

Airborne observation of Super Typhoon Trami in 2018 for understanding the intensity of tropical cyclone in the Philippine Sea

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Airborne observation of tropical cyclone (TC) had been conducted until 1987 over the western north Pacific region to measure the TC intensity directly. After that TC intensity was estimated by Dvorak technique using satellite data. Here we conducted dropsonde observation by the aircraft in 2018 under the two projects of T-PARCII (Tropical Cyclone-Pacific Asian Research Campaign for Improvement of Intensity estimations/forecasts) and ULAT (Understanding Lightning and Thunderstorm) of SATREPS (Science and Technology Research Partnership for Sustainable Development) in the Philippines and penetrated the eye of Super Typhoon Trami during Sep. 25 to 28. TC Trami reached its mature stage when we observed on Sep. 25. The structure of sharp eyewall and warm core in the eye were observed. On the other hand, the intensity of TC was weakened when we observed on the following day. We need to capture the signal of intensification and decay of TC by combining multiple observations for understanding the structure for a short term forecast of tropical cyclone intensity.

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