

## POTENTIAL SOURCES OF SURFACE AND GROUNDWATER CONTAMINATION IN TIRANA- DURRES REGION(ALBANIA)

Halil Murat ÖZLER<sup>1</sup>,

<sup>1</sup>Department of Geology Engineering, Istanbul University, Istanbul *E-mail:* [ozlerhm@istanbul.edu.tr](mailto:ozlerhm@istanbul.edu.tr)

### ABSTRACT

The objective of this paper is to assess and evaluate the conditions of the surface and groundwater resources in the Tirana-Durres region. The most important aquifer is that of Tirana and it supplies with drinkable water (1200 –1300 l/sec) Tirana, Vora, Kamza and the other vicinities. The risk of pollution is very high because the aquifer's cover layer is very thin; the running rivers (Lana, Ishmi and Gjola Rivers) are very polluted due to over urbanization and the high usage of the sand soil for the construction industry. In addition, the groundwater layer in Durres region has high values of TDS, Cl<sup>-</sup>, K<sup>+</sup> and Na<sup>+</sup> ions, indicating a possible progression of seawater intrusion in the coastal aquifer of Durres. The potential for seawater contamination of the freshwater-bearing zones probably will continue to increase in west Durres, as freshwater zones continues to decline. The current situation in the region is evaluated through data from wells and streams and Water budget to evaluate the groundwater characteristics. The distributions of different chemical properties are mapped to identify the most problematic zones by using GIS techniques. The study focuses on problems such as seawater intrusion in the area of Durres and the contamination due to stream water an groundwater interaction in Tiran region.

**Keywords:** *Groundwater, stream water, contamination, seawater intrusion.*