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# A probabilistic hydrometeorological forecasting chain for operational warning procedures in Valle d'Aosta Region: performance evaluation and validation

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An operational hydrometeorological forecasting chain has been developed and implemented for the Valle d'Aosta regional warning system. This chain considers as inputs the forecasts of precipitation issued by a Limited area model (COSMO-LAMI) and by the Regional Centres of Valle d'Aosta and Piemonte Regions. The procedure integrates a snow-rain model (SRaM) to separate the rainy areas from those affected by snow and uses a stochastic downscaling technique (RainFARM) for generating a highresolution (1km-1h) precipitation ensemble. The precipitation fields of the ensemble are then used as input for a semi-distributed rainfall-runoff model (DRiFt) and allow for generating discharge ensemble predictions in relevant sections of the Dora river. In this work we validate the hydrometeorological forecasting chain for a continuous period of more than two years starting from August 2005. We consider and compare the performances obtained by using as input both the quantitative prediction of precipitation issued by the two Regional Centres and the forecast of COSMO-LAMI model.