CATASTROPHE AND RISK SOLUTIONS

Verisk Inland Flood Model

for Malaysia and Indonesia

Verisk™

Flooding is a major natural peril in Malaysia and Indonesia that can cause substantial economic losses and societal disruption.

Inadequate or nonexistent coverage on properties in flood-prone areas presents an opportunity for the insurance industry to grow and help build societal resilience—if carriers have the tools to assess the risk, manage exposure accumulations, and plan reinsurance for a highly complex peril. While there is extensive data on historical rainfall and flood events, it takes rigorous science to transform that data for the forward-looking risk assessment needed to pursue deeper insurance penetration in developing markets.

The advanced capabilities and ongoing enhancements of the Verisk's Inland Food Model for Malaysia and Indonesia, reflecting the latest science and data, makes it an essential tool for flood risk management.

What does Verisk's Inland Flood Model mean for your portfolio?

New for 2025, Verisk's Inland Flood Model for Malaysia and Indonesia uses the latest science and advanced engineering. By incorporating the latest research, data, and innovation, our model provides a 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, personalised 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 flood 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, its hydraulic model is calibrated with gauge data enhanced by a novel method Verisk developed to double the number of usable gauges.

Our next-generation financial model ensures a sophisticated and accurate view of portfolio risk that integrates seamlessly into the Verisk ecosystem for multiperil modelling.

More than

400

insurance organisations trust Verisk models

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

High-resolution flood modeling

Our 10,000-year stochastic catalogue simulates flooding at 30m resolution using a digital terrain model (DTM) derived from cleansed and enhanced global data sets.

Interpolation tool and EventID

We also have an interpolation tool and also a shortlist of EventIDs that allow users to report their losses directly to the Bank Negara Malaysia stress test.

Historical event set

Six significant historical flood events (2006–2021) across Malaysia and Indonesia provide valuable benchmarks for model validation and stress testing.

Extended LOB support, including marine

The standard vulnerability framework supports Various occupancies and construction types, including industrial facilities modeling, infrastructure, and marine. LoBs supported for both countries in the new flood model match the support in Verisk's Earthquake Model for Indonesia.

Climate Risk Stress Test support

In collaboration with S&P Global, Verisk has developed six new 10,000-year stochastic catalogues that inform flood risk under future warming scenarios across the 2040s and 2050s decades. The innovative catalogues combine physical modeling of both fluvial and pluvial sources and account for the dynamic impact of future flood risk on flood defenses. The catalogues and accompanying tools can be used to report directly on Bank Negara Malaysia's 2024 Climate Risk Stress Test.

Support for 12 secondary risk characteristics (SRCs)

Supported SRCs are first floor height, custom elevation, base flood elevation, foundation type, basement finish and levels, floor of interest, custom flood protection, service equipment protection, content vulnerability, backwater valve protection, base flood elevation, and wet-floodproofing.

Unknown assumptions

Attributes such as first-floor height and presence of basement—not recorded in current data sets—are derived using satellite and ground-level imagery and engineering expertise.

Component-level damage functions

Each building is separated into it's key components, which are then weighted together based on their TRV to get an overall building-level damage function.

Are you ready for the next generation of inland flood modeling?

Contact us today.

Learn more

Verisk™