Lee, M.-T., P.-L. Lin, W.-Y. Chang, B. K. Seela, and J. Janapati, 2019: Microphysical characteristics and types of precipitation for different seasons over north Taiwan. *J. Meteor. Soc. Japan*, **97**, 841-865. https://doi.org/10.2151/jmsj.2019-048

Plain Language Summary: For Taiwan region, previous studies on raindrop size distribution are confined to the case studies or short-term observations. For the first time, over north Taiwan, by using long-term (10 years) data sets of disdrometer and radars, rain and cloud microphysical characteristics of six seasons (summer, winter, spring, mei-yu, autumn, and typhoon) are illustrated.

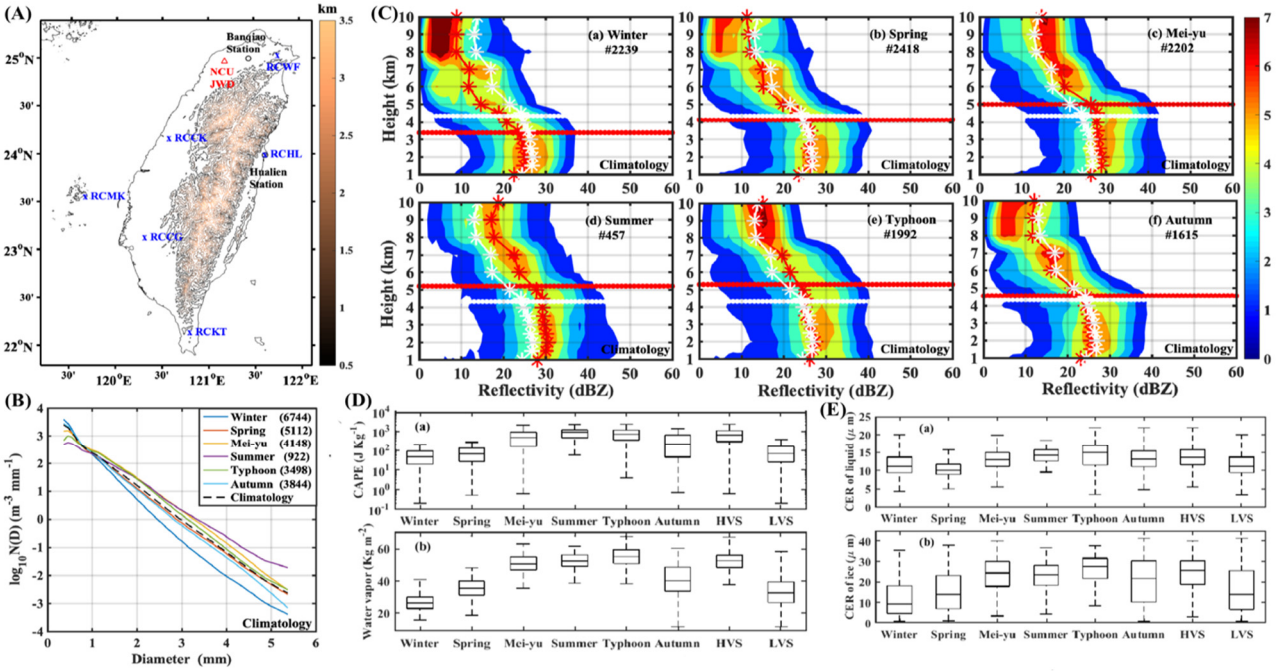

Figure (A) Location of disdromter (red triangle) and radar (blue cross) observational sites over Taiwan, six seasons' (B) mean raindrop size distribtuion (C) contour frequency by altitude diagrams (CFADS) of radar reflectivity, (D) convective avaible potential energy (CAPE) and water vapor, and (E) cloud effective radii of liquid and ice particles.

- Long-term raindrop size distribution (RSD) and contour frequency by altitude diagrams (CFADs) are used to quantify the microphysical processes in six seasons (winter, spring, mei-yu, summer, autumn, and typhoon) over north Taiwan.
- Clear differences in raindrop size distributions of six seasons are noticed with higher concentration of big (small) drops in summer (winter).
- With the aid of radar reflectivity profiles, six seasons are grouped into higher vertical structure (HVS: summer, typhoon, and mei-yu) seasons and low vertical structure (LVS: winter, spring, and autumn) seasons.
- The variations in microphysical processes in six seasons, that are digested through radar reflectivity profiles, remote sensing and re-analysis data sets, are responsible for the variations in the RSD.