

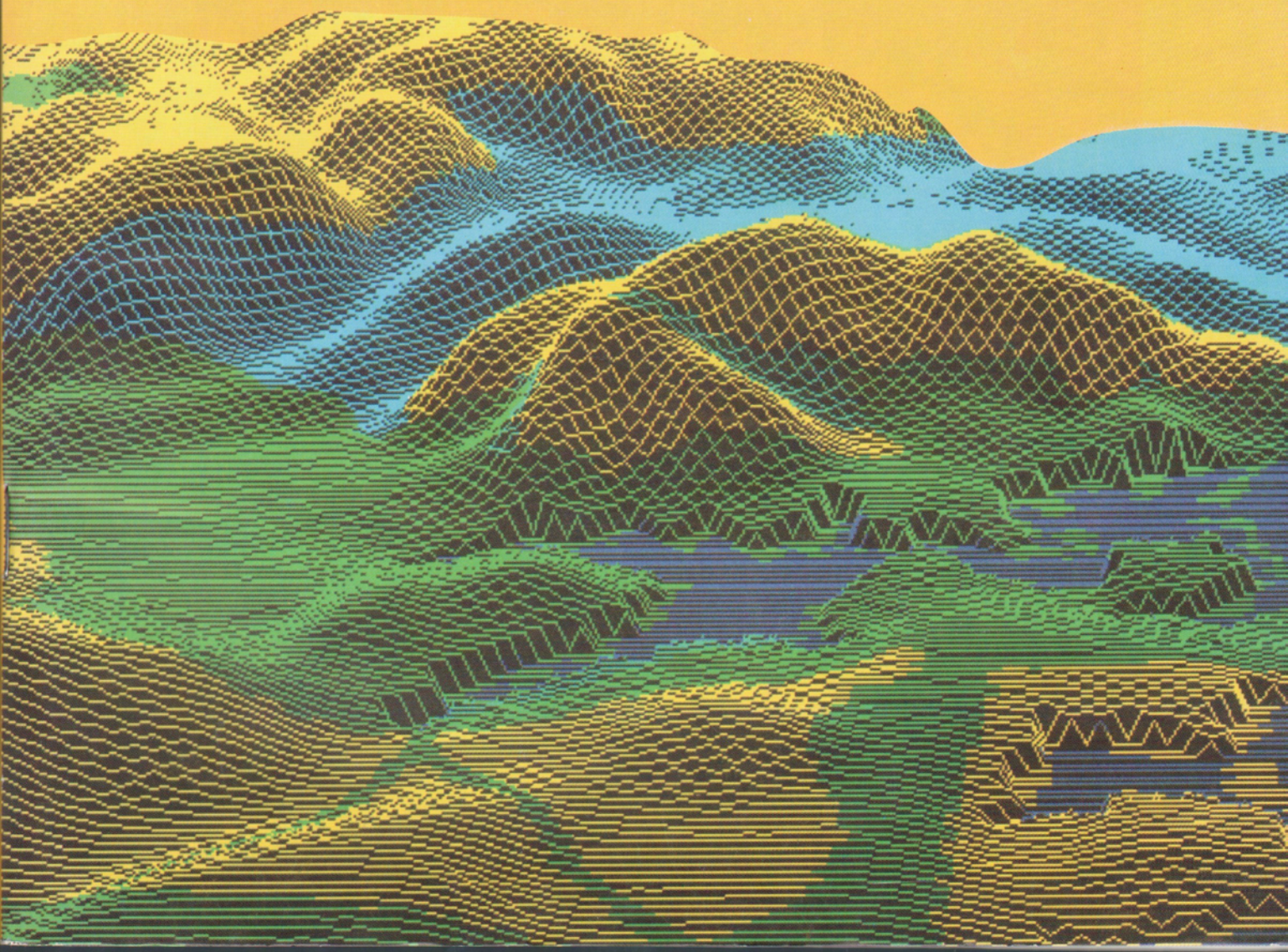
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Typology. Map on the scale 1:500 000. Geographia Slovaca, 4, 38 p.,
 Institute of the Slovak Academy of Sciences, Bratislava, 1993.
 (Krasová geomorfologie na Slovensku)

Jozef Jakál: Karst geomorphology of Slovakia

Typology. Map at the scale of 1:500 000. Geographia Slovaca, 4, 38 pp., Institute of Geography of the Slovak Academy of Sciences, Bratislava, 1993.

Antonín IVAN

In Slovakia, carbonate rocks, limestones, dolomites, travertines are widespread mainly in core mountains. Very various karst phenomena occur, some of them quite unique. In the series *Geographia Slovaca* Jozef Jakál presents a new and original typology of karst in Slovakia with a coloured map at the scale of 1: 500 000, with additional data about caves and explanation text in English and Slovak languages.

In core mountains original upper Mesozoic fold and nappe structure was changed in relief of block mountains (horsts) and basins. Many complexes of Mesozoic autochthon and allochthon limestones and dolomites are liable to karstification. Lithology and age (Trias - Pliocene and Quaternary) of the carbonates are expressed in grey hachure (7 types).

As concerns the karstification process, the author distinguishes three types: a) karst process (chemical dissolution), 2) fluviokarst process in which fluvial erosion takes part, and 3) pseudokarst process (e.g. gravitational) in insoluble rocks. Intensity (degree) of karstification is expressed by six categories from complete development of exo- and endokarst, prevailing autogenic development to fluvial relief with corrosion traces.

From the morphoclimatic point of view, only two types were determined, corresponding to altitudinal zonality. There are high mountain karsts with one subtype in combined fold-fault or inclined structures. In the second type of the Central - European karst of temperate zone there are subtypes of mountain and basin karst. Geomorphological or morphostructural criteria are decisive in more detailed classification. Among the mountain karst four subtypes are 1) plateau karst, 2) dissected karst of massive ridges, horsts and combined fold-faulted structures, 3) dissected karst of monoclinical crests and ridges, and 4) karst of klippen structure. Three subtypes of the basin karst are as follows: 1) karst of isolated blocks and monadnocks, 2) karst of foot plains and terraces, and 3) karst of combined fold-fault and inclined structures. Subtype of the karst of travertine domes and cascades occurs both in mountains and basins. The last geomorphological type is "cryptokarst ... in lenses of crystalline limestones and magnesites lying in impermeable Paleozoic rocks that does not manifest itself on the surface as the morphostructural karst type".

The typology is also important for Moravia, although in the Moravian part of Outer West Carpathians built by flysch and Neogene sediments only three important karst localities occur. Karst phenomena in Jurassic limestones of Pavlovské vrchy (Hills) in south Moravia and in the hill Kotouč near the town of Štramberk in north Moravia belong to the type of klippen structure in the mountain karst. As special case is the fossil tropical karst in Devonian limestone near the town of Hranice buried under Miocene marine sediments. The karst phenomena here developed in tectonic blocks of basement Bohemian Massif incorporated in the Carpathian system only in Miocene. Thus, with only one exception Moravian localities fit very well in Jakál's typology.

There is also a list of 329 important caves on the map, classified according to the morphological type (caves, chasms), length, depth and secondary filling. Thus, the map affords exhaustive information and also its cartographic standard is high. In our opinion, the map presents substantial progress in carsologic mapping.