



Research of Land-atmosphere interactions in Monsoon Asia Integrated Regional Study

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Monsoon Asian Integrated Regional Study (MAIRS) intends to advance the understanding of the interactions between human-natural components of the overall environment in the monsoon Asia region. One of the key words of MAIRS is the “INTEGRATION”, among all the key issues of implementation, MAIRS is going to develop the tools for integrated studies: (i) development of coordinated enhanced observation systems in the key areas which will be based on the existed observation systems and but have to bring them into a common framework for integrated analysis of air-water-soil-biota-human coupled system and (ii) development of a regional model of earth system for monsoon Asia which will be a coupled physical/chemical/biological/social processes model at regional level and its coupling with global model.

Large-scale land cover change and industrial emission are major types of human induced effects to natural monsoon system. Studying the processes of land-atmosphere interaction in monsoon Asia region is the most important tool to understand the relationships between human activity (land cover change) and climate. To support MAIRS land-atmosphere study in monsoon Asia region, an multi-discipline observing network has been built up over the arid and semi-arid areas of northern east Asia by collaborating with the projects and scientists from China, Mongolia, Japan et al. This network includes the observations on land-atmosphere processes, hydrological cycle, ecosystem and dust aerosols.