Integrated monitoring of an active landslide in Lias Group Mudrocks, North Yorkshire, UK

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Geophysical monitoring of the internal moisture content and processes of landslides is becoming an increasingly common part of the long-term assessment of the subsurface condition of landslides prone to failure by increased infiltration. Geoelectrical monitoring has been proven to be effective at detecting changes in subsurface moisture content both preceding and following slope failure. Seismic methods show great potential for the monitoring of elastic properties of landslides as subsurface conditions move toward critical failure states, but until now have not been as widely applied as geoelectrical methods, and even less often as part of a combined geophysical monitoring approach.

We present the ongoing activities of an early-stage research project in to the monitoring of an active landslide in North Yorkshire, UK, integrating seismic methods in to a well-established geoelectrical monitoring campaign. This research project will consider the complementarity of geoelectrical and seismic monitoring methods, and how both methods can be utilised for the detection and monitoring of the evolution of landslide processes.