readme_V1_1

This file comes together with version 1.1 of the VASClimO-50yr precipitation climatology (hereafter VASClimO Climatology, VASClimO = Variability Analyses of Surface Climate Observations).

It is an update of the first version published in March 2005.

This update does not include new station records but is based on an enlarged number of long term station averages used as a background climatology. Relative deviations are interpolated and renormalized by local averages. Thus, using more detailed information on long term averages yields more detailed maps. However, the overall statistical features are affected only marginally.

The VASClimO Climatology is a globally gridded data set of observed station precipitation.

It is prepared by Dr Christoph Beck and Dr Jürgen Grieser at the Global Precipitation Climatology Centre (GPCC). The work is done in the frame of the project VASClimO which is part of the German Climate Research Programme (DEKLIM) and is supported financially by the Bundesministerium für Bildung und Forschung under DEKLIM project-No. 33 11 0307.

The globally gridded monthly precipitation sums from January 1951 to December 2000 are provided in 3 groups of files. Each group provides the results in another resolution. Thethree resolutions are 0.5°x0.5°, 1.0°x1.0°, and 2.5°x2.5°.

Each group consists of 50 files containing the gridded precipitation values yearby year as well as a master file containing the coordinates of the center points of the grid boxes.

The name convention is

grd05_yyyy.csv for the 65617 grid boxes of the 0.5°x0.5° land-only precipitationfor the year yyyy.grd10_yyyy.csv for the 17689 grid boxes of the 1.0°x1.0° land-only precipitationfor the year yyyy.grd25_yyyy.csv for the 3355 grid boxes of the 2.5°x2.5° land-only precipitation for the year yyyy.

Note 1: Antarctica and Greenland are not included because of lack of data.Note 2: Though the files have the extension "csv" (meaning comma separated value) the files with the results in the finest resolution are too large to be loaded into Microsoft Excel.

The files contain the data within 15 columns. The first column is the grid-box number, followed by the 12 monthly values provided in mm precipitation per month (January to December) as well as 2 further columns. The latter contain 2 different approximations of the annual precipitation (as average monthly precipitation in mm/Month), i.e. the second last column is the gridded annual average of the station monthly precipitation. The last column, however, is just the average of the 12 gridded monthly values.

With respect to 0.5° and 1.0° resolution the data are provided as integers, i.e.65573, 46, 37, 40, 43, 56, 50, 48, 32, 40, 33, 30, 21, 48, 40

With respect to 2.5° resolution the data have one more digit, i.e.59, 6.3, 7.6, 8.2, 5.1, 8.5, 21, 40.1, 46.4, 29.7, 21.8, 18.1, 13, 16.8, 18.9

The master files in the three spatial resolutions contain 3 columns each:

the grid-box numbers, longitude, latitude of the center coordinates of each box.

The master files are named as gr05_coordinates.txt, gr10_coordinates.txt, gr25_coordinates.txt, reflecting the three spatial resolutions.

Supplementary there is one file providing the land fraction with respect to the .5° resolution (gr05_landfraction.txt). Its 4 columns contain grid-box number, longitude, latitude and land fraction. The latter is provided as integers in %. It is used to create the gridded data on the coarser resolutions.

Though the merging of the different data sources, the quality control with respect to outliers and homogeneity (both, test and removal) as well as the interpolation and gridding is done as thoroughly as possible in order to obtain optimal results we can give no warranty in any way that these data truely reflect the spatiotemporal precipitation.

In order to get an idea of the quality of the results spatial patterns of Jackknife-error estimates are provided within the files grd05_Jack_yyyy.csv where yyyy means the year. This Jackknife error is the difference of the interpolated value of the location of the nearest station (taking only other stations into account) and the observation at that station. It therefore tells what wouldhave been estimated if there were no observation and thus it is a rather conservative measure of error.The files provide the grid number, the 12 monthly estimates as well as the annual average of these 12 monthly values.

For further information and updates see http://gpcc.dwd.de

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