



New and Updated Gridded Analysis Products provided by the Global Precipitation Climatology Centre (GPCC)

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Since its start in 1989 the Global Precipitation Climatology Centre (GPCC) performs global analyses of monthly precipitation for the earth's land-surface on the basis of in-situ measurements. Meanwhile, the data set has continuously grown both in temporal coverage (original start of the evaluation period was 1986), as well as extent and quality of the underlying data base. The high spatio-temporal variability of precipitation requires an accordingly high density of measurement data.

Data collected from national meteorological and hydrological services are the core of the GPCC data base, supported by global and regional data collections. Also the GPCC receives SYNOP and CLIMAT reports via WMO-GTS, which are mainly applied for near-real-time products. A high quality control effort is undertaken to remove miscoded and temporal or spatial dislocated data before entry into the GPCC archive, serving the basis for further interpolation and product generation. The GPCC archive holds records from almost 100 000 stations, among those three quarters with records long enough to serve the data basis of the GPCC suite of global precipitation products, comprising near-real-time as well as non-real-time products.

Near-real-time products are the 'First Guess Monthly', 'First Guess Daily', 'Monitoring Product' and 'GPCC Drought Index'. These products are based on WMO-GTS data, e.g., SYNOP and CLIMAT reports and monthly totals calculated at CPC. Non-real-time products are the 'Full Data Monthly', 'Full Data Daily', 'Climatology', and 'HOMPRA-Europe'. Data from national meteorological and hydrological services and regional and global data collections are mainly used to calculate these products. Also WMO-GTS data are used if no other data are available.

The majority of the products were released in an updated version, but 'Full Data Daily' and HOMPRA-Europe are new products provided the first time. 'Full Data Daily' is a global analysis of daily precipitation totals from 1988 to 2013. 'HOMPRA-Europe' is an analysis of monthly precipitation totals from 5452 homogenized gauges in Europe with at least 90% data coverage for the period 1951 to 2005. The break detection and homogenizations were done by an adaptation of the PRODIGE scheme running in an automated mode.

All GPCC products are available free of charge from the GPCC website at ftp://ftp-anon.dwd.de/pub/data/gpcc/html/download_gate.html and referenced by a digital object identifier (DOI) for easier citation, long lasting availability and a well-documented dissemination of the data files in the OGC compliant netCDF format

An overview to the above mentioned GPCC products and data base will be given with a comparison of the products and example use cases. After all, GPCC products serve not only the agendas of GCOS, WCRP, GEWEX, UNEP, FAO, IPCC, UNESCO, but are basically providing reference observational data for the scientific community.