

HYDROGEOCHEMISTRY AND BEHAVIOUR OF GROUNDWATER IN THE RÍO LAJA BASIN, BÍO-BÍO REGION, CHILE.

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ABSTRACT

The preliminary results of the hydrogeochemical studies, behavior, classification and quality of groundwater associated to the hydrographic basin of Río Laja, in the Bío-Bío region, are presented here. Four geological-geomorphological units form the basin: the Andean Cordillera, the Piedmont Platform, the Central Valley and the Coastal Cordillera. The major hydrogeological units, in the area of the Piedmont Platform and the Central Valley, are Quaternary deposits, which constitute the main aquifer. The Coastal Cordillera, formed by granitic rocks, acts as a natural barrier to the regional flow of the groundwater. The soils, formed by chemical weathering, allow the infiltration and formation of a local flow that moves towards the Central Valley. The aquifers' main source of replenishment is the infiltration of direct rainfall on permeable materials, which exist all over the area under study. According to the results obtained from chemical analyses of groundwater, it can be pointed out that it corresponds to the following types: CaHCO₃, MgHCO₃, Ca-NaHCO₃, Ca-MgHCO₃, Mg-CaHCO₃, Ca-MgCl and NaCl waters. Its distribution is zonal and it has a direct relationship with the sediments and rocks through which it flows.