A Big Earth Data Platform for Three Poles

**Simulated forcing dataset of 3km/6hour in Heihe River basin (1980-2080)**

1、Description

Ec-earth-heihe USES the output of the global model of ec-earth as the driving field to simulate the 6-hour data of the Heihe river basin in 2006-2080 under the scenarios of 1980-2005 and RCP4.5.Spatial scope: the grid center of the simulation area is located at (40.30n, 99.50e), the horizontal resolution is 3 km, and the number of simulated grid points in the model is 161 (meridional) X 201 (zonal).
Projection: LAMBERT conformal projection, two standard latitudes of 30N and 60N.
Time range: from January 1, 1980 to December 31, 2010, with an interval of 6 hours.
Description of file contents: monthly storage by grads without format.Except the maximum and minimum temperature as the daily scale, the other variables are all 6-hour data.
MATLAB can be used to read, visible tmax\_erain\_xiong\_heihe.m file description.
Data description of heihe river basin:
1) Anemometer west wind (m/s) abbreviation usurf
2) Anemometer south wind(m/s), abbreviation vsurf
3) Anemometer temperature (deg K) abbreviation tsurf
4) maximal temperature (deg K) abbreviation tmax
5) minimal temperature (deg K) abbreviated tmin
6) Anemom specific humidity (g/kg) abbreviation qsurf
7) Accumulated precipitation (mm/hr) abbreviation precip
8) Accumulated evaporation (mm/hr) abbreviation evap
9) Accumulated sensible heat (watts/m\*\*2/hr) abbreviation sensible
10) Accumulated net infrared radiation (watts/m \* \* 2 / hr) abbreviation netrad
File name definition:
Abbreviation-ec-earth-6hour，YTD
For example, precip-ec-earth-6hour.198001，Is the data of 6-hour precipitation in January, 1980
(1) historical 6-hour data driven by the ec-earth global climate model from 1980 to 2005
(2) produce 6-hour data of heihe river basin under the scenario of RCP 4.5 for the global climate model ec-earth from 2006 to 2080

2、Keywords

Theme：Precipitation,Radiation,Temperature,Radiative forcing
Discipline：Atmosphere
Places：Heihe River Basin
Time：1980-2080

3、Data details

1.Scale：100000

2.Projection：4326

3.Filesize：155648.0MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：43.3 | - |
| west：96.1 | - | east：104.2 |
| - | south：37.7 | - |

5、Time frame:1980-01-14 16:00:00+00:00--2081-01-13 16:00:00+00:00

6、Reference method

References to data:

XIONG Zhe. Simulated forcing dataset of 3km/6hour in Heihe River basin (1980-2080). A Big Earth Data Platform for Three Poles, doi:10.3972/heihe.104.2017.db2017

References to articles:

Xiong, Z, Yan, X.D. (2013). Building a high-resolution regional climate model for the Heihe River Basin and simulating precipitation over this region. Chinese Science Bulletin, 58(036), 4670-4678. doi:10.116/s11434-013-5971-3.

7、Supporting project information

8、Data resource provider

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