

STUDIES THE FORMATION OF A SINKHOLE CONTOUR IN THE AREA OF MOUNTAIN BOULANGER

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The relevance of the study is to develop a methodology for monitoring manufacturing objects using unmanned aerial vehicles formed as a result of mining operations. The Tashtagol iron ore deposit is located in the south of the Kemerovo region in Gornaya Shoria, and is being worked underground. The development of the reserves of the South-Eastern section has been carried out since 2004 by the Tashtagol branch of company Evrazruda. A special feature of the South-Eastern section reserves mining is the operation of protected objects within the zone of potential hazardous displacements, as a result of which, presumably in November 2017, a sinkhole was formed in the area of Mount Boulanger. The aim of the work is to describe the method of monitoring the determination of the geometric dimensions of the sinkhole in different periods of time using an unmanned aerial vehicle. The sinkhole development has been monitored since 2018. As a result, this study determines the geometric dimensions of the sinkhole in different periods of observations, and calculates the average sinkhole increase dynamics of the per year.

Keywords: Tashtagol field, Mount Boulanger, failure, unmanned aerial vehicles, quadcopters, GNSS, total station

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