

Research and analysis: Making better use of local data in flood frequency estimation

Flood frequency estimates are an essential part of flood risk management. They tell us what flood flows are expected to occur for a given rarity. They are central to many important decisions, such as the design and operation of flood defences, flood mapping, informing planning decisions in flood risk areas and long-term investment planning.

Methods described in the Flood Estimation Handbook (FEH) published in 1999, and its many subsequent updates, are considered the industry standard for flood estimation in the UK. They are used extensively by hydrologists from both the public and private sectors.

Flood frequency estimates (also known as design flood estimates) are associated with many sources of uncertainty. These hydrological uncertainties are often the most uncertain component in any flood risk assessment. As a result, any reduction in the uncertainty of flood frequency estimation has considerable benefit. One way to reduce uncertainty is to incorporate complementary local data to refine the results obtained using the FEH methods.