

Supplement

This supplement explains how the areal rainfall during 2008 and 2015 was calculated.

The areal rainfall obtained from the APHRODITE dataset was basically used for the period between 1965 and 2007. For the period between 2008 and 2015, when the APHRODITE dataset is not available, the relationship shown in Figure S1 was used to estimate the areal-mean monthly rainfall using the RID-based areal-mean monthly rainfall, which is calculated by the Thiessen Polygon method. The seasonal rainfall is the total of monthly rainfall from April to October.

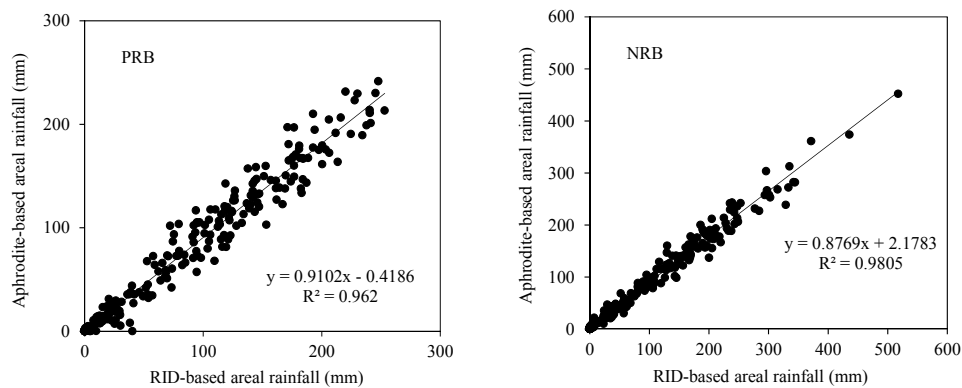


Figure S1. Relationship between the areal-mean monthly rainfalls obtained from the APHRODITE dataset (Aphrodite-based) and those calculated by the Thiessen Polygon applied to the rain-gauge data of RID (RID-based) for the period from 1980 to 2000 for (left) PRB and (right) NRB.

Figure S2 shows the number of gauging stations used to calculate the RID-based areal-mean monthly rainfall (red line) and that used for generating the APHRODITE dataset (black line), which information is included in the dataset.

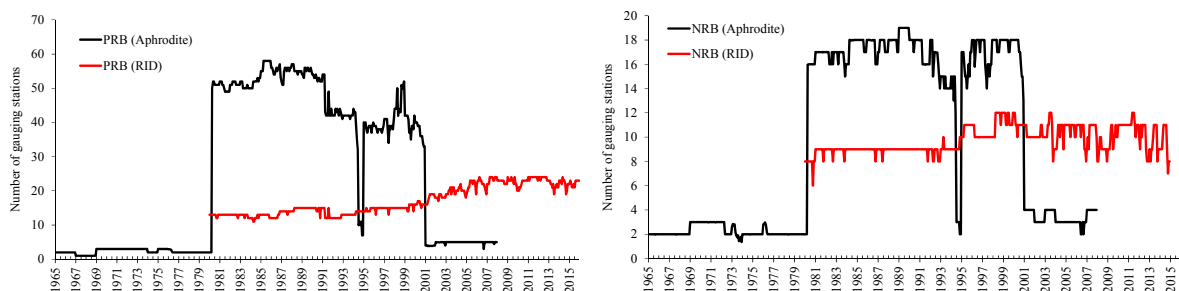


Figure S2. The number of gauging stations used to calculate the RID-based areal-mean monthly rainfall (red line) and that used to generate the APHRODITE dataset (black line) for (top) PRB and (bottom) NRB.

It must be noted that the rainfall obtained from APHRODITE dataset contained large bias during some months of 1973 and 1974 for NRB. Therefore, the rainfall obtained from the APHRODITE dataset was replaced by the rainfall generated from the NRB the same method applied for the period between 2008 and 2015.