

## **MODERN METHODS OF IMPLEMENTATION AND INTERPRETATION OF DIGITAL TERRAIN MODEL**

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### **Abstract**

Modeling land surface is a particular case of modeling the areas which need special consideration for specific issues related to Earth representation or some parts of the terrestrial crust. This study had as main objective the achievement of a digital terrain model in a mountain area based on Triangulated Irregular Network (TIN). This studied area represents a part of the Retezat Mountains. The images obtained were analyzed with ArcGIS software. The database and algorithms used facilitated the creation of a 3D model for the studied area, with a spatial distribution similar to the real situation in the field. The obtained 3D model facilitated the graphical representation of different types of slopes, grouped into 6 classes at intervals of 10 units, according to slope values, covering 100% of the study area. The largest coverage consists of land with slopes between 10-40%. The 3D model also facilitated graphical and numerical representation of aspect and it allowed the Hillshade model to facilitate highlighting landforms directly from DEM model, emphasizing valleys, depressions, ridges, for an easier interpretation and use of the maps.

**Key words:** GIS, DEM, Slope, Aspect, 3D