

linear erosion brought destruction of the basal surface. The inselbergs were remolded during the Younger Pleistocene: the basal sharply concave slope of the inselbergs was substituted by forms of accumulation. The tors show nowadays full morphodynamic activity. On the one hand the tors are destroyed by tafoni weathering, on the other hand and at the same time further development is promoted by exfoliation.

At the end of the investigation the Aegean basal surfaces are compared to those of humid middle latitudes. The extensive landscapes of peneplain systems of the humid middle latitudes share the Neogene climato-morphologic heritage with those of the Aegean area. The processes of exhumation, however, took entirely different courses.

GEOGENIC AND ANTHROPOGENIC INFLUENCES ON SOILS OF THE WESTERN THESSALY PLAIN, GREECE

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Chemical analyses were carried out to assess the geogenic and anthropogenic influences on soils of the western Thessaly Plain.

The prevailing soil types are developing on alluvial and colluvial deposits as fluvisols and regosols with a loamy to sandy composition. The pH-values are varying from weakly acid to highly alkaline. Soil contents of metal and non-metal elements (table 1) are used to establish correlations between them and soil organic matter or pH-values. Different metal groups may also be associated to different rock types or to human impact. Methods of selective extraction may help to evaluate the bioavailability of the chemical elements. The origin of several heavy metals by human impact could be elucidated, this in a most interesting example along a highway.

A COMPUTER PROGRAM FOR THE ESTIMATION OF THE MORPHOLOGICAL GROUND INCLINATION FOR THE CONSTRUCTION OF ISOGRADIENT SURFACES

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Maps of isogradient surfaces find applications in different branches of geology, forestry, etc. At different times various methods for the construction of such maps have been devised. These are, however, laborious and time consuming as well as of limited accuracy. So, the methods that depend on the automated acquisition of data by the use of computers

have advantages. The program presented and discussed in this paper is based on such a method.

The ground gradient of an area is estimated after the digitization of the contour lines of the appropriate map with an electronic digitizer. The values of the gradients refer to regular contour intervals the width of which is selected.

Finally, a database of points of known gradient is created. This is then used for the automated construction of a map of isogradient surfaces.