

Helping water companies to predict surface water flood events and respond efficiently and effectively.

The specific challenge for water companies

Changes in climate and land use are escalating flood impacts – particularly in areas previously unaffected by flooding. Although warnings are available for river and coastal flooding, they rarely – if at all – exist for surface water flooding, which is catching people off guard.

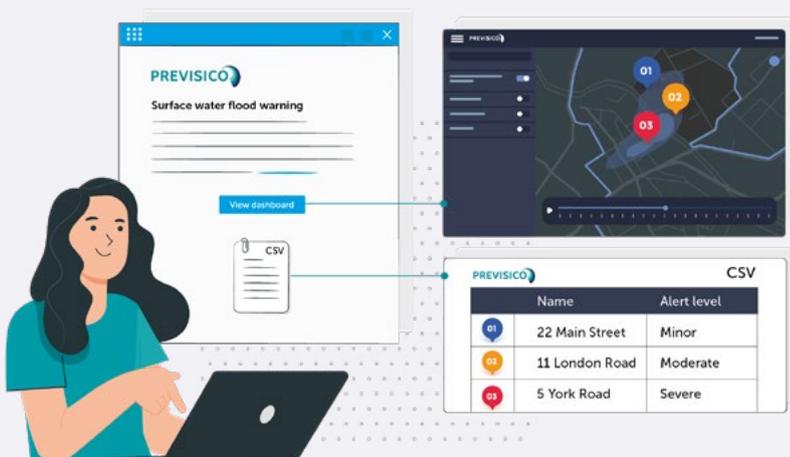
Surface water flooding occurs when local drainage systems are overwhelmed, typically due to intense rainfall in urban areas. Surface water flooding can in turn have detrimental implications for wastewater networks where for example, infiltration occurs or where flooding impacts critical infrastructure e.g. pumping stations. Greater understanding of the likely timing, persistence and magnitude of surface water flooding ahead of events is urgently needed to support better understanding of risks to drainage networks and infrastructure and inform management.



Solutions for water companies

Previsico delivers to asset owners a warning and forecast service for surface water and ordinary water course flooding at 25m resolution using its proprietary live hydrodynamic modelling software.

- **Flood dashboard:** Displays predicted time and depth of flooding upto 48 hours in advance. Scroll and zoom to see predictions at street and property levels anywhere in the UK.
- **Automated warnings:** Automated email warnings when drainage catchments and/or assets, including critical infrastructure, are at risk.
- **Water depth and flow sensors:** Complimentary to Previsico's forecasting technology and used as a high-uncertainty-avoidance solution for critical infrastructure, with devices suitable for above (e.g. ordinary water courses, SuDs, screened culverts) and below-ground (e.g. gulleys, sewers) monitoring.
- **APIs:** Technologies integrate seamlessly with existing systems.



The growing flood problem

- 1 in 5 properties affected by surface water flood risk.*
- 33% UK commercial properties at risk from flood.*
- 75% of businesses don't include climate risks in their business continuity plans.*
- Flood losses expected to increase five-fold by 2050.*

* References



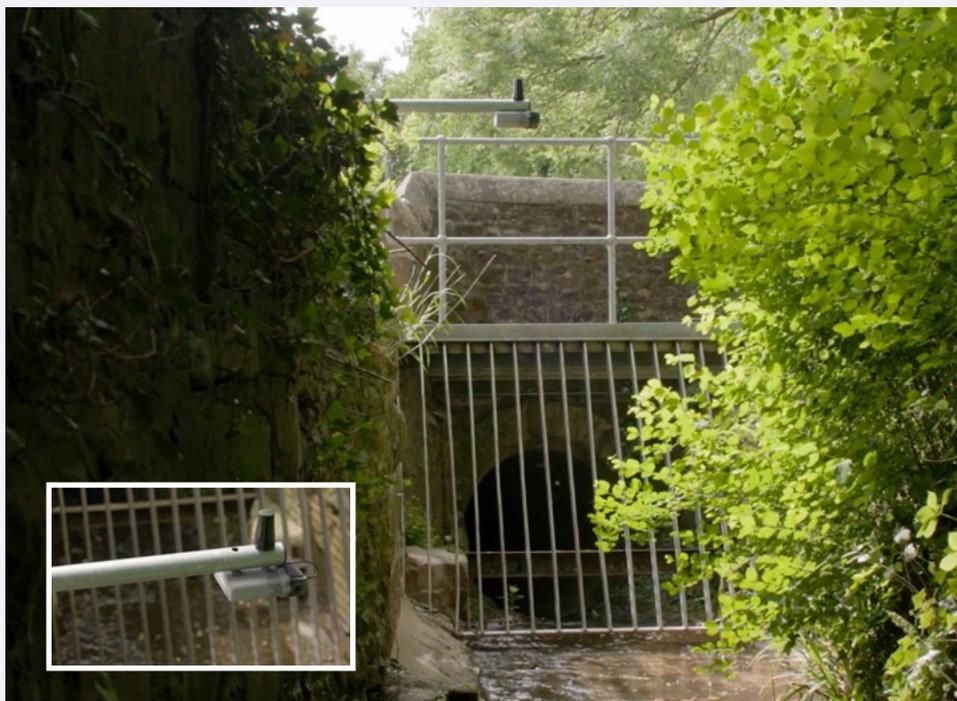
“ Due to the nature of their assets, infrastructure and responsibilities, water companies are unique and face unique challenges, that we look to help address. ”

DR ANDREW PLEDGER
IoT Systems Manager
Previsico



Benefits for water companies

- Provides timely information on surface water flood risk to inform event response, mitigating impacts and losses.
- Supports understanding of wastewater drainage infiltration that may contribute to network inundation and/or sewer flooding.
- Insights can support actioning of requests for help from customers during and/or after events (front-end triage).
- Sensors support accurate and effective monitoring of drainage water conveyance (above and below ground) across significant geographical scales in near-real-time to inform understanding of network performance and management requirements.
- A robust catchment-scale flow routing and forecasting technology that can be delivered live and continuously across whole catchments.
- Understanding of overland flow pathways, their possible implications for the entrainment and therefore mobilisation of microbes and other pollutants, and interactions with water courses at the catchment scale, can be used to help reduce diffuse river pollution and improve bathing water standards.



About Previsico

- Previsico is a specialist provider of flood resilience solutions.
- Our technology is underpinned by over two decades of published research in partnership with the Cabinet Office and emergency services.
- Our algorithmic technology draws on several leading data sources, including best available weather nowcasts and forecasts, satellite imagery, ground sensors, LiDAR elevation data, land cover, drainage and geology.
- Our solutions predict surface water and ordinary water course flooding – perils not covered by existing warning systems.



Previsico solutions are now available through Everbridge

Connect with us

Johnny Stubbs
Partnerships
johnny.stubbs@previsico.com



Head office
+44 (0) 3300 883712
info@previsico.com

Find us online
previsico.com

