A Big Earth Data Platform for Three Poles

**Driving data of surface meteorological elements in the eastern Qinghai Tibet Plateau with a horizontal resolution of 3km \* 3km and an hour (2010)**

1、Description

Based on the regional environment integrated system model developed by the Key Laboratory of regional climate and environment, Chinese Academy of Sciences, a regional climate model for convective analysis of the Qinghai Tibet Plateau is established.
The grid center of the model simulation area is located at (34n, 100e), the horizontal resolution is 3km, and the number of simulation grid points of the model is 465 (longitude) x 375 (latitude). The vertical direction is 27 floors. The air pressure at the top of the model layer is 50 HPA. The buffer zone consists of 15 grids, the integration time is one year in 2010, and the horizontal resolution of the European medium range weather forecast center is 0.25x0 25. The reanalysis data of era5 with a time interval of 6 hours is used as the driving field to generate the driving data of surface meteorological elements on the Qinghai Tibet Plateau in 2010 with a horizontal resolution of 3 km \* 3 km and a time interval of 1 hour
After dynamic downscaling by using the convection analysis regional climate model of the Qinghai Tibet Plateau, the bottleneck problem of the lack of meteorological data sets with long-time series and high spatial-temporal resolution in the Qinghai Tibet Plateau and other regions is solved, so as to provide a solid and reliable scientific data foundation for the future change of climate and environment and the construction of ecological security barrier in the Qinghai Tibet Plateau.

2、Keywords

Theme：2m temperature,Precipitation,Temperature,Winds,Downscaling
Discipline：Atmosphere
Places：Eastern Qinghai-Tibet Plateau
Time：2010

3、Data details

1.Scale：None

2.Projection：Lambert\_Conformal\_Conic

3.Filesize：214700.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：95.0 | - | east：105.0 |
| - | south：28.0 | - |

5、Time frame:2009-12-31 16:00:00+00:00--2010-01-01 03:59:59+00:00

6、Reference method

References to data:

XIONG Zhe. Driving data of surface meteorological elements in the eastern Qinghai Tibet Plateau with a horizontal resolution of 3km \* 3km and an hour (2010). A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2724432022

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.

Xiong Zhe, Fu Congbin, Yan Xiaodong, 2009: Regional integrated environmental model system and its simulation of East Asia summer monsoon. Chinese Sci. Bull.,54(22)，4253-4261.doi:10.107/s11434-009-0669-2.

熊喆, 宋长青. (2022). 对流解析区域气候模式对青藏高原地区降水模拟能力的研究. 北京师范大学学报(自然科学版), 58(2), 337-347.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: XIONG Zhe
unit:
email: xzh@tea.ac.cn