



## Change in groundwater temperature of Korea

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Water is an essential element for all organism, including human. There are anaerobic organisms in nature, but no organisms hate water. As time goes on, the interest and need for such water management is increasing worldwide. Seawater is the most abundant on the Earth's water and accounts for more than 95% of the total. But this is the salty water that humans can not drink. So, even if most of the water is seawater, it is important to manage the fresh water that humans can drink. Uses in which water is used in human life are various such as agriculture and living water. Therefore, the purpose of this study is to contribute to the management of groundwater used in everyday life. Groundwater can be largely divided into quantity and water chemistry. Of these, interest in this study is related to water chemistry and is water temperature. Groundwater chemistry can be changed by temperature change. So, we want to predict changes in the future by analyzing past groundwater temperature changes. Box plot was used as the study method. This makes it is easy to see the yearly change visually. In this box, displays 25% to 75% of the total data distribution. Also, values outside the minimum ( $25\% - 1.5 \times IQR$ ) and maximum ( $75\% + 1.5 \times IQR$ ) range are designated and excluded as outliers. The line in the box represents the median, which is not necessarily located in the middle of the box. This study used water chemistry data from 2011 to 2015. The result of this study suggests that groundwater temperatures have risen over the past five years, and that this can increase in the future. This research was supported by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIT) (No. NRF-2015R1A4A1041105).