EU Climate Processing Specifications

**Data**

EDAC E-OBS Daily Gridded Climate Data contains daily values for precipitation, tmax, and tmin on a 0.1 degree grid (11.1 km) from 1950 to present. These values have been aggregated into monthly values and are accessible via the WEPPcloud metquery webservice:

<https://wepp1.nkn.uidaho.edu/webservices/metquery/monthly/?lat=43.21493479762263&lng=-5.030364990234376&dataset=eu/e-obs/rr/mean>

<https://wepp1.nkn.uidaho.edu/webservices/metquery/monthly/?lat=43.21493479762263&lng=-5.030364990234376&dataset=eu/e-obs/tx/mean>

<https://wepp1.nkn.uidaho.edu/webservices/metquery/monthly/?lat=43.21493479762263&lng=-5.030364990234376&dataset=eu/e-obs/tn/mean>

**Climate Station Selection**

WEPP requires climate files that are generally produced with the CLIGEN stochastic climate generator. This climate generator uses climate station input files (PAR files). The CLIGEN database covers the United States. The approach here is to find equivalent US climate stations for EU sites. The climate station selection has two passes. In the first pass the closest 40 stations by latitude are identified. In the second pass these stations are ranked according to multiple weighted factors:

* latitude, elevation,
* monthly precipitation,
* monthly temperature maximums, and
* monthly temperature minimums.defa

More weight (importance) is given to precipitation, and the temperature values.

All 40 of the rank ordered stations are returned to the interface with the best match selected by default.

**Climate File Processing**

The “E-OBS Modified” climate method takes the monthly precipitation, temperature maximums, and temperature minimums from the ECAD E-OBS database and replaces the values within the par file for the selected station. To accurately generate precipitation the number of wet days for each month are modified from the par file with between 50% and 200% of original value and between 0.1 days and the number of days in the month. Once the par file has been modified CLIGEN is used to generate stochastic daily climate files.