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Gridded Analysis Products provided by the Global Precipitation Climatology Centre (GPCC), and new Products getting operational 2013

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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. 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 Product' and 'Monitoring Product'. 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 Reanalysis', 'Climatology' and 'VASClimO'. 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 is available. 'VASClimO' is the current homogenized product, which will be replaced by 'HOMPRA'.

Since April 2013 two new near-real-time products have become operational: an analysis of daily precipitation ('First Guess Daily') and a drought index with almost global coverage (GPCC-Drought Index, GPCC-DI). The 'First Guess Daily' is based on SYNOP reports with an automated quality control like the 'First Guess Product'. Additionally to the precipitation analysis information about the number of stations, kriging error and standard deviation are provided. The GPCC-DI is a combination of SPI-DWD and SPEI. Precipitation totals for the current month were taken from the 'First Guess Product', whereas monthly mean temperatures were used from the 'CPC Monthly Global Surface Air Temperature Data Set'.

An overview to the above mentioned GPCC products and data base will be given along with a comparison of these products.