A Big Earth Data Platform for Three Poles

**8 km resolution evapotranspiration dataset of the Tibetan Plateau (1990-2015)**

1、Description

Evapotranspiration over the Qinghai Tibet Plateau is calculated by etwatch, a land surface evapotranspiration remote sensing model based on multi-scale and multi-source data. Etwatch adopts the method of combining the residual term method with P-M formula to calculate evapotranspiration. Firstly, according to the characteristics of the data image, the suitable model is selected to retrieve the evapotranspiration on a sunny day; the remote sensing model is often lack of data because the weather conditions can not obtain a clear image. In order to obtain the daily continuous evapotranspiration, the penman Monteith formula is introduced, and the evapotranspiration results on a sunny day are regarded as the "key frame", and the surface impedance information of the key frame is used as the basis to construct the surface impedance Based on the daily meteorological data, the time series data of evapotranspiration are reconstructed. Through the data fusion model, the high spatial and temporal resolution evapotranspiration data set is constructed by combining the low and medium resolution evapotranspiration temporal variation information with the high resolution evapotranspiration spatial difference information, so as to generate the 8 km resolution evapotranspiration of the Qinghai Tibet Plateau Data sets (1990-2015).

2、Keywords

Theme：Remote sensing evapotranspiration,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：Qinghai-Tibet Plateau
Time：1990-2015

3、Data details

1.Scale：None

2.Projection：Albers

3.Filesize：10.7MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.78 | - |
| west：73.48 | - | east：104.63 |
| - | south：25.99 | - |

5、Time frame:1989-12-31 16:00:00+00:00--2015-12-30 16:00:00+00:00

6、Reference method

References to data:

WANG Xiaofeng. 8 km resolution evapotranspiration dataset of the Tibetan Plateau (1990-2015). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2710332020

References to articles:

Huang, F.R., Yang, T., Li, Q., Li, S.S., Li, L.H., & Suwannee, A. (2019). Reference evapotranspiration concentration and its relationship with precipitation concentration at southern and northern slopes of Tianshan Mountains, China. Journal of Mountain Science, 16(6), 1381-1395.

李艳,黄春林,卢玲,顾娟. (2014). 蒸散发遥感估算方法的研究进展. 兰州大学学报(自然科学版), 50(6), 765-772.

李贺,王红,孔岩,李玲. (2012). 基于TSEB模型的黄河三角洲蒸散量估算. 遥感技术与应用, 27(1), 58-67.

7、Supporting project information

8、Data resource provider

name: WANG Xiaofeng
unit:
email: wangxf@chd.edu.cn