



A Preliminary Assessment of Low-Cost Bridge Scour Monitoring Methods and Tools

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Scour is a major cause of bridge collapse worldwide.

Climate change has resulted in flood events increasing both in frequency and in magnitude. Climate change, together with the current uncertainty about maximum scour depth around structures, make scour and other hydraulic actions some of the most important challenges for engineering going forward.

This study offers a preliminary assessment of bridge scour monitoring methods considering scour as a dynamical earth surface shaping process, and discusses how these methods can be used to improve predictive models for bridge scour depth.

Current methods used to monitor scour are mostly reactive. A vast amount of research has been carried out, aiming towards the implementation of various approaches to assist in the monitoring of scour; however, most methods used are either still reactive, or extremely costly and therefore not practical to be used for small to medium scale structures. This study aims in addressing major challenges faced by establishing a new, innovative framework for the monitoring of scour, while considering relevant approaches in literature. It discusses the development of an innovative, sustainable and low-cost framework, that can be used for small to medium scale structures. This will ensure a proactive response in the event of catastrophic scour occurring, safeguarding infrastructure and the travelling public.