

## COMPARATIVE GEOMORPHOLOGICAL OBSERVATIONS IN THE KALAMAS DELTA IN WESTERN GREECE AND THE SPERKHIOS DELTA IN EASTERN GREECE

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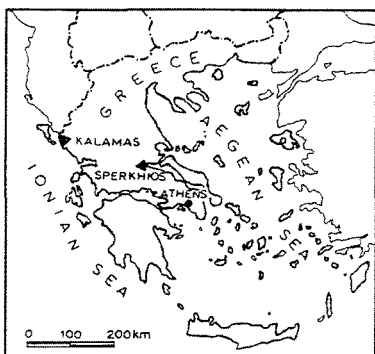


Fig. 1. Location of the deltas of the Kalamas and Sperkhios rivers in Greece.

The evolution of the deltas of Greece is depended on the areal extent, lithologic composition, slope, orientation, climatic conditions and vegetation cover of their drainage systems which evolve on a young and highly irregular relief owed to recent and intense tectonic activity of the Hellenic region. Their seasonal bedload variations are directly depended upon the unpredictable Mediterranean climate. The receiving basins and sea conditions are other important factors affecting delta growth. This study focuses on two significantly different deltaic environments of Greece, the Kalamas river which empties into the Ionian sea in the West and the Sperkhios river which

empties into the semi-enclosed Maliakos gulf in the east (Fig.1). The Kalamas river has formed a cusped type delta when it debouches from the Pindus mountain range (Fig.2). Its 1826 km<sup>2</sup> drainage basin has given rise to a 78 km<sup>2</sup> delta joining a number of former limestone islands to the mainland. The river has changed its course many times filling up the intermediate basins between the islands. Human interference in the form of a low dam at the apex of the delta and an artificial channel with a second mouth have been determinative in the evolution of the delta in recent decades. The sea has covered large parts of the inactive old delta thus destroying cultivated lands and irrigation works. The drainage basin (1780 km<sup>2</sup>) of the Sperkhios river is located in an East-West trending, elongated, assymmetric and active tectonic depression (Fig.3). The river flows East and empties into the relatively calm, shallow, less than 27 metres deep, Maliakos gulf. It has formed a digitate type delta

having silted up an area of 104 km<sup>2</sup> during the last 2500 years. It is characterized by frequent channel changes, the last one having occurred about a century ago in the area of Thermopylae. Until recently, the Sperkhios had not been affected by human interference. Today, a dam is being constructed on its major tributary, the Vistritsa.

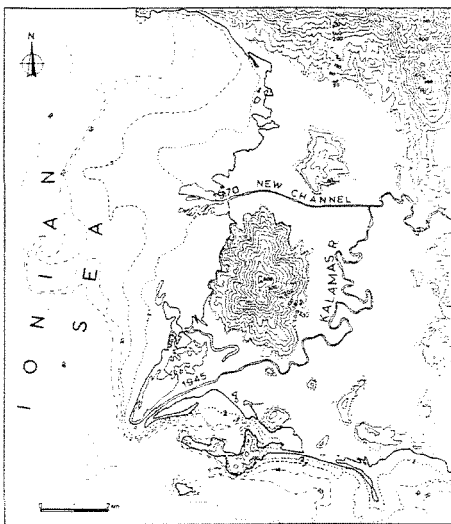


Fig.2 The delta of the river Kalamas.

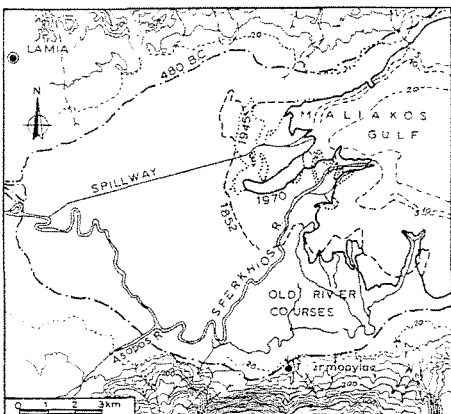


Fig.3 Deltaic growth of the Sperkhios river from 480 B.C. till 1970.