Benchmarking homogenization computer packages: First results of the MULTITEST project

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As developers of computer packages for the homogenization of climatic series have been refining their algorithms after the successful inter-comparison carried out in COST Action ES0601 (HOME), new benchmarking exercises are needed to keep an updated appraisal of their performances. These evaluations are of value not only to the users of these packages, but also to the developers themselves, who may gain insight about the results of their algorithms under varied conditions not tested by them.

The MULTITEST project, funded by the Spanish Ministry of Economy and Competitiveness, aims at undertaking such a benchmarking exercise, by repeatedly applying available homogenization packages to random sub-samples of various master networks of monthly temperature and precipitation. Due to the high number of tests to be performed, only methods able to be run in a completely automatic way are included in the scope of the project.

The master networks contain a minimum of 100 series with at least 60 years of monthly values of synthetic temperature and precipitation with statistical properties emulating different climates of the world as, e. g., temperate, Mediterranean and monsoonal.

This communication presents the methodology used to generate the master networks, the overall benchmarking framework, the inclusion of inhomogeneities into the problem networks and the evaluations of the tests performed so far.

The main metrics of the results provided by the different tested methods will be updated in a web site, along with the testing algorithms used with every package. This transparency will allow reproducibility of the whole work and will enable developers to revise the way in which their software was tested, possibly suggesting alternative parameterizations for an improved performance.