

U.S. Inland Flood Model

Enabling Confidence in Underwriting and Managing Flood Risk

Highly Granular Risk Modeling

As the #1 natural disaster in the United States with annual economic loss increasingly exceeding billions of U.S. dollars, flooding represents a significant under-insured risk in the United States. As the market explores diversifying and growing business with flood products, our highly granular loss models address the management of a peril where the amount of damage is influenced by water flood depths measured in inches. The U.S. Inland Flood Model from CoreLogic® uniquely empowers the industry to appropriately and rationally estimate risk to obtain better business outcomes with:

- PxPoint™ parcel-based and structure level geocoding
- CoreLogic building-level property characteristics used in model validation and smart default assignment
- Detailed 10-meter cross section hydrologic modeling that includes 6 million miles of charted river and stream channels
- Availability to incorporate digital elevation resolution down to 3 or 1 meter(s) where available
- 60 geographic high-resolution layers down to 0.3 meters defining flood hydrology
- Accurate capture of tail risk with 300,000 simulation years of seasonal flooding



Key Benefits:

- Unique fusion of 20+ years of experience in flood data with industry-leading risk solutions for a comprehensive and detailed view of flood risk
- Market-leading model resolution and data provides accuracy and confidence in enabling risk differentiation and pricing for underwriting and portfolio management
- Accurate capture and modeling of site characteristics and flood policy terms down to the coverage level
- An easy-to-access view of combined and separate hurricane precipitation and surge flood risk relevant to your unique insurance product terms

Comprehensive Flood Modeling Methodology

Damaging floods come in many different forms. The U.S. Inland Flood Model models all sources of precipitation driven flooding including riverine, stream, off-plain, and flash flooding. As flood risk evolves due to urbanization and change in baseline stream and sea levels, the flood risk methodology from CoreLogic is designed to stay abreast of the latest flood risk data and research, ensuring continuity of risk insights into the future. It delivers a comprehensive analytic view of the risk, utilizing widespread coverage of hydrologic and hydraulic data that reflects regional flooding and drainage patterns with:

- An innovative approach to modeling that accurately assesses actual flood experience on the ground
- Vulnerability modeling that incorporates both water depth and water velocity damage
- Building component based vulnerability addressing structure, contents, and time element coverage.
- Innovative development of key default unknown secondary structural characteristics utilizing market-leading CoreLogic property characteristic data.
- Detailed modeling of flood defenses that include probability of complete failure.
- Annual updates of 10-meter digital elevation and FEMA data.
- Over 23 historic flooding events available for modeling
- Stochastic flood footprints provided at various return periods as a consulting request for your portfolio
- Comprehensive reporting of exposure and modeled results in both spreadsheet and charting formats

Advanced Integrated and Transparent View of Flood Risk

Flood policy underwriting and management requires the incorporation of high resolution location, building, hazard and event response information in analytic output. CoreLogic is unique with its 20-plus year history in addressing the insurance, financial, real estate and government sectors in flood risk assessment. The U.S Inland Flood Model is just one important part of the advanced flood risk solutions from CoreLogic.

An integrated view of flood risk is a critical component of the CoreLogic solution set. A combined view of surge and inland flood with wind analysis results is easily accessed via multiple delivery and reporting methods due to our marketleading simulation methodology. Completing the suite of CoreLogic probabilistic flood models, 10-meter resolution coastal storm surge and wind modeling is available as part of the North Atlantic Hurricane Model.

Transparency in modeling is a key goal of CoreLogic probabilistic models. The U.S. Inland Flood Model delivers multiple risk attributes to improve the understanding of modeled outputs. These include a full suite of probabilistic loss metrics, ground elevation, distance to flood zone, the hydrologic unit code, and probabilistic water depths. The results allow transparency in modeling that translates to confidence in managing risk and meeting regulatory requirements.

Why Consider CoreLogic?

As a leading provider of risk assessment solutions to the insurance, financial, and real estate industries, CoreLogic has a long history of managing flood, providing a comprehensive set of GIS, natural peril, and property data solutions that can work for you.

Increasing exposure to catastrophic events are challenging the P&C insurance industry to revisit existing catastrophic risk management and loss adjustment strategies by improving the overall understanding of natural hazards. CoreLogic is dedicated to the science of understanding natural hazard risk. The delivery of a new probabilistic risk model affirms the commitment to delivering decision support data and products to the insurance industry.

The catastrophe risk management suite offers a comprehensive look at risk by evaluating probable events and verifying current- and post-event impacts. These solutions include scoring, data visualization, event response and other tools that collectively address the management of flood risk throughout the entire insurance process, from underwriting and portfolio management to risk transfer and re-insurance.

With a staff of Ph.D.-level scientists and engineers, we have taken risk assessment a step further by developing a proprietary methodology that enables a more granular level of risk management control and reporting. Given our 20 years of experience in identifying flood risk for the mortgage and insurance industries, CoreLogic has the right solution for better risk assessment.

Seamless Ordering and Delivery

Available as part of a suite of catastrophic risk management products, the U.S. Inland Flood Model provides an unparalleled understanding of hydraulic science and catastrophe modeling with a large group of consulting and client service teams to meet your needs via the following delivery methods:

Consulting: The CoreLogic consulting team has a decades-long history of providing portfolio risk assessments for insurance, reinsurance, government and capital markets transactions.

RQE® (Risk Quantification Engineering) Platform: Our global multi-peril catastrophe modeling platform brings the data and information you need in your controlled, secure environment. Available for install at your place of business.

RiskMeter Online™ Platform: The CoreLogic U.S. underwriting platform delivers natural hazard risk metrics to hundreds of companies, and now includes key U.S. Inland Flood Model probabilistic loss metrics.

Seamless integration: The U.S. Inland Flood Model is designed to make your workflow easier. Our intuitive interface is easy-to-use and the underlying functionality can be personally customized with seamless integration into your existing underwriting and portfolio management systems to best support and improve your business workflow. Cloud-based as well as on-site integration options are available.



Key Features:

- An innovative approach to modeling
- Structure level geocoding
- Use of CoreLogic property characteristics
- Treatment of both water depth and water velocity damage
- Annual updates of key data layers
- Probabilistic treatment of flood defense damage or failure
- 6 million miles of charted river and stream channels
- Model elevation resolution down to 3 or 1 meter(s)
- 60 geographic high-resolution layers down to 0.3 meters
- Accurate capture of tail risk

For more information, please contact us at 866.774.3282 or hazardrisk@corelogic.com.