A Big Earth Data Platform for Three Poles

**China alpine region month precipitation dataset (CAPD) (1954-2014)**

1、Description

The monthly precipitation data set of China's alpine mountains includes the qilian mountains (1960-2013), tianshan mountains (1954-2013) and Yangtze river source (1957-2014).
The distributed hydrological model needs high-precision spatial distribution information of precipitation as input.Because of the scarcity of stations, the precipitation interpolation at stations cannot reflect the spatial distribution of precipitation in the alpine mountainous areas.Generation method of this dataset:
(1) collect precipitation data of national meteorological stations and hydrological stations in various regions, and add precipitation observation data of field stations of Chinese academy of sciences above an altitude of 4000m;
(2) use the temperature data of each station to correct the collected precipitation data of different precipitation types;
(3) establish the relationship between precipitation data and altitude, longitude and latitude, and fit monthly to generate monthly precipitation data set of 1km scale.
The interpolation year of this data is 1954-2014. The data projection method is Albers projection. The spatial interpolation precision is 1-km, and the time precision is monthly data.The results show that the interpolation precipitation is reliable.
The data is stored in ASCII files. The file names of the monthly precipitation data files of tianshan mountain and Yangtze river source are in the form yyyymm.txt. YYYY is the year and MM is the month.The monthly precipitation data of qilian mountain is named as: month\_10001.txt, this file is the precipitation data of January 1960, successively month\_10002.txt is the precipitation of February 1960, and month\_10013.txt is the precipitation data of January 1961,......Month\_10648.txt represents the precipitation data for December 2013.Each ASCII file represents the grid precipitation data of the day in mm.

2、Keywords

Theme：Precipitation,Hydrology
Discipline：Atmosphere,Terrestrial Surface
Places：Qilian Mountain, Alpine region of China, Tianshan, Yangtze River Source Region
Time：1954-2014

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：13926.0MB

4.Data format：ASCII

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：45.06 | - |
| west：81.17 | - | east：104.53 |
| - | south：30.06 | - |

5、Time frame:1954-01-16 16:00:00+00:00--2015-01-15 16:00:00+00:00

6、Reference method

References to data:

LIU Junfeng, CHEN Rensheng. China alpine region month precipitation dataset (CAPD) (1954-2014). A Big Earth Data Platform for Three Poles, doi:10.3990/CAPD.306.2016.db2017

References to articles:

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Chen, R.S., Song, Y.X., Kang, E.S., Han, C.T., Liu, J.F., Yang, Y., Qing, W.W., &Liu, Z.W. (2014). A Cryosphere-Hydrology Observation System in a Small Alpine Watershed in the Qilian Mountains of China and Its Meteorological Gradient. Arctic, Antarctic, and Alpine Research, 46(2), 505-523.

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7、Supporting project information

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8、Data resource provider

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