



Investigation of modelling results obtained by MISH interpolation method in the CARPATCLIM project

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The main aim of CARPATCLIM project was to produce homogenized gridded daily datasets of different meteorological variables. The common interpolation method accepted by the Consortium was the method MISH (Meteorological Interpolation based on Surface Homogenized Data Basis; Szentimrey and Bihari).

MISH consists of two parts, the modelling and the interpolation systems. Interpolation system can be operated on the results of modelling system. In the modelling part we calculate climate statistical parameters based on long homogenized data series and supplementary model variables.

In CARPATCLIM project altitude and other topographic variables (AURELHY principal components) were applied as supplementary deterministic model variables. Modelling of the statistical parameters for a half minutes grid by use of the derived monthly station data series and the model variables was performed on national level. MISH produces not only the modelled climate parameters (base of interpolation) but the statistical results of calculations too.

The efficiency of the spatial trend modelling depends not only on the method and sampling, but also on the spatial probability distribution of the variables. In general the meteorological variables have very different type of the spatial probability distribution. Therefore certain ANOVA (Analysis Of Variance) examinations are also suggested in order to evaluate the modelling results. The total sample variance can be written as the sum of the variance of spatial trend and the mean temporal variance. The ratio of these two parts varies in large scale for different meteorological elements.

In this presentation we show these statistical results of the modelling for the Carpathian Region. We compare the results of different meteorological elements, months and countries. We discuss number of applied variables, the correlations between the meteorological element and model variables and the results of ANOVA.