A Big Earth Data Platform for Three Poles

**China meteorological forcing dataset (1979-2018)**

1、Description

The China Meteorological Forcing Dataset (CMFD) is a high spatial-temporal resolution gridded near-surface meteorological dataset that was developed specifically for studies of land surface processes in China. The dataset was made through fusion of remote sensing products, reanalysis dataset and in-situ observation data at weather stations. Its record starts from January 1979 and keeps extending (currently up to December 2018) with a temporal resolution of three hours and a spatial resolution of 0.1°. Seven near-surface meteorological elements are provided in CMFD, including 2-meter air temperature, surface pressure, specific humidity, 10-meter wind speed, downward shortwave radiation, downward longwave radiation and precipitation rate.

2、Keywords

Theme：Precipitation,Radiation,Temperature,Surface air temperature,Winds,Precipitation amount,Surface pressure,Surface winds,Humidity/Dryness,Longwave radiation,Pressure
Discipline：Atmosphere
Places：China
Time：1979-2018

3、Data details

1.Scale：None

2.Projection：

3.Filesize：100000.0MB

4.Data format：\*.nc

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：55.0 | - |
| west：70.0 | - | east：140.0 |
| - | south：15.0 | - |

5、Time frame:1979-01-01 08:00:00+00:00--2018-12-31 08:00:00+00:00

6、Reference method

References to data:

LI Xin, YANG Kun, HE Jie, QIN Jun , LU Hui, CHEN Yingying, WENJUN TANG . China meteorological forcing dataset (1979-2018). A Big Earth Data Platform for Three Poles, doi:10.11888/AtmosphericPhysics.tpe.249369.file2019

References to articles:

Kun Yang, Jie He, Wenjun Tang, Jun Qin, CCK Cheng, 2010: On downward shortwave and longwave radiations over high altitude regions: Observation and modeling in the Tibetan Plateau. Agric. Forest. Meteorol, 150, 38-46.

He, J., Yang, K., Tang, W. Lu, H., Qin, J., Chen, Y.Y., & Li, X. (2020). The first high-resolution meteorological forcing dataset for land process studies over China. Scientific Data, 7, 25, https://doi.org/10.1038/s41597-020-0369-y.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

name: CHEN Yingying
unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences
email: chenyy@itpcas.ac.cn

name: YANG Kun
unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences
email: yangk@itpcas.ac.cn

name: LI Xin
unit:
email: xinli@itpcas.ac.cn

name: LU Hui
unit: Tsinghua University
email: luhui@tsinghua.edu.cn

name: HE Jie
unit: Tsinghua University
email: hejie@itpcas.ac.cn

name: QIN Jun
unit: Institute of Geographical Sciences and Natural Resource Research, CAS
email: qinjun@igsnrr.ac.cn

name: WENJUN TANG
unit: 无
email: 无