7-9 - GRAVITY AND MAGNETIC MEASUREMENTS IN GREECE -
(PELOPONNES, ATTICA and KITHERA)

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In the spring of 1971 the Institute of Geophysics, University of Hamburg, together with four Greek Institutions *, surveyed the Peloponnes, Kithera and Attica, covering these areas with 1200 gravity and magnetic stations (vertical component of the field).

The gravity data were reduced to Free Air and complete Bouguer anomalies and compiled into maps of 1 : 200 000.

The gravity anomalies of the eastern part of the Peloponnes strike NNW-SSE in a very linear pattern, and the positive anomalies of the western Aegean Sea continue over large areas that of the eastern Peloponnes. The gravity field over Attica is also positive, and reaches Bouguer anomalies at its southern end of approx. 100 mgals. Central Peloponnes becomes negative and a Bouguer minimum of approx. -120 mgals. is reached in the northwest of the Peloponnes at the Gulf of Patras.

The anomalies are arranged in a V-form with its open end pointing to the NNW. This indicates that it is in this direction that the crust obtains its maximum thickness. The southwestern part of the area becomes positive again, and the anomalies indicate a crustal change toward the Ionean Sea. In general, the gravity field does not follow the morphological features, indicating the absence of isostatic balance.

The magnetic ΔZ measurements were compiled into a map of the regional ΔZ-field. By means of 35 magnetic stations, which seemed to be undisturbed, a continental field was established and subtracted from the regional field. The anomalies of the western Peloponnes are very smooth and lie at a level of approx. 60 gamma. This indicates that in this area the sediments are fairly thick and the crystalline basement dips NNW. Eastern Peloponnes, particulary the area of Argolis, shows very strong magnetic anomalies of the order of $\pm$ 220 gamma and the same is valid for the southern part of Attica. In both these areas local surveys are necessary for the delineation of local structures.

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