

## **Fracturation as a Controlling Factor of Control of Groundwater Pollution in Karstic and Fissured Non-Karstic Aquifers.**

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Fracturation represents one of the main factors controlling the dynamics of groundwater pollution in the unsaturated and saturated zones of karstic and fissured non-karstic aquifers. In Cuba, these aquifers represent almost 65 and 30% of its territory, respectively.

In karstic aquifers a relationship fracture-karstification is being established, allowing the identification of the dispersion process of the pollutants, the assessment of the local vulnerability of the aquifers, the evaluation of the risk of the sources of water supply and to establish the sanitary protection limits of the water wells. In coastal karstic aquifers, the dependency of this factor with the phenomenon of marine intrusion is a very important aspect in the study of the effect of the changes of sea level in small islands and coastal zones.

For the fissured non-karstic aquifers, represented almost by low-permeability rocks, the behavior of the fracture is emphasized as part of the methodology of the hydrogeological exploration. As derived from the use of geomathematics tools, fracture is, within the structural variables a weighted element in the areas delimiting high probabilities of development groundwater. Other investigation about the dispersion of pollutants in the groundwaters of a mining zone, evidence that fracture establishes preferential migration of these elements, and allows to predict the possible pollutants fate.