
[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 dense 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 deformation mechanism, surface morphological change in relation to hydrological changes are also welcomed.

[AHW24-P02]Effect of the reduction of artificial groundwater recharge through abandoned rice paddies at Mid stream area of Shira river and its surrounding area caused by 2016 Kumamoto earthquake to the local groundwater resources

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Because of the intensive groundwater use, Kumamoto area have settled more than 100 monitoring wells to cover over 30 years for its sustainable management. Those monitoring results show the long term decreasing tendencies of the groundwater level and as the drastic countermeasure for this, the artificial groundwater recharge through abandoned paddies of the Mid stream area of Shira river, where is known as relatively high recharge possibility by their hydrogeological condition, has been started from 2004 by the cooperational activities of the local governments and agricultural societies. Kumamoto Earthquake 2016 has severely damaged the paddies, farm lands, and irrigation channels of this area and the artificial groundwater recharge has decreased down to 30 %. In the year 2017, the damage has well recovered mostly and the artificial recharge comes back almost 90 % level. This temporal decrease of artificial recharge should reflect to the local groundwater resources if we carefully check the groundwater monitoring data in the recent 2-3 years which cover before and after the earthquake.