

The European Climate Assessment & Dataset (ECA&D)

Else van den Besselaar[†]; Albert Klein Tank; Gerard van der Schrier; Aryan van Engelen

[†] Royal Netherlands Meteorological Institute (KNMI), Netherlands

Leading author: besselaar@knmi.nl

Studying observed climate variability and change heavily depends on the availability of a quality controlled climate dataset. These datasets are usually archived at the national meteorological institutes. The need for exchanging high resolution observational data formed the motivation for the EUMETNET-European Climate Support Network (ECSN) to start the European Climate Assessment & Dataset project (ECA&D) in 1998. In this project the participating countries collaborate successfully to form an international observational dataset with daily data for a large area, including Europe, northern Africa and the Middle East. The database contains daily station data for over 3000 stations, and this number is continuously increasing. Related products such as descriptive indices of extremes and trends therein are derived from the station data. Also a daily gridded observational dataset (E-OBS), consisting of minimum, mean and maximum temperature, precipitation amount and sea level pressure, is derived. Recently, ECA&D has been designated as Regional Climate Centre (RCC) for WMO Region VI (Europe and the Middle East). RCCs are Centres of Excellence that assist WMO members in a given region to deliver better climate services and products, and to strengthen their capacity to meet national climate information needs. ECA&D provides such RCC-services for daily station data and extremes indices data. ECA&D also serves as a platform for other projects such as climate model evaluation (ENSEMBLES), climate change monitoring (EURO4M) and calibration of paleo-reconstructions (MILLENNIUM). Currently, the ECA&D infrastructure is being used to set up a database and website for the Southeast Asian region. In recent years ECA&D has expanded, and new tools and information have become available. The number of climate variables has increased from 9 to 12. The website offers possibilities to monitor and analyse observed changes in weather and climate extremes. For example, maps showing trends, anomalies or return values and fact sheets of extreme events are available as well as more detailed metadata such as station history and pictures of observing sites. Here we would like to show some examples of the possibilities of the ECA&D database and website as well as of the derived gridded daily dataset E-OBS.