A Big Earth Data Platform for Three Poles

**Spatial and temporal distribution products of actual evaporation in the Qinghai Tibet Plateau (1998-2017)**

1、Description

The basic data of hydrometeorology, land use and DEM were collected through the National Meteorological Information Center, the hydrological Yearbook, the China Statistical Yearbook and the Institute of geographical science and resources of the Chinese Academy of Sciences. The distributed time-varying gain hydrological model (DTVGM) with independent intellectual property rights is adopted for modeling, and the Qinghai Tibet Plateau is divided into 10937 sub basins with a threshold of 100 square kilometers. The daily flow data of 14 flow stations in Heihe River, Yarlung Zangbo River, Yangtze River source, Yellow River source, Yalong River, Minjiang River and Lancang River Basin were selected to draft and verify the model. The daily scale Naxi efficiency coefficient is above 0.7 and the correlation coefficient is above 0.8. The actual evaporation simulation is basically consistent with the station observation published by the Meteorological Bureau. The model simulates the water cycle process from 1998 to 2017. After verification, the spatial and temporal distribution of the actual evaporation (including soil evaporation and plant transpiration) on the 0.01 degree daily scale in the whole Tibetan Plateau is given.

2、Keywords

Theme：Evaporation,Land Surface Parameter,Hydrology,Hydrological models
Discipline：Terrestrial Surface
Places：Tibetan Plateau
Time：day, 1998-2017

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：180000.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：70.0 | - | east：105.0 |
| - | south：25.0 | - |

5、Time frame:1997-12-31 16:00:00+00:00--2017-12-30 16:00:00+00:00

6、Reference method

References to data:

YE Aizhong. Spatial and temporal distribution products of actual evaporation in the Qinghai Tibet Plateau (1998-2017). A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2727362022

References to articles:

Ye A, Duan Q, Zeng H, Li L, Wang C, 2010. A Distributed Time—Variant Gain Hydrological Model Based on Remote Sensing. Journal of Resources and Ecology 1, 222-30.

XIA Jun, WANG Gangsheng, TAN Ge, YE Aizhong & G.H. Huang. Development of distributed time-variant gain model for nonlinear hydrological systems. Science in china series d:earth sciences, 2005, 48(6): 713-723

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

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