ABSTRACT

The understanding and predicting of winter precipitation over complex terrain is challenging due to the highly variable nature of snowfall. As a World Meteorological Organization (WMO)’s World Weather Research Program (WWRP), ICE-POP 2018 (International Collaborative Experiments for Pyeongchang 2018 Olympic and Paralympic winter games) was held in the PyeongChang region during November 2018 to April 2019 with contribution from 29 agencies from 12 countries. The scientific goal was to understand the precipitation processes over complex terrain during the cold season and to improve the numerical model based on understanding derived from the intensive observation as well as direct utilization of these observational data.

During the field campaign, dense observational networks of upper air (two wind profilers, eight soundings, ship, and aircraft), surface stations (64 stations), remote sensing (three S-Pol, one S-band, two C-band, three X-Pol, one Ku/Ka-Pol radars, and three Doppler lidars), microphysics (2DVD, PIP, Parsivel, MRR, POSS, MASC, Pluvio, and so on) were implemented. The network of the supersite was designed to explore the evolution of precipitation along and across atmospheric flows.

The field experiment with intensive observation has ended and the data analysis and the quality control of data has started. I will show all different types of microphysical products including precipitation types and maps, microphysical information, the three dimensional structure of precipitation and winds, and model re-analysis. I will further provide an overview of phenomena, some statistical results, and preliminary results.