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NGCD - A new operational gridded climate dataset for Fennoscandia

Ole Einar Tveito and Cristian Lussana
Norwegian Meteorological Institute, Climatology Division, Oslo, Norway (ole.einar.tveito@met.no)

Gridded datasets based on spatial interpolation of observations are used for several purposes: as input data to hydrological and ecological models, for evaluation of weather forecast models and atmospheric reanalyses, as reference data for post-processing and bias correction etc. Such datasets. established applying spatial statistics can be provided with very high spatial and temporal resolution as long as the station input data have sufficient spatial coverage and representativity.

The regional Nordic gridded climate dataset (NGCD) is a new operational gridded observation dataset covering Fennoscandia (Finland, Norway and Sweden) produced by MET Norway for the Copernicus Climate Change Service (C3S). It covers the period 1971-present, and include daily values of daily mean temperature, daily minimum temperature, daily maximum temperature and daily precipitation sums. The spatial resolution is 1x1 km2.

As input to the spatial interpolations are station observation from Finland, Norway and Sweden plus observations from Russia, the Baltic states, Poland, Germany and Denmark applied. The primary data sources are ECA&D and the MET Norway climate database (frost.met.no). In future versions will open data API's provided by e.g. SMHI and FMI be applied directly. The input data is stored as a separate observation data archive CASE.

The dataset is an extension of the operational gridded datasets produced by MET Norway for more than a decade. Now it is a two-member "ensemble" based on two different spatial interpolation methods; type1 - residual kriging with external predictors for temperature and triangulation with elevation adjustment for precipitation, type2 - Bayesian Optimal Interpolation. The dataset is openly accessible at the MET Norway thredds server (http://thredds.met.no/thredds/catalog/ngcd/catalog.html)

We will present the datasets, the observations database, the data quality check and data flow.