Plinius Conference Abstracts
Vol. 13, Plinius13-100, 2011
13th Plinius Conference on Mediterranean Storms

Comparison of multi-source rainfall field spatial mapping for operational flood alert using a distributed model

B. Tomassetti (1), M. Montopoli (1,2), F.S. Marzano (1,3), E. Picciotti (4), and M. Verdecchia (1)

(1) CETEMPS, University of L'Aquila, I, (2) DIEL, University of L'Aquila, I, (3) DIET, University of Rome, I, (4) HIMET, L'Aquila, I

A peculiar feature of Cetemps Hydrological Model (CHyM) is the possibility to rebuild the precipitation field using different predictions and/or observations, more specifically the model is forced with radar and satellite precipitation estimates, rain gauge observation and meteorological model predictions. The ingestion of such different data set is carried out using a Cellular Automata (CA) based approach allowing to reduce computing time respect to other physical based techniques like the kriging algorithm. For few case studies, characterized by severe precipitation events, the model has been forced with a single data source and the two dimensional precipitation fields rebuilt on the CHyM grid have been compared. Preliminary results will be discussed showing as the CA based technique allows to reduce the effect of uncertainties dealing with single observation technique and, as a consequence, the uncertainties of hydrological prediction.