



# Revolutionizing SCS risk management

**KatRisk's Severe Convective Storm (SCS)** model provides a high-resolution, climate-aware view of hail, straight-line wind, and tornado risk. Notably faster than the competition, our SCS model is fully customizable and transparent, providing clients with more reliable risk assessments and enabling precise tailoring to specific needs.

## Key features

### ➤ High-resolution peril modeling

Hail and straight-line wind modeled at 1-km resolution and tornado at 100-m, capturing sharp intensity gradients and localized loss drivers across complex terrain.

### ➤ Converged and stable losses

Loss convergence ensures nearby locations exhibit consistent risk behavior, supporting more stable tail loss estimates and reliable pricing.

### ➤ Customizable vulnerability factors

Fully adjustable vulnerability assumptions allow clients to align loss estimates with their own exposure characteristics and underwriting views.

### ➤ Climate variability enabled

Explicit modeling of climate variability accounts for sea-surface-driven patterns such as El Niño and La Niña, allowing risk to be assessed across different climate states.

### ➤ Global correlation across perils and regions

Intra-peril and cross-peril correlations prevent double counting and improve loss distribution realism at portfolio scale.

### ➤ Unmatched speed and efficiency

Stochastic loss calculations across 50,000+ years enable fast portfolio analysis, pricing, and optimization workflows.

## The KatRisk advantage



Distinctive modeling strategy grounded in physical science



Agile framework built for evolving risk landscapes



Client-centric approach focused on real-world decisions

## How to access our solutions



### KatRisk-Hosted

Hosted on AWS or Azure with API access



### On-premise or client-

hosted cloud deployment



Access via **KatRisk APIs** or intuitive **user**

**interfaces** (via SpatialKat, SoloKat)

Contact us:





# Uniquely modeled for unparalleled reliability

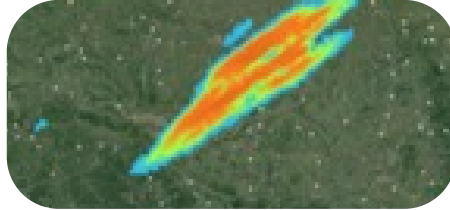


## SCS Models



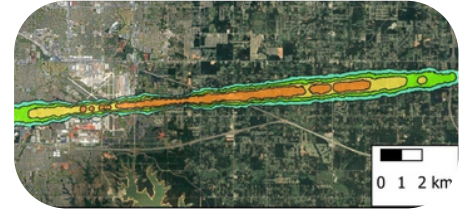
### Hail Swath

- Top-down, forecast-based model at 1-km resolution
- Urban-calibrated to reduce reporting bias
- Climate-state differentiation via stochastic SSTs



### Straight-Line Wind Swath

- 1-km resolution capturing sharp intensity gradients
- Bias-resistant methodology beyond SPC reports
- Covers storm modes from supercells to derechos



### Tornado Swath

- 100-m resolution for detailed paths and swaths
- Stable AALs using variance reduction techniques
- Correlated intensity and path modeling

## Use cases



### Pricing & Underwriting

- **Actuarial pricing refinement:** validate technical rates by comparing KatRisk loss estimates with internal data.
- **Augmented pricing strategies:** use Risk Scores and AAL metrics to adjust pricing while balancing growth and risk.



### Portfolio & Capacity Management

- **Geographic diversification:** identify where SCS risk is accumulating to support balanced portfolio growth.
- **Risk concentration management:** assess accumulation and tail risk to manage capacity in high-risk regions.



### Capital, Reporting & Risk Transfer

- **Enhanced internal & external reporting:** complement claims data with forward-looking SCS risk insights.
- **Reinsurance & ILS optimization:** inform reinsurance and ILS structures using detailed loss distributions.

## Trusted voices, proven outcomes



KatRisk is a global leader in catastrophe risk intelligence and solutions, setting the standard for how organizations assess and manage climate-driven risk. Serving insurance, reinsurance, and financial services organizations globally and supporting clients in over 190 countries, KatRisk delivers forward-looking insight across flood, storm surge, tropical cyclone wind, severe convective storms, and wildfire. Built on transparent methodologies, flexible data architectures, and high-performance computing, KatRisk supports underwriting, portfolio management, and risk strategy with solutions designed to translate complex hazard science into confident, actionable decisions.

