

## Heavy rainfall observation in Metro Manila, Philippines for understanding the relation of lightning activity and tropical cyclone

\*Hisayuki Kubota<sup>1</sup>, Yukihiro Takahashi<sup>2</sup>, Mitsuteru Sato<sup>2</sup>

1. The University of Tokyo, 2. Hokkaido University

The Philippines is an archipelago country which is located in the western side of tropical western Pacific. Nearly 20 tropical cyclones in a year approach Philippine area. There are distinct summer monsoon in the western side of the country including Metro Manila. The project of Science and Technology Research Partnership for Sustainable Development (SATREPS) starts from April to develop a methodology on short term forecast of extreme weather (torrential rainfall and lightning) and typhoon intensities in Metro Manila cooperating with Researchers of Advances Science and Technology Institute (ASTI) in the Philippines. Summer monsoon rainfall in the western side of the Philippines including Metro Manila is intensified when the tropical cyclone passes over the Philippine Sea. Even when tropical cyclone does not land in the Philippines, moist southwesterly wind prevails in the west of Philippines associated with the circulation of tropical cyclone. We will deploy lightning detecting network in the Philippines to understand the relation of heavy rainfall and lightning activity. Several kinds of field observations of upper-air observations and dropsonde observations are planning to capture the atmospheric structure of thunderstorm clouds and tropical cyclones in the Philippines.

Keywords: lightning, tropical cyclone, Philippines