

Parsimonious distributed model applied to the Aspio urbanized small catchment

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A parsimonious distributed model for event discharge simulation is used inside the operational chain of Marche Civil Protection, Italy. The regional forecast centre is part of the national network of warning system. Hydrological model is currently implemented on three regional basins, different for size, land use and topography. It is calibrated on reliable hydro-pluviometric data over case studies. DEM and land use maps are the distributed basin information. LAM precipitation fields are used as input for flash flood forecast. Applications over Aspio catchment are presented and analyzed. The severe storm event of 16th September 2006 is in details described. A Mesoscale Convective System insisted over a densely urbanized area of about 150 km² for 24 hours. The heavy precipitation caused severe damages on factories and cultivated land fields. Study is focused on warning system procedure and real time event management, analyzing limits and future improvements.