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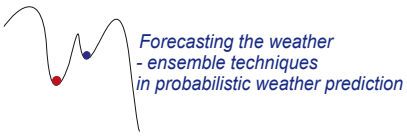

Historical DataBase

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At Meteo Group a long, quality controlled, gap-filled, stations data base has been created. The data base contains long time series of various parameters for about 20000 stations worldwide.
Most climate analyses are carried out with an atmospheric model (e.g. ERA-40, CFSR etc.), in order to generate a spatially and temporally homogeneous gridded data set.
In our approach we focus on a single point. A synoptic hourly station data series has been assimilated in three steps.
First the data is quality controlled. Every parameter has its own set of checks, consisting of time consistency checks, gross checks and statistical checks.
After the checks the various data sources are compared and the best data point is chosen (and flagged). This way the user will always be able to determine the original source of a particular value.
Thirdly all remaining missing data have been filled using five different sophisticated statistical MOS techniques; a regular MOS system, a special MOS for hourly gaps, a special MOS for two hourly gaps, a special MOS for three hourly gaps and a spline method.

This so-called Historical DataBase (HDB) contains about 20.000 stations worldwide, with hourly data going back as far as 1931. Data is gap filled from 1957 using one of the MOS techniques.
All data is accessible through a user-friendly web interface so it takes only a few seconds for a user to obtain a quality checked gap-filled dataset.

The HDB is an extremely useful source of information for climatological studies for non-commercial but also for various commercial parties like wind and solar farm developers (climate surveys) and energy traders.

In the presentation more information about the different checks and the gap filling methods will be shown. Also various statistics derived from the data base will be presented.