
 [EE] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-CG Complex & General

[A-CG37]Asian monsoon hydro-climate and water resources research for a next GEWEX RHP

convener:Shinjiro Kanae(School of Environment and Society, Tokyo Institute of Technology)

Sun. May 20, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

In the Asian monsoon region, water-related climate is one of the key issues for its growth, sustainability, and disaster prevention. The 10-year MAHASRI (a regional project of GEWEX under WCRP) period successfully finished in 2016, and we are currently trying to establish a new RHP (Regional Hydro-climate Project) for the Asian monsoon region under WCRP/GEWEX/GHP. This session will be open for all fields of research related with Asian monsoon hydro-climate and its application to society (e.g., water resources), regardless of the participation in the above projects. We also welcome GEWEX and GHP related studies outside the Asian monsoon. Keywords and targets of this session include: 1) hydro-climate extremes and water-related disasters in monsoon Asia in a changing climate; 2) prediction of hydro-climate and water resources in monsoon Asia from monthly, seasonal to decadal time-scales for societal benefits, 3) changes in water availability and water use in this particular food basket region of the world, 4) intra-seasonal oscillation and diurnal change of hydro-climate in Asia, and its impact on society, 5) long-term monitoring, data-rescue, satellite remote-sensing, and new observation of hydro-climate and water resources in this region for societal benefits, 6) monsoon onset and withdrawal and their linkages with society. Participants are encouraged to discuss future collaboration and research-network expansion for ultimately establishing the next RHP under GEWEX as a successor of MAHASRI and GAME.

[ACG37-P06]Seasonal and Inter-annual Variation of the TWS seen from Satellite and Land Surface Model

*Daiya Shiojiri¹, Kenji Tanaka², Shigenobu Tanaka² (1.Graduate School of Engineering, Kyoto University, 2.Disaster Prevention Research Institute, Kyoto University)

Keywords:land surface model, TWS, groundwater

We compared the variations of terrestrial water storage (TWS) simulated by land surface model SiBUC with observed by GRACE satellite. The inter-annual variations observed by GRACE sometimes reflect serious problems. For example, a decreasing trend seen in a large granary may mean such area is non-sustainable groundwater use area. If such trend is seen in a glacial area, it can mean glacier melting. In this study, we used that trend to improve a global water cycle model in-land to evaluate groundwater resources sustainability. In the simulation with SiBUC, the amount of groundwater recharge is experimentally assumed to be the difference between water that moves from second soil layer (q23) to third soil layer and base flow (q3). To define the appropriate amount of groundwater recharge, we compared the variations of TWS observed by GRACE satellite. Now we are conducting a field observation in Thailand, and its result will be used to identify the accurate amount of groundwater recharge.