



The variation characteristics of groundwater level with distance from shoreline in the Jeju island, Korea

D. H. Kang (1), S. I. Yang (1), S. S. Kim (1), H. J. Park (2)

(1) Department of Environmental Geosciences, Pukyong National University, Busan, Korea /
Fax: 051-628-6432 / Phone: 051-620-6230 / dhkang@pknu.ac.kr

(2) Environmental Geology Team, Korea Rural Community & Agriculture Corporation

The variation characteristics of groundwater level with distance from shoreline was investigated using groundwater level data monitored in 257 wells for dry season (December 1998) and wet season (July 1997) at the Jeju island. Groundwater level of dry season was 7.46~203.88 m, and average was 60.49 m. And, it of wet season was 4.01~204.10 m, and average was 57.66 m. Groundwater level of the dry season was higher than wet season, this was caused by much rain between June and October, 1998 at the Jeju island. Correlation coefficients between altitude and groundwater level for dry and wet seasons were above 0.86, and they between dry season and wet season groundwater levels were very high above 0.95. First, 257 groundwater level data was classified at an interval of 500 m. And, average values for altitude, groundwater levels and distance from shoreline was calculated for 17 intervals. Altitude and groundwater level for dry and wet seasons of 0~4 km interval were increased with distance from shoreline, but they of 4~9 km interval were irregular. Linear functions of the groundwater level for dry and wet seasons as distance from shoreline were estimated, and coefficient of determinant by 0~4 km interval data was higher than it by 0~9 km interval data. And, increasing rate of groundwater level for 0~4 km interval was more 2 times than it for 0~9 km interval. This results are caused by that linear increase of groundwater level to 4 km from shoreline and irregularity of groundwater level in the 4~9 km interval.