

Infrastructure Damage After Extreme Rainfall

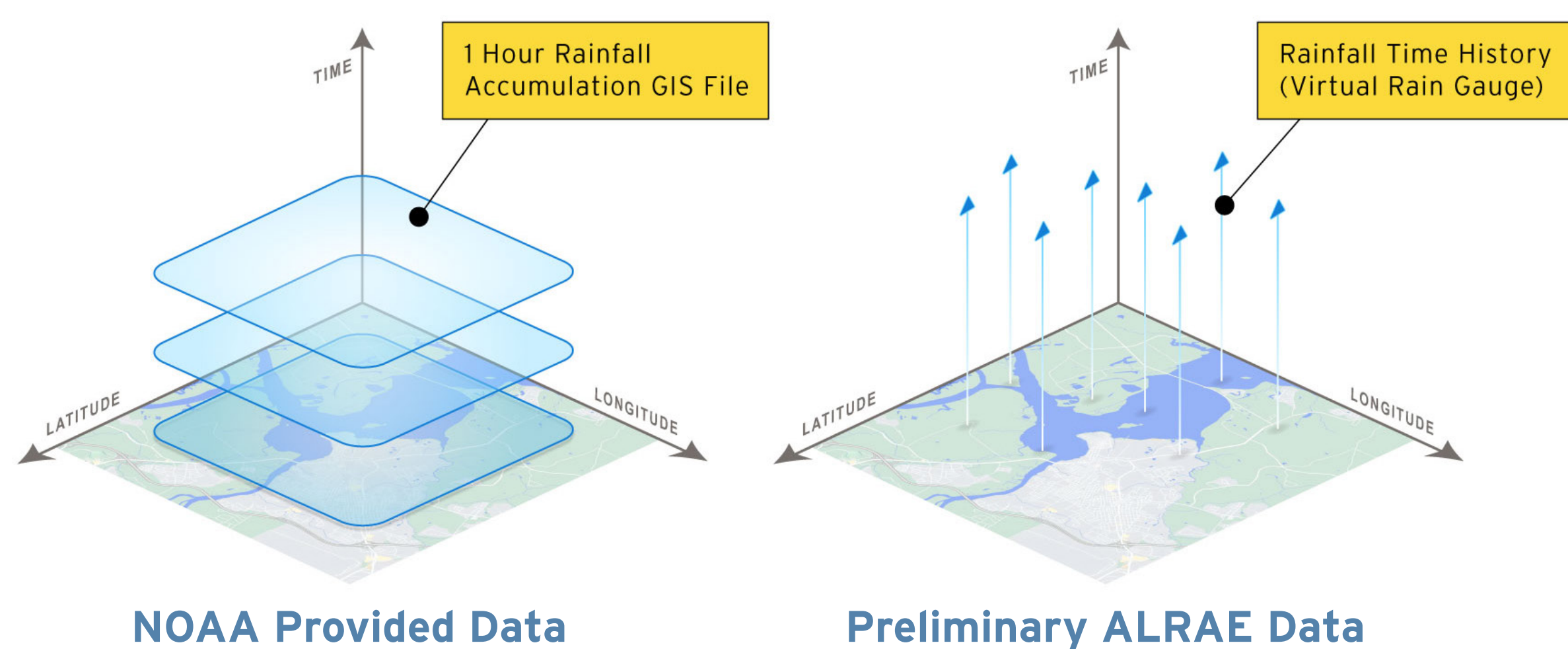
Extreme rainfall is a top concern for the transportation sector because of the safety implications. This includes driving in severe weather, damage to infrastructure, and disruption from significant delays including stoppage of mobility.



Bridge Washout after Hurricane Ida

Transforming Data to Better Understand Risk

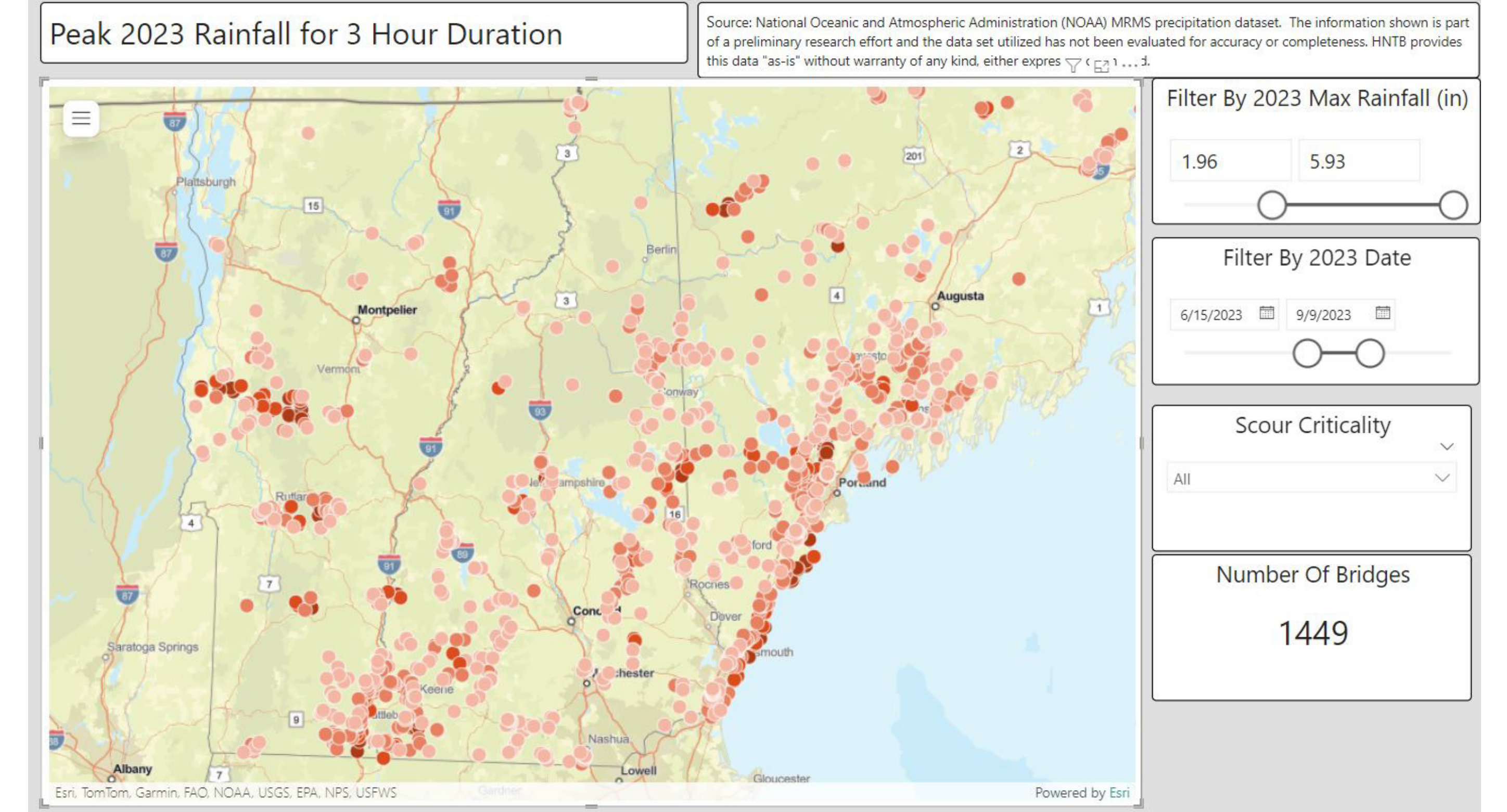
HNTB's Asset Level Rainfall Analytics Exercise (ALRAE) uses a multi-state, multi-year rainfall dataset to create a "virtual rainfall gauge" that reports rainfall estimates at thousands of bridges.



Hourly rainfall files converted to local time history

Communicating Risk to Stakeholders

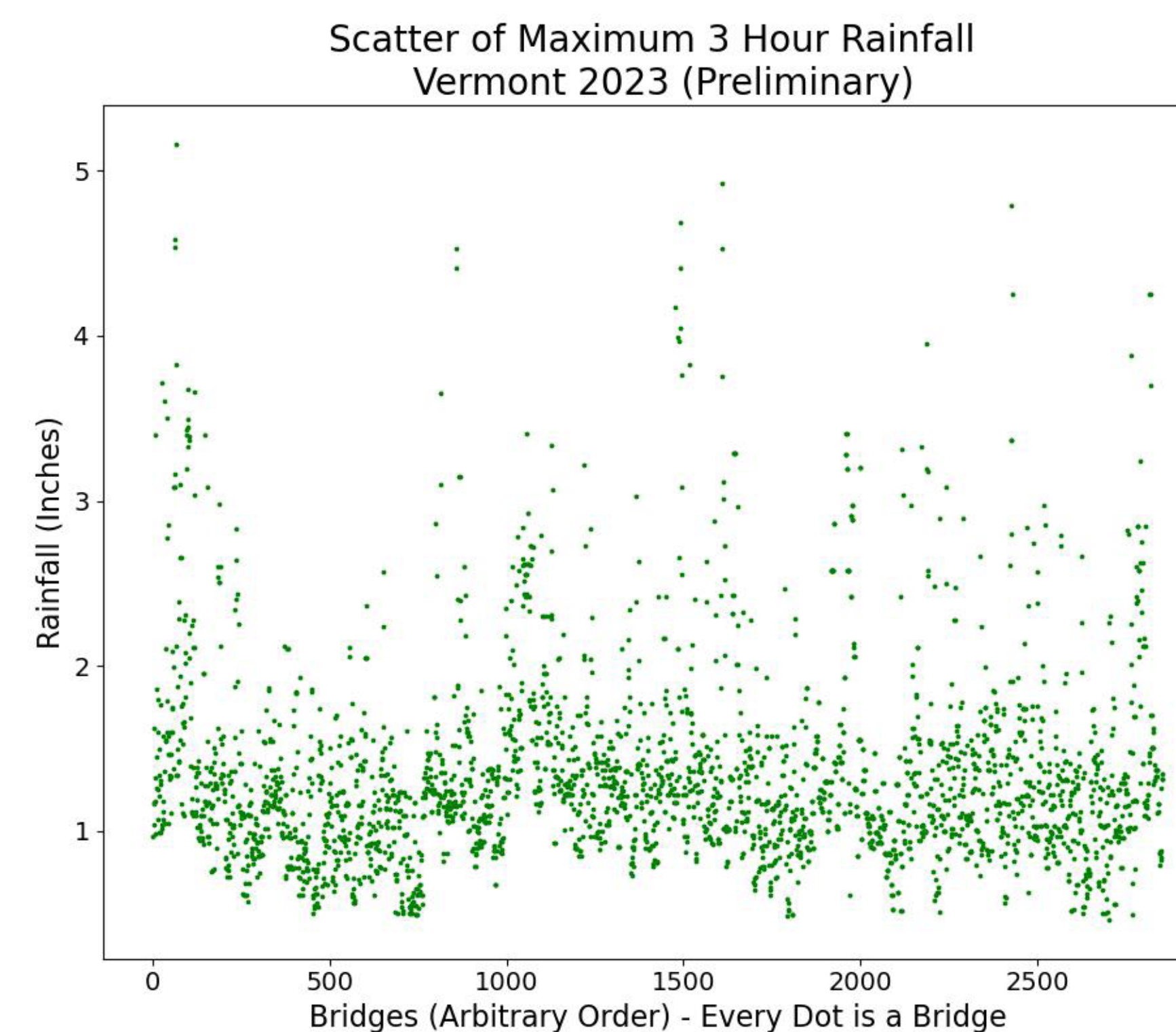
Dashboards visualize the data so that a variety of stakeholders can query and understand large rainfall databases. Recent efforts have shifted from bridge only focus to an approach where any asset, location, watershed or roadway can be assessed. Only historical data is shown and there are no predictive capabilities.



View of Northern New England Dashboard

Determining Risk for Thousands of Bridges

The restructuring of NOAA's rainfall dataset has led to new insights on isolated extreme rainfall behavior and the overall risk to a population of assets. By examining recent observed data, the best available information is leveraged to quantify the threats to existing transportation infrastructure.



Every bridge is a dot and peak rainfall is shown

