



## **Airborne measurements over Korea using the KMA/NIMS atmospheric research aircraft (NARA)**

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Airborne campaigns for the meteorological and environmental research have been conducted in regional and global scales. The aircraft is increasingly considered as one of the best platforms to get the atmospheric spatial information, especially over sea. National Institute of Meteorological Sciences (NIMS), Korea Meteorological Administration (KMA) has been utilizing an aircraft (Beechcraft King Air 350HW) equipped with 25 scientific mission instruments since 2018, in order to fill in observational gaps and observe the upper level of troposphere at higher temporal/spatial resolution and to test advanced observational and experimental techniques, resulting in enhancing meteorological technologies and research capabilities. Our airborne observation plans using the aircraft are designed over the Korean Peninsula; preceding observation of severe weather (e.g., tropical cyclone, heavy rainfall and snowfall), greenhouse gas monitoring, environmental meteorology monitoring (e.g., Asian dust), and cloud physics and cloud seeding. In particular, preceding observation of severe weather which mainly uses dropsondes focuses on characterizing generation/migration of severe weather phenomena and investigating meteorological precursors sensitive to severe weather and variations in its thermo-dynamical structures, and then improving predictability of numerical models with the data assimilation. Here, we discuss current status and future plan of our airborne measurement campaigns over the Korean Peninsula, with examples of data observed from the aircraft.