Sustainability, vulnerability amd geodynamic hazard in geomorphologic systems of urban territories of the Russian Far East

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The issues of sustainability, vulnerability and geodynamic hazard in geomorphologic systems (GMS) of urban territories (UT) of the Russian Far East (RFE) were approached on morphostructural base. The conclusion was made that the combination of the studied parameters provides quite an efficient assessment system to the environmental and geomorphologic condition of the RFE UT. The GMS parameters of sustainability, vulnerability and geodynamic hazard are based on complex data of endo-dynamics, exo-dynamics and techno-dynamics. The following stages of the study should include research of the detailed composition, development and applied features of the GMS, including monitoring of hazardous endo-dynamic, exo-dynamic and techno-dynamic processes aimed to the efficient management of relevant risks.

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Periglacial Slope Deposits and the CZ - on their genesis and influence on soil water content by a case study from the Bavarian Forest, Germany

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Periglacial slope deposits (PSD) are widespread in mid latitudes' Pleistocene non-glaciated areas. In the mid-mountainous regions of Germany like the Bavarian Forest these sediments appear as characteristic layered material on any slopes. Typically, the PSDs consist of three different layers: Upper, Middle and Lower Head. Their properties are governed by their genesis at different climates and according to periglacial morphodynamics. Additionally, bedrock lithology and source of strata are influencing factors. The PSDs are crucial part of the critical zone as the uppermost layer between surface and the lowest groundwater level and responsible for layer-characteristic soil water movements. The latter are hydrological processes, like interflow and storage, depending on the PSDs.

In this investigation (DFG funded, VO 585/15-1) selected profiles of the Otterbach catchment are analysed in consideration of the pedological and sedimentological properties. Stratigraphical features and numerical dating techniques (OSL) help to interpret landscape evolution and genesis of its critical zone. In addition, soil water measurements within the single PSDs show the influence of the layers on soil water movement and the importance of the periglacial slope deposits as part of the critical zone.