The Actual hydrographic network in SW Portugal – an evolutionary perspective.

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Both intrinsic factors of hydrographic networks (dynamic changes in the internal fluvial model) and extrinsic factors (climate, tectonics, base level), have an influence in the incision of the valleys and in the formation of fluvial terraces. The valleys, the sediments of the fluvial terraces and their geomorphology, supply evidences for studies of fluvial systems in long term.

Due to the proximity of the sea and the influence of the collision between the African plate with the Eurasian plate, the actual hydrographic network in the SW Portugal had a strong influence from the isostatic and eustatic effects, the climate having also an important paper in the incision of the actual valleys at different time scales. The actual hydrographic network orientation must have been originated due to middle Miocene tectonic movements and its actual development must have happened after the transgression at the end of Pliocene.

This work intends to determine the actual evolutionary state of the hydrographic network in the SW Portugal. In order to carry out this work, we characterized several hydrographic basins from the Algarve region, all of which drain the intrusive massive of Monchique (fig.1), forming the accentuated relief of the whole area. The morphometric parameters of these hydrographic networks and their longitudinal profiles were analyzed. This data are used to characterize the hydrographic network from an evolutionary perspective along the Quaternary. In general, the preliminary results indicate that the hydrographic network reached equilibrium since the Pliocene.

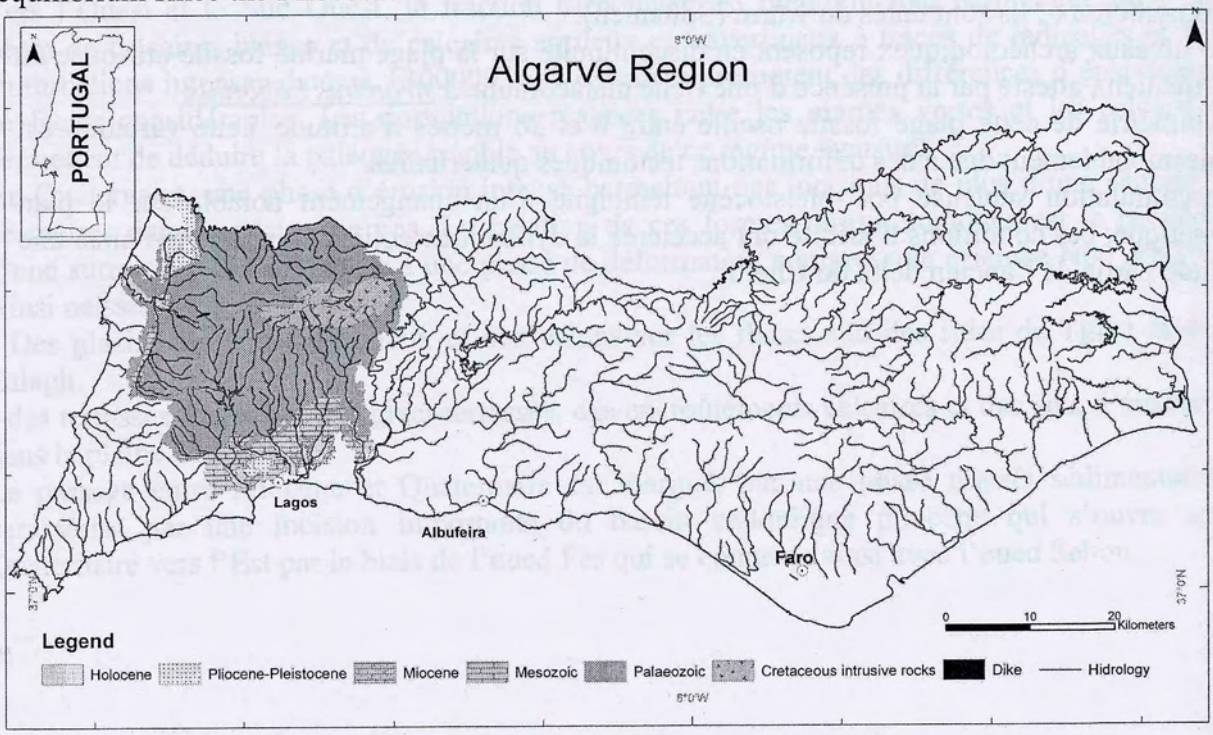

Fig. 1-Geographic location and geology of studied area (hydrographic basins).

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