

Gap filled weather data

Weather data (temperature, precipitation, wind speed, vapor pressure, global radiation) of the test sites Selhausen and Merzenhausen was gap filled for the time period from 01.01.2009 until 31.12.2013 in a 10 minute time step with data from different weather stations.

For Selhausen the following weather stations were used (in the following order):

1. SE_EC_001 (reference station)/ SE_EC_002 (eddy covariance station)
2. SE_BK_001 (climate station)
3. SE_BK_002 (climate station)
4. RU_K_001 (weather tower of the Forschungszentrum Jülich)

For Merzenhausen the following weather stations were used (in the following order):

1. ME_EC_001 (reference station, eddy covariance station)
2. ME_BK_001 (climate station)
3. RU_K_001 (weather tower of the Forschungszentrum Jülich)

The gap filling was processed with R scripts developed for this purpose. If you are interested in the scripts, please contact Anja Stadler (astadler@uni-bonn.de, 0228/73-7200), Alexander Graf (a.graf@fz-juelich.de, 02461/61-8676) or Marius Schmidt (ma.schmidt@fz-juelich.de, 02461/61-6469).

The data of each station was correlated with data of the reference station using a reduced major axis regression (RMA). If the coefficient of determination (r^2) was higher than 0.9 the data of the closest station available (station order see above) was inserted into the data gap without further processing. Was the r^2 lower than 0.9 the regression results were applied to weather data before inserting them into the data gap.

The precipitation data (Selhausen and Merzenhausen) could not be filled so that only the precipitation data from the weather tower of the Forschungszentrum Jülich was used.