

# **Data rescue for the long-term tropical cyclone variabilities in the western north Pacific**

**\*Hisayuki Kubota**

*hkubota@ep.sci.hokudai.ac.jp*

*Faculty of Science, Hokkaido University, Hokkaido, Japan.*

Tropical cyclone (TC) provides precious fresh water to the land but it can also cause disaster when it makes landfall due to strong winds, heavy rain and storm surge. TC best track dataset is available from late 1940s over the western north Pacific by Joint typhoon warning center, RSMC Tokyo, Shanghai Typhoon Institute and Hong Kong Observatory. Before the late 1940s, TC dataset were not used due to the difference of TC definition. We have collected historical TC track data from various bulletins stored in US, Japan, Philippines, China and other countries back to late 19th century through the “data rescue” activity. We have reanalyzed the TC numbers landed in mainland Japan using historical TC track data, station and lighthouse data back to 1878.

Data rescue activity enable us to understand the climate variability and extreme weather of heavy rainfall and tropical cyclone activities in the Asian monsoon region during the past 200 years. Instrumental meteorological observation during the pre-industrial revolution is available only in Europe and US. Climate information lacked in Asian monsoon region before global warming. Recently instrumental meteorological observation done by individual personnel in Asia in 19th century were found in archives and newspapers. Ship logs with weather observation sailing along the Asian countries in 19th century was found in Europe and US libraries. Therefore, data rescue in pre-industrial revolution in 19th century will be our next target.