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USE OF THE PHOTOGRAMMETRIC METHOD IN EARTH SCIENCES: EXAMPLE OF VARDZIA MUSEUM RESERVE

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During last decades the methodology of digital terrain modelling (DTM) has been changed by technological development. Besides traditional methods of digital elevation modelling, such as ones using differential global positioning system (DGPS) and Total Station, today we can gather topographical data using a new method based on a new generation of remote sensing.
A new direction of remote sensing called close-range digital photogrammetry is becoming increasingly popular in earth sciences. The abovementioned method enables us to make high resolution 3D models of terrain and also get a texture image for the area of interest. Compared to various traditional or contemporary methods, close-range digital photogrammetry is faster, cheaper and requires less human resource.
Using close-range photogrammetry we have created 3D models of the cliff of Vardzia and its adjacent territories. We also produced high a definition digital model and orthophotos of the research area. Based on the photogrammetric image of Vardzia Museum Reserve, we have drawn digital geological and geomorphological maps of the cliff of Vardzia (Scale 1:1000). Conducted research and the results of laboratorial investigation of gathered samples is reflected on digital maps.