

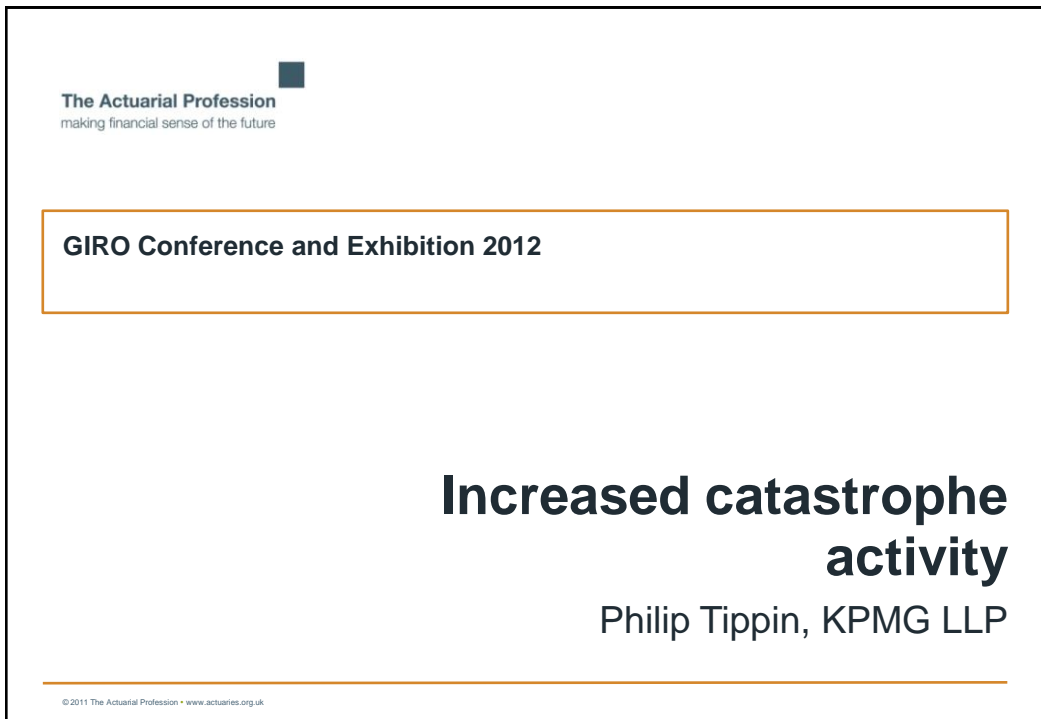
A person is silhouetted against a vibrant sunset sky, juggling several red balls. The scene is set on a beach with waves in the background. The sky is filled with orange and yellow clouds, and a bright sun is visible behind the horizon.

The Actuarial Profession
making financial sense of the future

GIRO Conference and Exhibition 2012
Juggling uncertainty the actuary's part to play

19 September 2012

© 2012 The Actuarial Profession • www.actuaries.org.uk

A person is silhouetted against a vibrant sunset sky, juggling several red balls. The scene is set on a beach with waves in the background. The sky is filled with orange and yellow clouds, and a bright sun is visible behind the horizon.

The Actuarial Profession
making financial sense of the future

GIRO Conference and Exhibition 2012

Increased catastrophe activity

Philip Tippin, KPMG LLP

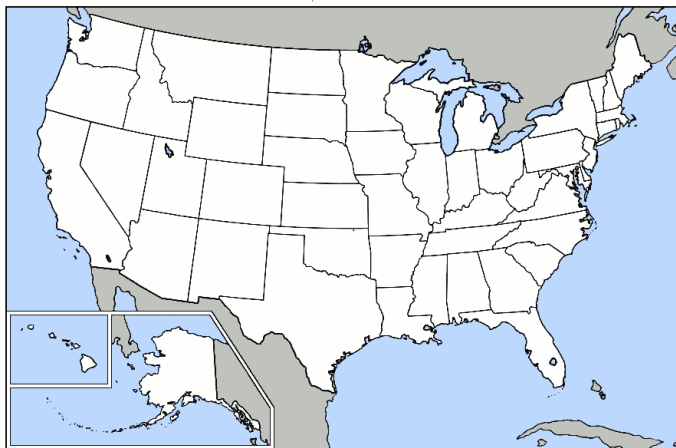
© 2011 The Actuarial Profession • www.actuaries.org.uk

Why are we seeing increased catastrophe activity?

Trends to discuss

- Where do catastrophes happen?
- What sort of events are causing them?
- What can the industry learn from this?
- What happens next?

Where do catastrophes happen?



http://commons.wikimedia.org/wiki/File:Map_of_USA.png

Where do catastrophes happen?

- In the 40 years between 1970 and 2009 there have been 36 insured events with a “2010 equivalent” market loss of greater than \$2.5bn
- The top 40 over that period exceed \$2.35bn
- Of these 25 occurred in the US
- 10 were from Western Europe
- The other 5 were from Japan
- 9 of the top 10 were US events

Source of all above: Swiss Re Sigma

© 2011 The Actuarial Profession • www.actuaries.org.uk

4

Where do catastrophes happen?

- The received wisdom is that catastrophes were largely a US phenomenon, but other G7 members were allowed
- Between the beginning of 2010 and the end of 2011 more than \$80bn of insured losses have been incurred in Australia, Chile, New Zealand, Thailand and Japan
- By the end of 2011, 10% of the largest ever 40 insured losses were from non-G7 countries

© 2011 The Actuarial Profession • www.actuaries.org.uk

5

What sort of events are causing them?

- Windstorms dominate the top 40
- Recent increase in earthquake catastrophic losses
- Flooding a common feature (including after windstorm)
- A few non-natural (Piper Alpha, 9/11 etc)



http://commons.wikimedia.org/wiki/File:Rockhampton_in_flood.jpg

© 2011 The Actuarial Profession • www.actuaries.org.uk

6

What sort of events are causing them?

What is driving frequency?

- Do we have more underlying events than before?
 - Earthquake detections have increased massively over 30 years
 - But so have the number and sophistication of seismic activity detectors
 - Atlantic hurricane frequency trends?
- Economic growth is leading to changes in aggregation potential and penetration of insurance sales

© 2011 The Actuarial Profession • www.actuaries.org.uk

7

What sort of events are causing them?

What is driving severity?

- Increasing insured values in catastrophe areas
- New catastrophe areas (Thailand was a “non-cat” zone) driven by economic growth
- Broader coverage? Especially in non-US policies?
- Convergence in values around the world?



http://commons.wikimedia.org/wiki/File:VOA_-_Thailand_Grapples_With_Worst_Flooding_in_50_Years_-_04.jpg

© 2011 The Actuarial Profession • www.actuaries.org.uk

8

What sort of events are causing them?

The value of a life



Source: commons.wikimedia.org/wiki/File:Sea_otter.jpg

© 2011 The Actuarial Profession • www.actuaries.org.uk

9

What can the industry learn from this?

- Significant economic growth across the emerging markets
 - Insurance purchasing lags economic growth, but does follow
- Models are not infallible
 - Thailand was considered a “non-cat” zone
 - The Christchurch earthquake emanated from an unknown but suspected fault line
 - Can we produce cost-effective catastrophe models for the currently unmodelled zones
- Geographical diversification of catastrophe risk is not necessarily capital-light

© 2011 The Actuarial Profession • www.actuaries.org.uk

10

What happens next?

- Climate change?
- Further economic rebalancing?
- Hurricane Sandy?

© 2011 The Actuarial Profession • www.actuaries.org.uk

11

Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenter.

