A Big Earth Data Platform for Three Poles

**Spatial interpolation of gauge precipitation using regional climate model simulation in the Heihe River Basin (1960-2014)**

1、Description

The distributed eco hydrological model needs high-precision precipitation spatial distribution information as input. Due to the scarcity of stations, the station interpolation precipitation can not reflect the spatial distribution of precipitation in Heihe mountain area. The regional climate model (RCM) simulation results provide the information of precipitation elevation relationship at different locations. The relationship is corrected according to the observed precipitation elevation gradient of hulugou watershed, and the precipitation elevation gradient at different locations of the watershed is obtained. Based on the gradient and the multi-year average value of precipitation observed at the station, the precipitation climate background field is established to represent the multi-year average spatial distribution of precipitation in the basin. Then, based on the daily precipitation observation data of 16 meteorological stations and 25 hydrological stations, and the precipitation spatial distribution information provided by the precipitation climate background field, the daily grid precipitation data is obtained by interpolation.
The interpolation year of this data is 1960-2014, the spatial interpolation precision is 3-km, and the time precision is day by day data (the daily period is from 8:00 a.m. to 8:00 a.m. the next day). The results show that the interpolation precipitation is reliable.
The data is stored in ASCII file. The file name of each file is in the form of precyyyymmdd.asc. Yyyy is the year, mm is the month and DD is the day. Each ASCII file represents the grid precipitation data of the day, in mm.

2、Keywords

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

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：451.0MB

4.Data format：ASCII

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：43.0 | - |
| west：97.0 | - | east：102.0 |
| - | south：37.0 | - |

5、Time frame:1960-07-06 16:00:00+00:00--2015-07-06 16:00:00+00:00

6、Reference method

References to data:

YANG Dawen. Spatial interpolation of gauge precipitation using regional climate model simulation in the Heihe River Basin (1960-2014). A Big Earth Data Platform for Three Poles, doi:10.3972/heihe.127.2014.db2016

References to articles:

Wang, Y., Yang, H., Yang, D., Qin, Y., Gao, B., Cong, Z. (2017). Spatial Interpolation of Daily Precipitation in a High Mountainous Watershed Based on Gauge Observations and a Regional Climate Model Simulation. Journal of Hydrometeorology, 18(3), 845-862

7、Supporting project information

8、Data resource provider

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