A Big Earth Data Platform for Three Poles

**Downscaling simulations of future temperature based on CMIP5 outputs in Heihe river basin (2011-2100)**

1、Description

Based on the downscaling temperature result data in the historical period of CMIP5 (Coupled Model Intercomparison Project Phase 5), the future multi-year average temperature in the three periods of 2011-2040, 2041-2070, and 2071-2100 was predicted. Under the scenarios of rcp2.6, rcp4.5, and rcp8.5, the method of combining ordinary least squares regression with HASM (High Accuracy Surface Modeling Method) was used to downscaling simulate and predict, and the 1km downscaling results of the multi-year average temperature in the three scenarios of 2011-2040, 2041-2070 and 2071-2100 were obtained.

2、Keywords

Theme：Temperature,Mean temperature,Downscaling
Discipline：Atmosphere
Places：Heihe River Basin
Time：

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：12.0MB

4.Data format：img

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：42.0 | - |
| west：98.0 | - | east：101.0 |
| - | south：38.0 | - |

5、Time frame:2011-01-13 15:52:00+00:00--2100-01-13 15:52:00+00:00

6、Reference method

References to data:

ZHAO Na, YUE Tianxiang. Downscaling simulations of future temperature based on CMIP5 outputs in Heihe river basin (2011-2100). A Big Earth Data Platform for Three Poles, doi:10.3972/heihe.0234.2016.db2016

References to articles:

TianXiang Yue. 2011. Surface Modelling: High Accuracy and High Speed Methods. New York: CRC Press (Taylor & Francis group)

Na Zhao, Tian-Xiang Yue, Xun Zhou et al. Statistical downscaling of precipitation using local regression and high accuracy surface modeling method. Theoretical and Applied Climatology, DOI: 10.1007/s00704-016-1776-z.

Na Zhao, ChuanFa Chen, Xun Zhou, TianXiangYue\*. 2015. A comparison of two downscaling methods for precipitation in China. Environmental Earth Sciences74(8), 6563-6569

7、Supporting project information

8、Data resource provider

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