

## ***Special Issue of the COST-ES0601 (HOME) Action: Advances in homogenization methods of climate series: an integrated approach***

Long term instrumental climate records are the basis of climate research. However, these series are usually affected by inhomogeneities (artificial shifts), due to changes in the measurement conditions (relocations, instrumentation). As the artificial shifts often have the same magnitude as the climate signal, such as long-term variations, trends, or cycles, a direct analysis of the raw data series can lead to wrong conclusions about climate change. In order to deal with this crucial problem, many statistical homogenization procedures have been developed for detection and correction of these inhomogeneities.

The large number of different homogenization methods and the need for a realistic comparative study was the reason to start a coordinated European initiative, the COST Action ES0601: Advances in Homogenization Methods of Climate Series: an integrated approach (HOME). Its main objective was to review and improve common homogenization methods, and to assess their impact on climate time series. As one of the high importance achievements of the Action a benchmark dataset was generated for comparing monthly homogenization algorithms. The main results of this examination were published in the journal *Climate of the Past*.

The COST HOME Action ended in October 2011. The final meeting of the Management Committee was organized in Budapest together with the 7th Seminar for Homogenization and Quality Control in Climatological Databases. The Homogenization Seminars are traditionally held in Budapest and hosted by the Hungarian Meteorological Service from 1996. The jointly organized Seminar and the final MC meeting was a good occasion for conversation between the participants of the HOME Action and other researchers of the homogenization community. During this meeting, publishing a special issue of the COST HOME Action was suggested. It is a pleasure for us that this publication has been realized at the *Quarterly Journal of the Hungarian Meteorological Service* as a Special Issue of the Action.

This Special Issue includes eight papers which are covering wide range of topics on homogenization. The first five articles are connected mainly with the homogenization on monthly scale, while the other three ones focus rather on the homogenization of daily series. In both cases, theoretical aspects and practical applications are discussed and presented alike.

We are very grateful to the Editor-in-Chief of *IDŐJÁRÁS* supporting the progress on the field of homogenization, thank to the authors of the articles for their high scientific level work, and also to the reviewers supporting the improvement of papers with their critical comments and recommendations keeping the high standards of the Journal. We have to underline the hard work of the Executive Editor of the Journal, therefore, we express our thanks together with the authors for that.

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Guest Editors