

## Predictable and unpredictable monsoons

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MAHASRI renewed GAME both in scientific and non-scientific aspects of monsoon-related issues. The infrastructures for hydro-climatological observations have been improved by economic growth and public needs. Now we can distinguish the predictable and unpredictable parts of monsoons, and must do it. The monsoonal or rainy-seasonal cycles are originated from the insolation varying astronomically with season and latitude, and are amplified geographically mainly with the solid (land) - liquid (sea) heat capacity contrast on the Earth's surface. The former astronomical process is completely predictable as described in a classical agricultural calendar which might have been changed gradually by the recent global warming. In addition, most of geographical variabilities of Asia monsoon have been revealed by GAME-MAHASRI periods. At first we must perfect to archive them, to let everybody know them, and to apply them for agricultural application, disaster prevention, and so on. Those parts might be still supported by so-called developed countries including outside of the monsoonal Asia, but are not so many in my view. At last we will recognize the truly unpredictable parts, which may be varying dynamically or even indeterministically due to nonlinear or multivariate processes. These remainder parts are so truly pioneering/challenging and/or domestic that any advanced countries can never support them. In this meaning now we are entering into indeed a qualitatively new era.

キーワード : monsoon、science and society、international collaboration

Keywords: monsoon, science and society, international collaboration