

EARLY WARNING BULLETIN No 1 ON GROUNDWATER QUALITY, ADDIS ABABA, ETHIOPIA

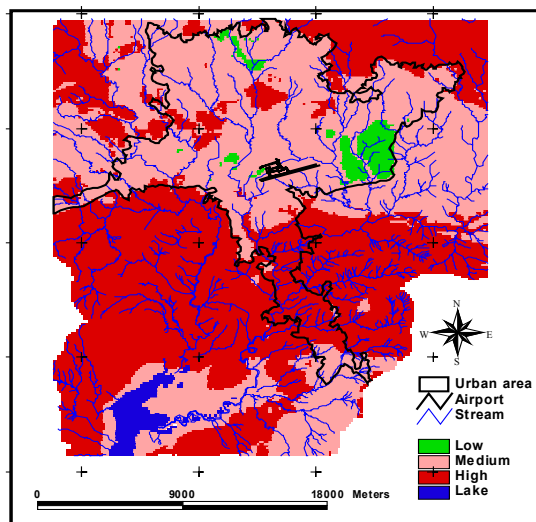


Figure 1. Intrinsic vulnerability map for water supply aquifers in Addis Ababa

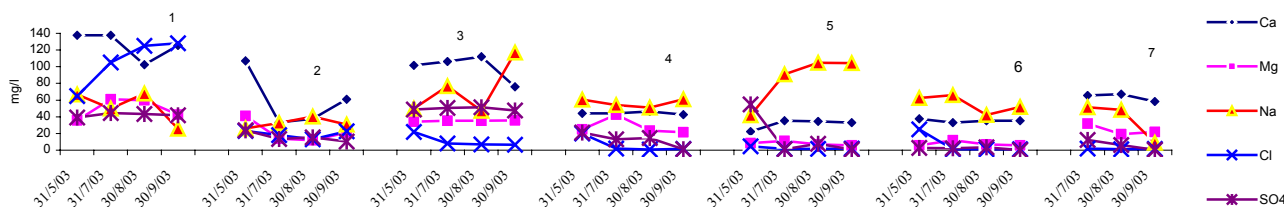


Figure 2 Temporal variations in major ions

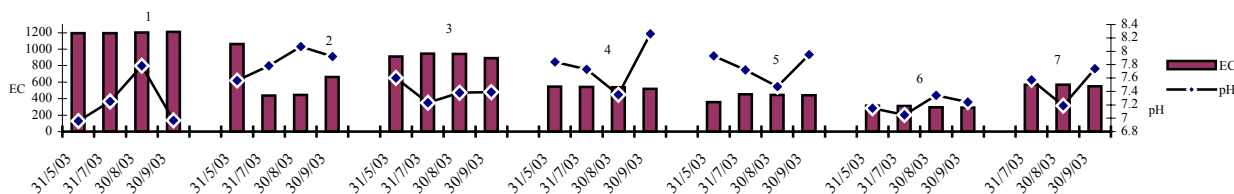


Figure 3 Temporal variations in pH and Electrical conductivity (EC)

The on going hydrochemical survey in the project area (1727km<sup>2</sup>) showed that pH, Ca and Cl have strong monthly variation in the water supply aquifers attributed to the nature of the recharging water loaded with contaminants. Drastic EC changes correspond to areas susceptible to contamination and fluctuation is higher based on EC of infiltrating water.

The preliminary intrinsic vulnerability mapping for the water supply aquifers revealed that major part of the city lies on medium risk area while the southern aquifer is highly vulnerable to pollution. Low vulnerable areas are aerially quite small (green). Thick clay deposits around lake Aba Samuel (blue) fall in medium vulnerability category. The southern industrial area and some part of the Akaki well filed are situated on high vulnerability zone.

**Sampling points 1:** Lideta spring, **2:**BH Building college, **3:**BH Akaki Textile, **4:** BH EP-8, **5:** BH Addis tyre, **6:** BH Kara, **7:** BH-22