

## TECTONICS, CAVE DEVELOPMENT AND GEOMORPHOLOGY EXAMPLES FROM THASOS

By

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### ABSTRACT

The asland of Thasos is bordered by major fault-lines. The regional and local tectonic situation is strongly connected to the Northern Aegean. Trough as well as to the Xanthi-Komotini fault line. Between Thasos and the mainland the Prinos-Kavala graben is close to 6.000 m in depth and filled up with sediments of neogene and quaternary age. Thasos itself represents a tectonic horst that reaches an altitude of 1206 m a.s.l. (Ypsarion).

An analysis of satellite images as well as of aerial photographs reveals a distribution of fault lines upon the island that is very closely related to the general fault line scheme within the northern Aegean. As the geological situation of Thasos is characterized by alternating layers of marbles and schists, the development of caves within the marble complex is supposed to be strongly influenced by the tectonic structural system, which shows the following main directions : NE-SW, NW-SE, N-S and W-E.

But while the main fault lines bordering the island are responsible for the development of the graben systems, within the island the fault lines are an important factor concerning the development of certain morphological subsurface relief features.

#### I. Tectonic influence upon surface relief :

Tectonic influence upon surface relief elements can be traced in macro-, meso- and micro-scale. Examples are the NE-SW draining rivers, which sometimes are captured due to fault lines. These river-courses are independent of geological strata. Concerning the meso- and micro-relief features, the marble terrains exhibit fault-bound forms like dolines and uvalas as well as karren-development clearly connected to joints.

#### II. Tectonic influence upon subsurface relief (caves) :

Morphological investigations on Thasos indicate a dominant role of faulting upon cave development. Thus, according to the geological situation and the specific geotectonic evolution of the area, various stages of cave destruction are evident.

\* Τεκτονική, Ανάπτυξη σπηλαίων και Γεωμορφολογία, Παραδείγματα από τη Θάσο.

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