

Improvement of the interpolation of extreme meteorological situations with application of background information

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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.

Some features of the MISH are as follows:

- Modelling of the statistical parameters is based on long homogenized dataseries
- By using the modelled parameters daily, monthly, and annual values can be interpolated
- Capability for application of background variables e.g. satellite, radar, forecasting data

In the presentation we show the results of interpolation of the daily mean temperature and precipitation sum in extreme meteorological situations. We perform the calculations with and without application of background informations. For the interpolation of temperature we use forecasted data and satellite data of surface temperature, for precipitation we use forecasted data and radar data of precipitation intensity.

Reference

Szentimrey, T., Bihari, Z., 2006: 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)

Szentimrey, T., Bihari, Z., Szalai, S., 2005: Limitations of the present GIS methods in respect of meteorological purposes, 5th Annual Meeting of the European Meteorological Society (EMS)/7th ECAM , Utrecht, Netherlands, 12-16 September 2005