

Characteristics of Groundwater Hydrochemistry in Chaobai River Basin(Peking),NCP

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Groundwater flow system is very important issue in the hydrological cycling with regional climate. Especially study on groundwater flow system in arid and semi arid region like of the North China Plain (NCP) would bring to great benefit for normal use the groundwater resources. NCP is leading industrial and agricultural area of China, but it is suffers from the systematic problems of population growth and water shortage. So better use of groundwater resources in the NCP is an urgent task.

This paper will try to give a simple description about considering regional groundwater hydrochemistry from recharge region to discharge region in region of the Chaobai River Basin which source from the Yanshan Mountain, the north boundary of NCP. Groundwater is one of the most valuable natural resources that NCP possess. Information about the evolution of water table, EC and pH in this region are very important for water resources development. In our study, it was found that changes of EC and pH coincided with groundwater flow from recharge area to discharge area. By considering the variations of groundwater use in past forty years, the groundwater quantity and quality was obviously affected by both nature and anthropogenic factors. EC values low in north recharge area about 500 Ó 600 ms/cm and high near the high populated, urbanization Peking area about 900 Ó 1500 ms/cm, in discharge area near the Tianjin EC values become lower again around 600 Ó 800 ms/cm. EC values also decreased with increasing with well depth. NO₃⁻ values low recharge area where belongs to the agricultural area about 10 Ó 50 mg/l and high in high populated industrial dynamic Peking area. In low land discharge area not any NO₃⁻ effect. Water table also sharply decreased year by year around the Peking City.