



## **AnClim and ProClimDB software for data quality control and homogenization of time series**

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During the last decade, a software package consisting of AnClim, ProClimDB and LoadData for processing (mainly climatological) data has been created. This software offers a complex solution for processing of climatological time series, starting from loading the data from a central database (e.g. Oracle, software LoadData), through data quality control and homogenization to time series analysis, extreme value evaluations and RCM outputs verification and correction (ProClimDB and AnClim software).

The detection of inhomogeneities is carried out on a monthly scale through the application of AnClim, or newly by R functions called from ProClimDB, while quality control, the preparation of reference series and the correction of found breaks is carried out by the ProClimDB software. The software combines many statistical tests, types of reference series and time scales (monthly, seasonal and annual, daily and sub-daily ones). These can be used to create an "ensemble" of solutions, which may be more reliable than any single method.

AnClim software is suitable for educational purposes: e.g. for students getting acquainted with methods used in climatology. Built-in graphical tools and comparison of various statistical tests help in better understanding of a given method.

ProClimDB is, on the contrary, tool aimed for processing of large climatological datasets. Recently, functions from R may be used within the software making it more efficient in data processing and capable of easy inclusion of new methods (when available under R). An example of usage is easy comparison of methods for correction of inhomogeneities in daily data (HOM of Paul Della-Marta, SPLIDHOM method of Olivier Mestre, DAP – own method, QM of Xiaolan Wang and others).

The software is available together with further information on [www.climahom.eu](http://www.climahom.eu).

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