Catastrophes – 69 Years and Counting

In the beginning.....

TO COMPANIES, MEMBERS OF THE NATIONAL BOARD OF FIRE INSURANCE UNDERWRITERS AND SUBSCRIBERS TO THE ACTUARIAL BUREAU.

AMARILLO, TEXAS
TORRADO -- MAY 13, 1949

May 13, 1949

Catastrophe Bulletin

The National Board of Fire Underwriters

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What is a “catastrophe”

• What
  – $25 million or more in direct insured losses to property
    • fixed property
    • building contents
    • time-element losses
    • vehicles
    • inland marine (diverse goods and properties)
  – affect a significant number of policyholders and insurers

• How
  – a confidential survey of insurers, agents, adjusters, public officials, and others
  – analysis of the data combined with trend factors to determine a loss estimate

• Why
  – track losses and reserves
  – reinsurance triggers
  – capital markets - ILS/ILW
  – assign and allocate personnel

2017 – The Year of the Cat?

• 46 distinct catastrophe bulletins
  – First event - January 1 thru January 3
  – Last event - December 7 thru December 12

• > 5 million claims

• Four of the all time Top-20 Catastrophe events
  – Hurricanes Maria, Irma, Harvey
  – Tubbs fire
2017: $1B+ PCS CAT Events

CAT 1719
Feb. 28 – Mar. 2

CAT 1720
Mar. 6 – Mar. 9

CAT 1722
Mar. 26 – Mar. 29

January February March April

CAT 1732
May 6 – May 11

CAT 1736
Jun. 11

CAT 1739
Jun. 27 – Jun. 29

CAT 1743
Aug. 25 – Sep. 1

May June July August
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2017: $1B+ PCS CAT Events

CAT 1744
Sep. 6 – Sep. 12

CAT 1745
Sep. 19 – Sep. 22

CAT 1747
Oct. 8 – Oct. 20

CAT 1748
Oct. 8 – Oct. 20

CAT 1754
Dec. 4 – Dec. 23

Hurricane Maria

- 2nd largest
- $22 billion
Tubbs Fire

- Largest in PCS history
- Over $7bn alone
- One of three NorCal
- 11 Date extensions

Cat 1732

- One of the largest non-tropical or fire
- Over $2bn in Colorado
- Largest hail event in CO history
2017 – The Year of the Cat?

- Impacting 44 states, DC, PR, USVI

- Billion dollar aggregates
  - California - Minnesota (almost)
  - Colorado - Puerto Rico - Missouri
  - Florida - Texas - Nebraska
  - Georgia - US Virgin Islands
  - Illinois

Perils
- hurricane > $56 billion
- tornadoes, wind, hail, flooding > $19 billion
- wildland fire > $13 billion
- winter storm > $274 million

Total PCS Catastrophe Bulletin losses ≈ $90 billion
2017 – The Year of the Cat?

Let’s put that in perspective...

• 2005 - $62 billion
• 2012 - $35 billion
• 2011 - $34 billion
• 2004 - $27 billion
• 2008 - $27 billion
• First billion $ year – 1979
  – First billion dollar cat – 1989 – Hurricane Hugo
  – (Blizzard of 1983 just missed out)
• First $10 billion year - 1992
  – Actually, $22 billion – Hurricane Andrew

The Moore progression

- 1960 – F2 swarm over two weeks -- $8.5 million
- 1973 – F3 $5.5 million
- 1999 – F5 $955 million
- 2010 – F4 $595 million
- 2013 – F5 $1.1 billion

Population

- 1800
- 18,000
- 40,000
- 55,000
- 58,000

What about the gap?

- Flood isn’t just for flood zones
  • Houston 2017
  • Iowa and Louisiana – 2016
  • South Carolina – 2015
- Wildfire
  • US Forest Service - $2.4 billion fighting wildfire
  • Calfire – $700 million ($426 million budgeted)
  • Estimated $180 billion – suppression – insurance – recovery
- Impact on government
  • Self insured
  • Loss of tax revenues
- Infrastructure
  • Transportation, power, communications
- Uninsured/underinsured
2017 – The Year of the Cat?

- Was that it?

### Historical Global Cyber Risk Losses

![Graph showing historical global cyber risk losses](image)

#### Source: PCS Global Cyber

- Insured losses
- Number of events

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### Catastrophes – What have we learned

#### Use of models

- Earthquake
- Tropical cyclone
- Severe thunderstorm
- Flood
- Winterstorm
- Wildfire
- Cyber
- Casualty
- Mortality
- Terrorism

#### Rating issues

- Reliance on traditional ratemaking and data sources
- Engineering
  - Roof type and age
  - Macro environment

#### Coverage tools

- Disaster limits
- Deductibles
- Debris removal
- Ordinance or law
Catastrophes – What have we learned

- Importance of building codes
  - Strong codes
  - Strong enforcement
- Loss prevention
- Mitigation
- Resilience
- Claims response
  - Disaster teams
  - Drone/aerial support
  - Fraud detection

2018 – Deja vu all over again?

- Five catastrophes posted to date
  - 3 Winter storms
  - Wind/thunderstorm
  - Earth movement/flooding/wind
- 2018 Hurricane forecasts
- Affects of climate change
  - Rising sea levels
  - “Bomb” cyclones
  - Polar vortex
  - Drought
- AER/Rutgers University Study on warm arctic episodes
Catastrophes

PCS | US, Canada and Turkey

69 Years and Counting

CIPR Spring Event
March 26, 2018

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