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E-OBS updates

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Name of author/contributors:	Else van den Besselaar, Richard Cornes (KNMI)
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Introduction

Gridded datasets for temperature and precipitation have become very popular in the natural sciences for validation purposes, for use as drivers for specific models (like species migration) and for assessments of climate change. The ease of use of gridded datasets and the possibility to make visually appealing maps contribute to this popularity. The widespread use of gridded datasets and the quest for a more detailed representation of climate change and variability fuel the need for datasets that provide both a high spatial resolution and a high temporal resolution. The E-OBS dataset (Haylock et al. 2008) aimed to provide such a high resolution dataset for Europe. Based on the station data from the European Climate Assessment & Dataset (ECA&D, Klein Tank et al. 2002), the E-OBS dataset was aimed initially at the community of researchers needing validation data for their Regional Climate models. In the years since the introduction of the E-OBS dataset in 2008, the use of this dataset has grown considerably and the number of users from the modelling community using E-OBS for validation purposes is now smaller than the communities using it for education or in hydrology, biology or agriculture.

E-OBS Updates: full versions

Before UERRA, E-OBS was fully updated twice a year and preliminary updates were released each month. This update frequency has been continued within UERRA. Since the start of UERRA, the following E-OBS versions have been released:
- E-OBS v10.0 covering 1950-01-01 – 2013-12-31, released in April 2014
- E-OBS v11.0 covering 1950-01-01 – 2014-12-31, released in April 2015
- E-OBS v12.0 covering 1950-01-01 – 2015-06-30, released in October 2015
- E-OBS v13.0 covering 1950-01-01 – 2015-12-31, released in June 2016
- E-OBS v13.1 (sea level pressure only) covering 1950-01-01 – 2015-12-31, released July 2016
- E-OBS v14.0 covering 1950-01-01 – 2016-08-31, released in October 2016

From version 11.0 onwards, a short comparison between the new and old version of E-OBS has been made. These can be found on:
- V11.0 vs v10.0: http://cib.knmi.nl/mediawiki/index.php/Compare_E-OBS_v11.0_and_v10.0
- V12.0 vs v11.0: http://cib.knmi.nl/mediawiki/index.php/Compare_E-OBS_v12.0_and_v11.0
- V13.0 vs v12.0: http://cib.knmi.nl/mediawiki/index.php/Compare_E-OBS_v13.0_and_v12.0
- v14.0 vs v13.1: http://cib.knmi.nl/mediawiki/index.php/Compare_E-OBS_v14.0_and_v13.1

Version 13.1 was released because a problem was discovered in some of the sea level pressure series that were used as input to the gridding. This was fixed and released as version 13.1. Temperature and precipitation were not changed between versions 13.0 and 13.1.

In August 2016, a problem was discovered in the minimum temperature and maximum temperature series for the UK. It turned that these elements were swapped in the files

received for the UK Metoffice. After discovery of this problem, the station time series were fixed and therefore it was also fixed in version 14.0. We informed users about this change in the email to the user list that was sent with the release of E-OBS v14.0.
The latest version is available from:
http://www.ecad.eu/download/ensembles/download.php

E-OBS Updates: monthly updates

Preliminary monthly updates were released together with the monthly updates of the station information in ECA&D. These monthly updates do not have a version number as they are overwritten every month and with new full versions. These are available from:
http://www.ecad.eu/download/ensembles/downloadmonths.php

E-OBS Updates: daily updates

Work is ongoing to update E-OBS on a daily basis, e.g. the fields from yesterday will be available today. The basic infrastructure is in place, but there some issues that need to be solved. For the daily updates, we need GTS data that is immediately available. The MARS archive (used for the monthly updates) cannot be used, since this has a delay of a few days. There is a GTS collecting system at KNMI from which the data is immediately available, but this system does go back only a few weeks. Furthermore, we currently miss data from Finland and Ukraine for precipitation. Also work is ongoing to include a basic quality control on the daily values. Due to the delay of the new computer on which this work was supposed to be done, the daily updates are not yet publicly available and only running in test mode.

E-OBS Software tool

As reported in Deliverable 1.12, the original Fortran gridding code has been re-written in R. This includes the new gridding functions that have been developed as part of UERRA. A Github repository has been created to contain all of the code being developed by the ECA&D group at KNMI (https://github.com/ECA-D). Currently the E-OBS gridding code is held under a private repository, but will be released publicly when the ensemble version of E-OBS has been finalized.