AMWINS

Catastrophe Modeling

Hurricanes, earthquakes, and floods, among other disasters, can be unpredictable. But with catastrophe modeling, we can better predict potential losses and help set the most accurate premiums.

Location level information entered into the model

- Raw SOV data is formatted for model compatibility.
- Occupancy and Construction details are input as model-readable codes.

The model “Geocodes” the locations to retrieve geographic characteristics

- Model geocodes locations, providing Lat/Long coordinates and additional information.
- Extracted data includes distance to coast, elevation, flood zone, liquefaction susceptibility, soil type, etc.

Historical and simulated events run against the locations to generate losses

- Event set includes tens of thousands of events with associated annual occurrence rates.
- Loss amounts are calculated for events occurring in the exposure area.
- Event Loss Table is created, listing every event, its annual occurrence rate, and corresponding loss amount.

Loss curves are fit using statistical techniques

- Exceedance Probability Curve is fitted using statistical techniques.
- Event Loss Table is used to interpolate a smooth curve.
- Curve graphs probability of occurrence against loss amount.

PML number derived from the loss curves

- PML number is derived from the Exceedance Probability Curve.
- Points corresponding to specific return periods are identified.
- For example, the 100yr PML is the loss amount at a 1% annual chance of exceeding or equaling that amount.

AAL calculated as an expected value

- AAL is calculated as an expected value.
- Event Loss Table provides loss amounts and annual occurrence rates for each event.
- AAL is obtained by multiplying the loss amount for each event by its annual occurrence rate and summing across all events.