

Regional Reanalysis systems and production in Europe

Per Uden (Per.Uden@smhi.se)
SMHI, Research

Regional reanalysis systems coupled with the global ECMWF reanalyses, have been developed and executed in Europe in several stages and projects (EURO4M, UERRA and Copernicus Climate Change Service) as well as in national projects. They add a lot of detail due to much higher resolution and also added observations. Advanced data assimilation methods have been employed in different flavours. Reanalyses have been performed with a multitude of systems and with ensemble methods. Validation and comparisons shows good quality for many variables but varying across models and uncertainties can be larger for derived variables as climate indices. Monitoring of observations and data assimilation is very important during production and the computational efficiency is crucial for the production.