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Holocene fluvial processes in Troy plain

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The Troy plain is the lower part of Scamander (Karamenderes) River basin before its mouth in the Dardanelle straits. The fluvial processes of the deltaic progradation and floodplain aggradation have changed the landscape of the plain during the past 10,000 years. They transformed a sheltered gulf reaching the Ancient Troy into an extensive plain. Ancient Troy is today 7 km inland while Simois (Dumrek) River is a tributary of Scamander (Karamenderes) River. A detailed geomorphological survey with high resolution topographical measurements was carried out using of a TOPCON FC100 differential GPS. This survey took place not only along the Troy plain but further southwards in Araplar gorge and Ezine basin. The morphological analysis of the data showed that the graded channel profile of the Scamander River is lower than its alluvial plain. The channel incision ranging from 2 to 5 meters is responsible for the formation of a pair of alluvial terraces along the channel. These aggradational terraces formed into the resent alluvial sandy deposits of the basin. The channel morphology of an alluvial river like Scamander is highly sensitive in changes concerning the discharge and the sediment load at downstream points. Active tectonics, climate change and sea level rise are the main causes of changes in the channel equilibrium. Ten sediment samples, from the alluvial terraces in Araplar gorge, were dated with OSL technique. The sample ages allowed the time estimation of the channel changes.