FloodScore

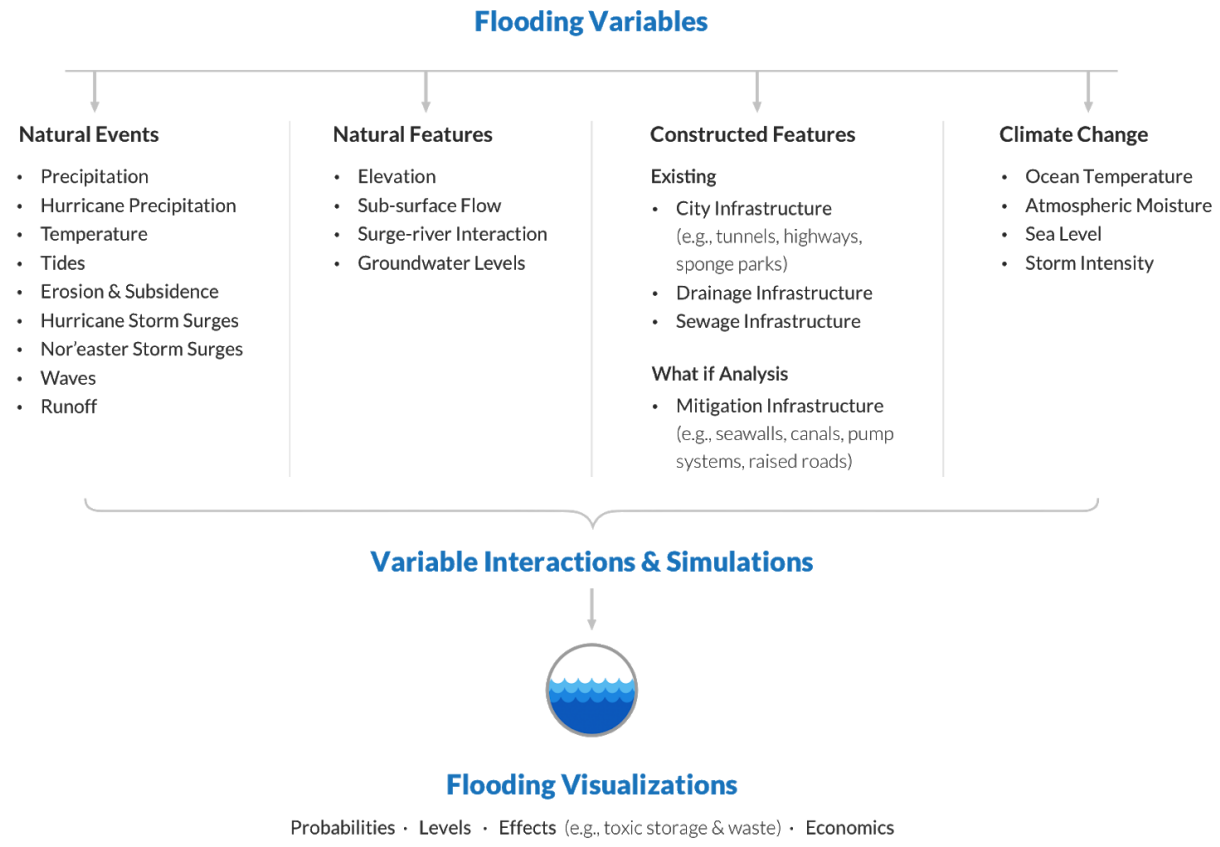
The Impact of Flooding

Rising sea levels, more intense storms and heavier downpours related to climate change are contributing to increasingly severe and damaging floods. Coastal storms are likely to cause flooding over larger areas and prompt currently at-risk areas to flood more frequently. Heavier downpours can overwhelm existing infrastructure, causing flooding and impacting water quality. Low lying coastal areas are likely to experience more frequent tidal flooding. Understanding flood risks in advance of storms and over the longer term can help decision-makers prepare for the flood-related impacts of climate change.

Jupiter Intelligence™ FloodScore™ probabilistically predicts and maps the increasing risk of flooding, from one hour to 50-plus-years in advance. Using Jupiter's dynamic models, private and public sector organizations can make informed decisions to prevent asset damage and property loss, and even save lives.

Jupiter FloodScore

Jupiter FloodScore includes operations and planning applications built on top of the Jupiter ClimateScore™ Intelligence Platform and provides an accurate picture of asset-level risk at less-than-one-meter spatial resolution. The figure below shows the complex interaction among flood-generating factors.

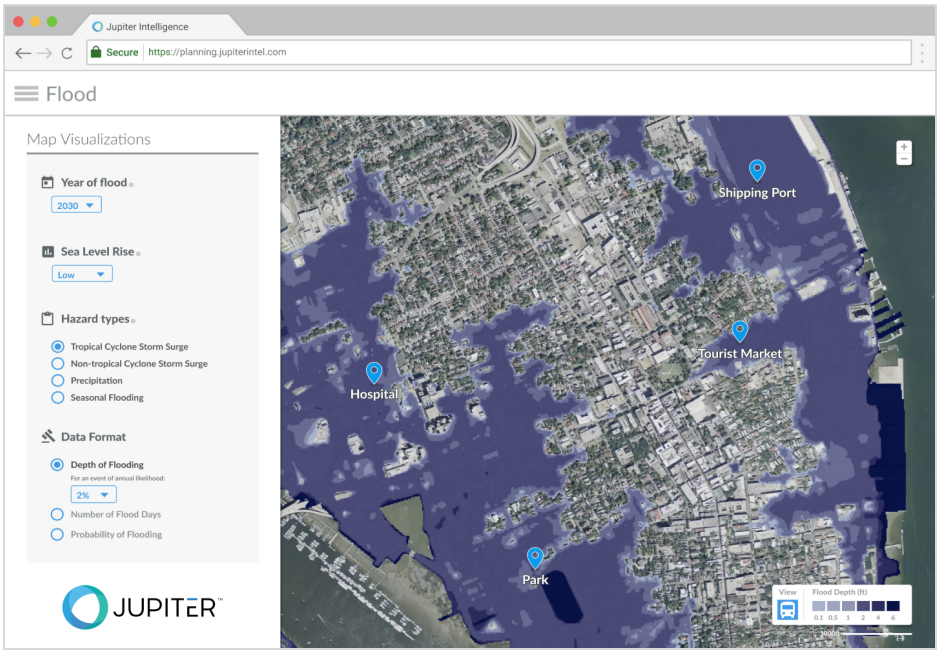


Jupiter FloodScore Planning probabilistically predicts the long-term flood hazard from 6 months to 50-plus-years in advance. Jupiter's proprietary models capture the complex interaction among flood-generating factors and probabilistically predict asset-level risks from weather in a changing climate around the world. FloodScore Planning is designed to support long-term infrastructure planning, engineering, investment, lending and insurance decisions for critical assets such as electrical generation and distribution, refineries, ports and airports, and dense industrial, commercial and residential developments. Flood levels are predicted on a probabilistic basis and presented for different climate scenarios. The application supports "what-if" analyses to evaluate potential protection measures and investment decisions over time.

Jupiter FloodScore Operations probabilistically predicts coastal flooding from storm surge and rainfall events at asset-level resolution from one hour to five days in advance. This application is designed to help emergency managers, retailers, infrastructure operators and property owners determine when and how to protect critical assets and property from damage prior to an event, and to make informed decisions regarding public safety. The predictions are probabilistic and scenario-based.

Jupiter ClimateScore™ Intelligence Platform

All Jupiter services are built on the cloud-based Jupiter ClimateScore Intelligence Platform. Jupiter ClimateScore is based on leading-edge scientific developments by the global earth system science community, including the assumption of a changing climate. The platform is designed specifically for the rigors of dynamic weather analysis and predictive modeling. Its physics-based and artificial intelligence models are continuously fine-tuned, using petabytes of constantly refreshed data from ground-based and orbital sensors. Innovative machine learning techniques reduce local biases of scientific simulations and update the system as new observations become available.



Jupiter's ClimateScore platform powers interactive maps for services like FloodScore