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Influence of neotectonics in the Ventena river basin, northern Apennines (central Italy).

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This work describes the results about geomorphic analysis made on several Adriatic drainage systems located in the north Marche-Romagna region (central Italy). The aim of this study is to identify the role of neotectonics on landscape evolution and its development, and on the features of the drainage basins.
The area investigated in this paper is centred on the Torrente Ventena basin, a river that flows from the northern border of the Marche region to the Romagna region.
Ventena River flows in analmost straight line from south-west to north-east crossing transversely the outer anticlinal ridge of the area before reaching the Adriatic coast. Both the course of the river and the shape of its drainage basin appear to be strongly influenced by neotectonics. The analysis has been carried out on the main parameters capable of supplying direct or indirect information relating to tectonic forcing on the landscape. Geomorphological evidences, such as the presence of an asymmetric drainage system and areas with anomaly energy relief distribution, supported and integrated with field observations, reveals that recent tectonics might have played an important role on the control of the drainage system evolution and on its actual emplacement. Anomalies of drainage network, often distributed on lineaments, suggest recent activity on the renowned “Conca Lineament”. The data also highlights that drainage network anomalies and high values of energy relief often are located in the same areas and are unrelated to local climatic conditions or lithological setting. The data seems to indicate that the upper and central sectors of the basin are affected by recent uplift and tilting.