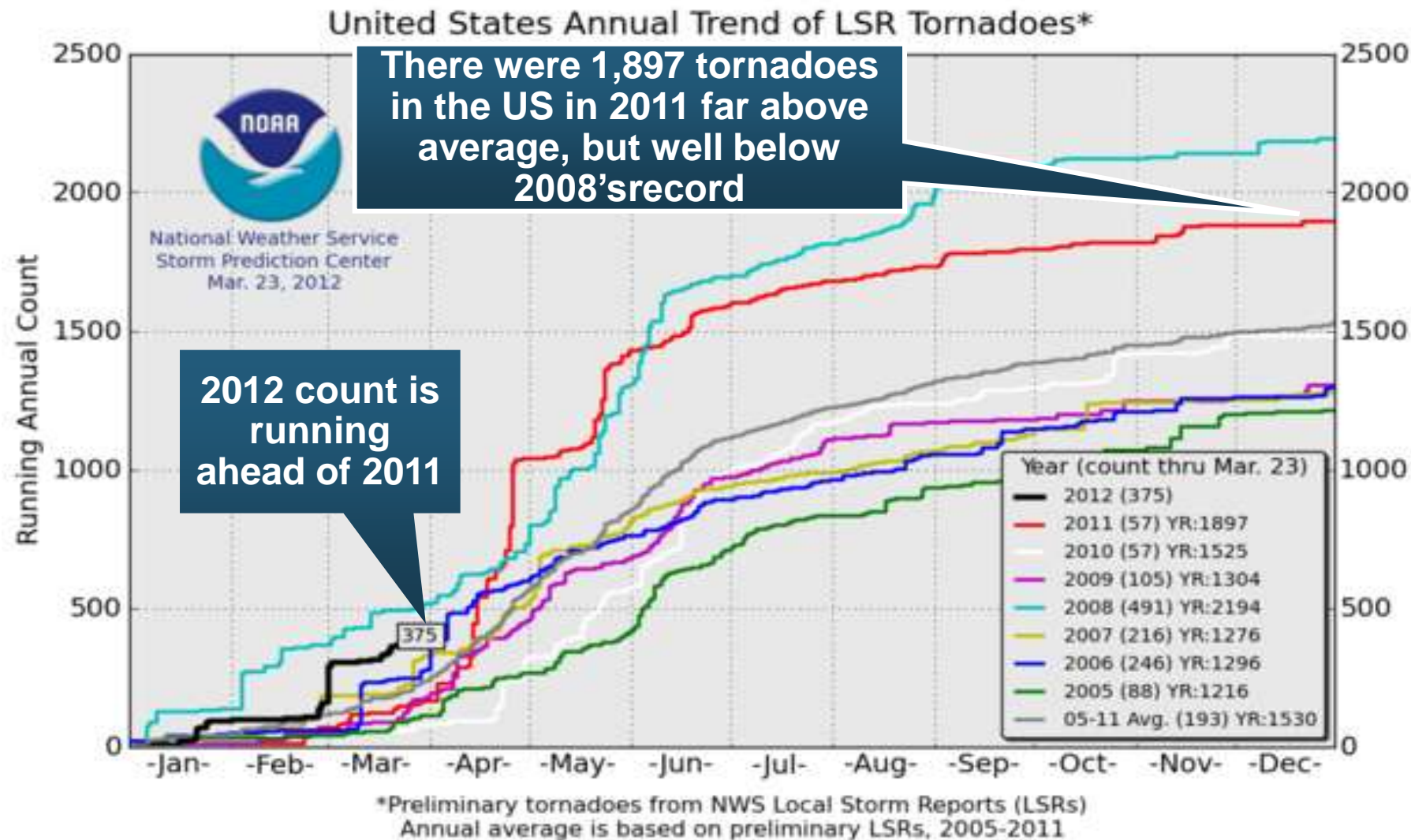
2012's Start is Ominous



SPRING 2012 TORNADO & SEVERE STORM OUTBREAK

**2012 Is Off to a Worrisome Start, But
a Repeat of 2011 Is Unlikely**

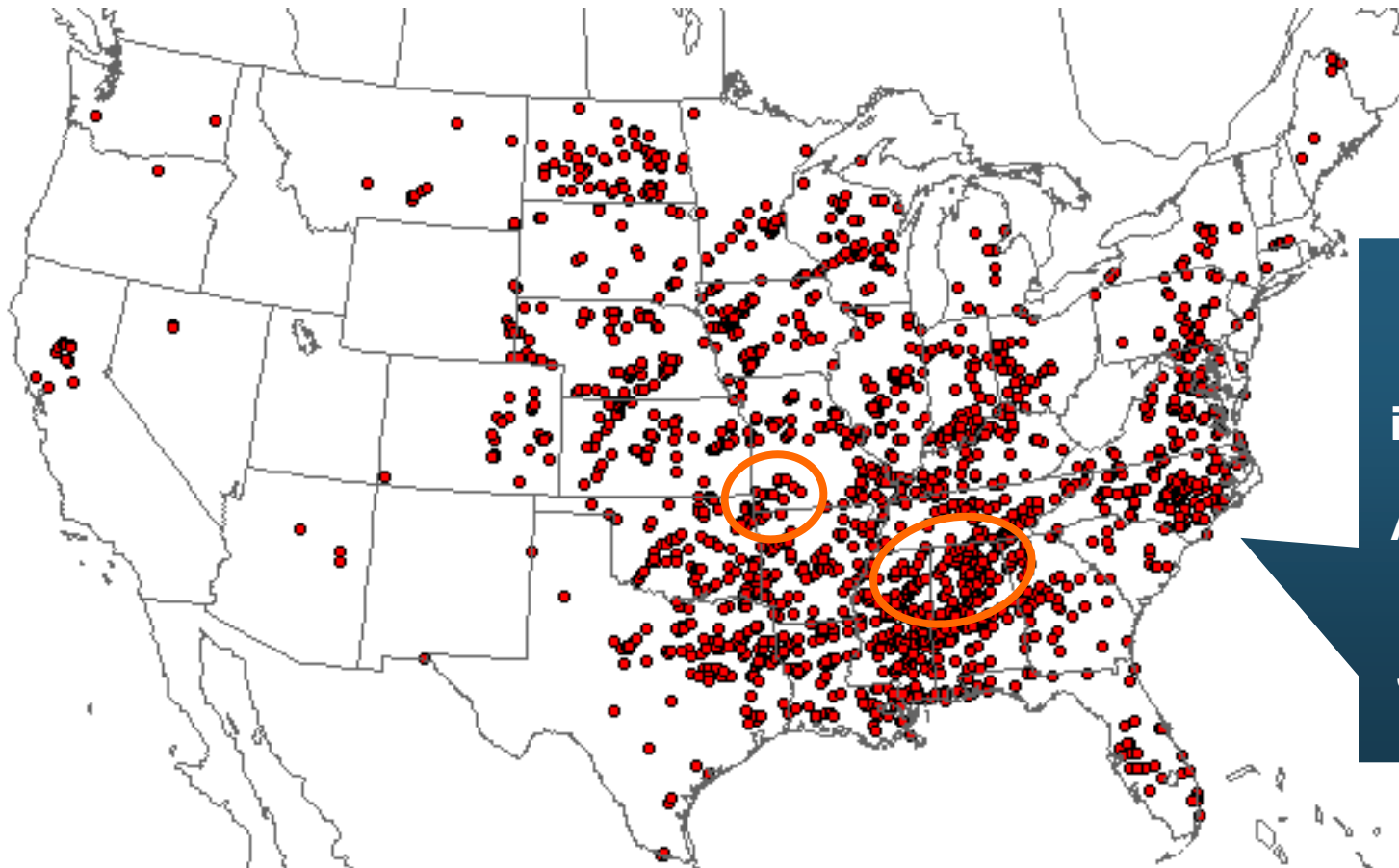
U.S. Tornado Count, 2005-2012*



*Through March 23, 2012.

Source: <http://www.spc.noaa.gov/wcm/>

Location of Tornadoes in the US, 2011



1,894 tornadoes killed 552 people in 2011, including at least 340 on April 26 mostly in the Tuscaloosa area, and 130 in Joplin on May 22



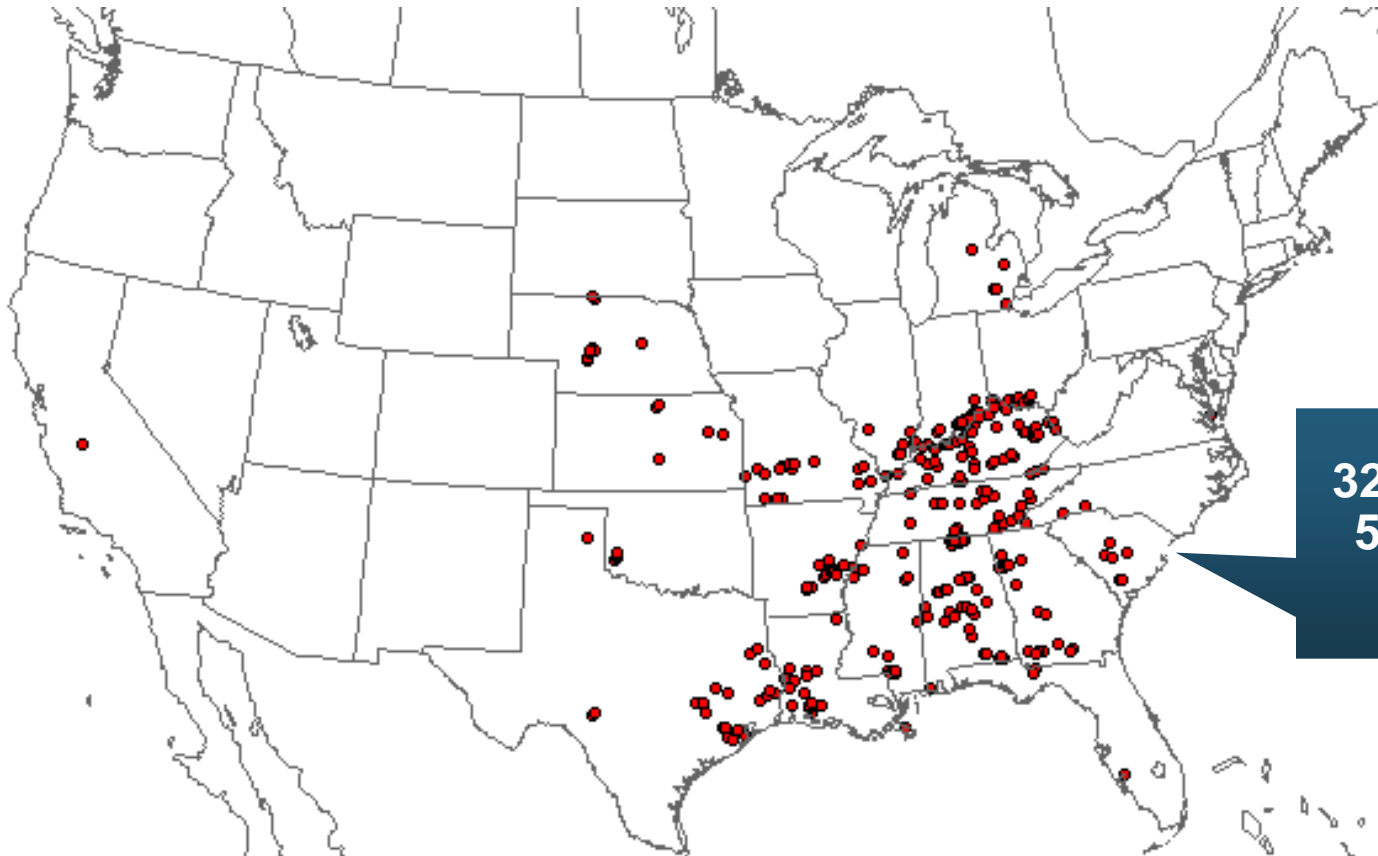
PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)

NOAA/Storm Prediction Center Norman, Oklahoma

Tornado Reports
January 01, 2011 - December 27, 2011

Updated: Tuesday December 27, 2011 16:35 CT

Location of Tornadoes in the US, 2012*



**329 tornadoes killed
55 people through
March 19**



**PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)**

NOAA/Storm Prediction Center Norman, Oklahoma

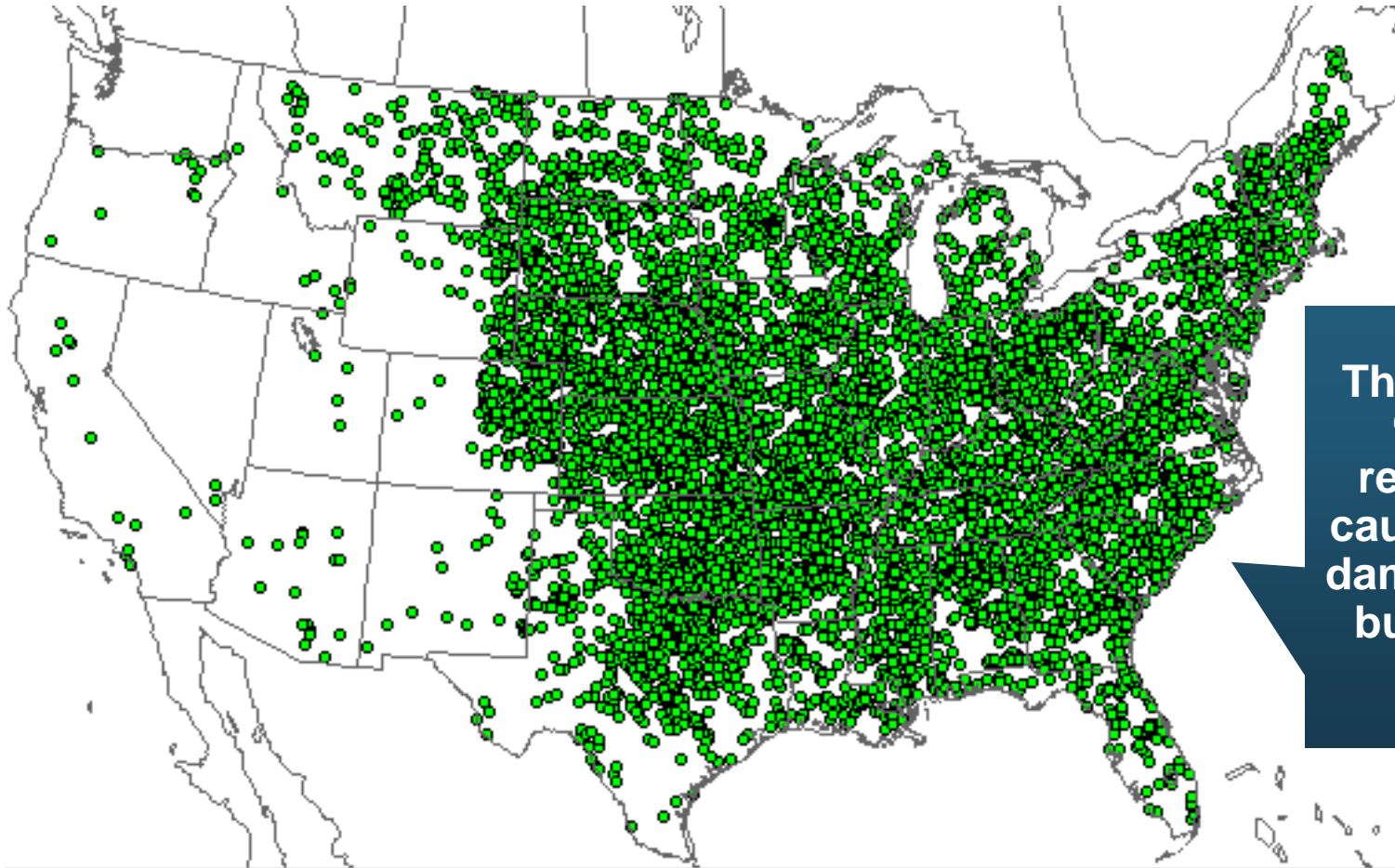
**Tornado Reports
January 01, 2012 - March 19, 2012**

Updated: Monday March 19, 2012 08:34 CT

*Through March 19, 2012.

Source: NOAA Storm Prediction Center; http://www.spc.noaa.gov/climo/online/monthly/2012_annual_summary.html#

Location of Large Hail Reports in the US, 2011



There were 9,417
“Large Hail”
reports in 2011,
causing extensive
damage to homes,
businesses and
vehicles



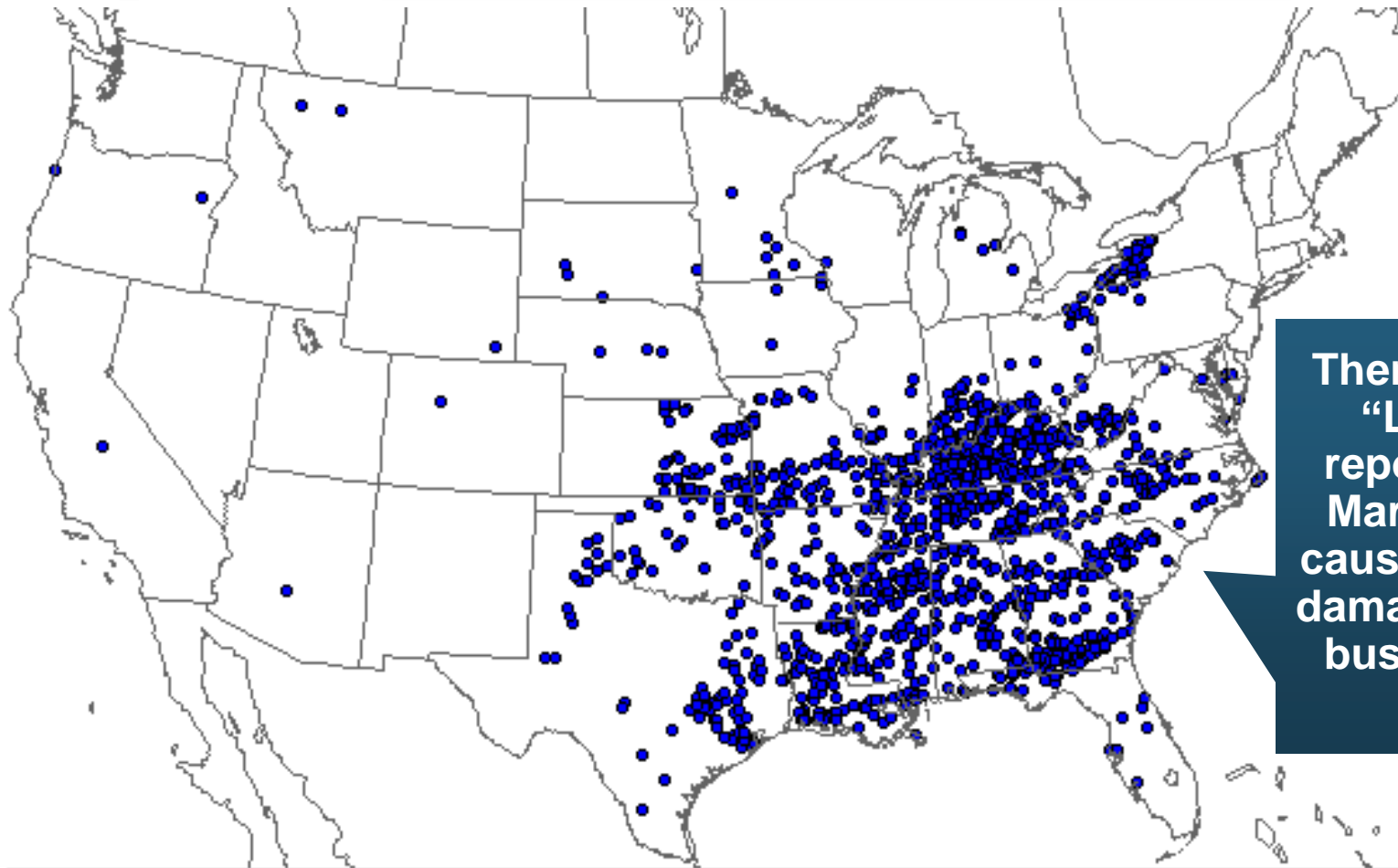
PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)

NOAA/Storm Prediction Center Norman, Oklahoma

Hail Reports
January 01, 2011 - December 27, 2011

Updated: Tuesday December 27, 2011 16:35 CT

Location of Large Hail Reports in the US, 2012*



There were 1,024
“Large Hail”
reports through
March 23, 2012,
causing extensive
damage to homes,
businesses and
vehicles



**PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)**

NOAA/Storm Prediction Center Norman, Oklahoma

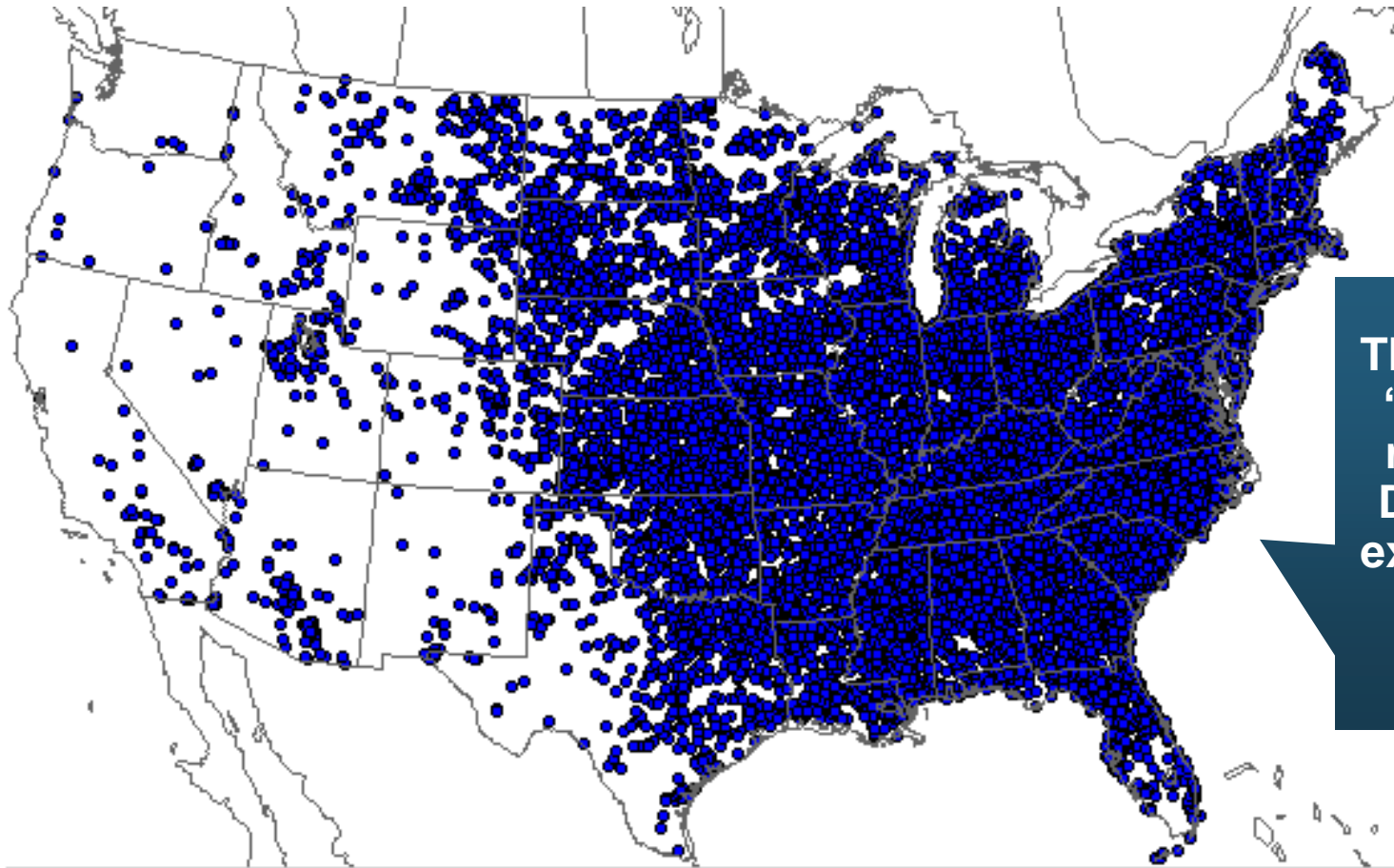
**Wind Reports
January 01, 2012 - March 23, 2012**

Updated: Friday March 23, 2012 09:20 CT

*Through March 23, 2012.

Source: NOAA Storm Prediction Center; http://www.spc.noaa.gov/climo/online/monthly/2012_annual_summary.html#

Location of Wind Damage Reports in the US, 2011



There were 18,685
“Wind Damage”
reports through
Dec. 27, causing
extensive damage
to homes and,
businesses



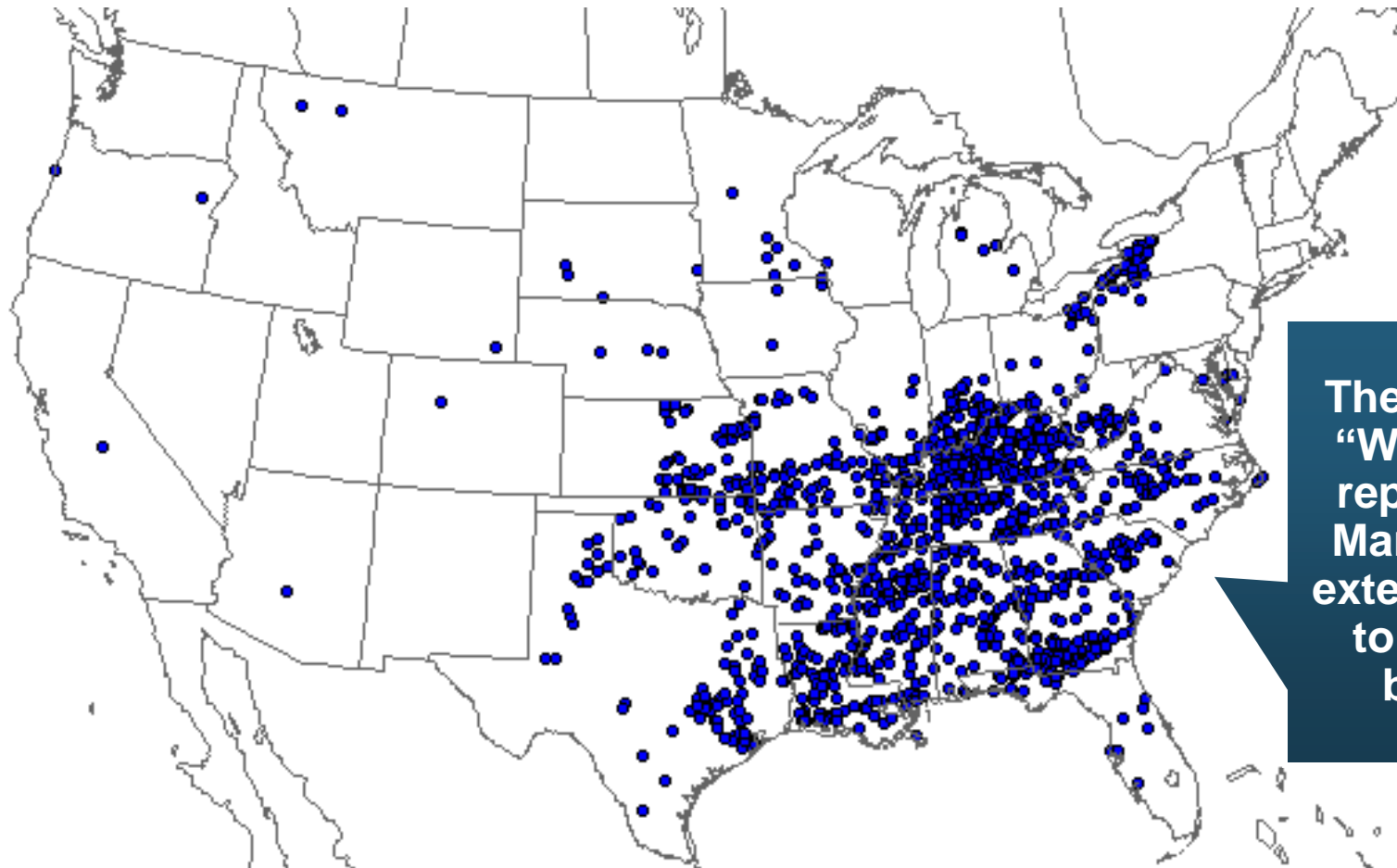
PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)

NOAA/Storm Prediction Center Norman, Oklahoma

Wind Reports
January 01, 2011 - December 27, 2011

Updated: Tuesday December 27, 2011 16:35 CT

Location of Wind Damage Reports in the US, 2012*



There were 1,312
“Wind Damage”
reports through
Mar. 23, causing
extensive damage
to homes and,
businesses



**PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)**

NOAA/Storm Prediction Center Norman, Oklahoma

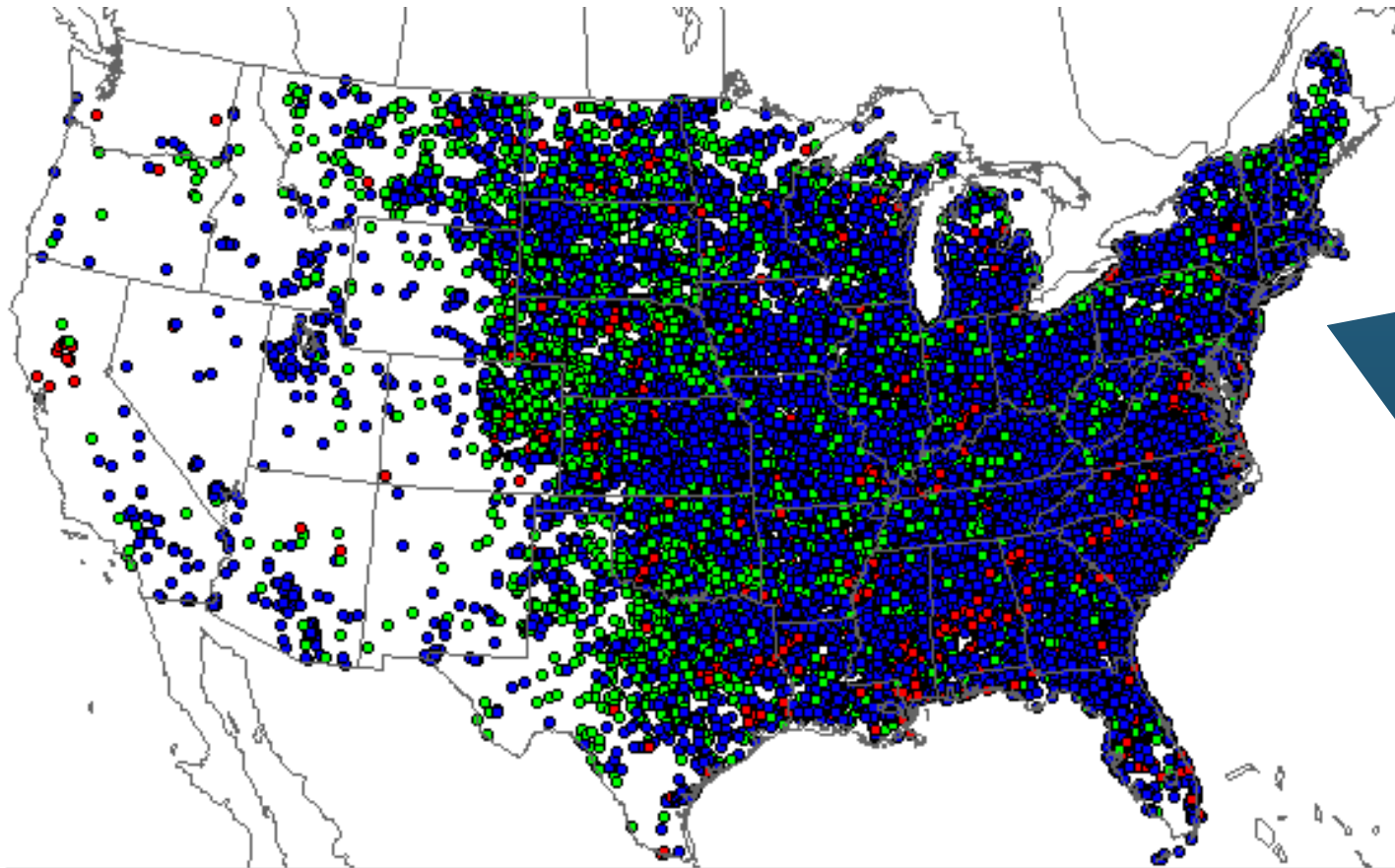
**Wind Reports
January 01, 2012 - March 23, 2012**

Updated: Friday March 23, 2012 09:20 CT

*Through March 23, 2012.

Source: NOAA Storm Prediction Center; http://www.spc.noaa.gov/climo/online/monthly/2012_annual_summary.html#

Severe Weather Reports, 2011



There were 29,996 severe weather reports in 2011; including 1,894 tornadoes; 9,417 “Large Hail” reports and 18,685 high wind events



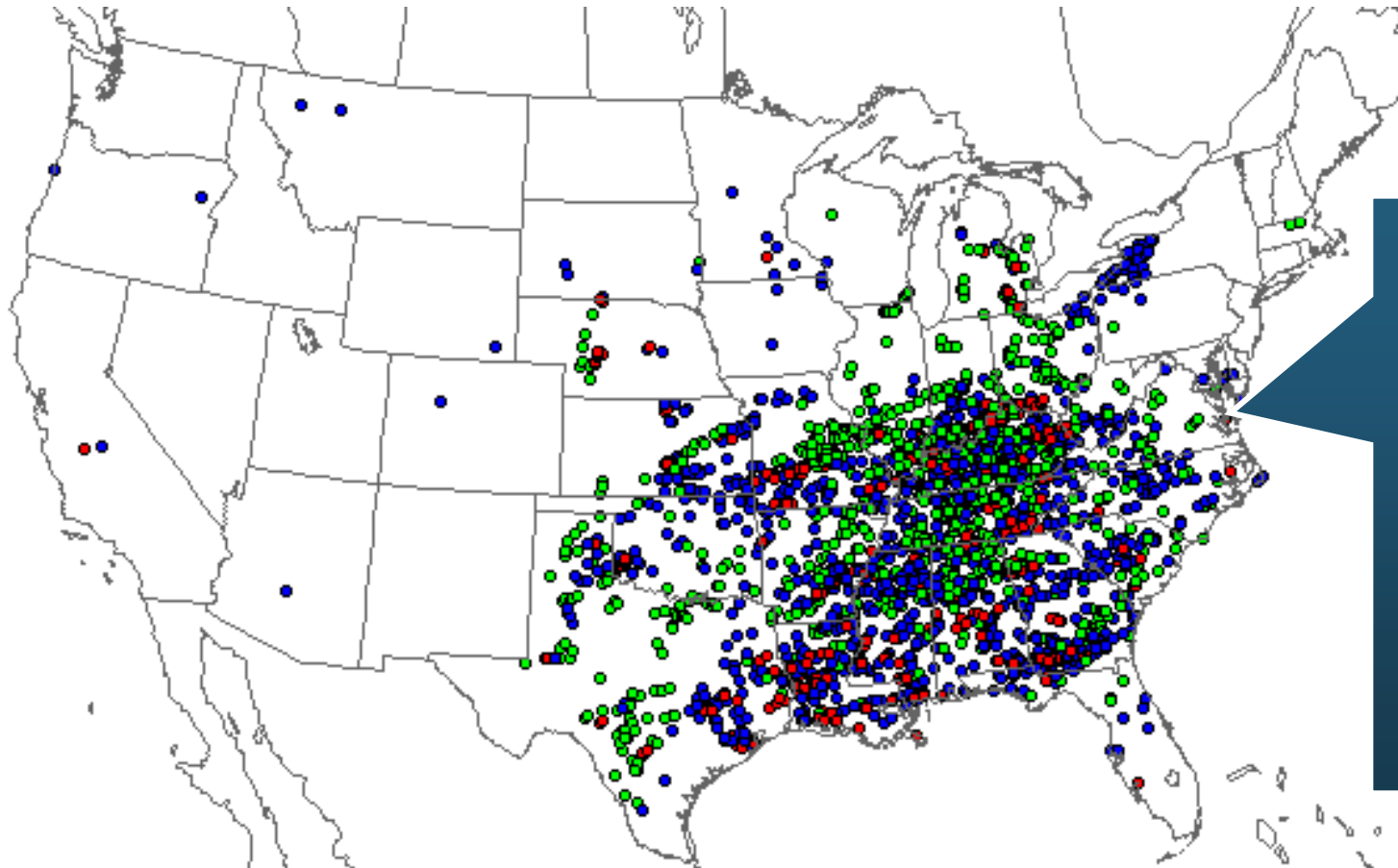
PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)

NOAA/Storm Prediction Center Norman, Oklahoma

Severe Weather Reports
January 01, 2011 - December 27, 2011

Updated: Tuesday December 27, 2011 16:35 CT

Severe Weather Reports, 2012*



There were already 2,696 severe weather reports through Mar. 23; including 360 tornadoes; 1,024 “Large Hail” reports and 1,312 high wind events



**PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)**

NOAA/Storm Prediction Center Norman, Oklahoma

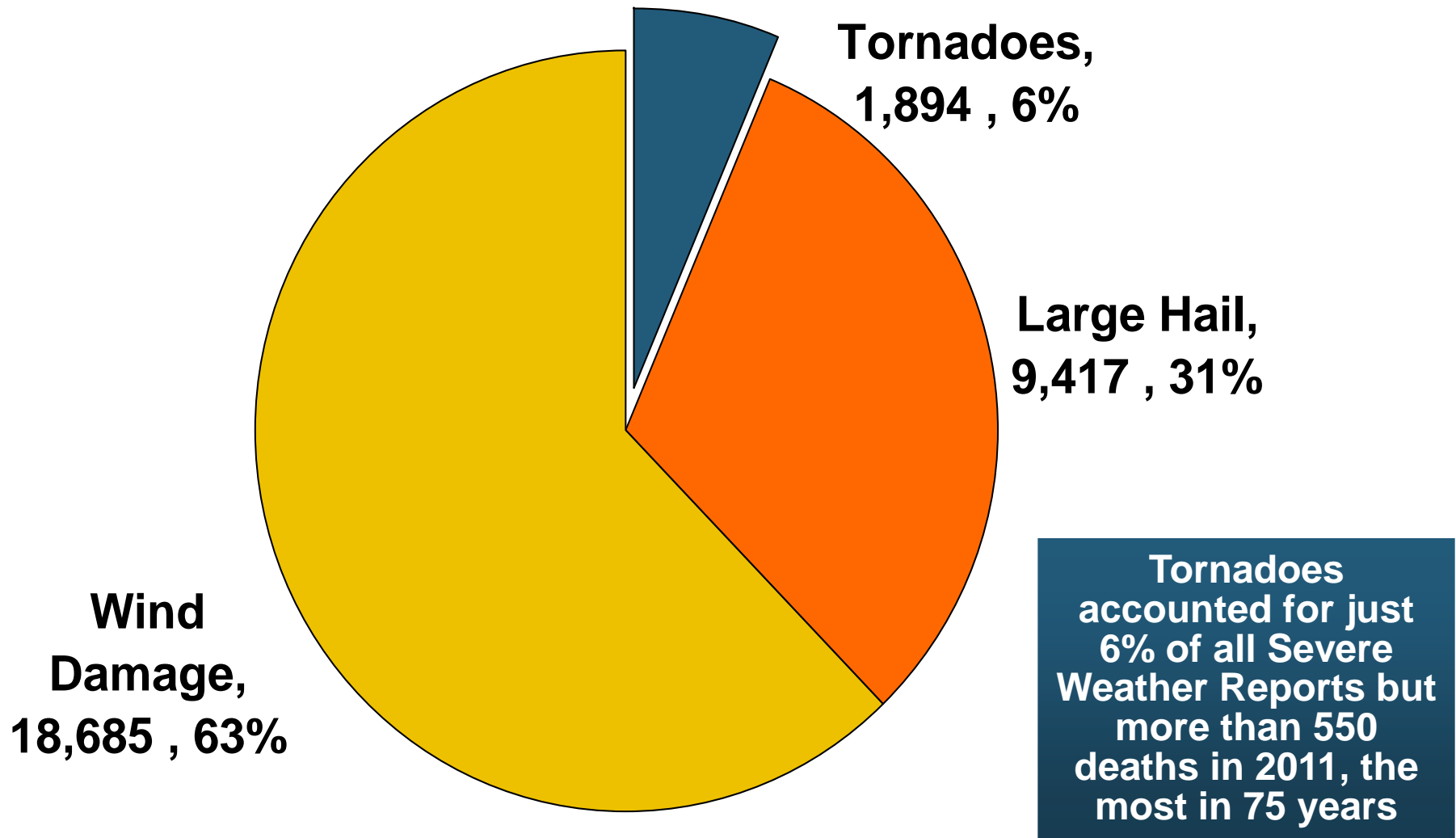
**Severe Weather Reports
January 01, 2012 - March 23, 2012**

Updated: Friday March 23, 2012 09:20 CT

*Through March 23, 2012.

Source: NOAA Storm Prediction Center; http://www.spc.noaa.gov/climo/online/monthly/2012_annual_summary.html#

Number of Severe Weather Reports in US, by Type, 2011



- **The frequency and severity of catastrophes seems to be increasing**
- **In recent years, non-tropical thunderstorms and tornados have caused most insured damage, supplanting tropical storms/hurricanes**
- **2011 was an especially expensive year for insured losses, and 2012 is starting off similarly**
- **Q&A**

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and your attention!*

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