



Mapping and evaluation of snow avalanche risk using GIS technique in Rodnei National Park

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The study consisted in a precise mapping project (GPS field campaign, on-screen digitization of the topographic maps at 1:25.000 scale and updated with ASTER mission) of the Rodnei National Park area (Romanian Carpathians) with a focus on snow avalanche risk survey. Parameters taken into account were slope, aspect, altitude, landforms and roughness resulted from a high resolute numerical terrain model obtained by ASTER (Advanced Space-borne Thermal Emission and Reflection Radiometer) mission. The resulted digital surface model with a spatial resolution of 10 m covered a total area of 187 square kilometers and was improved by the help of Topo to Raster tool. All these parameters were calibrated after a model applied onto Tatra Massive and also Ceahlău Mountain. The results were adapted and interpreted in accordance with European avalanche hazard scale. This work was made in the context of the elaboration of Risk Map and is directly concerning both the security of tourism activities but also the management of the Rodnei Natural Park. The extension of this method to similar mountain areas is ongoing.