



## **Inversion of the London Platform detected and measured using persistent scatterer InSAR**

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A reappraisal of ground investigation data across London reveal a range of unexpected ground conditions encountered in engineering works since Victorian times. A recent example is the complex faulting exposed during foundation works at the University College London hospital site during 2011, in which Lambeth Group sediments were found faulted onto London Clay, reversing the normal stratigraphy. Fault zones like these are often associated with sand lenses, flowing water, and the remains of glacial age pingos and scour features.

Evaluation of site investigation borehole data across London and a reanalysis of the distribution of river terrace deposits of the Thames and its tributaries reveal a complex pattern of block movements, tilting and sinistral strike-slip displacement. Analysis of data in the Limmo area of East London shows fault propagation consistent with reversal of Variscan strike-slip and Eocene normal faults within the last 200 ka.

We use Persistent Scatterer InSAR (PSI) and new site investigation data from a range of projects across London to show that some of these faults are active at the present day. The detected rate of movement,  $\sim 1.5$  mm/yr, is an order of magnitude less than slow plate boundary rates and was unmeasurable before PSI. Although a platform and not a classic sedimentary basin, these data indicate ongoing inversion of the London region.