[JJ] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-HW Hydrology & Water Environment

[A-HW24]Hydrological change after the 2016 Kumamoto earthquake

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More than two years have been passed after the occurrence of 2016 Kumamoto earthquake. Many investigators have been investigated the cause of observed coseismic hydrological changes such as spring lake dry up, groundwater level drop and rise. We also found groundwater quality changes before and after the quake and this information has been becoming accumulated. In fact, highly densed groundwater monitoring network installed in Kumamoto enables us to grasp comprehensive view of coseismic hydrological responses in very high resolution, so that, the results of these studies have high potential impact to this academic area globally. In this sense, we are welcome for all topics regarding coseismic hydrological changes after or even before the 2016 Kumamoto earthquake from broad point of view including hydrological cycle, deep water and hydrothermal water contribution, subsurface temperature, water quality, isotopes and microbiology. Topics of earthquake prediction and crustal defamation mechanism, surface morphological change in relation to hydrological changes are also welcomed.

[AHW24-P07]Evaluation of groundwater flow system in Kumamato area from dissolved trace element concentration and isotopes including Kumamoto Earthquake

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In these last few decades, isotopic traces have been used to understand the origin and flow of groundwater. In this study, we analyzed various isotopes from groundwater samples in Kumamoto area, Japan. Groundwater in this area is supplied from Mt, Aso, and utilized as a main source of water supply in Kumamoto City. Its recharge by meteoric water is the main source as indicated by conventional delta-^{18}O and delta-D isotopes of water, but additional inputs from different sources are suggested. In this study we tried to detect the presence of additional sources using delta-^{11}B and delta-^{7}Li isotope ratios dissolved in water as well as concentrations of B, Li, and major dissolved ions, and D/H-^{18}O/^{16}O values of H_2O. B and Li are conservative trace elements in typical groundwater system (pH, Eh, EC), and these isotopes have very wide variations(0-30 permil) in nature owing to its relative large mass differences. Stagnant groundwater and thermal fluids tend to have low delta-values and seawater has high values, so the isotope systematics are useful to estimate origin of groundwater.