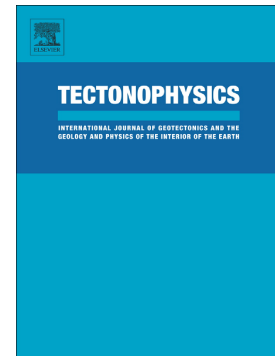


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Which fault destroyed Fes city (Morocco) in 1755? A new insight from the Holocene deformations observed along the southern border of Gibraltar Arc.

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ABSTRACT

In this paper, we present the first estimate of the Holocene deformation along the southern front of Gibraltar Arc (Morocco) and the first field constraints on the local AD 1755 Fes-Meknes surface rupturing earthquake which could be associated to the “Great Lisbon Earthquake” ($M > 8.5$) in November 1st, 1755. Using satellite imagery, aerial photographs and field investigations, we carried out a morphotectonic study along the ~150km-long Southern Rif Front (SRF) to identify the most recent evidences of tectonic activity. Analyzed offset alluvial deposits confirm that (i) the last ~5ka cumulative deformation leading to a slip rate of

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