A Big Earth Data Platform for Three Poles

**1-km monthly precipitation dataset for China (1901-2021)**

1、Description

This dataset is the monthly precipitation data of China, with a spatial resolution of 0.0083333 ° (about 1km) and a time range of 1901.1-2021.12. The data format is NETCDF, i.e.. Nc format. This dataset is generated in China through the Delta spatial downscaling scheme based on the global 0.5 ° climate dataset released by CRU and the global high-resolution climate dataset released by WorldClim. In addition, 496 independent meteorological observation point data are used for verification, and the verification results are reliable. This data set covers the main land areas in China (including Hong Kong, Macao and Taiwan), excluding islands and reefs in the South China Sea. In order to facilitate storage, the data are all int16 type and stored in nc files, with precipitation units of 0.1mm.
NC data can be mapped using ArcMAP software; Matlab software can also be used for extraction processing. Matlab has released the function to read and store nc files. The read function is ncread, and switch to the nc file storage folder. The statement is expressed as: ncread ('XXX.nc ',' var ', [i j t], [leni lenj lent]), where XXX.nc is the file name, and is the string required' '; Var is from XXX The variable name read in NC. If it is a string, '' is required; i. J and t are the starting row, column and time of the read data respectively, and leni, lenj and lent i are the length of the read data in the row, column and time dimensions respectively. In this way, this function can be used to read in any region and any time period in the study area. There are many commands about NC data in the help of Matlab, which can be viewed. WGS84 is recommended for data coordinate system.

2、Keywords

Theme：Precipitation,Precipitation amount
Discipline：Atmosphere
Places：China
Time：1901-2021

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：9922.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：55.5587943901263 | - |
| west：72.1960450229045 | - | east：136.196045022846 |
| - | south：16.2504610568287 | - |

5、Time frame:None--None

6、Reference method

References to data:

PENG Shouzhang. 1-km monthly precipitation dataset for China (1901-2021). A Big Earth Data Platform for Three Poles, doi:10.5281/zenodo.31857222020

References to articles:

Peng, S.Z., Ding, Y.X., Liu, W.Z., & Li, Z. (2019). 1 km monthly temperature and precipitation dataset for China from 1901 to 2017. Earth System Science Data, 11, 1931–1946. https://doi.org/10.5194/essd-11-1931-2019

Peng, S. , Gang, C. , Cao, Y. , & Chen, Y. . (2017). Assessment of climate change trends over the loess plateau in china from 1901 to 2100. International Journal of Climatology.

Ding, Y.X., & Peng, S.Z. (2020). Spatiotemporal trends and attribution of drought across China from 1901–2100. Sustainability, 12(2), 477.

Peng, S.Z., Ding, Y.X., Wen, Z.M., Chen, Y.M., Cao, Y., & Ren, J.Y. (2017). Spatiotemporal change and trend analysis of potential evapotranspiration over the Loess Plateau of China during 2011-2100. Agricultural and Forest Meteorology, 233, 183-194. https://doi.org/10.1016/j.agrformet.2016.11.129

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: PENG Shouzhang
unit:
email: szp@nwafu.edu.cn