

Integrated semi-quantitative precipitation analysis

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In everyday operational work, forecasting offices issue weather warnings at a high update frequency and with more precise geographical specification. In order to meet these requirements, an analysis and nowcasting system cannot be restricted to stations but needs to be spatially quasi-continuous, i.e. it must be operating on a high-resolution grid. Nevertheless, it should take into account, as far as possible, all available data sources (stations, radar, satellite, etc) and use them to put together a physically consistent analysis of atmospheric fields.

For the purpose of regional nowcasting, an integrated semi-quantitative precipitation analysis scheme is constructed as a combination of conventional surface observations and radar data. In the areas with no rain gauge data and low radar reliability, satellite data are exploited.

Satellite/NWCSAF products Precipitating Clouds (PC, probability of precipitation) and Convective Rainfall Rate (CRR, rain rate falling from convective clouds) are used to determine (with a certainty threshold) whether it is raining or not and consequently produce a resulting classified rainfall field with three intensity categories: light, medium and strong.

This work is performed within the framework of Central European Nowcasting Project CONEX II.