

Climatological changes in rain and non-rain days over the East Asian region using long term rain gauge observation data

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Recently, the global warming attracts big attention. One of the biggest concerns is the change of the global rain distribution and extremes. In order to identify the changes in rainfall characteristics, we investigated the annual changes in precipitation characteristics using long-term gridded rain gauge observation data around East Asian regions.

The trend of rain amount is generally different from that of continuous non-rain days with the summer Asian monsoon wind and topography. While both daily rainfall amount and continuous non-rain days tend to increase in upper stream of seasonal winds, while those tends to decrease in lower stream. These suggest that topography effect slants moisture transportation. In Thailand, continuous non-rain days become long- (short-) term in inland (costal) areas. These would relate to a periodic difference of intra-seasonal variations in summer monsoon. In the Yellow River Basin, the long-term trend in continuous non-rain days appears in the Loess Plateau and the North China Plain, in addition, rain mount decreasing appear in south China.