



An advanced data assimilation system for EURO4M regional reanalysis

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As part of the EURO4M project the Met Office has developed a multi-year regional reanalysis over Europe. The reanalysis is based on the latest Met Office UM regional NWP system, adapted to run at ECMWF for the production of high-resolution ($\sim 12\text{km}$) gridded datasets of essential climate variables.

We describe the reanalysis system, particularly our use of observations. The reanalysis uses conventional observations and several forms of satellite data. We also intend to use surface reports of cloud and rainfall. We explain how these are assimilated. Finally, we outline future plans to expand the UM-based European regional reanalysis capability to include uncertainty information, and application beyond Europe.