



## **Mountain watershed as a 3d-crack net transportation system**

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1. New model for simulating of formation of a mountain watershed and a river-bed as an unified 3D-crack net is discussed for the first time. The following questions are under study: watershed pattern, morphological structure of mountain watershed (drainage system, water-parting system), mountain watershed formation mechanism, brittle destruction as a genetically attributed property of rock, mountain litho-watershed formation stages (i.e. drainage cones and slope surfaces formation stage, branched drainage system formation stage, water-parting arc formation).
2. We focused our study on the features of establishment of the geosystems for a river basin being localized on the mountain slopes of ridges in relatively similar geological conditions. A system of river channels (drainage network) is also closely connected with the processes of crack formation and destruction. Litho-watershed basis plays a dominant role in formation and functioning of the river basin, and also in mountain relief in general.
3. Conditions that need to be taken into account in the analysis of formation of litho-watershed, are the following: physico-geographical and climatic features of the mountain country; geological-mineralogical and orographic features; age; character of the fractures formation in the rocks. Various combinations of these conditions will determine the formation of mountain watersheds, namely, their size, structure, figure of a run river system, water cut, etc.
4. In progress, the problem of universality of presented approach for the different mountain river basin with own peculiarities should be studied in details for each case on the basis of necessary data both in geographical and geological aspects.