Mt. Logan Re™

ILS General Session: Introductory Slides

Seminar on Reinsurance, June 3-4, 2019

What are Insurance Linked Securities?

What are insurance-linked securities (or ILS)?

Insurance-linked securities, or **ILS**, are essentially financial instruments which are sold to investors whose value is affected by an insured loss event. As such the term insurance-linked security encompasses catastrophe bonds and other forms of risk-linked securitization.

Share:

Insurance-linked securities are generally thought to have little to no correlation with the wider financial markets as their value is linked to non-financial risks such as natural disasters, longevity risk or life insurance mortality.

As securities, insurance-linked securities can be and are traded among investors and on the secondary-market. They allow insurers to offload risk and raise capital, they also allow life insurers to release the value in their policies by packaging them up and issuing them as asset-backed notes.

Source: Artemis.bm

2

What are examples of Insurance Linked Securities?

Mt. Logan Re

ILS Universe

Non-Life	Life
– Catastrophe Bonds – Catastrophe Derivatives/ Industry Loss Warranties – Collateralized reinsurance/retro – Quota Shares/Sidecars	– Extreme Mortality Bonds – Longevity swaps/bonds – Embedded Value Securitizations – Life Settlement Securitizations – Reserve Financing (e.g Reg XXX)

Source: Swiss Re Capital Markets presentation to Casualty Actuaries of New England

What is a Cat Bond?

What is a catastrophe bond (or cat bond)?

We're regularly contacted by people asking us 'What is a catastrophe bond?' or 'What is a cat bond?' so we thought we'd provide a simple primer on the topic. **Catastrophe bonds**, also called **cat bonds**, are an example of insurance securitization to create risk-linked securities which transfer a specific set of risks (generally catastrophe and natural disaster risks) from an issuer or sponsor to investors. In this way investors take on the risks of a specified catastrophe or event occuring in return for attractive rates of investment. Should a qualifying catastrophe or event occur the investors will lose the principal they invested and the issuer (often insurance or reinsurance companies) will receive that money to cover their losses.

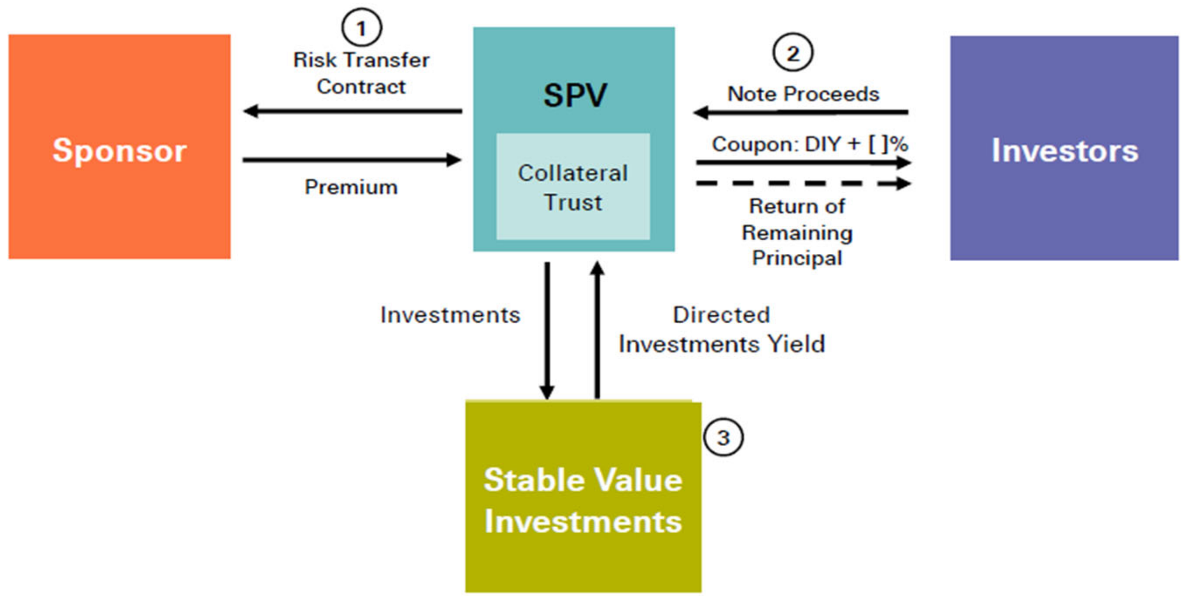
Share:

Catastrophe bonds were first issued in the mid 1990's, we have a comprehensive database containing the details of nearly every (over 280) **catastrophe bond transaction**. Major catastrophe events which hit the U.S. such as the Northridge eartquake and Hurricane Andrew were seen as events of such magnitude that the insurance industry began to look for alternative methods to hedge their risks and through collaboration with capital markets companies catastrophe bonds were born.

Source: Artemis.bm

Cat bonds (continued)

How do Cat Bonds Work?



1. The sponsor (the insurer or reinsurer looking to get protection) enters into a risk transfer contract (reinsurance or derivative) with a special purpose company established specifically for the transaction (SPV)
2. The SPV capitalizes itself by issuing Notes (the "Cat Bonds") to Investors in the capital markets in an amount equal to the limit of the risk transfer contract
3. Proceeds from the securities offering are transferred into a collateral trust account and invested to provide a stable return
4. If no covered event occurs during the risk period the bonds will be redeemed at 100% of face value. In case of a covered event meeting the thresholds set forth in the risk transfer contract, funds will be withdrawn from the collateral account to make an event payment to the sponsor. The redemption price of the bonds is reduced accordingly

Source: Swiss Re Capital Markets presentation to Casualty Actuaries of New England

What is an Industry Loss Warranty (ILW)?

Mt. Logan Re

What are industry loss warranties (ILW's)?

An industry loss warranty, known as industry loss warranties or ILW's, is a form of reinsurance or derivative contract through which a company or organisation (often an insurer) can gain coverage based on the total insured loss experienced by the industry rather than their own losses from a specified event. The contracts have a specified limit which denotes the amount of compensation the buyer receives if the industry loss warranty is triggered.

Share:

An example would be if an insurer has exposure to hurricanes in Florida, they could buy an industry loss warranty exposed to wind in that region of the U.S. which would be triggered if the total industry insured loss rose above $10 billion. They pay a premium to the company who writes this cover for them (often a reinsurer or hedge fund) and in return could receive the limit amount if losses exceed the pre-defined amount.

Often written as a reinsurance contract an industry loss warranty can sometimes have additional clauses which must be met for a payout to be made, such as additionally to the industry loss the buyer must also have experienced a specified amount of loss themselves.

There arer different types of industry loss warranties available. Live Cat industry loss warranty contracts are traded while an event is occuring, often while a storm approaches landfall. Dead Cat industry loss warranties can be bought and traded on an event which has already happened but where the final loss amount is not yet known. Back-up Covers can be arranged after an event has occurred to provide protection against follow-on events which certain catastrophes can cause (such as flooding or fire following an event).

Source: Artemis.bm

6

What is Collateralized Reinsurance?

What is collateralized (or collateralised) reinsurance?

Collateralized reinsurance refers to a reinsurance contract or program which is fully-collateralized, typically and in the cases we are most interested in on Artemis, by investors or third-party capital.

Share:

The collateral is put up by investors or third-party capital providers to cover in full the potential claims that could arise from the reinsurance contract.

Normally the collateral posted is equal to the full reinsurance contract limit, minus the net premiums charged for the protection.

Collateralized reinsurance allows ILS funds, hedge funds, pension funds and unrated, third-party capitalised reinsurance vehicles to participate in major reinsurance programs as the contracts they write are fully-collateralised. By participating in collateralized reinsurance activities these investors and capital providers are able to provide capital to underwrite insurance risk without requiring a rating, thus enabling them to receive the premiums as a return on their invested collateral.

The market in collateralized reinsurance enables these institutional investors to directly participate in the reinsurance market and provide a source of risk capital to cedents in the market. This risk capital is increasingly popular as it helps a cedent diversify its sources of reinsurance protection and due to the fully-collateralized nature of the covers.

Source: Artemis.bm

What is a reinsurance sidecar?

Mt. Logan Re

What is a reinsurance sidecar?

A **reinsurance sidecar**, sometimes referred to as a reinsurance sidecar vehicle or simply a sidecar, is a financial structure established to allow investors (often external or third-party) to take on the risk and benefit from the return of specific books of insurance or reinsurance business. Looking for a list of reinsurance sidecars?

Share:

Typically sidecars are set up by existing re/insurers who are looking to either partner with another source of capital or set up an entity to enable them to accept capital from third-party investors.

Reinsurance sidecars are often joint-ventures between two existing insurance or reinsurance businesses. Increasingly though, sidecars are simply a convenient structure allowing third-party capital to be deployed within reinsurance underwriting business.

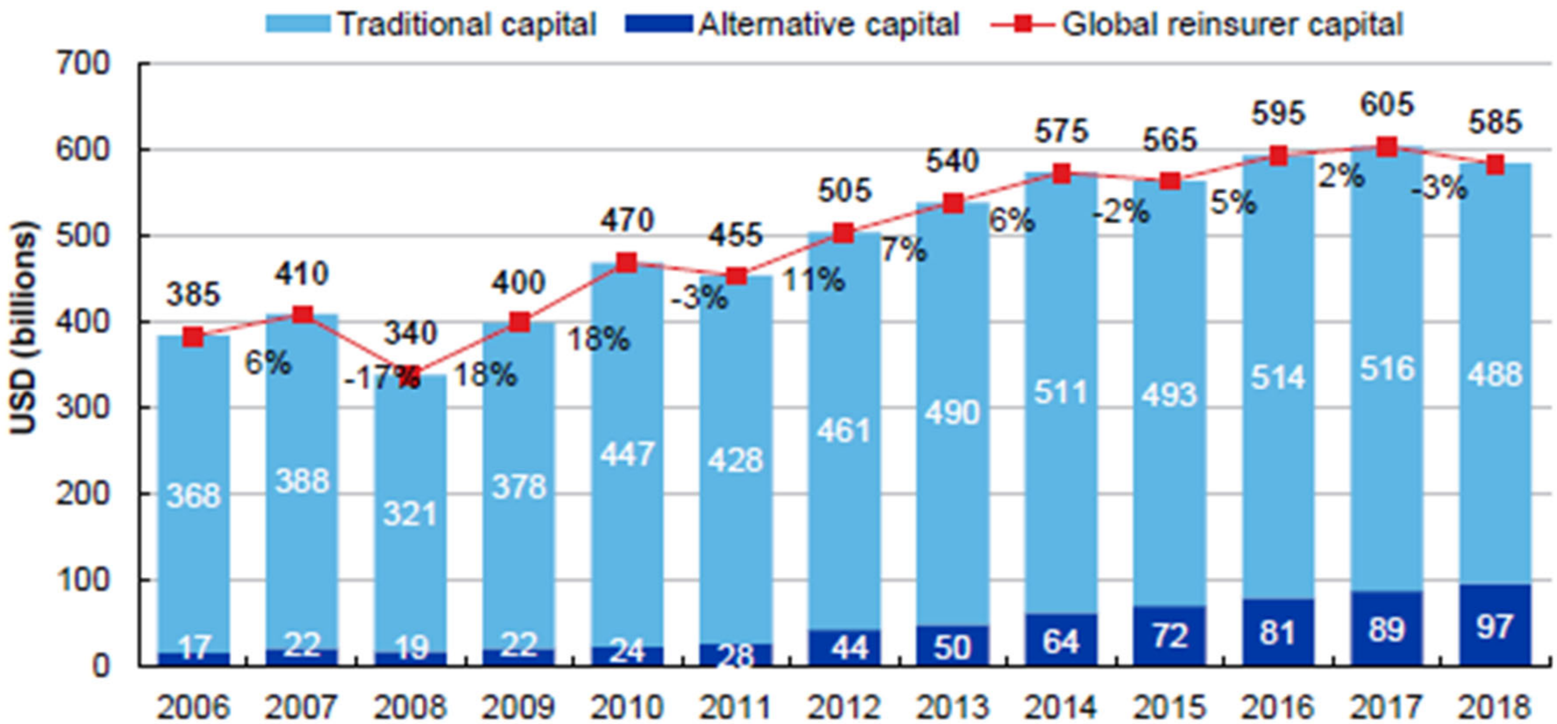
Reinsurance sidecars are normally fully-collateralized, meaning that the funds are always available to pay claims in the event of losses. The ceding insurer or reinsurer, who cedes risk to the sidecar, will typically pay its premiums for the coverage up-front allowing investors to profit from the premium return but then leaving their collateral exposed for the duration of the underlying reinsurance contracts.

Reinsurance sidecars can either be limited duration, so sometimes simply a year, or more permanent structures which underwrite new business at each renewal season dependingon how much available capacity they have or managed to raise from external investors.

Source: Artemis.bm

8

Global Reinsurer Capital: Traditional v Alternative

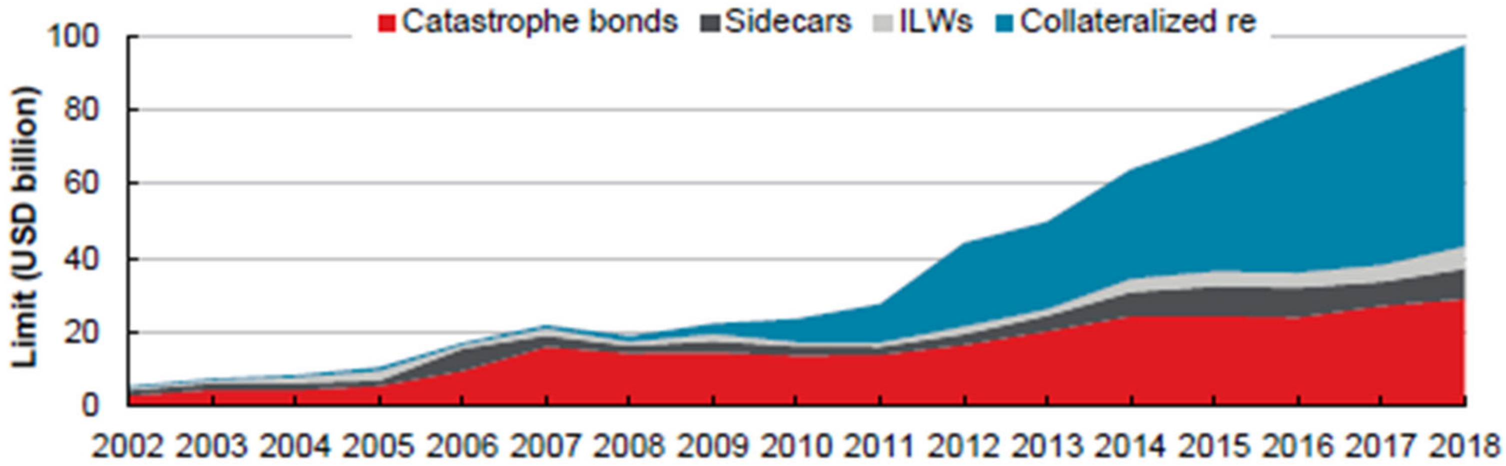


Sources: Company financial statements, Aon Business Intelligence, and Aon Securities Inc.

ILS Capital Over Time

24

ILS Product Distribution over Time



Source: Aon Securities Inc.

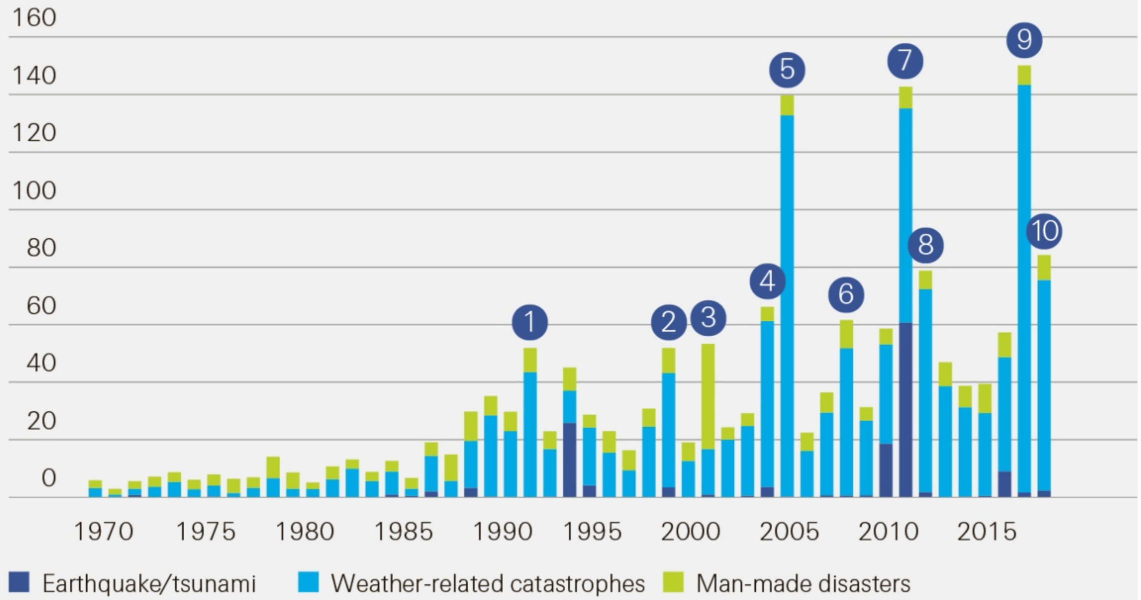
11

Insured Catastrophe Loss Estimates

Figure 3

Insured catastrophe losses, 1970–2018 (USD billion, in 2018 prices)

1. Hurricane Andrew
2. Winter Storm Lothar
3. WTC
4. Hurricanes Ivan, Charley, Frances
5. Hurricanes Katrina, Rita, Wilma
6. Hurricanes Ike, Gustav
7. Japan, NZ earthquakes, Thailand flood
8. Hurricane Sandy
9. Hurricanes Harvey, Irma, Maria
10. Camp Fire, Typhoon Jebi

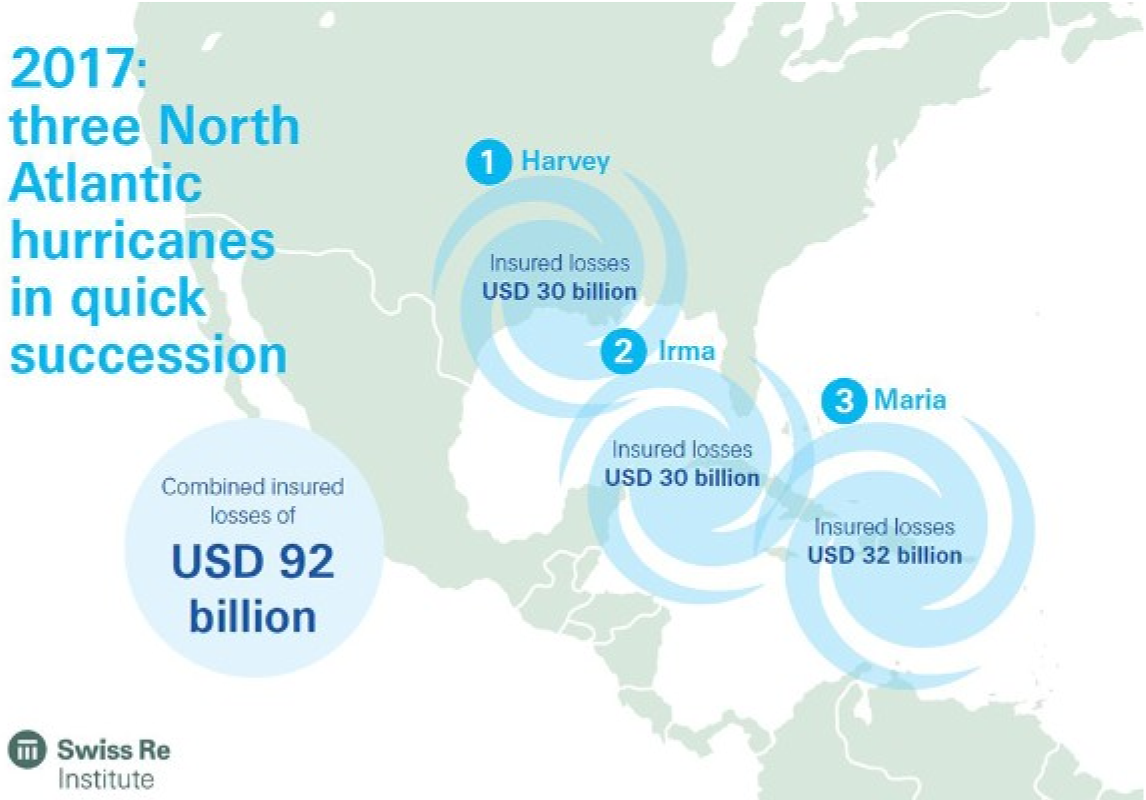


Source: Swiss Re Institute

Source: Swiss Re

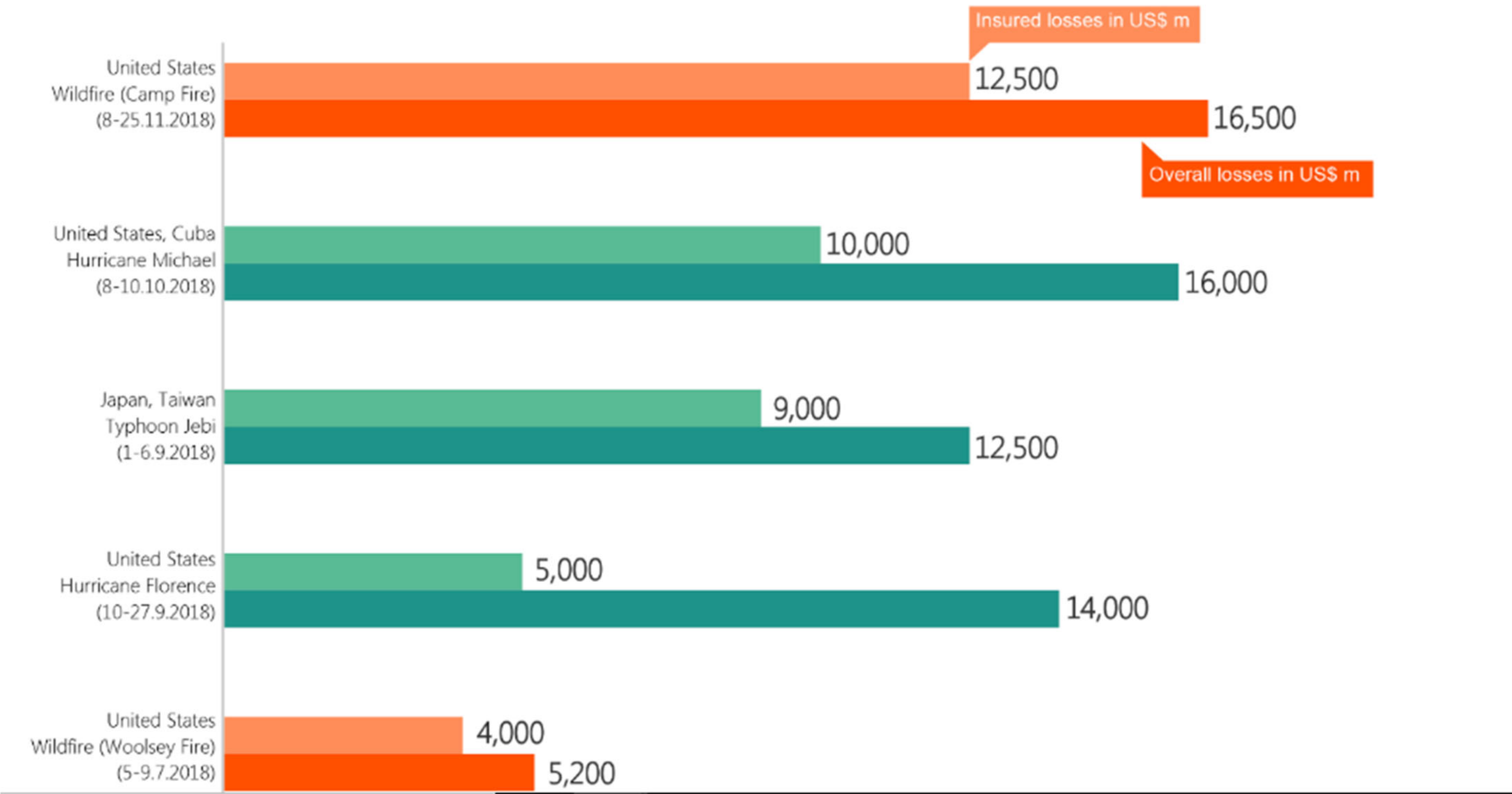
12

Insured Catastrophe Loss Estimates: 2017



Source: Swiss Re

Insured Catastrophe Loss Estimates: 2018



Source: Munich Re