

# RMS Europe Windstorm Models

## Geographic Coverage:

15 countries: Austria, Belgium, Czech Republic, Denmark, France, Germany, Ireland, Luxembourg, Netherlands, Norway, Poland, Slovakia, Sweden, Switzerland, U.K., plus an extended offshore area for wind farms

## Perils Modeled

Extratropical cyclone winter storms, wind from summer thunderstorms, and storm surge (U.K. only)

## Lines of Business:

All key lines of business, including residential, commercial, auto, industrial and agricultural lines, across distinct coverage types; building / content / business interruption.

## Risk Types:

Hundreds of distinct vulnerabilities, including unique risks such as forestry, wind farms, and large and complex industrial facilities

## Exposure Data:

RMS' high-resolution industry exposure databases are based on the latest information from public statistics and government offices in Europe to provide the most up-to-date view of insured exposure

Version 15.0 of the RMS Europe Windstorm Models represents the latest research and data on this complex peril, which has historically caused more damage and loss for the (re)insurance market in Europe than any other natural hazard. The updated Europe Windstorm Models deliver an accurate and realistic representation of vulnerability variations by geography and risk type, and represent the forefront of European windstorm science.

## INFORMED UNDERWRITING AND RISK DIFFERENTIATION

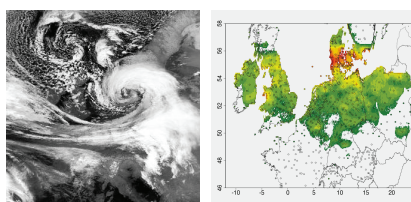
RMS Europe Windstorm Models support more informed underwriting and improved risk differentiation through numerous advancements. The models incorporate high-resolution surface roughness data for modeling granular hazard variability, which is reinforced by detailed hazard calibration using data from thousands of weather stations. In Version 15.0, recalibrated vulnerabilities also provide a more accurate and realistic representation of historical loss data across all modeled countries. The models feature enhanced building vulnerability definition and improved representation of regional construction practices, which better represent variations in vulnerability by geography and risk type. These advancements enable you to obtain an improved understanding of vulnerability variations across a large variety of lines of business—including specialized industry exposure—and by region, wind speed, and coverage type (building / content / business interruption).



## UNDERSTAND TAIL RISK AND LOSS CORRELATION

Most extreme wind events have limited or no historical precedence. RMS ensures that such events are represented by simulating over 100,000 years of windstorm activity in Europe. Over 30,000 unique extratropical windstorms are represented in the stochastic event set, capturing the complex structure of surface wind fields while representing the widespread impact of these large-scale events. This ensures that modeled losses represent both local hazard details as well infrequent severe loss potential.

Enhanced spatial correlation of hazard across countries in the version 15.0 release will improve your understanding of loss correlation across a geographically diverse portfolio, and increases confidence in model loss estimates from large windstorms that impact multiple countries.



Wind storm Anatol,  
December 2-3, 1999

Wind storm Anatol,  
wind speed footprint

## POST-EVENT LOSS AMPLIFICATION

Understand the impact of the increased cost of materials and labor, fraud, and other claims inflation after very large events using the RMS post-event loss amplification methodology, which was built in consultation with key European stakeholders, and represents.

## UNPRECEDENTED MODEL VALIDATION AGAINST CLAIMS AND HISTORICAL EVENTS

Model outputs have been validated against over 2 million claims records, representing over €29 billion of claims covering 18 years of windstorm events in Europe.

Stress test your portfolio and validate the Europe Windstorm Models using an unprecedented 135 historical benchmark event reconstructions from the 1970s through today, including important recent storms like Kyrill (2007), Klaus (2009), and Xynthia (2010).

## THE FOREFRONT OF SCIENTIFIC UNDERSTANDING

The RMS scientists and engineers that developed the Europe Windstorm Models are based in Europe and apply their in-depth local knowledge and expertise to ensure the model remains up-to-date with the latest understanding of this complex hazard. RMS Europe Windstorm Models incorporate windstorm activity up to December 2013 to represent the latest view of windstorm hazard, including lessons learned from recent events. The models also provide multiple views to enhance your understanding of the uncertainty associated with windstorm risk:

- **Understand the impact of storm clustering** impact of multiple large events in a year on your portfolio
- **Evaluate the uncertainty surrounding windstorm activity** using an additional view of hazard that represents climate variability, in order to measure and understand the uncertainty inherent to windstorm risk

## UNDERSTAND MODEL ASSUMPTIONS FOR SOLVENCY II

Benefit from an unprecedented level of transparency about our models, with over 1,000 pages of detailed documentation on the RMS Europe Windstorm Models, including specific Solvency II material.

### ABOUT RMS

RMS models and software help insurers, financial markets, and public agencies evaluate and manage catastrophe risks throughout the world, promoting resilient societies and a sustainable global economy. Our scientific and objective measurement of risk facilitates the efficient flow of capital needed to insure, manage, and mitigate risks to reduce the consequences of disasters.

### RMS

7575 Gateway Blvd.  
Newark, CA 94560, USA

[www.rms.com](http://www.rms.com)

