The BALTRAD Software System Contributions to Kapildu's Radar

Mercedes Maruri

(1) Basque Meteorology Agency (EUSKALMET), Miñano, Alava; (2) TECNALIA-Energy and Environment Division-Meteo Area, Miñano, Alava; (3) Department of Applied Mathematics, University of the Basque Country UPV/EHU, Faculty of Engineering of Bilbao, Spain

Aloni, Christian (1) and (2)

Fernández, Hector (1) and (2)

(1) Department of Applied Mathematics, University of the Basque Country UPV/EHU, Faculty of Engineering of Bilbao

(2) Department of Communications, University of the Basque Country UPV/EHU, Faculty of Engineering of Bilbao

E-mail: mapmamam@ehu.es

Nowadays, one of the ways the Directorate of Emergencies and meteorology, Security Department of the Basque Government (DAEM) has for the observation and prediction of the different meteorological events is a Doppler polarimetric weather radar, Kapildui weather radar.

The historical database of the radar is analyzed in the Department of Applied Mathematics (Faculty of Engineering of Bilbao, UPV/EHU), in collaboration with the Basque Meteorology Agency-EUSKALMET since 2007.

In 2012, the research group decided to look for an open source and free access weather radar software in order to evaluate a prototype that could manage the Kapildui database in real and non-real time. The idea behind was to give the different EUSKALMET costumers the possibility to manage the complex information in an easy way without a high expertise in weather radars. The selected software was BALTRAD due to the compatibilities with the system of Kapildui and quality purposes offered by the packages.

The main objective of this work was to identify the contributions of Baltrad applied to the Kapildui radar, according to the potential customers. The evaluation has been done considering two features: Offered services and quality aspects, more specifically the bRopo package.

The methodology considers different issues such as requirements, installation, handling, processing of the information, distribution capacity inside a workgroup and improvements that could be incorporated to the user mentioned above. Additionally, bRopo module was tested against the historical database of Kapildui. After a preliminary study of the filtering techniques offered by this package, selected cases were chosen and tested from the default values to the optimal ones.

The results of the evaluation are presented at two levels: First level would be satisfaction and incorporated improvements regarding to the adaptation of the software. And second level would apply to the bRopo results which are shown in a scale of higher to lower utility respect to the Kapildui database.