A Big Earth Data Platform for Three Poles

**Monthly evapotranspiration dataset with 1 km spatial resolution over the Heihe River Basin Version 2.0 (2000-2013)**

1、Description

ET (ET) monitoring is crucial to agricultural water resource management, regional water resource utilization planning and socio-economic sustainable development.The limitations of traditional ET monitoring methods mainly lie in that they cannot observe a large area at the same time and can only be limited to observation points. Therefore, the cost of personnel and equipment is relatively high, and they can neither provide surface ET data, nor provide ET data of different land use types and crop types.
Quantitative monitoring of ET can be achieved by using remote sensing. The characteristics of remote sensing information are that it can not only reflect the macroscopic structure characteristics of the earth surface, but also reflect the microscopic local differences.
Version 2.0 (second edition) of the surface evapotranspiration data set of the heihe river basin from 2000 to 2013 is based on multi-source remote sensing data and the latest ETWatch model is adopted to estimate the raster image data. Its temporal resolution is monthly scale and the spatial resolution is 1km scale. The data covers the whole basin in millimeters.Data types include monthly, quarterly, and annual data.
The projection information of the data is as follows:
Albers equal-area cone projection,
Central longitude: 110 degrees,
First secant: 25 degrees,
Second secant: 47 degrees,
Coordinates by west: 4000000 meter.

File naming rules are as follows:
Monthly cumulative ET value file name: heihe-1km\_2013m01\_eta.tif
Heihe represents the heihe river basin, 1km represents the resolution of 1km, 2013 represents the year of 2013, m01 represents the month of January, eta represents the actual evapotranspiration data, and tif represents the data in tif format.
Name of quarterly cumulative ET value file: heihe-1km\_2013s01\_eta.tif
Heihe refers to heihe river basin, 1km refers to the resolution of 1km, 2013 refers to 2013, s01 refers to january-march, is the first quarter, eta refers to the actual evapotranspiration data, and tif refers to the data in tif format.
Annual cumulative value file name: heihe-1km\_2013y\_eta.tif
Among them, heihe represents heihe river basin, 1km represents the resolution of 1km, 2013 represents the year of 2013, y represents the year, eta represents the actual evapotranspiration data, and tif represents the data in tif format.

2、Keywords

Theme：Evapotranspiration,Hydrology
Discipline：Terrestrial Surface
Places：Heihe River Basin
Time：2000-2013

3、Data details

1.Scale：1000000

2.Projection：4326

3.Filesize：232.0MB

4.Data format：EXCEL

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：42.0 | - |
| west：96.0 | - | east：103.0 |
| - | south：37.0 | - |

5、Time frame:2000-01-11 08:00:00+00:00--2014-01-11 07:00:00+00:00

6、Reference method

References to data:

Monthly evapotranspiration dataset with 1 km spatial resolution over the Heihe River Basin Version 2.0 (2000-2013). A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2708842015

References to articles:

Bingfang Wu, Nana Yan, Jun Xiong, W.G.M.Bastiaanssen, Weiwei Zhu, Alfred Stein. Validation of ETWatch using field measurements at diverse landscapes: A case study in Hai Basin of China. Journal of Hydrlolgy. 436-437(2012) 67-80.

Wu,B.F, Zhu,W.W, Yan,N.N, Xing,Q, Liu,S.F, Chang,S, Qi,F. Integration of parameterization based on mult-source remote sensing data for estimation evapotranspiration: A case study on Heihe River Basin. Manuscript under preparation.

7、Supporting project information

8、Data resource provider