Plain Language Summary: A disturbance that develops into a tropical cyclone (TC) over the western North Pacific (WNP) needs to satisfy two essential preconditions in terms of precipitation characteristics from Global Precipitation Measurement (GPM). First, a large fraction of stratiform precipitation covers the region that is within 400 km from the disturbance center. Second, strong convective precipitation occurs within the inner-core (within 200 km of the disturbance center) region. In the TC formation process, the disturbances experience a remarkably more oscillatory process in the inner-core region than in the outer-core region.
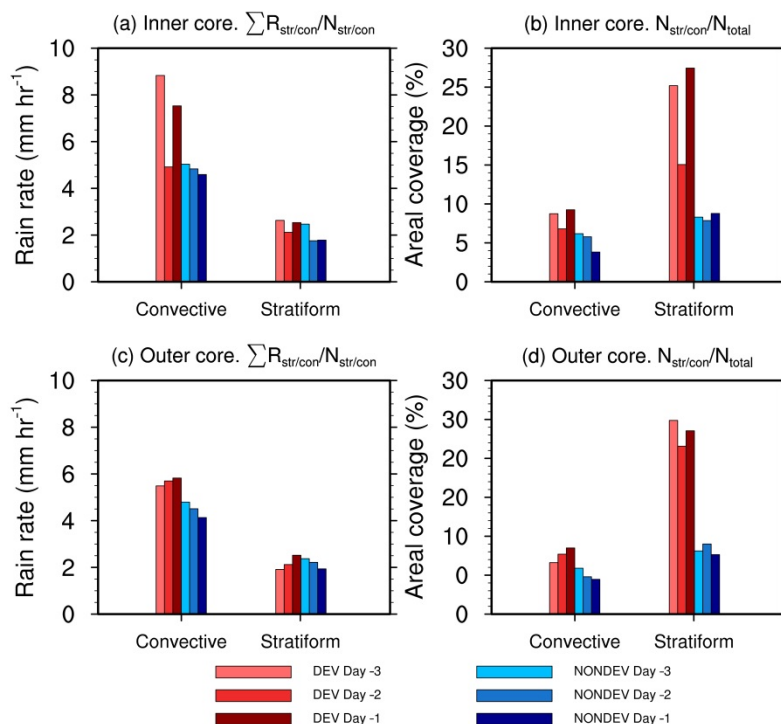
Figure 1. (a) The mean near-surface rainfall rate ($\Sigma R_{str/con}/N_{str/con}$) and (b) the ratio of the specific precipitation pixels to the total pixels ($N_{str/con}/N_{total}$) within the inner-core region of the disturbance. (c) and (d) are as in (a) and (b) but for the outer-core region. Red (blue) bars with light-to-dark colors represent the different days before TCs formation (disturbances dissipate).

- The disturbances over WNP are categorized into developing and nondeveloping groups to investigate the differences between satellite-retrieved convective and stratiform precipitation properties in both the inner- and outer-core regions.
- The disturbances prone to develop into a TC over the WNP satisfy the following two essential preconditions in terms of precipitation characteristics.
- TC formations evolving from parent disturbances can be regarded as an outcome of the joint contribution from the two distinct types of precipitation cloud.