



Applying the Global Precipitation Climatology Centre (GPCC) data base to investigate the impact of changing reference periods

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Since 1989, the Global Precipitation Climatology Centre (GPCC) collects 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).

Data collected from national meteorological and hydrological services (NMHS) 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' (daily and monthly) and 'Monitoring Product' (monthly), which 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' and 'Climatology'. 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.

By utilizing the large data base of the GPCC, long term means for several reference periods (e.g. 1951-2000 (GPCC reference period), or different 30-year reference periods i.e. 1961-1990 or 1981-2010) can be computed. Differences between the analyses will be investigated regarding precipitation totals, underlying data and contributing stations and the influence of missing stations for the same reference period.

The new Climatology of the GPCC, which will be released in summer 2014, is compared with the old one from 2011. Differences in the long term means attributed to new applicable stations or corrected data are shown.