Ensemble nowcasting of river discharge for flash flood warning in Mediterranean environment.

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Many efforts have been made in order to improve the reliability of quantitative precipitation estimation and to use radar data to forecast future rainfall evolution through nowcasting systems.

In this perspective the use of stochastic nowcasting algorithms plays a key role both for taking into account the uncertainty associated to the prediction of rainfall and for generation possible short term evolution of the precipitation field. Propagate the uncertainty to ground effects by using a rainfall-runoff model is a further step head to completely exploit the weather radar systems in forecasting severe events consequences.

We created a nowcasting chain for generating discharge scenarios based on the following procedures: i) an algorithm for observed rainfall estimation (RIME), ii) an algorithm for probabilistic nowcasting (PhaSt) and iii) a distributed hydrological model (DRiFt)

Some examples of application on an operational contest on small and medium-sized basins are presented.