

Baron Flood Finder

AI-Powered Flash Flood Intelligence for Impact-Based Forecasting

THE CHALLENGE

Flash floods are among the deadliest weather hazards on Earth, responsible for nearly 85% of all flood-related fatalities worldwide and more than \$50 billion in annual economic losses. The greatest challenge isn't identifying the threat; it's acting on it in time.

Traditional flood modeling can take hours to produce results, limiting the time available to issue warnings and coordinate response. Baron Flood Finder overcomes that challenge through a novel AI-powered technique that delivers rapid, actionable flood guidance within minutes — on demand, every time.

Introducing Baron Flood Finder

Baron Flood Finder is an AI-powered flood solution that combines weather forecast and precipitation data with a physics-trained AI model to show what floodwater will actually do on the ground. Rather than just mapping flood extent, it defines water depth and momentum over time, at high spatial resolution, while capturing not just where flooding occurs, but how deep the water gets, how fast and in what direction it moves. Flood Finder utilizes radar networks, or local weather radar with Baron's high resolution 3 km weather prediction model to generate actionable flood guidance in just 5–10 minutes.

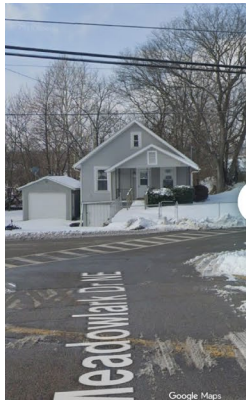
Built around the natural structure of water basins, the solution is designed specifically for the speed demands of operational forecasting. The system ingests radar-derived Quantitative Precipitation Estimates (QPE) to assess recent rainfall accumulations and high-resolution Quantitative Precipitation Forecasts (QPF) to project developing threats. Together, these inputs give forecasters a clear, current picture of flood risk in near real time.

Built for the Moment

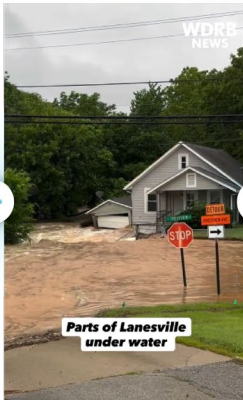
Flood Finder runs during a live flood event — ingesting real-time radar observations as conditions evolve and delivering updated guidance at the moment decisions have to be made. Unlike traditional model output that carries an inherent delay, Flood Finder operates on real-world data in real time.

The quality and resolution of that input data matters. Higher resolution QPE and QPF directly improve the accuracy and spatial detail of the flood guidance the model produces, giving forecasters a clear, current picture of flood risk.

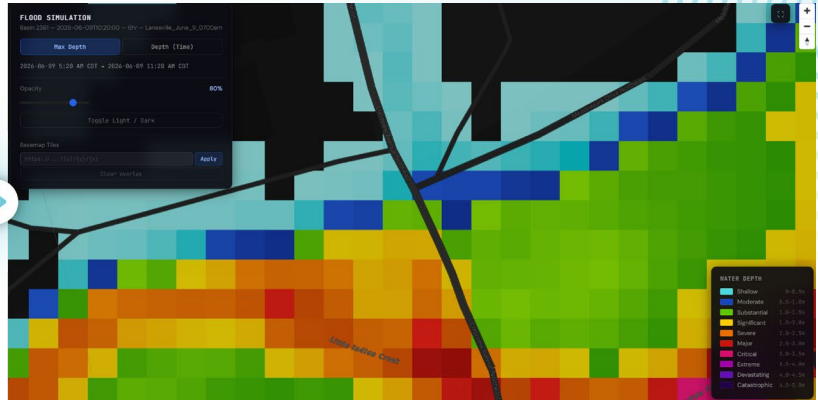
Real-World Verification



Location
Google Street View



Observed Flooding
WDRB News



Flood Finder Results
Flood Simulation

Run Flood Finder on Demand

Running Flood Finder is straightforward. Select your defined basin or geographic area, initiate a model run with the push of a button, and results are ready in 5 to 10 minutes with precise, street-level flood guidance showing exactly which basins, roads, and communities are at risk. As conditions evolve, re-run the model for a continuously updated picture of flood risk throughout the event.

There are no complex processes to manage and no waiting on scheduled model cycles. Flood Finder runs when you need it, delivers results fast, and fits directly into existing workflows through industry-standard GeoTIFF outputs.

Designed to Fit Your Needs

Flood Finder is comprised of three core components and can be configured to fit your existing infrastructure or deployed as a complete Baron package:

- The foundation is an AI-driven flood flow model with detailed results at the street and basin level, as fine as 10 meters anywhere in the world, giving decision-makers the spatial precision to act with confidence.
- Precipitation data is required from a radar network or for better results from a Local C-band or S-band radar that delivers real-time QPE. The closer the radar to the target area, the sharper and more reliable the flood guidance.
- A local or global forecast model like Baron's high-resolution weather prediction model, or a Baron custom model deployed over the target region, supplies QPF of developing threats, keeping forecasters ahead of conditions before rainfall even begins.

Flood Finder Delivers

Speed and precision don't have to be a tradeoff. Flood Finder delivers both:

- **Results in Minutes:** Full model run in 5 to 10 minutes, re-run as conditions evolve, giving forecasters an updated picture of flood risk throughout the event.
- **Industry Standard Outputs:** Results delivered as GeoTIFF files for seamless integration into existing platforms, dashboards, and workflows.
- **On-Demand and Global:** Hyperlocal results are built around local areas for precise and localized impact assessment down to the city street. Initialized when circumstances require it.
- **No Hardware:** One seamless provider. Baron delivers the radar, NWP, and flood model as a complete, end-to-end solution with no additional infrastructure required.
- **Easy Operation:** Getting results is as simple as the push of a button. Select your target basin, initiate a run, and actionable flood guidance is ready in minutes.

One Provider. One Workflow. One Complete Solution.

Baron brings together the radar, numerical weather prediction, and flood intelligence agencies need into one seamless solution. The quality of the output is only as good as the data going in, and Baron manages that quality end-to-end. From weather observations to actionable flood guidance, organizations can rely on a single provider to support faster, more informed operational decisions. Meaningful Advancement. Worldwide Impact.

From the United States to Southeast Asia, flash flooding threatens lives and infrastructure with little warning. Flood Finder gives forecasters and emergency managers the speed, resolution, and confidence to act when it matters most. By harnessing the power of AI and removing the barriers that have historically limited advanced flood modeling to well-resourced agencies, this solution has the potential to protect vulnerable communities anywhere in the world.

baronweather.com | **solutions@baronweather.com** | **+1 (256) 881-8811**

©2026 Baron Weather, Inc. All rights reserved. Baron and the Baron logo are registered trademarks of Baron Weather, Inc. Other trademarks are property of their respective owners. 10-2026.