



BalkanMed real time severe weather service: progress and prospects in Bulgaria

Guergana Guerova (1), Tzvetelina Dimitrova (2), Martin Slavchev (1), Krasimir Stoev (1), Stefan Georgiev (2), and Keranka Vassileva (1)

(1) Sofia University, Department of Meteorology and Geophysics, Sofia, Bulgaria (guerova@phys.uni-sofia.bg), (2) Hail Suppression Agency, Sofia, Bulgaria

Main objective of the “BalkanMed real time severe weather service” (BeRTISS, 2017 - 2019) project is to 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. BeRTISS partners include Frederick Research Center (Cyprus, leader), Hail Suppression Agency (Bulgaria), Sofia University (Bulgaria), Aristotle University of Thessaloniki (Greece), National Observatory of Athens (Greece), and Department of Meteorology (Cyprus). In Bulgaria, severe weather events, like intense precipitation, hail and thunderstorms, are common in the summer months and are associated with large economic losses for example in agriculture. The Bulgarian Hail Suppression Agency and the Sofia University are partners in the BeRTISS project with final aim to develop the Bulgarian Integrated NowCasting tool (BINCA). BINCA will use data from the recently deployed ground-based GNSS network of 12 stations in Bulgaria. The GNSS data is delivered to Sofia University GNSS Analysis Center (SUGAC) and processed in near real time. To derive Integrated Water Vapour from GNSS the surface pressure and temperature from the Weather Research and Forecast (WRF) model is used. The GNSS IWV, weather radar as well as surface atmospheric observations and WRF model simulations covering Bulgaria will be integrated in the BINCA web platform. The platform will be publicly accessible and will facilitate the operational tasks in hail suppression in Bulgaria but also other operational and public services. In this work the BeRTISS progress and the future work in Bulgaria will be presented.