

Views of Risk: Taking a Closer Look at US Hurricane Models

How the development of a unique perspective on roof ages led to cheaper reinsurance for Gallagher Re's clients

Key Takeaways

- Gallagher Re's Catastrophe Model Research & Evaluation (MR&E) experts' proprietary process draws on robust data to build a distinctive 'own view of risk' for Gallagher Re clients.
- By applying the model evaluation process to a US property portfolio, the team identified a 24% decrease in hurricane loss estimates versus default commercial vendor model results.
- This unique perspective was deployed to reinsurers, who consequently took a less punitive view of the risk.
- The combined reduction in insurance requirements and pricing resulted in a material cost saving for the client and a more accurate picture for regulatory compliance.
- The model is now being applied to further property catastrophe portfolios, with more cost savings anticipated in spite of forecasts of a challenging North American hurricane season.

Gallagher Re's 1st View July report observed that reinsurance markets are moving to a "risk on" stance in property catastrophe, with increased capacity available at the top end of programs and some improvements in risk-adjusted pricing. It is likely these trends will continue as the year progresses.

This makes it a perfect time for insurers to make sure their voice is heard as loud as it can be in negotiations — both this year and into 2025. An essential part of that process is to form, and robustly evidence, a distinctive view of the catastrophe risks they face in their own portfolios — and not just rely on standard industry models.

This 'own view of risk' gives risk-takers vital insights to make informed decisions on underwriting, pricing, capital management, and overall risk mitigation strategies. By building a deep understanding of the potential risks associated with catastrophic events, risk-takers can effectively allocate resources, set appropriate premiums, and ensure the sustainability of their operations.

And if they are to stand out amongst peers, it is imperative that risk-takers approach the development of their view of risk independently, tailoring it to their specific portfolio, and incorporating the latest scientific advancements — particularly for catastrophe models that may have been developed years ago.

Following is an example of Gallagher Re's capabilities in providing insightful analysis for risk-takers to establish their own view of risk and attain financial efficiencies to maximize profits.

Case Study: Keeping the Roof On

Gallagher Re's Catastrophe Model Research & Evaluation (MR&E) capability has a proven track record of supporting these 'own views.' The dedicated team helps our clients understand the assumptions and methodologies of catastrophe models, evaluate the performance of these models across specific portfolios, build a custom view of risk, and effectively act on multi-vendor modeling insight.

The MR&E team recently conducted a detailed evaluation of the latest US hurricane models. This included, for example, an analysis of claims data from recent hurricanes, through which an observed risk profile was developed for each storm and then compared with results from vendor models (the modeled risk profile). Modeled and observed risk profiles were studied from different perspectives, such as all storms in aggregate; each storm in isolation; and losses by occupancy, construction, and year built.

Among other findings, the analysis revealed that vendor models overestimate the loss for newer roofs and that the degree of variation between modeled and observed losses varies by wind speed intensity. These analysis-based claims findings align with Gallagher Re's previous post-hurricane damage reconnaissance studies.

The team deployed a multiphase evaluation process for companies with no detailed or reliable claims data, those that were writing new lines of business, or those whose exposure or policy terms are not fully contemplated by the model itself.

The results of this analysis are shown in Figure 2. In this case, loss estimates were reduced by 24%, reducing the need for reinsurance capacity and materially lowering the margin ceded to reinsurers in this transaction.

Catastrophe Model Research & Evaluation

Collectively, Gallagher Re's MR&E team has decades of experience in hazard and vulnerability model development, claims analysis, catastrophe model evaluations, and damage reconnaissance studies. The team comprises engineers, atmospheric scientists, and mathematicians who have extensive expertise in developing hurricane, winter storm, severe convective storm, flood, and earthquake models. By developing and deploying robust tests and analysis, our MR&E team provides transformative insights that keep clients ahead of a fast-changing reinsurance market.

Actual vs Model Loss — Roof Age

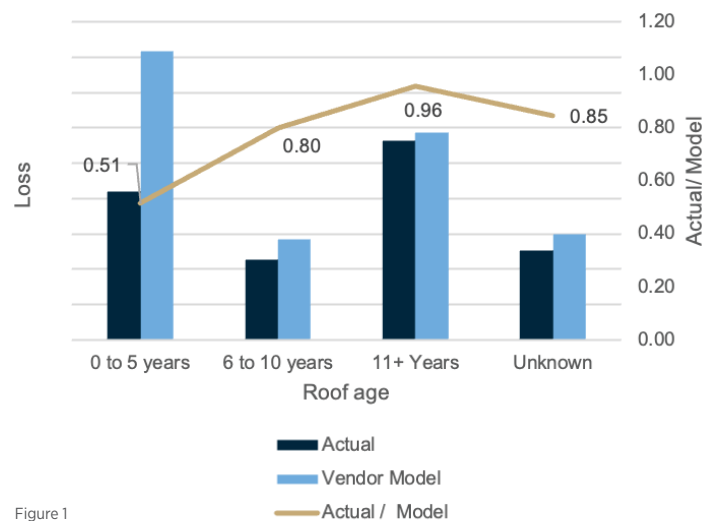
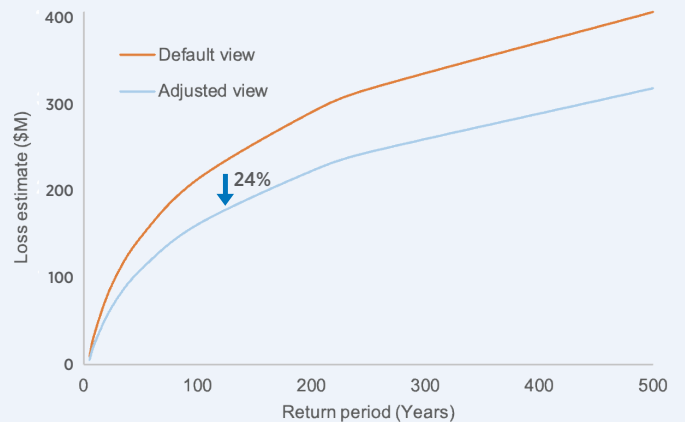


Figure 1

Case Study — Personal Lines Portfolio

Model's default view vs adjusted view of risk



Material Impact

24% reduction in reinsurance capacity needs and savings in reinsurance spend

Positive treatment

Model evaluation and claims study demonstrated the risks written by the company are better than represented by the vendor model (industry average), which ultimately achieved favorable terms by reinsurers and regulators.

Figure 2

It's the way we do it.



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