



Updated Gridded Analysis Products provided by the Global Precipitation Climatology Centre (GPCC), its Quality Control, and Interpolation Schemes

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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 a high density of measurement data.

Data collected from national meteorological and hydrological services are 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. Any time new data sets are loaded to the data base the metadata in the input data set are compared to those already available and the data are checked against background statistics. Exceptional values are checked and either confirmed, corrected or excluded from the analyses. A high quality control effort is undertaken to remove miscoded and temporal or spatial dislocated data before interpolation.

The product suite of the GPCC contains near-real-time as well as non-real-time products. Near-real-time products are the 'First Guess', which is available 3 – 5 days after the end of each month, based on SYNOP reports and an automatic quality control. The 'Monitoring Product' is available two months later and based on CLIMAT and SYNOP reports, which have passed a manual quality control. Non-real-time products are the 'Climatology' and 'Full Data Reanalysis', both based on stations with climatological normals and a further enhanced quality control. Core data are those from national meteorological and hydrological services and other collections, additionally supported by CLIMAT and SYNOP reports. 'VASclimO' is the currently homogenized product.

In 2012 an analysis of daily precipitation is scheduled to start on basis of global SYNOP reports. This new 'First Guess Daily' will be released together with the 'First Guess'. A new homogenized product is currently under development, called 'HOMPRA', and will be released in 2012.

By the end of 2011 new versions of the 'Climatology (Version 2011)' and 'Full Data Reanalysis (V.6, period 1901 - 2010)' have been released. Due to additional utilizable stations the new versions are based on ca. 67200 stations, whereas the former versions were based on ca. 64400 stations. A comparison of the new and old versions will be presented to depict the improvements of the latest release.

The large data base of the GPCC is used to investigate the quality of the applied interpolation scheme, a modified SPHEREMAP, and the results will be presented. Additionally, the same will be done with Kriging schemes to determine the best applicable interpolation scheme for the GPCC.