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INDEX OF MORPHOHYDROGRAPHIC BASIN COMPLETION BY PERIMETRES AND AREAS. CASE STUDY IN ROMANIA

ABSTRACT: GRECU F., *Index of morphohydrographic basin completion by perimetres and areas. Case study in Romania*. (IT ISSN 1724-4757, 2008).

The present paper is aimed at highlighting the index of basin completion for parameters and areas which is relevant for the main morphometric variables depicting the dynamics of the basin as a complex system. The basins discussed herein are situated in the morphogenetic environment characteristic of temperate zones, the approach being sustained by the statistical analysis of a representative number of cases, and by data obtained for topographic charts on the scale of 1:25000, and field observation. Looking at drainage basin dynamics starts from the hierarchy of streams on the Horton - Strahler scale.
The higher the order of magnitude, the better balanced a basin is, and reversely, the smaller the order of magnitude the greater its imbalance.
It appears that 4 th- and 5 th -order basins are best suited for a dynamic geomorphic analysis. Drainage basin dynamics synthetic coefficient I_c (I_c - completion index) stands for number of stream segments, as well as for other variables, eg. length, areas and perimeter of hydrographic basins, and is given by the progression ratio. $I_c = 1$ (100%) equilibrium; $I_c < 1$ subsized; $I_c > 1$ oversized. The analysis focussed on 21 drainage basins situated in mountain zones on crystalline or Mesozoic-Paleogene schists, and 19 basins located in hills and tablelands on Mio-Pliocene sediments.
The completion indexes of mountain basin areas and parameters come closer to unity, which suggests a tendency for basins to reach a state of dynamic equilibrium compared both to drainage model indexes and hill and tableland basins. Disparities between mountain basins and their hill and tableland counterparts do exist, particularly in terms of completion level.

KEY WORDS: Morphohydrographic basin, Completion index, Area, Perimeter, Romania.

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