



DRIHM Project: Floods in Serbia in May 2014

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The central parts of Balkans were affected with very deep cyclone named “Tamara” from 13th until 16th of May. Stations in western parts of Serbia recorded precipitation four times greater than average precipitation sums. Two third of that amount has felt in three days. Devastating floods occurred on Sava, Kolubara and Jadar river basins causing damage of 1.7 billion Euros, and loss of 24 human lives. Three days before the event, a first warning was issued pointing that the precipitation amounts will exceed 40 mm of rain for 12 hours, accompanied with the hydrological information that the water level on Sava and Kolubara rivers will significantly rise.

Within the DRIHM project and its e-infrastructure it was possible to test a combination of different Numerical Weather Prediction models together with stochastic downscaling algorithms to enable the production of more effective quantitative rainfall predictions for this severe meteorological event. Hydrometeorological models in DRIHM are building blocks that can be easily linked together in a form of hydrometeorological chain. For this case the HBV model, distributed hydrological model, was used as the hydrological component in the model chain and RainFARM as stochastic downscaling tool. Results obtained with these models are shown and compared with Hyprom, one of the hydrological models also used in RHMSS with the aim of scoping the current capabilities for the early warning of the extreme events. The information where and when the High Impact Weather Event (HIWE) can occur is very important for the proper overview of the possible overall influence. Different precipitation distribution both in space and in time is allowing us to estimate the future state of the system but also to see the range of the possible outcomes.