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Morphostructures on the Territory of the Czech Republic (Europe)

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with 3 figures

Summary. Morphostructures on the Territory of the Czech Republic (Europe). Morphostructural analysis is a set of the methodological procedures of structural geomorphology with the objective of explaining direct and indirect connections between properties of existing topography and the structure of the Earth's interior (lithosphere). Based on the morphostructural analysis of the territory of the Czech Republic, the authors concluded that lithosphere characteristics and response to neotectonic movements vary not only between individual terranes but also within their individual parts.

Zusammenfassung. Morphostrukturen auf dem Gebiet der Tschechischen Republic (Europe). Morphostrukturelle Analyse ist ein Komplex von methodologischen Verfahren der strukturellen Geomorphologie, dessen Ziel es ist, die direkten und indirekten Beziehungen zwischen den Eigenschaften des bestehenden Georeliefs und dem Aufbau des Innenbereichs der Erde (bzw. der Lithosphäre) zu klären. Die Autoren sind aufgrund der erfolgten morphostrukturellen Analyse der Tschechischen Republik zum Schluss gekommen, dass die Eigenschaften der Lithosphäre und deren Reaktionen auf die neotektonischen Bewegungen sich nicht nur unter einzelnen Terranen, sondern auch in deren Einzelteilen unterscheiden.

1 *Introduction*

The authors concern morphostructure after Gerasimov 1946, as relatively distinct parts of the terrain (units) of various sizes, which came to existence through a combination of neotectonic and exogenous (climate-controlled) processes in the geological basement including the influence of rocks and paleotectonics (jointing, folding, and faulting). In the Palaeozoic Era, the morphostructural evolution of Central Europe took its course under the influence of several orogenic periods due to the collision and folding of Baltica, Laurentia and Gondwana, and the terranes moving among them such as the exotic terranes of Avalonia and Bohemian Massif (Fig. 1). The territory of the Czech Republic lies on the dividing line between the Euroasian and African lithospheric plates, the movements of which results in both vertical and horizontal movements of morphostructures.

Morphostructures create a hierarchic scale from the morphostructures of the 1st order (megamorphostructures such as the Bohemian Massif) up to the morphostructures of low orders (micromorphostructures such as troughs or anticlinal ridges – Baker 2007, p. 5). The delimitation, mapping (Fig. 2) and classification of morphostructures is important both theoretically for the explanation of the lithosphere-topography relationship, and practically for the prediction of natural disasters.

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