



SIGMA Analytics for Wind Risks

The analysis of wind risks related to hurricanes can take many forms based on the program structure, geographical considerations and availability of data. Quantification of these risks may involve either traditional actuarial approaches or require specialized catastrophe modeling. SIGMA provides actuarial support and consultation for companies seeking expertise in this area. Examples of the types of analyses we complete related specifically to hurricane wind risk are as follows:

Property actuarial analysis for non-catastrophe and catastrophe exposure

It is common practice for actuaries to price non-catastrophe and catastrophe risks separately due to the low expected frequency and potential high severity of catastrophe risks such as hurricanes in any given year. This allows the actuary to determine expected funding levels which are sufficient to cover costs over a longer time period by smoothing the variability caused by the absence or presence of catastrophes in shorter-term historical averages. The company's unique historical data may be supplemented with loss simulations, industry information and third-party catastrophe models, as available and appropriate for the specific situation. SIGMA is available to review the methodologies and assumptions and interpret results of third-party models.

Parametric wind actuarial analysis

An independent actuarial analysis of parametric wind losses completed by SIGMA is based on frequency and severity distributions. Severity is as specified in the policy and may be a flat amount or tiered by wind speed. Frequency may be determined based on historical hurricane frequency data near a specific insured location(s), with consideration to third-party catastrophe models where available. SIGMA can also review the policy parameters and pricing of a parametric wind policy and offer comments on the structure and premium reasonability.

The SIGMA Advantage

- SIGMA has compiled a database that uses the best track of known hurricanes in the Atlantic basin since 2004, determined by post-storm data assessments conducted by the National Hurricane Center. Best track estimates provide a subjectively smoothed representation of a storm's location and wind speed over its lifetime. This data may be used to project future storm frequency at specified wind speeds near an insured location(s).
- SIGMA can complete an independent and objective actuarial loss projection analysis based on historical loss information, our internal database of historical windstorms and other relevant information.
- SIGMA can provide specialized actuarial consulting services in support of a captive feasibility analysis for property deductible buy down, parametric wind or similar insurance products.
- SIGMA can review historical windstorms at the insured location(s) based on our internal database and payouts defined in the policy in order to determine the reasonability of premiums for parametric wind policies.

SIGMA Background

SIGMA estimates funding levels for insurance programs. An analysis of past and future liabilities is necessary to ensure proper financial reporting and program funding. Typically, these liabilities account for most of the total cost of risk for an insurance program. We provide a full range of actuarial consulting services and serve as a resource for meeting any property/casualty actuarial need. We assist in the process of developing both traditional and alternative insurance programs for entities of all sizes and types.



Founded in 1995, SIGMA Actuarial Consulting Group, Inc. is located in Brentwood, Tennessee. SIGMA provides casualty actuarial consulting services to risk managers, brokers, captive managers, risk management consultants, TPA's and CPA's. Our consulting services include all analyses necessary to ensure proper financial reporting and program funding. Our background includes experience in the process of developing both traditional and alternative insurance programs for entities of all sizes and types.