



EWOB: A standard for international exchange of weather and weather impact observations from crowd-sourcing

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The value of crowd-sourced weather data is becoming more and more evident as various initiatives to collect such data have been set up in recent years by weather services and weather amateurs. Some of these initiatives focus on exchanging measured data from weather stations, while others exchange human observations of the current weather or particular weather phenomena. A standard for the exchange of human observations of the weather has, however, been lacking on an international level.

In cooperation with international partners, a standard list of weather phenomena, software and (Application Programming Interfaces) APIs for the data exchange, and a model for international collaboration, called EuropeanWeather OBserver, or EWOB, have been defined. The list of phenomena allows the reporting of weather impacts, which accommodates the verification of impact-based forecasts. Moreover, a mobile app called EWOB has been developed with which reports can be submitted and visualized.

In our presentation, we will describe how EWOB and the data exchange are envisioned to operate and which types of users can contribute and benefit, based on a model for the functioning of EWOB developed at ESSL. It includes a key feature proposed by ZAMG, i.e. that the collection of data is organized on a national level by the respective National (Hydro-) Meteorological Services that operate National Data Hubs, while ESSL hosts and manages the international EWOB Database.

On a national level, sources of EWOB data can include the general public via mobile apps or web forms, weather amateur networks, emergency services, as well as regional or local authorities. The successful operation of the network has several benefits, including the rapid cross-border availability of (severe) weather reports to forecasters on duty, the facilitation of forecast verification, as well as the collection of weather impact data for research purposes. To that aim, ESSL operates an interface between the international EWOB Database and its quality-controlled European Severe Weather Database, which has become a widely-used resource of severe weather impact data for the research community.