

## **RELATIONSHIPS BETWEEN TOPOGRAPHICALLY EXPRESSED ZONES OF FLOW ACCUMULATION AND SITES OF FAULT INTERSECTION**

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Topographically expressed zones of flow accumulation often coincide with fault intersections because of increased rock fracturing. We have conducted a study of the interrelationships between topographically expressed accumulation zones and fault intersections, and the function of these sites in the landscape evolution. The investigation has been performed with the use of digital terrain models, geological and soil data for the Crimean Peninsula. First, we carried out an analysis of associations of sites of fault intersections, intensive rock fracturing and abnormally high discharges of springs and boreholes, relating to fault intersections, with three types of landform elements (zones of flow accumulation, transit and dissipation). We found that all phenomena under study are closely associated with topographically expressed accumulation zones. This has demonstrated that within these zones the soil moisture is influenced both by upward transport of deep-seated groundwater and by accumulation of overland lateral flows. Second, we predicted the effect of topography on irrigation-induced changes in the salt regime of soils and the groundwater level, assuming that topographically expressed accumulation zones can be marked by properties of fault intersections. We found that water leaking out of the North Crimean Canal can result in secondary salinisation of soils and a considerable rise of watertable within some accumulation zones located downslope. Salts collected in the accumulation zones, and their slow movement through rock fractures can lead to salinisation of the aquifers. We believe that topographically expressed accumulation zones are areas of contact and substance exchange between overland lateral and deep flows.