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خلاصه مقاله:

Nitrate has been the most common chemical contaminant in water resource. This ion is introduced into the water via different ways, but more items of nitrate pollution was connected with farming-based drainage and sewage effluent. In this descriptive-analytical study, groundwater nitrate and nitrite concentrations of 8 wells on Dehloran, Ilam, Iran, were analyzed in 2015 to determine the causes and zonation of pollutant. Results were compared with national standards and analyzed by SPSS and Arcview GIS 9.3 software. The highest and lowest nitrate concentration were related to Dashte Akbar No. 3 with an average of 11.1 ppm and Bareh bijeh well No. 3 with an average of 8.58 mg/l, respectively. Nitrite level of wells water was measured as zero milligrams per liter. There was no significant difference between nitrate concentrations and depth of wells because of approximately the same depth of wells. There was no significant relationship between the monthly average nitrate concentrations with each well. Likewise, no significant associations were found between the average nitrate concentrations of different wells per month. The nitrate concentration in 100% of the analyzed samples were less than 20 mg/l, thus water wells placed in slightly contaminated water. Given the great distance between residential areas with wells and the existing sewage collection network in Dehloran whereas high density agricultural activity, this amount of nitrate and nitrite was attributed to the widespread use of fertilizers. Therefore, proper management in the use of fertilizers and determining health policy regarding wells should be done.

کلمات کلیدی:

GIS, Groundwater, Nitrates, Nitrites, Water Pollution, Water Wells