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# BeRTISS Project: A dedicated website of GNSS tropospheric products and alert capabilities for the Greek area.

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Water vapour plays a key role in some of the most important weather phenomena. It is obviously related to precipitation, but also provides about half the energy to the atmosphere, contributing to atmospheric dynamics, and it is the dominant greenhouse gas. The project BeRTISS (Balkan-Mediterranean Real TIme Severe weather Service) was launched in September 2017 of the European Territorial Cooperation Programme “Interreg V-B Balkan-Mediterranean 2014-2020" and is co-funded by the European Regional Development Fund (ERDF) and National Funds of the participating countries (Greece, Cyprus, Bulgaria). The main objective of BeRTISS is to develop and establish a pilot transnational severe weather service by exploiting Global Navigation Satellite Systems (GNSS) tropospheric products to enhance the safety, the quality of life and environmental protection in the Balkan-Mediterranean region. For that reason, a creation of a dedicated website (www.bertiss.topo.auth.gr/bertiss) to provide in real-time to the National Meteorological Services, to related scientists and to the public with IWV data and warnings of severe weather events was implemented over the Greek Area. The processing scenario of the tropospheric products (e.g. ZTD, PW/IWV) performed in one-hour time window for over 90 sites in the Hellenic area. The automated GNSS processing performed employing the Bernese v.5.2 software package and several algorithms have been developed and installed in a local (AUTh) processing data server.
More specific, the warning–alert system relies on the PostgreSQL database while the Backend is a PHP language algorithm and with a Frontend environment of Bootstrap. The system also, retrieves relevant information from Weather Research and Forecasting (WRF) model which National Observatory of Athens sent to AUTh’s server on a daily basis. One of the main characteristics during a period of a severe event is the mass dispatch of emails for each affected GNSS station to many registered clients. During the period of the Mediterranean powerful hurricane called “Zorba” which induces with storm roars across Greece and triggering flooding as it makes its way towards, the Alert system was activated several times for various affected areas.
Finally, a main website which will host the relevant information from all the participating countries is under development by Leader Partner (FRC).