Verification of radar precipitation measurements with interpolated surface data

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Application of radars in rainfall measurements is very useful because we obtain continuous precipitation field. Radars can measure precipitation on places where there aren't any meteorological stations. In convective weather situations the extension of high precipitation area can be very little and it can be noticed only with radars. But unfortunately radars often overestimate the quantity of precipitation. One method to verificate the radar measurements is the application of interpolation methods which calculate data from surface measurements.

The MISH (Meteorological Interpolation based on Surface Homogenized Data Basis) method for the spatial interpolation of surface meteorological elements was developed by Tamas Szentimrey and Zita Bihari at the Hungarian Meteorological Service. The MISH is specially meteorological interpolation method, it uses long homogenized data series for the modelling of the statistical parameters. It can interpolate daily values too and it can apply background variables for the interpolation.

In the presentation we show how the MISH can improve the accuracy of the radar measurements when the background information is the radar precipitation field.

Reference

Szentimrey, T., Bihari, Z., 2007: Mathematical background of the spatial interpolation methods and the software MISH (Meteorological Interpolation based on Surface Homogenized Data Basis), Proceedings of the Conference on Spatial Interpolation in Climatology and Meteorology, Budapest, Hungary; (in print)

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