

October 2019

# Asia Pacific Catastrophe Reinsurance

An Executive Summary



# Key Contact

## GC Analytics

David M. Lightfoot | Head of Global Strategic Advisory, Asia Pacific and Latin America

David.M.Lightfoot@guycarp.com | +1 917 937 3195

Michael Owen | Managing Director, Head of GC Analytics, Asia Pacific

Michael.G.Owen@guycarp.com | +65 6922 1951

---

# Contents

---

<b>Executive Summary</b>	<b>5</b>
<b>Losses</b>	<b>7</b>
Typhoon Jebi (Japan)	
Typhoon Trami (Japan)	
Typhoon Faxai (Japan)	
Townsville Floods (Australia)	
Typhoon Lekima (China)	
Typhoon Hagibis (Japan)	
<b>Insurance-Linked Securities</b>	<b>8</b>
<b>Guy Carpenter Asia Pacific Analytics</b>	<b>9</b>

---



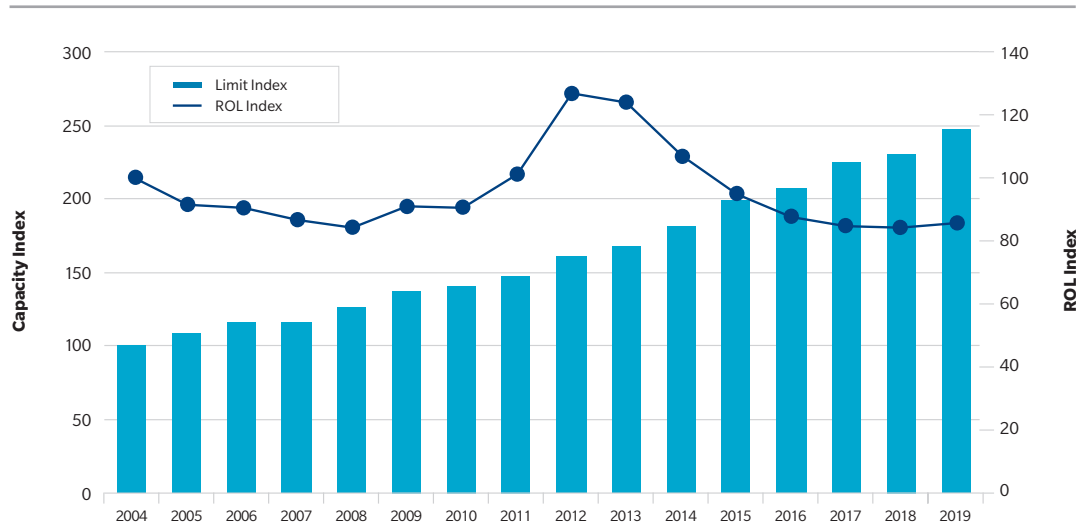
# Executive Summary

The Guy Carpenter Asia Pacific Rate-On-Line (ROL) Index rose in 2019; this was the first time in nearly a decade that the index did not decline. Price increases were not uniform across the region, but were targeted toward cedents or even specific layers that suffered losses. Consequently, following Typhoon Jebi, which occurred in September 2018, price increases were significant for Japanese typhoon buyers. Also, there were moderate increases for certain cedents in Australia, while prices remained broadly flat for other perils and geographies.

The year 2018 was another significant one for global insured property catastrophe losses, which exceeded USD 85 billion, the fourth highest loss total year on record. It followed over USD 100 billion of losses in 2017 (the third highest year on record). The accumulation of these losses has brought an end to years of soft reinsurance market conditions. However, the portion of these losses emanating from the Asia Pacific region remains small.

The tighter pricing environment did not dampen demand, limiting the impact on the Asia Pacific Rate-on-Line Index. Also, the significant supply of available excess capacity had a partial impact on the Index. As a whole, capacity purchased in Asia Pacific increased again in 2019, continuing the trend that began in 2004.

FIGURE 1. Guy Carpenter Asia Pacific Limit and Rate-on-Line Indices

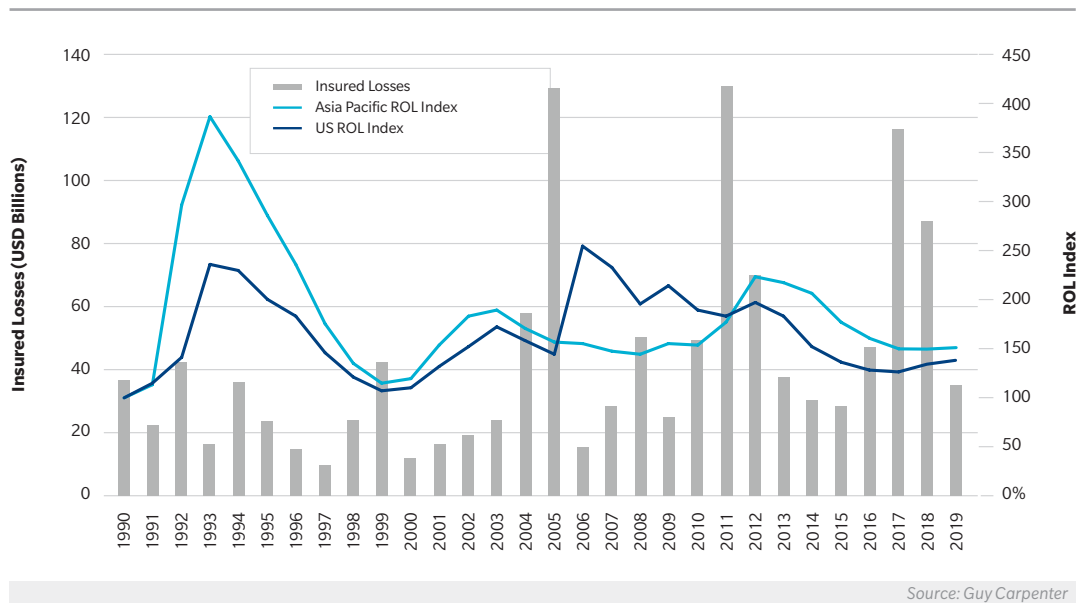


Source: Guy Carpenter

Globally, events of note that occurred were a series of wildfires in the United States, further raising awareness of non-modeled perils, and Hurricane Dorian, which eventually made landfall in North Carolina after causing significant losses to the Bahamas.

The development of 2017 hurricane losses continues to deteriorate reinsurer results. The impact of these events on the Asia Pacific region is likely to be limited to the retrocession market and buyers of retrocession capacity, which may be limited or be priced at a premium.

**FIGURE 2. Global Insured Cat Losses and Property Catastrophe Rate-on-Line Indices**



Significant events in individual territories in the Asia Pacific region, in particular Japan (Typhoons Jebi, Trami and Faxai), Australia (Townsville Floods) and China (Typhoon Lekima), will directly impact reinsurance pricing in each territory. At the time of this writing, Typhoon Hagibis is approaching the Japanese coastline.

Year-to-date 2019 insured losses (up to and including the third quarter) are estimated to be approximately USD 35 billion – already close to exceeding the annual average industry losses that occurred since 2013, and three months of the year still remain.

# Losses

Typhoon Jebi was the largest event in the Asia Pacific region in 2018, by a wide margin. A series of typhoons, earthquakes, floods and other weather-related losses also impacted the region, making 2018 a significant year in terms of frequency and severity of catastrophe events.

## Typhoon Jebi (Japan)

In early September 2018, Typhoon Jebi made first landfall in Japan on Shikoku island (Tokushima prefecture), with a second landfall near Kobe, Hyogo prefecture. According to meteorological reports, it was the strongest typhoon to hit Japan in 25 years. Initial estimates of the insured losses were, in hindsight, considerably underestimated, with a number of factors leading to some loss development. The latest estimates from the non-life companies indicate that the ultimate loss is now stabilizing. According to the General Insurance Association of Japan, non-life companies had paid JPY 1,067 billion (USD 10 billion) in claims by the end of 2018.

## Typhoon Trami (Japan)

According to the Japan Meteorological Agency, Trami made landfall on September 30, 2018, with winds of up to 150 km/h (90 mph). In a pattern that was similar to that of Typhoon Jebi, Typhoon Trami made landfall in the Kansai region, but the slower wind speed and track meant that the loss quantum from this event is smaller than that of Typhoon Jebi. According to the General Insurance Association of Japan, non-life companies had paid a total claim amount of JPY 306 billion (USD 2.8 billion) by the end of 2018.

## Townsville Floods (Australia)

Between January 24 and February 10, 2019, a slow moving monsoon system with intermittent heavy rainfall, affected Far North Queensland. According to The Insurance Council of Australia data, it generated over 30,000 claims with insured losses of AUD 1.24 billion. Townsville was badly affected by severe flooding from this event.

## Typhoon Lekima (China)

According to the China Meteorological Association, Typhoon Lekima made landfall in Wenling City, Zhejiang Province at 1:45 AM local time on August 10, 2019, with an intensity equivalent to a Category 3 hurricane on the Saffir-Simpson Hurricane Wind Scale. With two-minute sustained winds of 187 km/h (116 mph), Lekima became the third strongest tropical cyclone to impact eastern China after Saomai in 2006 and Wanda in 1956. Early estimates indicate that the economic losses caused by Lekima will approach the total losses brought about by Typhoon Fitow in 2013. Insurance penetration in China remains low, so insured losses are likely to be a fraction of the total economic cost.

## Typhoon Faxai (Japan)

Typhoon Faxai made landfall on September 9, 2019, at approximately 5 AM local time, near the city of Chiba in the Greater Tokyo Area, after crossing Tokyo Bay as a Category 2 storm. Among the strongest typhoons to hit the Greater Tokyo Area in recorded history, Faxai was accompanied by record wind gusts, as measured from multiple weather stations in the affected region. Damaging winds caused severe power outages and over 900,000 households were left without power. Faxai also disrupted the Tokyo transport system. Air travel, trains and ferries to and from the metropolitan area were suspended, and major highways were closed. Authorities issued non-compulsory evacuation warnings to over 390,000 people, and about 5,000 people in Chiba and Kanagawa prefectures were ordered to evacuate.

## Typhoon Hagibis (Japan)

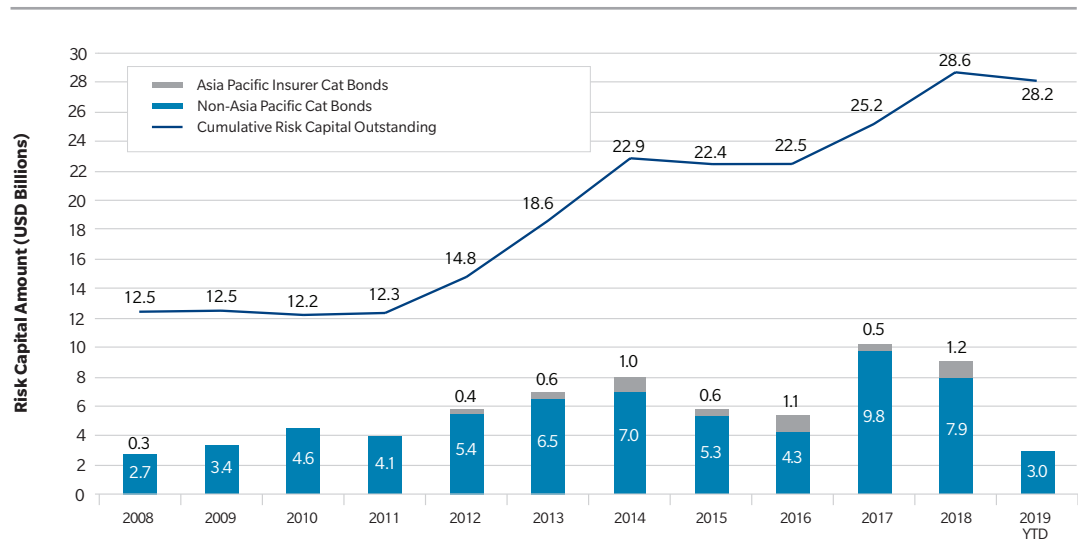
Occurring on October 6 through October 13, 2019, Typhoon Hagibis was an extremely violent and large tropical cyclone. It was the strongest typhoon in decades to strike mainland Japan; and one of the largest typhoons ever recorded, at a peak length of 825 nautical miles (1,529 kilometers; 950 miles). At this time it is too early to estimate the loss.

## Insurance-Linked Securities

Following an increase in alternative capital in 2018, alternative capital dipped slightly in the first half of 2019 for the first time since 2012, as investors responded to evolving risk measures and loss experiences over the last 12 months. Overall traditional dedicated reinsurance capital, having declined at year-end 2018, nevertheless recorded a moderate increase year-on-year of 1.5 percent during this period, as below-average catastrophe losses and macroeconomic factors, such as lower interest rates and higher bond valuations, effectively boosted the sector's capital base. Overall, dedicated reinsurance capital is up approximately 0.5 percent over year-end 2018.

However, activity in the global catastrophe bond market was also impacted by the 2018 loss activity, with many transactions completed at the top-end of initial pricing guidance or above. As a result, the first half of 2019 experienced a 54 percent decrease in new capital compared to the same period of 2018.

**FIGURE 3. Outstanding Catastrophe Bonds In the Asia Pacific Region as of August 2019**



Source: Guy Carpenter

One new Asia Pacific catastrophe bond was issued during 2019, on a 4(2) private basis. This issuance was an important milestone for the region, as it was the first catastrophe bond to be issued using a Singapore-domiciled Special Purpose Reinsurance Vehicle, taking advantage of the Singapore Insurance-Linked Securities (ILS) grant scheme.

The amount of 144A catastrophe bond limit outstanding that covers risks in the Asia Pacific region decreased for the first time since 2013 by 6 percent, to just over USD 3.3 billion. The decline was due to the maturation of one catastrophe bond in December 2018. Issuers based in the Asia Pacific region now account for approximately 12 percent of the global catastrophe bond limit outstanding.



# Guy Carpenter Asia Pacific Analytics

Guy Carpenter is well positioned to help companies successfully manage their capital and volatility and grow profitably in the Asia Pacific region. Our global GC Analytics<sup>®</sup>, Strategic Advisory and GC Securities\* teams offer a holistic set of connected services and solutions that include industry-leading capital assessment, portfolio optimization and underwriting planning and risk selection services. We employ over 400 modeling, actuarial and advisory professionals who closely collaborate with Guy Carpenter's global broking force to deliver insights and growth opportunities to our clients.

One area of focus for our analytical resources in Asia Pacific is non-modeled perils, in particular, flood. Flood is the most significant under-modeled peril for the Asia Pacific region, which contains 10 of the 15 countries in the world with the largest population and gross domestic product (GDP) exposed to annual river floods. The annual exposure to flood risk is in excess of USD 500 billion of GDP, the majority of which is uninsured.

One of the key factors influencing the insurance coverage gap is a lack of understanding of flood risk. Additional information apart from historic events is required for a full assessment of flood risk, including precipitation, topography, mitigation and changes to the urban landscape. By incorporating new data products, such as hazard maps, probabilistic event sets and defense information from both private- and public-sector sources, Guy Carpenter can help clients better understand and manage their risk from flood losses. Our flood modeling options include:

- High resolution hazard flood maps and flood risk scores in GC AdvantagePoint<sup>®</sup>, where risks can be analyzed based on probability of being in a flooded location.
- Tail-oriented probabilistic modeling using our proprietary OmniCAT methodology, which provides different flood risk perspectives, flood-plain hot spots, deterministic worst case scenarios and hybrid exceedance probability curve estimations.
- Fully probabilistic modeling offering a complete view of flood risk.

Guy Carpenter's Model Suitability Analysis (MSA)<sup>®</sup> evaluates the performance of catastrophe models through a series of standard tests, including sensitivity of different exposure combinations to results, loss validation and comparison of the model hazard and vulnerability assumptions to academic or other respected views. When warranted, we develop adjustments to vendor models that are considered appropriate for certain portfolios.

We encourage you to contact your Guy Carpenter representative to review and discuss your modeling, advisory and capital needs in more detail.

\*Securities or investments, as applicable, are offered in the United States through GC Securities, a division of MMC Securities LLC, a US registered broker-dealer and member FINRA/NFA/SIPC. Main Office: 1166 Avenue of the Americas, New York, NY 10036. Phone: (212) 345-5000. \*\*Securities or investments, as applicable, are offered in the European Union by GC Securities, a division of MMC Securities (Europe) Ltd. (MMCSEL), which is authorized and regulated by the Financial Conduct Authority, main office 25 The North Colonnade, Canary Wharf, London E14 5HS. Reinsurance products are placed through qualified affiliates of Guy Carpenter & Company, LLC. MMC Securities LLC, MMC Securities (Europe) Ltd. and Guy Carpenter & Company, LLC are affiliates owned by Marsh & McLennan Companies. This communication is not intended as an offer to sell or a solicitation of any offer to buy any security, financial instrument, reinsurance or insurance product.

Guy Carpenter & Company, LLC provides this report for general information only. The information contained herein is based on sources we believe reliable, but we do not guarantee its accuracy, and it should be understood to be general insurance/reinsurance information only. Guy Carpenter & Company, LLC makes no representations or warranties, express or implied. The information is not intended to be taken as advice with respect to any individual situation and cannot be relied upon as such.

Statements concerning tax, accounting, legal or regulatory matters should be understood to be general observations based solely on our experience as reinsurance brokers and risk consultants, and may not be relied upon as tax, accounting, legal or regulatory advice, which we are not authorized to provide. All such matters should be reviewed with your own qualified advisors in these areas.

Readers are cautioned not to place undue reliance on any historical, current or forward-looking statements. Guy Carpenter & Company, LLC undertakes no obligation to update or revise publicly any historical, current or forward-looking statements, whether as a result of new information, research, future events or otherwise.

The trademarks and service marks contained herein are the property of their respective owners.

©2019 Guy Carpenter & Company, LLC

All rights reserved.



