A Big Earth Data Platform for Three Poles

**Downscaling simulations of future precipitation based on CMIP5 outputs over the Heihe River Basin (2011-2100)**

1、Description

Based on the data of downscaling results in the precipitation historical period of CMIP5 (Coupled Model Intercomparison Project Phase 5), the combined Method of geographical weighted regression and HASM (High Accuracy Surface Modeling Method) was used to analyze the annual mean precipitation in the future three periods of 2011-2040, 2041-2070 and 2071-2100 in the scenario of rcp2.6, rcp4.5 and rcp8.5. Through downscaling simulation and prediction, the 1km downscaling results of the multi-year average precipitation in the three periods of 2011-2040, 2041-2070 and 2071-2100 are obtained.

2、Keywords

Theme：Precipitation,Precipitation rate
Discipline：Atmosphere
Places：Heihe River Basin
Time：

3、Data details

1.Scale：None

2.Projection：

3.Filesize：100.0MB

4.Data format：img

4、Space scope

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

5、Time frame:2011-01-09 08:00:00+00:00--2101-01-08 08:00:00+00:00

6、Reference method

References to data:

ZHAO Na, YUE Tianxiang. Downscaling simulations of future precipitation based on CMIP5 outputs over the Heihe River Basin (2011-2100). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2712432016

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Zhao, N. , Yue, T. X. , Zhou, X. , Zhao, M. W. , Liu, Y. , Du, Z. P., & Zhang, L. L. (2017). Statistical downscaling of precipitation using local regression and high accuracy surface modeling method. Theoretical and Applied Climatology, 1: 1-12.

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Na Zhao, Tiangxiang Yue, Mingwei Zhao, Zhengping Du, Zemeng Fan, Chuanfa Chen. Sensitivity studies of a high accuracy surface modeling method. SCIENCE CHINA Earth Sciences. 2014, 57(1):1-11.

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7、Supporting project information

8、Data resource provider

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