



Predictability of heavy sub-hourly precipitation amounts for a weather radar based nowcasting system

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Heavy precipitation events and subsequent flash floods are one of the most dramatic hazards in many regions such as the Mediterranean basin as recently stressed in the HyMeX (HYdrological cycle in the Mediterranean EXperiment) international programme. The focus of this study is to assess the quality of very short range (below 3 hour lead times) precipitation forecasts based on weather radar nowcasting system. Specific nowcasting amounts of 10 and 30 minutes generated with a nowcasting technique (Berenguer et al 2005, 2011) are compared against raingauge observations and also weather radar precipitation estimates observed over Catalonia (NE Spain) using data from the Meteorological Service of Catalonia and the Water Catalan Agency. Results allow to discuss the feasibility of issuing warnings for different precipitation amounts and lead times for a number of case studies, including very intense convective events with 30minute precipitation amounts exceeding 40 mm (Bech et al 2005, 2011). As indicated by a number of verification scores single based radar precipitation nowcasts decrease their skill quickly with increasing lead times and rainfall thresholds. This work has been done in the framework of the Hymex research programme and has been partly funded by the ProFEWS project (CGL2010-15892).

References

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