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Developments in ECA&D and the E-OBS dataset

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The European Climate Assessment & Dataset aims to provide daily meteorological station-based data and analysis for scientific research in and outside the climate sciences. An important contribution to this activity is the E-OBS, with is the gridded data set with daily maps of temperature, precipitation and pressure for Europe, based on ECA&D. The operational production of E-OBS is coordinated under Copernicus C3S.

The use of the E-OBS has increased substantially in the last few years, with about 60 new users each month and the total number of citations to the article introducing the E-OBS to over 1850 (at the end of 2018).

In this presentation the latest changes in ECA&D station coverage and products are shown. Using collaborations with other EU-funded projects, the coverage over Italy has improved and rescued data have been added to provide a more complete historical perspective. Initiatives to improve the Quality Control and the homogeneity of the station records are discussed. These improvements have led, for the station data, to a situation that trends in temperature and in temperature-related climate impact indices are much more homogeneous over Europe than hitherto the case. These data are used in the E-OBS and make this dataset more apt to use for trend assessments in temperature and temperature-related indices.

Finally, the latest developments to produce an E-OBS dataset for global radiation are discussed, in which in-situ observations and satellite estimates are used. This high-resolution dataset will extent further back in time than the satellite record. In addition, plans are presented to provide a gridded dataset for daily values of daily-averaged wind speed and direction based on meteorological station data.

The ECA&D team welcomes comments and suggestions by users and data providers alike.