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Lineament Analysis in Prediction of Karst

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One of the modern tasks of engineering karst is the prediction of the location of possible karst deformations and their sizes. This problem is solved by establishing links between karst forms and karst development factors, expressed through certain indicators. An important factor that determines the formation of karst forms is the tectonic structure of the territory, one of the indicators of which can serve lineaments, identified with active faults. The research had been lead with using of lineaments as applied to the carbonate-sulfate districts of Permskiy krai with high intensity of karst form emergence. Main aim of the study was to establish the spatial selectivity of the formed collapse sinkholes and detected cavities and the values of them sizes in dependence on the organization of the lineament network.

The modern approach was concluded in using the indexes of lineament tectonic based on research of tectonic jointing and their juxtaposition with karst sinkholes and cavities and them morphometric parameters with definition predictive equation of karst sinkhole size depending on the lineament tectonic indexes.

Main conclusion of the study is that the zones of lineaments and nearby areas present actually weakened sections of the karst massif, to which most of the surface and underground forms of karst are confined. At a certain distance from the lineaments the formation of karst forms completely decease. According to research karst forms diminish in size at increase of lineaments density.

Keywords: Lineaments, Karst forms, Morphometric parameters

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