A Big Earth Data Platform for Three Poles

**Dataset of high-resolution surface air exchange and low-level atmospheric structure of the Qinghai Tibet Plateau (August 2014)**

1、Description

Based on the WRF model, using ERA5 reanalysis data as the initial and boundary fields, the high-resolution low-level atmospheric structure and the earth atmosphere exchange data set of the Qinghai Tibet Plateau are preliminarily obtained by the method of dynamic downscaling. The time range of this data set is from August 1 to August 31, 2014, with a time resolution of 1 hour, a horizontal range of 25 °N-40 °N, 70oE-105oE, and a horizontal resolution of 0.05 °. The data format is NetCDF, and one file is output every hour. The file is named after the date. The lower atmospheric structure data includes temperature, relative humidity, water vapor mixing ratio, potential height, meridional wind and latitudinal wind meteorological elements, with 34 isobaric surfaces in the vertical direction; the surface air exchange data set includes the upward / downward short wave radiation, upward / downward long wave radiation, surface sensible heat and flux, 2m air temperature and water vapor mixing ratio, 10m wind, etc. The data set can provide data support for the study of weather process and climate environment in the Tibetan Plateau.

2、Keywords

Theme：Radiation,Temperature,Atmospheric circulation,Energy balance,Humidity/Dryness,Air temperature
Discipline：Atmosphere
Places：Qinghai Tibet Plateau
Time：2014

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：171008.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：70.0 | - | east：105.0 |
| - | south：25.0 | - |

5、Time frame:2014-08-12 16:00:00+00:00--2014-09-11 16:00:00+00:00

6、Reference method

References to data:

Ma Shupo. Dataset of high-resolution surface air exchange and low-level atmospheric structure of the Qinghai Tibet Plateau (August 2014). A Big Earth Data Platform for Three Poles, 2019

References to articles:

Skamarock W C, Klemp J B. A time-split nonhydrostatic atmospheric model for weather research and forecasting applications[J]. Journal of computational physics, 2008, 227(7): 3465-3485.

Hersbach H, Dee D. ERA5 reanalysis is in production[J]. ECMWF newsletter, 2016, 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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