



Snowmelt runoff in the experimental basin of “Fiumarella of Corleto” (Southern Italy)

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The experimental basin of “Fiumarella of Corleto”, located in Southern of Italy with an area of about 33 kmq, has an hydrological database that collects four years of measurements thanks to an instrumentation composed of one complete meteorological station, three raingauges and one hydrometer at the outlet. One of the raingauge becomes a snow-gauge by means of a heat resistance that allows to quantify the snowy precipitation at low temperatures. Such data has been used to drive a conceptual model for rainfall-runoff and snowmelt simulation, where the variability in topography is interpreted through the use of elevation bands in order to account for the differences in rainfall and temperature regimes. The study shows as neglecting processes like the snowmelt may cause significant errors in the flow discharge estimation during low flows, but also, in some cases, during flood events.