

By biostratigraphical research (conodonts, radiolarians, ostracods) a rock sequence from the Middle Carboniferous up to the Triassic/Liassic boundary could be proved. By numerous conodonts and radiolarians, too, hitherto known only from western North America, SE-China, Japan, and Cis-Ural, from the Middle to Upper Carboniferous, the Middle Permian, the Upper Permian and partially the Upper Triassic a important main connection in pelagic facies can be proved at the northern border of Gondwana between the young Paleozoic of SE-Asia and Pamir, SE-Arabia, southern Italy and Tunisia.

The sedimentation area of these rock sequences shows nearly only pelagic to hemi-pelagic sediments from the Bashkirian to the Lower Triassic, including the Permian/Triassic boundary. These features are characteristic for west Crete as well as for east Crete.

By these results the hitherto most accepted model of a Paleotethyan in the North and a Neotethyan in the South must be modified distinctly. The main branch of the triassic rift zone is lying far in the north, a younger one in the south, opening from the Jurassic, described namely as Neotethyan.

The pelagic Young Paleozoic to Lower Triassic is lying still south of this Neotethyan. At the end of the Scythian important volcano-tectonic events touch these parts of the External Hellenides. Whereas in the northern parts strong rifting occurs (post Upper Scythian), compression is going on in the south. Especially in the Upper Triassic to Liassic the southern part is covered by a large carbonate platform which starts to subside partially in the Jurassic. Up to the Oligocene this sedimentation seems not to be interrupted.

In the Oligocene and basal Miocene a part of the External Hellenides subside to greater depth, undergoing a high pressure/low temperature metamorphism and locally strong tectonic deformation.

THE CONTRIBUTION OF GEOMORPHOLOGY IN LOCALIZATION OF AREAS OF DYNAMIC PROCESSES IN THE BASIN OF DAMS. AN EXAMPLE OF AKROPOTAMOS DAM, PIERIA VALLEY, EAST MACEDONIA NORTH GREECE.

N. Lambrinos, O. Christou, C. Reggouzas, G. Dimopoulos

Aristotle University of Thessaloniki, School of Geology, Department of Geology - Physical Geography, 351-1 540 06 Thessaloniki, Greece.

The present paper deals with the drainage systems which are developing in Pieria valley, East Macedonia, North Greece. The aim of the study was the localization of some parts of the drainage systems which may provide high overland flow and large amounts of suspended sediments during periods of heavy rainfalls.

The drainage systems were delineated from topographic maps, 1:50000 in scale, using the crenulation lines in order to delineate the streams which are not shown on the maps. The network was ordered according to Strahler's ordering system and the drainage systems of 3rd order were depicted to study quantitatively using factor analysis. For this purpose, twelve (12) morphometric parameters were measured and calculated, describing the dimensions, the shape, the relief and the degree of dissection of the network.

From the factor analysis, two (2) factors were extracted, the factor of dimensions and the factor of relief and their factor scores were plotted one by one at the mouth of each drainage basin, replacing the original values of the parameters. These scores were joined together by isolines, forming a new map consisting of four (4) geomorphological units, depending on the dimensions and the relief of the basins. These units are consisted of basins having: a) high relief and small dimensions, b) high relief and large dimensions, c) low relief and small dimensions and d) low relief and large dimensions. From each of these units, the drainage basins which belong to each unit, were depicted and their morphometric parameters were analyzed again using factor analysis. From this analysis, two factors were extracted for the units of high relief basins and three factors for the units of low relief basins. Two important parameters (the perimeter (P) and the reggedness number (Rn)), and three parameters (the total stream length (ΣL), the local relief (Hb) and the drainage density (D)) were distinguished for the units of high relief basins and the units of low relief basins subsequently. The values of these parameters were plotted one by one at the mouth of the basins of each unit and were joined together by isolines, forming a new isoline map, showing the spatial distribution of these parameters in each unit.

From the study of this map was found that the NW part of the study area has a tendency to provide high overland flows and large amounts of suspended sediments, because it shows more rapid erosional processes, compared to other parts of the study area.

INVESTIGATION OF THE GROUND-WATER REGIME OF THE LIMESTONES, STAVROS AREA, IERAPETRA A PROPOSAL FOR THE CALCULATION OF STORAGE-COEFFICIENT AND REAL EVAPOTRANSPIRATION

N.J. Lamprakis^{*}, J.E. Koumantakis^{}**

^{*} University of Patras, Department of Geology

^{**} Nat. Tech. Un. Athens, Department of Mining and Metallurgy

The aquifer of the recrystallized limestones (a part of the ophiolitic nappe according