The major energy source of Tropical Cyclones (TCs) is latent heat release. Therefore correlation between rainfall and falling rate of center pressure is expected. However, this relationship has not been examined because reliable rainfall observation of TCs has been difficult. Based on recent improvement in precipitation estimation using satellite microwave observations, GSMaP (Global Satellite Mapping of Precipitation) (Okamoto et al. 2005) has provided hourly precipitation map with 0.1° × 0.1° (lat. × lon.) resolution. High horizontal and temporal resolutions were realized by temporal interpolation by referencing frequent IR observations by geostationary satellites.

16 TCs over the western North Pacific between 2003 and 2004 were studied. We selected TCs which showed similar time evolution in central pressure characterized by three stages, i.e., central pressure slowly decreased (Stage 1), and rapidly fall (Stage 2), and kept its minimum (Stage 3). The stage 2 continued several days and its averaged period was 36 hours. Rainfall in TCs was much intensified after Stage 2 and kept its intensity in Stage 3. For Stage 2, we examined correlation between area averaged precipitation and decreasing rate of center pressure of TCs. Correlation was found when the area averaged precipitation was determined over the circle within 50 km from the center of TCs, and obscure when determined within 100 km or larger. This result suggests that precipitation along eye wall is closely related to decreasing of center pressure of TCs.