

**Climatological studies on precipitation characteristics
and large-scale atmospheric fields on the heavy rainfall days
in the eastern part of Japan from the Baiu to midsummer season**

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The total precipitation and the contribution of the “heavy rainfall days”(referred to as HRDs hereafter) to it in the Baiu season in the eastern part of the Japan Islands are not so large than in the western Japan where the heavy rainfall is frequently brought due to the organized Cb-clusters. However, the total precipitation in the eastern Japan then is still considerable compared to that in the other midlatitude regions. Thus, it is interesting that how the rainfall characteristics and large-scale atmospheric fields on HRDs (with more than 50 mm/day) in the eastern Japan in the mature stage of the Baiu season (16 June ~ 15 July) are different from those in the western Japan, together with their seasonal change to midsummer (1~31 August). In this study, we will examine these based on the daily and the hourly precipitation data mainly at Tokyo (eastern Japan) and the NCEP/NCAR re-analysis data from 1971 to 2010, succeeding to by own previous results (e.g., EGU2015).

About half of HRDs at Tokyo were related to the typhoon even in the Baiu season. Interestingly, half of HRDs were characterized by the large contribution of moderate rain less than 10mm/h. On the other hand, the precipitation on HRDs at Tokyo in midsummer was mainly brought by the intense rainfall with more than 10 mm/h, in association with the typhoons.

The large-scale atmospheric fields on the HRDs at Tokyo were compared between the Baiu and midsummer. We will also report the long-term change of the rainfall characteristic as mentioned above during the recent 110 years in Japan. For example, the pattern in which HRDs in association with the front in midsummer appears frequently in 2000's. Our attention will be also paid to the long-term change in the rainfall characteristics in the eastern Japan in midsummer, including the transition from the Baiu season.