

## CatDQ — NATURAL HAZARD CATASTROPHE MODELING IT'S ALL ABOUT THE DATA

All insureds with exposures to catastrophic natural hazards are highly dependent on the results of catastrophe modeling, which underwriters use to define loss expectancies and the resulting premium for catastrophe coverage. This is becoming a key component of every property placement submission and in many cases is a driving factor not only in the pricing, but in market participation and terms and conditions. Many insureds also use modeling results to determine the limits that they choose to purchase and/or how to structure their risk transfer or retention program.

However, catastrophe models are highly sensitive to uncertainty driven by poor or missing data. When the quality of the data is addressed, there is a better quantification and qualification of the risk being considered. The underwriting process is closely associated with the CAT model outputs. If an organization is able to manage better the uncertainty in its CAT modeling, it can significantly increase the probability of a successful outcome of the underwriting process in relation to market conditions.

Recognizing the need for an innovative solution to the data quality issue, Marsh Risk Consulting (MRC) has taken its expertise in natural hazard risk assessment and developed CatDQ, a process focused on reducing the uncertainty in CAT modeling by improving the data inputs and outputs. By providing high quality modeling data, MRC is able to provide more accurate modeling results. When shared with the underwriting community, this more accurate information typically results in offers of preferred pricing and terms.

### Who it's for

Any insured's property portfolio that:

- Has a property risk profile driven by catastrophe exposure.
- Has a significant loss history (catastrophe or non-catastrophe) along with a significant catastrophe exposure to their portfolio.
- Has unknown, incomplete, or non-validated catastrophe modeling data.

### What you get

- Professionally validated modeling information to increase modeling accuracy and reduce modeling uncertainty.
- A proven methodology for providing underwriters with specific documentation validating primary characteristics and secondary modifiers as well as special conditions for the sites identified as drivers of the portfolio AAL.
- A proven methodology that has helped reduce premiums through the use of multisource engineering data, validated structural detail, and location-specific information.
- The expertise of a select subset of MRC's certified natural hazard and analytics consultants with specific training in the CatDQ process.

CatDQ provides underwriters with specific documentation validating the primary characteristics and secondary modifiers as well as special conditions for the sites identified as drivers of the portfolio average annual loss (AAL). The enhanced data permits underwriters' teams to fully use all appropriate modifiers to reduce the uncertainty in the modeling process and utilize the proper vulnerabilities for an organization's locations, which in many cases will result in lower loss expectancies for our clients.

In addition to supporting the underwriting process, CatDQ provides organizations with more accurate data upon which to base more informed decision making around risk priorities, risk management needs, and risk transfer allocations.

## SERVICE HIGHLIGHTS

MRC's natural hazards and analytics experts have developed an additional level of assessment in response to the recent focus by property underwriters on data quality. In today's environment, it is imperative that organizations provide complete, accurate, and validated data in order to differentiate themselves to the underwriting community.

Catastrophe models are very sophisticated, with many primary and secondary modifiers considered in analyzing potential loss to physical structures, contents, and resulting business interruption. Supplying incomplete data to underwriters introduces uncertainty to modeling results. This uncertainty will increase the modeled loss estimates, which can result in increased premiums. It also negatively affects underwriting decisions by creating "uncertainty loading", where an underwriter increases pricing to account for the level of unknowns in underwriting decisions. This ultimately increases premiums even further than the loss estimates taken alone would warrant. The property insurance markets have shown that they are very receptive to input data that can be verified.

Insureds should also conduct a technical analysis of their operational risk exposures in order to properly align and optimize

the terms, conditions, limits, and sub-limits of their property insurance programs. Underwriters are placing greater emphasis on supply chain and business continuity planning, so the more detailed information an organization has the better. This type of information can also be utilized to further refine the modeled loss estimates as well as for cost-benefit risk management and risk transfer decision making.

### The steps in the CatDQ process include:

- Performing an initial modeling run to generate AAL results by location. This information can be obtained by analyzing previous modeling results.
- Identifying the loss drivers in the portfolio.
- Performing assessments, including plan reviews and site visits, for these loss drivers.
- Incorporating the data gathered in the assessments into the modeling input data and remodeling the portfolio.
- Developing a *Construction and Coding Report* for each of the facilities that documents the coding information for provision to the markets.

### Additional client deliverables include:

- An input datasheet containing the enhanced data from the site visits which can be provided to the insurance markets.
- A report that details the assessment methodology and the results.

Applying MRC's CatDQ process to your property portfolio can help you respond to the needs of the markets and achieve your data quality and property insurance cost reduction objectives. It can also help you to make more informed decisions about your risk management priorities and program.

For additional information about CatDQ and our property risk management solutions, please contact your local PRC or Marsh representative or:

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