



Q2 2018 Catastrophe Bond & ILS Market Report

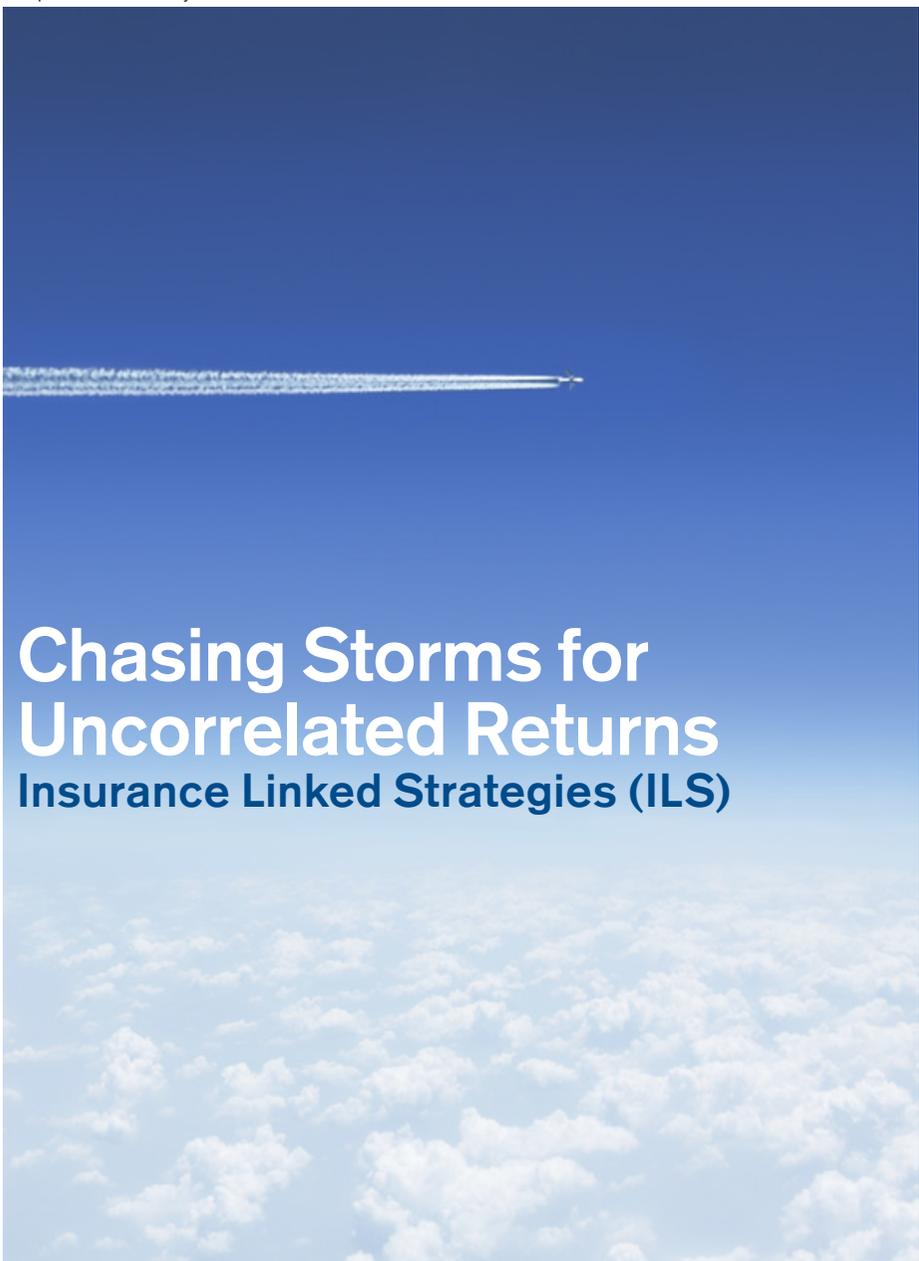
Sponsors and investors show
commitment to ILS

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INTRO

This report reviews the catastrophe bond and insurance-linked securities (ILS) market at the end of the second-quarter of 2018, looking at new risk capital issued and the composition of transactions completed during the quarter.

Catastrophe bond and ILS issuance in the second-quarter of 2018 was the second highest ever recorded, at \$5.151 billion from 26 deals, made up of 46 tranches of notes. As shown by the Artemis Deal Directory, the strong level of issuance in Q2 combined with the record-breaking Q1, takes H1 2018 issuance to \$9.39 billion, making this already the second most active full-year ever recorded.

Continuing the trend of Q1 and despite the impacts of 2017's catastrophe losses, both new and returning sponsors were a feature of the second-quarter, which included some unknown sponsors of private deals. In fact, 14 tranches, or roughly \$500 million of notes issued in the second-quarter were privately placed.

After muted issuance in Q2 2015 & 2016, the market bounced back in 2017 with over \$7 billion of Q2 issuance. While Q2 2018 issuance is roughly \$1.8 billion less than last year, the impressive, record-breaking level of activity witnessed in 2018 so far resulted in the outstanding catastrophe bond and ILS market ending H1 at a huge \$35.3 billion, which represents growth of roughly \$2.4 billion in three months.

Artemis is the leading, freely accessible source of timely, relevant and authoritative news, analysis, insight and data on the insurance-linked securities, catastrophe bond, alternative reinsurance capital and related risk transfer markets. The Artemis Deal Directory is the leading source of information, data and analysis on issued catastrophe bond and insurance-linked securitization transactions.

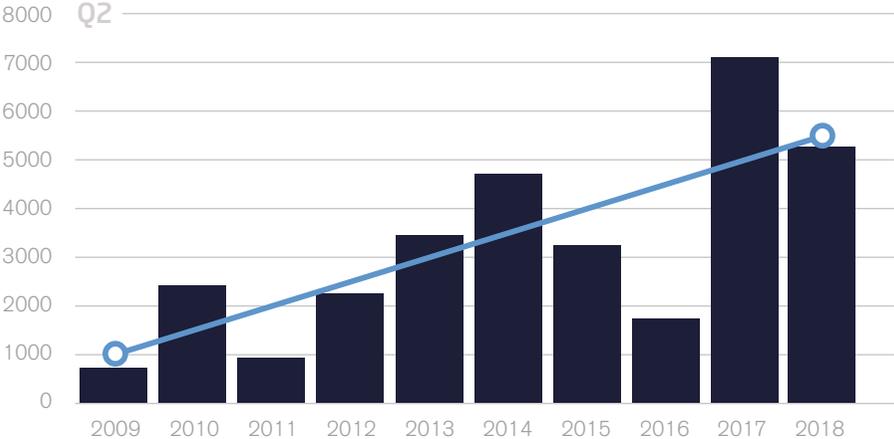
Transaction Recap

A mix of 26 traditional 144A and private catastrophe bond transactions came to market in the second-quarter of 2018, and investors were treated to a broad mix of perils from an expanding sponsor base. Brief details of each transaction can be seen below:

ISSUER / TRANCHE	SPONSOR	PERILS	SIZE (\$M)	DATE
Oak Leaf Re Ltd. (Series 2018-1)	Southern Oak Insurance Co.	Florida named storms	45.26	Jun
Frontline Re Ltd. (Series 2018-1)	Frontline Insurance	U.S. named storm	350	Jun
Eclipse Re Ltd. (Series 2018-02A)	Unknown	Unknown property catastrophe risks	97.6	Jun
Dodeka XV	Unknown	U.S. property catastrophe risks	9,269	Jun
Resilience Re Ltd. (Series 1861A)	Unknown	Unknown property catastrophe risks	37	Jun
Market Re Ltd. (Series 2018-1)	Unknown	Florida named storms	84	Jun
Operational Re II Ltd.	Zurich Insurance Co. Ltd.	Operational risks	148	Jun
Eclipse Re Ltd. (Series 2018-01A)	U.S. Coastal Insurance Co.	U.S. property catastrophe risks	53.3	May
Atlas Capital UK 2018 PLC (Series 2018 ISPV1)	SCOR Global P&CSE	International multi-peril	300	May
Alamo Re Ltd. (Series 2018-1)	Texas Windstorm Insurance Association	Texas multi-peril	400	May
Long Point Re III Ltd. (Series 2018-1)	Travelers	U.S. multi-peril	500	May
Dodeka XIII	Unknown	U.S. property catastrophe risks	23,567	May
Bowline Re Ltd. (Series 2018-1)	Transatlantic Re	International multi-peril	250	May
Everglades Re II Ltd. (Series 2018-1)	Citizens Property Insurance	Florida named storms	250	May
Residential Reinsurance 2018 Limited (Series 2018-1)	USAA	U.S. multi-peril	300	May
Caelus Re V Ltd. (Series 2018-1)	Nationwide Mutual	U.S. multi-peril	450	May
Kilimanjaro Re Ltd. (Series 2018-1)	Everest Re	International multi-peril	262.5	Apr
Kilimanjaro Re Ltd. (Series 2018-2)	Everest Re	International multi-peril	262.5	Apr
Resilience Re Ltd. (Series 1841A)	Unknown	Unknown property catastrophe risks	150	Apr
Pelican IV Re Ltd. (Series 2018-1)	Louisiana Citizens	Louisiana multi-peril	100	Apr
Kendall Re Ltd. (Series 2018-1)	Aspen Bermuda Limited	International multi-peril	225	Apr
Integrity Re Ltd. (Series 2018-1)	American Integrity	Florida multi-peril	79	Apr
Bellemeade Re Ltd. (Series 2018-1)	Arch Capital Group Ltd.	Mortgage insurance risks	374.46	Apr
Fidus Re Ltd. (Series 2018-1)	Build America Mutual	Financial guarantee risks	100	Apr
Armor Re II Ltd. (Series 2018-1)	United P&C Insurance	U.S. multi-peril	100	Apr
Manatee Re II Ltd. (Series 2018-1)	Safepoint Insurance Co.	U.S. multi-peril	200	Apr

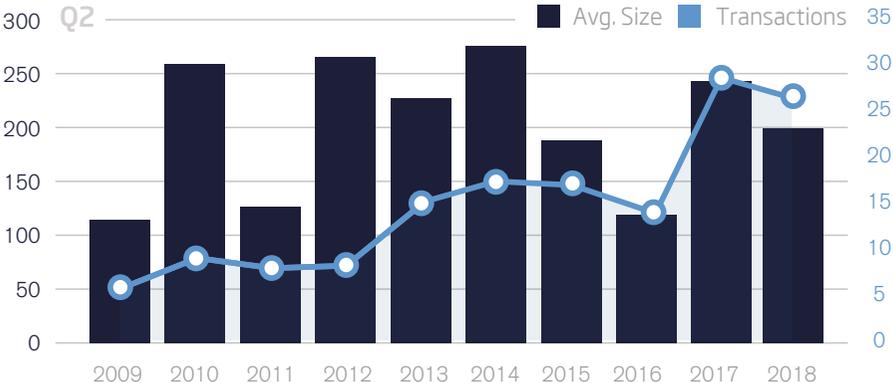
Q2 ILS issuance by year (\$M)

Catastrophe bond and ILS issuance in the second-quarter of 2018 was over \$2 billion above the ten-year average and exceeded \$5 billion for the second year running, according to data from the Artemis Deal Directory. In line with the ten-year trend, Q2 issuance exceeded Q1 issuance in 2018, by roughly \$914 million.



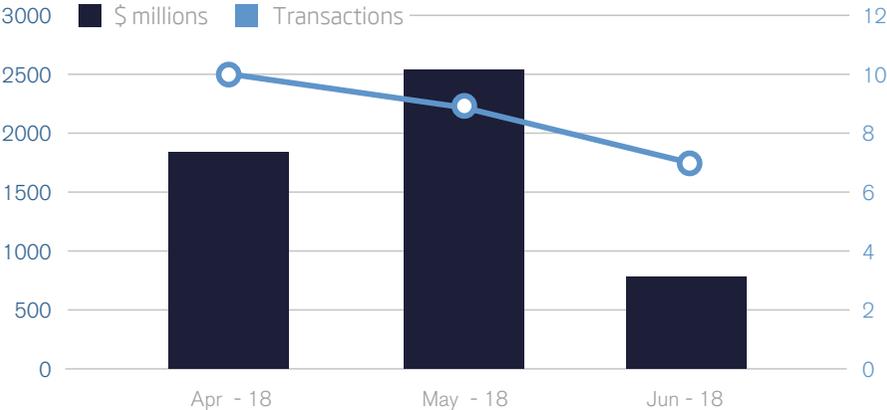
ILS average transaction size & number of transactions by year (\$M)

26 transactions came to the catastrophe bond and ILS market in the second-quarter of 2018, which is below the record setting 29 transactions in Q2 2017, but above the 15 average of the last ten years. The average transaction size during the second-quarter of 2018 is in line with the ten-year average, at more than \$198 million, which is \$43 million lower than last year.



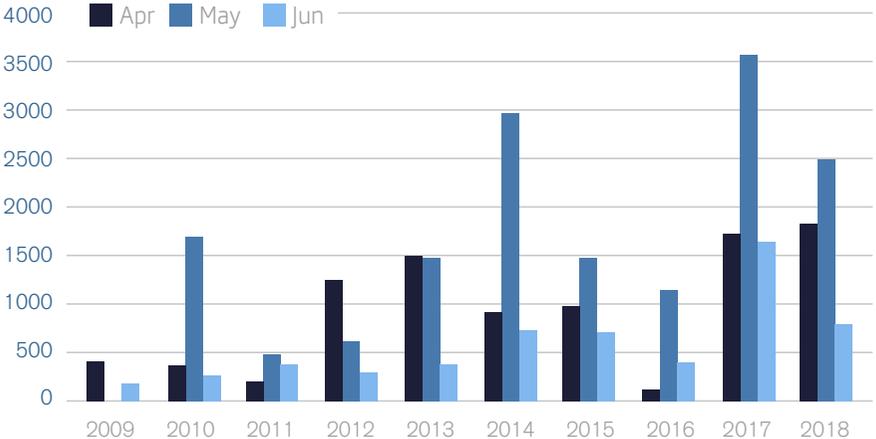
Number of transactions and volume issued by month (\$M)

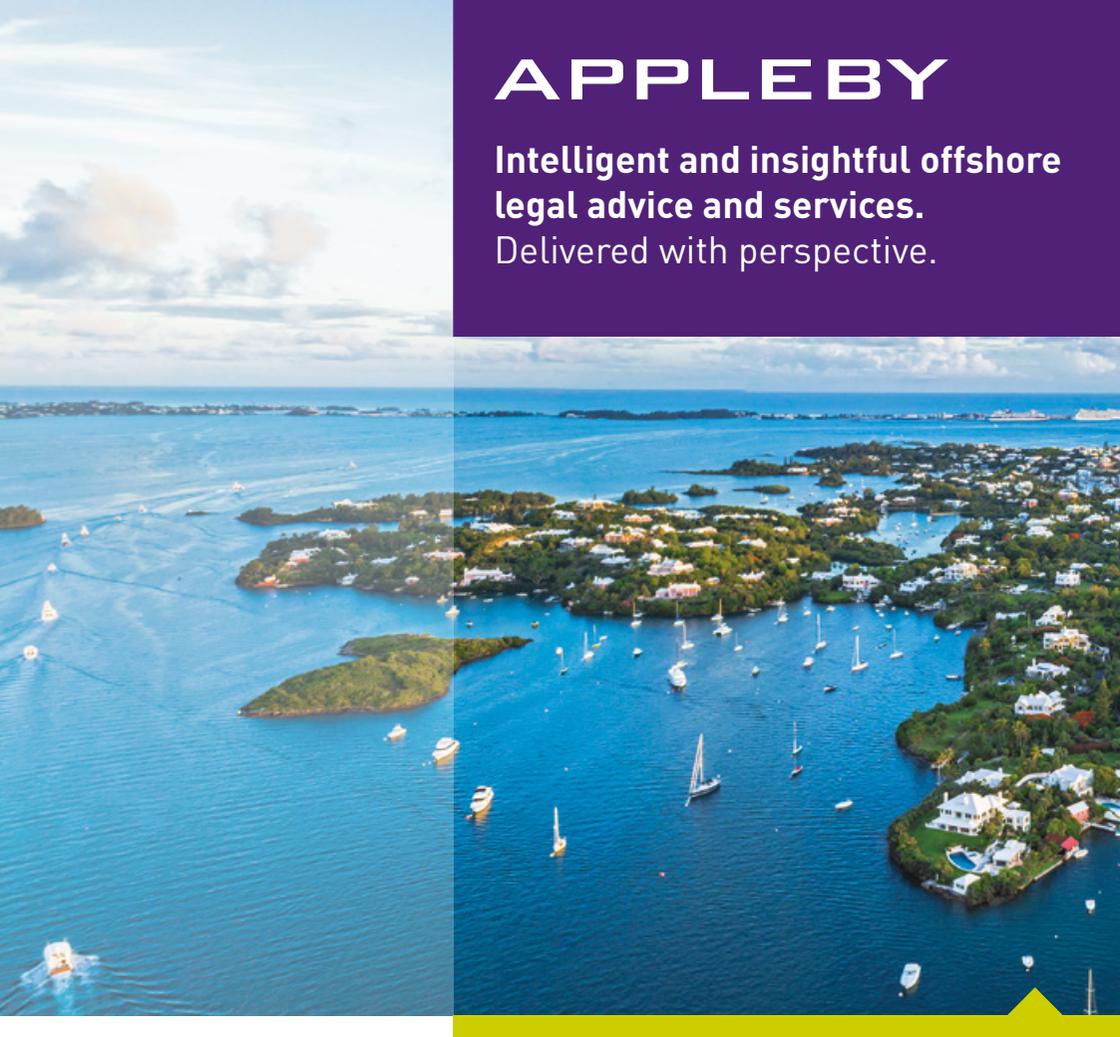
As is typical of second-quarter issuance, the month of May was the most active both in terms of new risk capital issued, which exceeded \$2.5 billion, and the number of transactions, which totalled nine. April saw ten transactions come to market, bringing \$1.85 billion of new risk capital. June is typically the slowest month of the period, and this was again the case in 2018, with \$771 million of issuance from seven deals.



Q2 issuance by month & year (\$M)

After a truly staggering level of issuance in Q2 2017, April, May and June issuance this year was always likely to be down, year-on-year. However, April issuance is still \$928 million above the ten-year average for the month, while May issuance is also above the ten-year average, by \$930 million. While slow, June issuance was actually also \$205 million above the ten-year average for the month.





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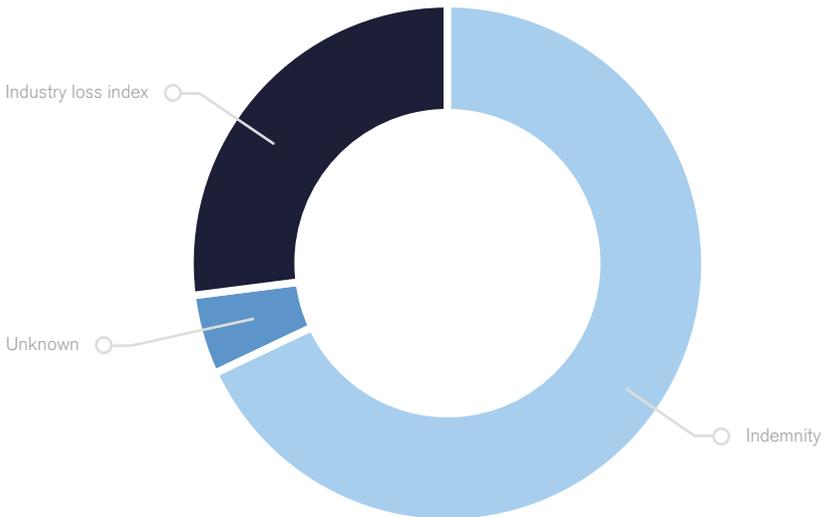
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Q2 2018 ILS issuance by trigger type

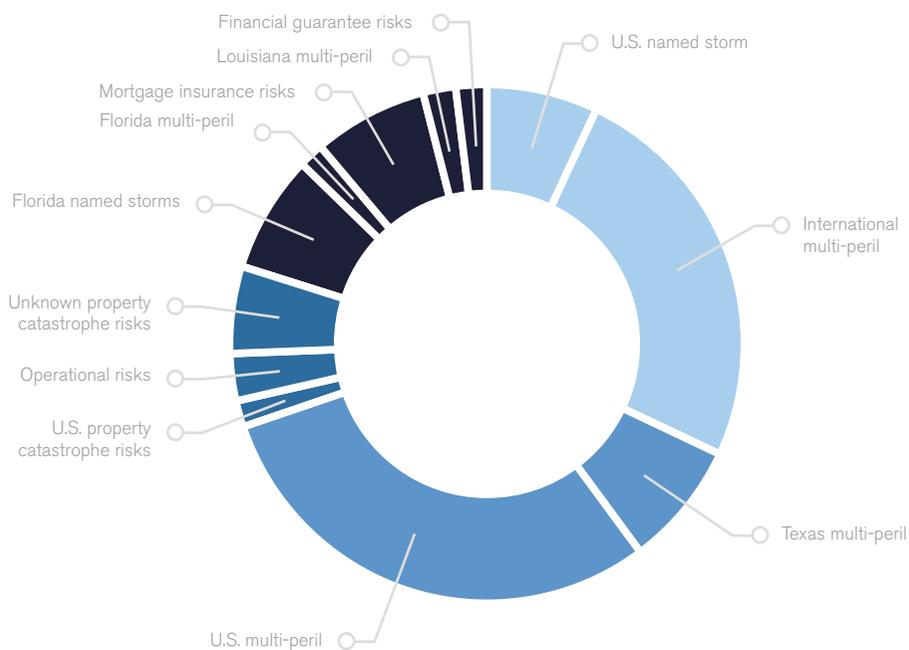
In 2018, indemnity protection once again dominated second-quarter issuance, with sponsors securing over \$3.5 billion of indemnity coverage, accounting for roughly 69% of new risk capital issued.



Trigger diversification was lacking in the second-quarter of 2018 when compared with both Q2 2017 and Q1 2018, which unlike this quarter, both featured some parametric protection. Roughly 26%, or \$1.3 billion of Q2 issuance utilised an industry loss trigger, while we do not have trigger information for the remaining 6%, or \$285 million of issuance.

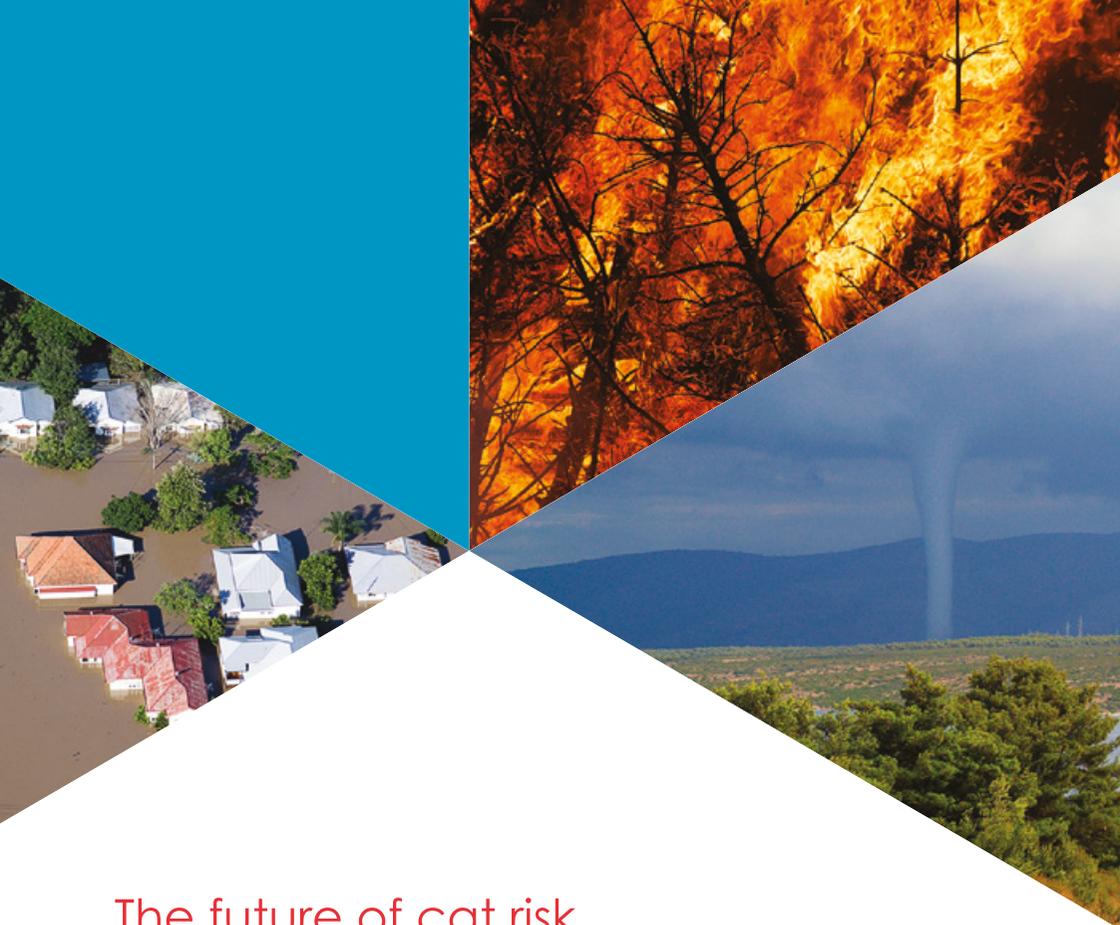
Q2 2018 ILS issuance by peril

In what's become somewhat of a Q2 trend, no single peril dominated issuance in 2018. The largest slice of Q2 issuance covered U.S. multi-peril risks, accounting for roughly 30%, or \$1.55 billion of issuance. \$1.3 billion, or roughly 25% of Q2 issuance covered multiple international perils.



Investors were treated to peril diversification in Q2 2018, including a \$100 million deal from a first time sponsor that covered financial guarantee risks, an industry first. Zurich returned in Q2 with a \$148 million deal covering operational risks, which accounts for almost 3% of issuance, while Arch brought \$374 million of mortgage insurance risks to market.

\$350 million, or 7% of Q2 issuance covered U.S. named storm risks. Combined, \$458 million, or 9% of issuance offered protection against Florida perils, including named storm & severe thunderstorm risks. 8%, or \$400 million of issuance in Q2 featured Texas named storm & severe thunderstorm risks, while \$100 million, or 2% featured named storm & severe thunderstorm risks in Louisiana. \$285 million of unknown property catastrophe risks combined with \$86 million of U.S. property catastrophe risks, accounting for roughly 7% of Q2 issuance.



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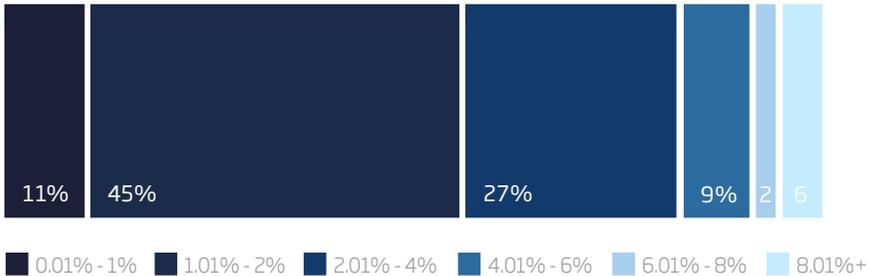
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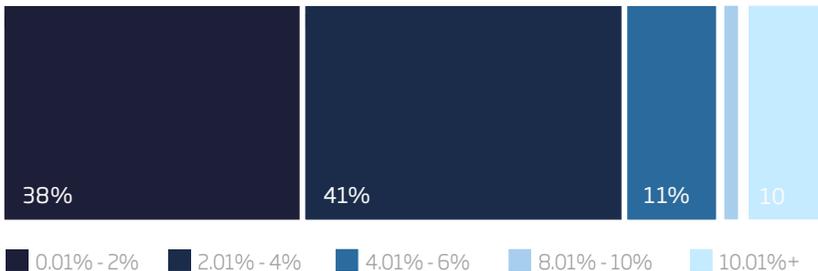
Q2 2018 ILS issuance by expected loss

For the \$4.029 billion of total risk capital issued that we have expected loss data for, 55%, or \$2.235 billion had an expected loss of below 2%. The majority of this, 45% or \$1.81 billion, had an expected loss of between 1.01% and 2%. Roughly 12%, or \$469 million of Q2 issuance had an expected loss of between 4.01% and 8%, while \$225 million, or 6% of issuance had an expected loss over 8%. The Class A-1 & A-2 tranche of Kilimanjaro Re notes were the riskiest on offer, with an expected loss of 8.5%. The Class A tranche of Caelus Re V notes offered the lowest expected loss of Q2, at 0.63%.



Q2 2018 ILS issuance by coupon pricing

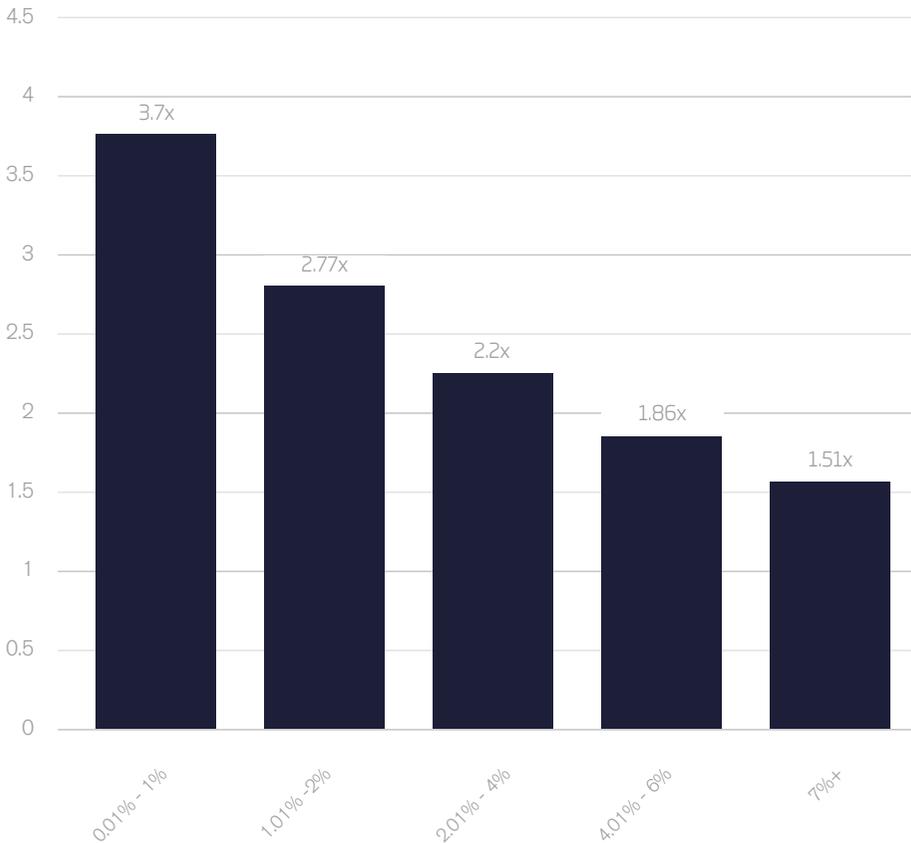
For Q2 issuance where we have pricing data (this amounts to \$4.082 billion of total risk capital issued), \$1.53 billion, or 38% paid a coupon of below 4%. Over \$1.67 billion, or 41% of issuance paid a coupon of between 4.01% and 6%, while \$474 million, or 12% paid investors a coupon of between 6.01% and 10%. \$400 million, or 10% of issuance offered a coupon higher than 10%. The Class A-1 & A-2 tranche of Kilimanjaro Re notes offered the highest coupon in Q2, of 12.5%. The lowest coupon on offer in the quarter came from Pelican IV Re, at 2.25%.



Q2 2018 average multiple by expected loss

Where we have both the expected loss and pricing data, the average multiple (price coupon divided by expected loss) during the second-quarter of 2018 was 1.96, which is lower than at the end of Q1 but above that seen at the end of 2017. The chart below shows the average multiple of Q2 issuance by expected loss range, which shows that investors command the highest multiple for the lowest risk/return deals.

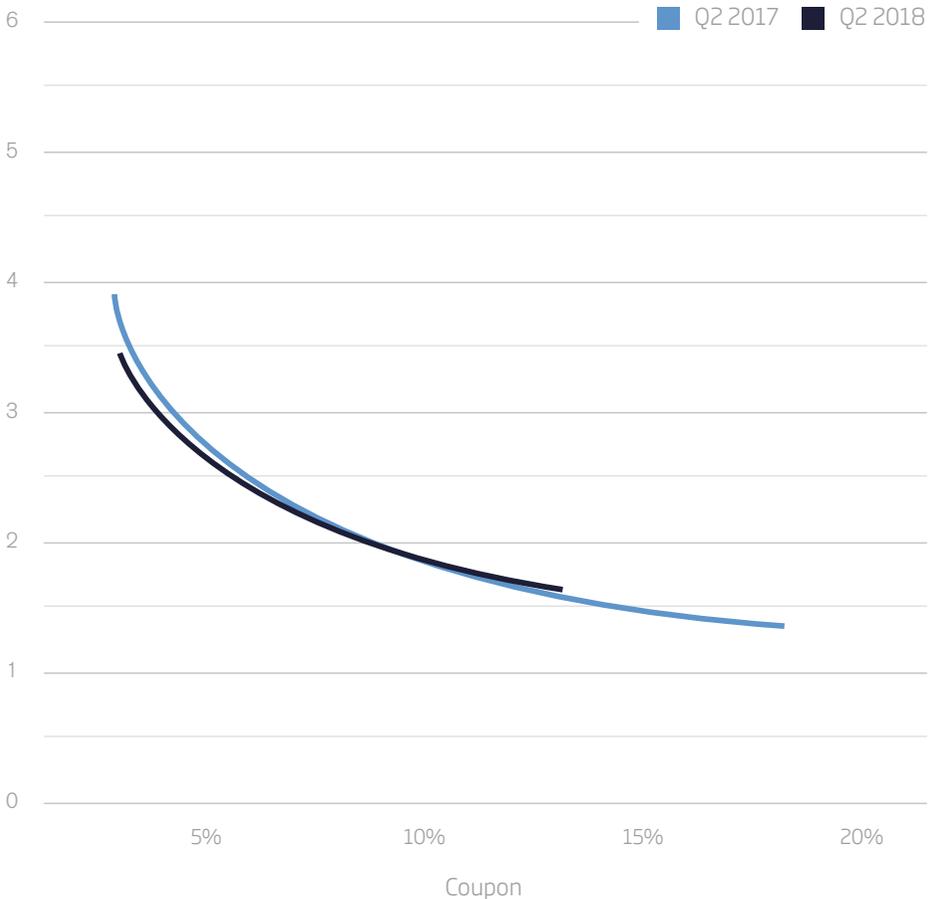
The chart reveals the risk adjusted return ILS investors took advantage of in the second-quarter, and investors are clearly willing to accept lower multiples as the risk rises, which in turn means the coupon would be rising.



Q2 2018 pricing & multiple year-on-year

The chart below is another way of looking at the risk adjusted return of issuance in the second-quarter of 2018, plotting the coupon versus the multiple. The dark blue line represents Q2 2018 and the light blue line Q2 2017, showing that lower coupon deals command a higher multiple, and investors are willing to take on greater risk for a higher yield.

This chart shows that overall, ILS investors have been willing to accept roughly the same amount of risk for the same amount of coupon in Q2, year-on-year. Although, there are some outlying deals dependent on the sponsor and level of risk involved.



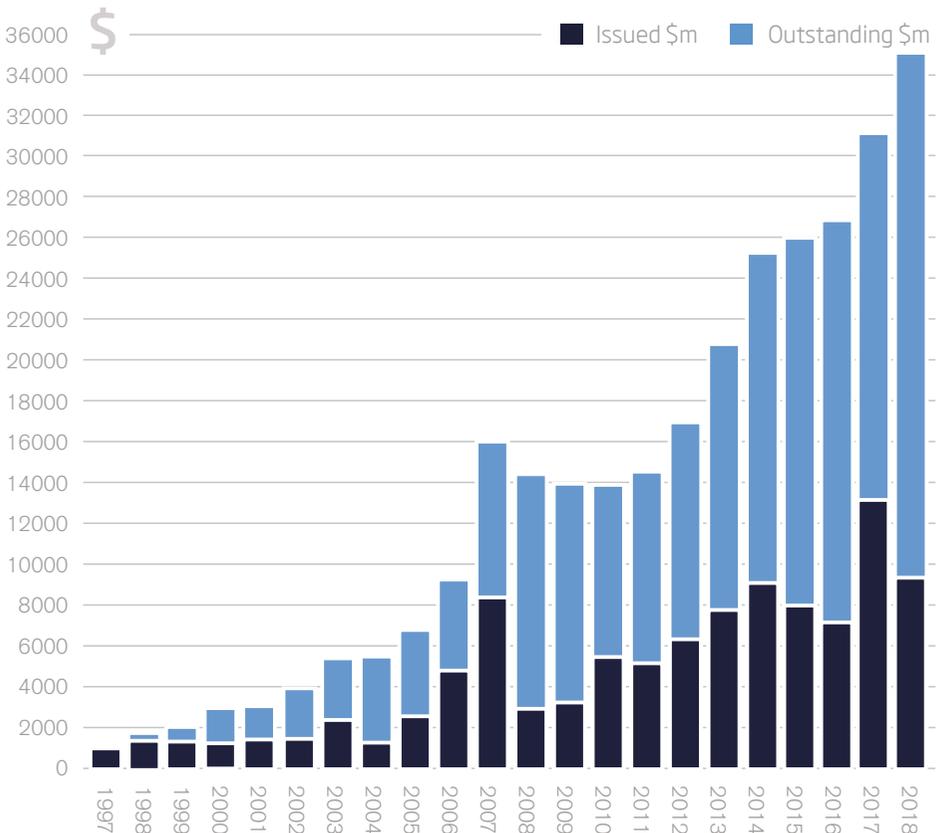
Issued / Outstanding

In spite of 2017 catastrophes and subsequent market losses, the global catastrophe bond and ILS market is going from strength to strength. After record-breaking issuance and catastrophe losses in 2017, capital markets investors showed their commitment to the sector with very strong levels of Q1 2018 issuance, a trend that has continued throughout the second-quarter.

At the end of Q2 the outstanding catastrophe bond and ILS market totalled \$35.3 billion, which represents year-on-year growth of \$6 billion, growth of \$2.4 billion from the end of Q1, and is \$4.3 billion higher than at the end of 2017, according to data from the Artemis Deal Directory.

Over \$5.15 billion of second-quarter issuance in 2018, on the back of the most active first-quarter in the market's history, took H1 2018 issuance to \$9.39 billion. Although this is \$372 million less than the same period last year, issuance in 2018 is already the second most active full-year on record, as shown by the Artemis Deal Directory.

With just \$1.6 billion of maturities scheduled for H2 2018, it's very likely that the catastrophe bond and ILS market will achieve outright growth once again, and that annual issuance will exceed \$10 billion for the second year running. The market appears to be going from strength to strength, and it will be interesting to see if 2018 issuance levels break new records.



If you want to see full details of every catastrophe bond and ILS transaction included in the data in this report, please visit www.artemis.bm/deal_directory/

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