CATASTROPHE AND RISK SOLUTIONS

Verisk Typhoon Model

for South Korea

Verisk™

Typhoons are a major natural peril in South Korea and can cause substantial insured losses.

However, historical loss data alone may not be sufficient to assess current-day typhoon risk. Exposure has changed tremendously in the past decade, heightening the need for a model that uses state-of-the-art techniques and accurately represents newer building stock, the latest climate change trends, and significant investments in flood defenses.

Recent climate change stress tests by the South Korea Financial Supervisory Service have highlighted the country's current and future flood risk. Domestic insurers may need to report on similar stress tests in the future, making it urgent for carriers to prepare for changing regulatory and internal reporting requirements. To meet these challenges, build resilience, and maintain profitability, it's critical for insurers to pursue the most advanced typhoon modeling capabilities.

Why are we updating our model, and what does it mean for your portfolio?

Updated for 2025, Verisk's Typhoon Model for South Korea uses the latest science and advanced engineering. By incorporating the latest research, data, and innovation, our model provides a more comprehensive risk assessment that can lead to a more consistently profitable portfolio. This results in outputs aligned with real-world outcomes to support:

- Underwriting and pricing
- Regulatory, rating agency, capital adequacy, and optimisation
- Structuring reinsurance programs and evaluating insurance-linked securities

What makes Verisk the cat modeling leader that's trusted worldwide?

More than 400 organisations, including top-tier and regional insurers and reinsurers, trust Verisk's cost-efficient, scalable models for granular, by-peril data and insights. We provide responsive, personalized support to ensure that our clients gain the maximum benefit from our solutions.

Our next-generation financial module supports a more sophisticated and accurate view of portfolio risk across all our catastrophe peril models for a consistent framework, regardless of region or peril.

What sets Verisk's Inland Flood Model apart?

Drawing on experience developing tropical cyclone models worldwide, our model is driven by market-leading expertise in meteorology, engineering, and actuarial science, combined with the most current datasets available. For example, it incorporates the latest high-resolution digital terrain mapping (DTM), up-to-date levee information, and advanced modeling methodologies, particularly for flooding.

It all adds up to a model unmatched for its current, comprehensive coverage. Our next-generation financial model ensures a sophisticated and accurate view of portfolio risk that integrates seamlessly into the Verisk ecosystem for multiperil modeling.

More than

400

insurance organisations trust Verisk models

What's in the model to help drive your business forward?

New modeled perils

The model now includes the impact of storm surge for a complete view of typhoon risk, capturing near-present climate conditions and based on shallow-water wave equations on a flexible mesh. It accounts for DTM data, bathymetry, land cover, tide, and flood defenses.

High-resolution on- and off-plain flood modeling

An updated precipitation flood module integrates flooding from typhoons with other sources to scientifically capture antecedent soil moisture and various interactions across time and geography. The event catalog includes only flooding instances due to typhoon events.

Expanded construction, occupancy, and line of business (LOB) support

This update supports an expanded range of construction, occupancy, and LOBs, adding large industrial facilities, marine cargo and hull, infrastructure, and engineering and construction risk types. Given South Korea's role as a major industrial hub, users will benefit from the ability to separate small-scale industrial buildings from large-scale industrial facilities.

Refined primary and secondary characteristics for customized risk

For traditional lines of business, updated height bands for the wind damage functions span from low-rise (1-3 stories) to tall (30 stories and higher), accounting for year built as a newly supported primary characteristic. The revised flood vulnerability module uses an advanced component-level framework for more granular damage assessment.

Unknown secondary risk characteristic (SRC) assumptions

The model delivers unmatched granularity for unknown assumptions on key SRCs, such as presence of basement. It's informed by Verisk's South Korea Building Database and national databases from the Ministry of Land, Infrastructure and Transport of South Korea.

Are you ready for the next generation of typhoon modeling?

Contact us today.

Learn more

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