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On the new portfolio of "climate ready" gridded precipitation data products issued by the Global Precipitation Climatology Centre (GPCC)

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The Global Precipitation Climatology Centre (GPCC) collects and assures quality of world-wide observational in-situ data from rain gauges in order to provide gridded high-quality and high-resolution land surface precipitation analyses as mandated by WMO's World Climate Research Program and the Global Climate Observing System (GCOS).

Depending on the climate related application and service aspired, there is a large variety of user needs in terms of timeliness, homogeneity, resolution and accuracy which cannot be addressed by one data product. As a consequence GPCC has issued a suite of products that contains near-real-time as well as non-real-time products in monthly and daily resolution. Data from national meteorological and hydrological services and regional and global data collections are mainly used to calculate these products as well as WMO-GTS data. In order to provide the user with a sufficient level of documentation and long term accessibility, all GPCC products issued since year 2011 are referenced by digital object identifiers (DOIs), allowing also for reproducibility and repetition of data utilizations even decades after primary data accesses.

Most recently updated versions of the Full Data Reanalysis (V7), Climatology (V2015), and Monitoring Product (V5) were released, replacing their predecessors issued in 2011. The updates are enhanced by almost 8,000 additional stations that were added to the quality assured data base of the GPCC. Furthermore the data records of existing stations were extended by the most recent years. All in all, the new versions are based on some 75,000 stations with records exceeding 10 years instead of 67,200 stations reprocessed in year 2011. Due to the additional stations and precipitation data, it was possible to detect errors invisible so far and to improve the analysis in particular across Indonesia, Mexico, Brazil and some other regions. Moreover a much higher resolving land-sea mask has been introduced, adding many grid cells across islands that had been missing values (sea cells) before. The new Monitoring Product will cover all months from most recent back to January 1982 including precipitation phases (liquid/mixed/solid) and the related under-catch correction factor.

Additionally, a homogenized precipitation analysis for Europe (HOMPRA-Europe) was released, which covers the period 1951 to 2005. A detailed description of this data set and the applied homogenization procedure is given in another paper by Rustemeier et al. in this session.

All gridded GPCC data products are available with no restrictions from a public ftp-server (ftp://ftp-anon.dwd.de/pub/data/gpcc/html/download_gate.html) but the copyright of many of the underlying original station does not reside with GPCC. Still to allow a full scientific scrutiny on GPCC's methods in data processing and interpolation, in addition to the existing non-real-time products GPCC has released an Interpolation Test Dataset (ITD). Therefore, a one year sample of gridded data products based on the GHCN data is jointly released with the original station data. This bundle product is only published for reasons of transparency but won't be updated on a regular basis in future.