



## **A comparison between two probabilistic radar-based nowcasting methods**

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Until now, some algorithms have been developed for very short-term precipitation forecasting based on radar data. Unlike deterministic methods, probabilistic nowcasting techniques aim at describing the uncertainty in the forecasts.

This work presents a comparison of two probabilistic nowcasting techniques based on Lagrangian extrapolation of recent radar observations. Germann and Zawadzki (2004) described and evaluated four probabilistic techniques. We have chosen to compare the so-called Local Lagrangian technique [the one that demonstrated the best skill, among those of Germann and Zawadzki (2004)] with the ensemble nowcasting technique SBMcast (Berenguer et al., 2011). These two methods are conceptually different: while the Local Lagrangian technique forecasts pdfs of point rainfall values calculated examining the spatial variability of the radar field, SBMcast generates a set of future rainfall scenarios (ensemble members) compatible with the observations keeping spatial and temporal structure of the rainfall field according to the String of Beads model.

The comparison of these methods has been carried out in the vicinity of Barcelona, Catalunya (Spain) using the observations of the Catalan Weather Service radar network.

### References

- Berenguer, M., D. Sempere-Torres, and G. Pegram, 2011: SBMcast-An ensemble nowcasting technique to assess the uncertainty in rainfall forecasts by Lagrangian extrapolation. *Journal of Hydrology*, 404, 226-240.
- Germann, U. and I. Zawadzki, 2004: Scale dependence of the predictability of precipitation from the continental radar image. Part II: Probability forecasts. *Journal of Applied Meteorology*, 43, 74-89.