A Big Earth Data Platform for Three Poles

**A high-resolution dataset for lower atmospheric process studies over the Tibetan Plateau from 1981 to 2020**

1、Description

Meteorological elements of the dataset include the near-surface land-air exchange parameters, such as downward/upward longwave/shortwave radiation flux, momentum flux, sensible heat flux, latent heat flux, etc. In addition, the vertical distributions of 3-dimensional wind, temperature, humidity, and pressure from the surface to the tropopause are also included. Independent evaluations were conducted for the dataset by comparison between the observational data and the most recent ERA5 reanalysis data. The results demonstrate the accuracy and superiority of this dataset against reanalysis data, which provides great potential for future climate change research.

2、Keywords

Theme：Temperature,Earth SurFace Processes,Winds,Latent heat flux,Humidity/Dryness,Sensible heat flux  
Discipline：Atmosphere,Terrestrial Surface  
Places：the Tibetan Plateau  
Time：1981-2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：7633633.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.5 | - |
| west：74.0 | - | east：105.0 |
| - | south：26.5 | - |

5、Time frame:1980-12-31 16:00:00+00:00--2020-12-31 03:59:59+00:00

6、Reference method

References to data:

Ma Shupo, ZHU Jinhuan, LI Peng , ZOU Han , ZHOU Libo , LI Fei. A high-resolution dataset for lower atmospheric process studies over the Tibetan Plateau from 1981 to 2020. A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2729092022

References to articles:

Skamarock, W. C., et al. (2019). A Description of the Advanced Research WRF Model Version 4. NCAR Tech. Note NCAR/TN-475+STR 145.  
  
Hersbach, H., Dee, D. (2016). ERA5 reanalysis is in production. ECMWF newsletter, 147(7), 5-6.

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

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