



Detection of extreme precipitation systems based on the long-term TRMM PR data

M. Hirose (1), **K. Nakamura** (1)

(1) Hydrospheric Atmospheric Research Center, Nagoya University

This study deals with the regional and inter-annual variation of the occurrence of significant precipitation systems observed by TRMM PR. The precipitation system (PS) database was developed to investigate the climatology of high-impact PSs, and to clarify precipitation regimes as being congregations of parameterized PS types. Each PS during 1998 to 2006 was sorted with a parameter of areal rainfall as a proxy of extreme events. The frequency occurrence of the top 1000 showed that the extreme events were most frequently observed around the Western Pacific, particularly in 2004. PS with the largest amount of areal rainfall was an explosive cyclone observed in December 2004 south of Japan. In addition to the climatology, uncertainties of severe-storm detection will also be discussed for further understanding of the inter-annual variation of rainfall map.