



Upcoming Asian monsoon hydroclimatological research framework under GEWEX

Toru Terao (1), Shinjiro Kanae (2), Jun Matsumoto (3,4)

(1) Kagawa University, Faculty of Education, Japan (terao@ed.kagawa-u.ac.jp), (2) Tokyo Institute of Technology, School of Environment and Society, Japan (kanae@cv.titech.ac.jp), (3) Tokyo Metropolitan University, Graduate School of Urban Environmental Sciences, Japan (jun@tmu.ac.jp), (4) JAMSTEC, Japan (jun@tmu.ac.jp)

The MAHASRI project, a Regional Hydroclimatological Project (RHP) of GEWEX Hydroclimatology Panel was successfully finalized in March 2016. It accomplished following wide areas of outcomes, scientific findings, and impacts during these 10 years of activity. Research collaborations since the GAME (GEWEX Asian Monsoon Experiment) project were further strengthened and widened in monsoon Asian countries. A coordinated observational project AMY (Asian Monsoon Years from 2007 to 2012) produced in-situ observation datasets in DIAS (Data Integration and Analysis System) platform. AMY reanalysis will be released very soon from MRI (Meteorological Research Institute), Japan. A real-time flood monitoring and prediction system was developed in the Chao Phraya River Basin in Thailand after the huge flood damages in 2011. Dynamics of autumn and winter monsoon extreme rainfalls in Indochina have been extensively investigated for the first time.

Based on these achievements of the MAHASRI project, it is the time to launch new RHP succeeding the MAHASRI project. Now we are preparing for new post-MAHASRI hydroclimatological project in Asian monsoon region.

The Asian monsoon is a huge hydroclimatological system driven by active water and energy cycle over diverse earth surface including Oceans and Continents. It has a variety of regional sub-hydroclimate systems that have different temperature, rainfall, altitudinal, latitudinal settings, topographic features, and characteristic seasonal march. Therefore, the upcoming post-MAHASRI project will be consisted of various sub-regional autonomous research projects.

On the other hand, the huge Asian monsoon system itself undergoes systematic behavior associated with hemispheric hydroclimatological systems. The most classical topic associated with ENSO-monsoon system still have vast missing links among several pieces of knowledge. The post-MAHASRI project will combine various sub-regional projects associated with that huge view of Asian monsoon system, and will conduct coordinated observational initiatives, next phases of AMYs. The Tibetan Plateau has been a focus of the research on the Asian monsoon system, because of the important role in the dynamics of the Asian monsoon circulation. The research community of the hydroclimatology and cryosphere in the Tibetan Plateau must be an important research partner of the post-MAHASRI project.

In 2018 January and March, we held two workshops to launch planning activity of post-MAHASRI project. Near 100 researchers from 10 Asian countries are now elaborating on the science plan. In this presentation, we will present new science plan for the post MAHASRI project.