
 [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-P01]Abrupt climate shift in the mature rainy season of the Philippines in the mid-1990s

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A robust climate shift around 1993/1994 from early August to early September, specifically August 9 to September 7, is detected in stations located over the western coast of the Philippines. For the epoch, 1979-1993, this period is characterized by enhanced convection and corresponds to the peak of the summer rainy season of the Philippines. However, for the epoch 1994-2008, this period features a persistent decrease in rainfall, which is accompanied by upper-level convergence, lower-level divergence, and decrease in relative humidity that expands from the South China Sea to the Philippine Sea. The persistent increase in the sea surface temperature over the equatorial Indian Ocean has been favorable for convection development, which can potentially induce these changes in the large-scale conditions. Additionally, these changes in the large-scale conditions suppress the development of synoptic-scale disturbances including tropical cyclones in the vicinity of the Philippines. Another potential influencing factor is the arrival of a positive 30-60-day filtered outgoing longwave radiation anomalies over the Philippines in the recent epoch, which can also inhibit the development of synoptic-scale disturbances. This study highlights the changes in the rainfall of the summer monsoon of the Philippines and the importance of sub-seasonal analysis in decadal to interdecadal climate change studies.