A Big Earth Data Platform for Three Poles

**Downscaled simulated data using CMIP5 optimal models of key nodes in the Belt and Road**

1、Description

Coupled Model Intercomparison Project Phase 5 (CMIP5) provides a multiple climate model environment, which can be used to predict the future climate change in the key nodes in the Belts and Road to deal with the environmental and climate problems. Key nodes in the Belt and Road are taken as the study regions of this dataset. The ability of 43 climate models in CMIP5 to predict the future climate change in the study regions was assessed and the optimal models under different scenarios were selected according to the RMSE between the prediction results and real observations. This dataset is composed of the prediciton results of precipitation and near-surface air temperature between 2006 and 2065 using the optimal models in monthly temporal frequncy. The spatial resolution of the dataset has been downscaled to 10 km using statistical downscaling method. Data of each period has three bands, namely maximum near-surface air temperature, minimum near-surface air temperature and precipitation. In this data set, the unit of precipitation is kg / (m ^ 2 \* s), and the unit of near-surface air temperature is K. This dataset provides data basis for solving environmental and climate problems of the key nodes in the Belts and Road.

2、Keywords

Theme：Precipitation,Climatic Resources,Temperature
Discipline：Atmosphere,Human-nature Relationship
Places：Pan-third pole, Pan-Third Pole major cities
Time：Historic period, Future Climate Projection

3、Data details

1.Scale：None

2.Projection：

3.Filesize：1126.4MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：57.37 | - |
| west：-1.53 | - | east：106.97 |
| - | south：-6.38 | - |

5、Time frame:2065-12-30 16:00:00+00:00--2065-12-30 16:00:00+00:00

6、Reference method

References to data:

LI Xinyan, LING Feng. Downscaled simulated data using CMIP5 optimal models of key nodes in the Belt and Road. A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2710612020

References to articles:

Hurrell, J., Visbeck, M., Pirani, P. (2011). WCRP Coupled Model Intercomparison Project – Phase 5. Special Issue of the CLIVAR Exchanges Newsletter, No. 56, Vol. 15, No. 2.

7、Supporting project information

8、Data resource provider

name: LI Xinyan
unit: Institute of Geodesy and Geophysics, CAS
email: lixinyan@wihgg.ac.cn

name: LING Feng
unit:
email: lingf@whigg.ac.cn