Abstract

The Weather Service Radar 88 Doppler (WSR-88D) network within the United States has recently been upgraded to include dual-polarization capability. One of the expectations that have resulted from the upgrade is the ability to discriminate between different precipitation types in winter precipitation events. To know how well any such algorithm performs, and whether new algorithms are an improvement, observations of winter precipitation type are needed. Unfortunately, the automated observing systems cannot discriminate between some of the more important types. Thus human observers are needed. Yet, to deploy dedicated human observers is both impractical and unnecessary because the knowledge needed to identify the various precipitation types is common among the public. To most efficiently gather such observations would require the public to be engaged as Citizen Scientists using a very simple, convenient, non-intrusive method. To achieve this, a simple "app" called mPING (meteorological Phenomena Identification Near the Ground) was developed to run on "smart" phones or, more generically, web-enabled devices with GPS location capabilities. Using mPING, anyone with a smart phone can pass observations to researchers at no additional cost to their phone service or to the research project. Deployed in mid-December 2012, mPING has proven to be not only very popular, but also capable of providing consistent, accurate observational data.