Abstract Details

AOGS 1st Annual Meeting > Interdisciplinary Working Groups > (IWG4) Groundwater flow study in the Quaternary pyroclastic flow aquifer including coastal groundwater seepage-out

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Title: (IWG4) Groundwater flow system study in the Quaternary pyroclasti aquifer including coastal groundwater seepage-out.

Abstract:

AUTHORS: JUN SHIMADA 1, DAISUKE INOUE1, SOU SATOH1, TADAN GOTOH2, YOSHITAKA HASE1, MAKI TSUJIMURA3,MAKOTO TANIGUCH KUNINOBU MIYAOKA5 AFFILIATION: 1 Department of Earth Sciences, Kumamoto University, Japan 2 Deep see research Dept., Japan Marine Science and Technoloty Center, Japan 3 Inst. of Geoscience, Univ. of Tsukuba, Japan 4 Res. Inst. for Humanity and Nature, Japan 5Faculty Education, Mie University, Japan ABSTRACT: Quaternary pyroclastic fl deposits are widely distributed in Japan, but their groundwater flow s has not been much studied. Relatively steep morphologic surface with temperate hydrological condition of our country should create active groundwater flow including coastal groundwater seepage-out. A 4.5 k mountainous pyroclastic catchment has been selected in Uto peninsul Kumamoto, Japan for this purpose and following four major themes h taken to reveal the regional groundwater flow system : 1. Precise hydrometric study in the head water catchment relating rainfall-runof process 2. Isotope hydrological study with the help of groundwater pc measurement using deep observation boreholes of different depth an Self Potential survey in the study catchment. 3. Self potential survey, resistivity survey, seepage meter measurement, groundwater potenti measurement in the observation borehole has been conducted in the shore area during the tidal fluctuation period. 4. Three dimensional groundwater flow simulation in the studied catchment including river discharge and evapotransipiration. The study was started 2002 and m hydrological observation system including 4 river discharge measuren points and 8 different depths boreholes in the study catchment has al installed for monitoring purpose. We will present some interesting groundwatger flow characteristics observed during last two years peri including the relation between coastal groundwater seepage and the i groundwater flow regime.

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