A Big Earth Data Platform for Three Poles

**The atmospheric heat source dataset of Tibetan Plateau based on satellites and stations (1984-2015)**

1、Description

As the third pole of the Earth, the Tibetan Plateau has a significant impact on regional and global weather and climate as a heat source in spring and summer. In order to explore the temporal and spatial variation characteristics of multi-scale thermal forcing in different time on the plateau, it is necessary to establish a set of plateau heat source (collection) data based on observation data of continuous and reliable long-term observation. Based on the meteorological elements (surface temperature, surface air temperature, wind speed at the height of 10m, daily cumulative precipitation, etc.) of the 80 (32) observation stations on the Tibetan Plateau from 1979 to 2016 (1960-2016) of China Meteorological Bureau, the sensible heat(SH) and latent heat(LH) was calculated. Meanwhile, using satellite data processing to obtain the net radiation flux (RC) from 1984 to 2015 on the plateau, and then a set of quality controlled long-term plateau heat source data was obtained. This data set considers the diurnal variation of the overall heat transfer coefficient when calculating the surface sensible heat flux.

2、Keywords

Theme：Sensible heat,Radiation,Net radiation,Latent heat release
Discipline：Atmosphere
Places：Tibetan Plateau
Time：daily, monthly

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：12.5MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：80.0 | - | east：110.0 |
| - | south：25.0 | - |

5、Time frame:1960-01-07 16:00:00+00:00--2017-01-06 16:00:00+00:00

6、Reference method

References to data:

HU Wenting. The atmospheric heat source dataset of Tibetan Plateau based on satellites and stations (1984-2015). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2701152019

References to articles:

Duan, A.M., Liu, S.F., Zhao, Y., Gao, K.L., &Hu, W.T. (2018). Atmospheric heat source/sink dataset over the Tibetan Plateau based on satellite and routine meteorological observations. Big Earth Data, 2(2), 179-189.

7、Supporting project information

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

8、Data resource provider

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