A Big Earth Data Platform for Three Poles

**Homogenized solar radiation data set over Japan (1870-2015)**

1、Description

This dataset includes the observed surface incident solar radiantion, and sunshine duration derived soalr radiation, and their homogenized series at 156 meteorological stations in Japan from 1870 to 2015. According to Yang's method, the surface solar radiation is calculated from the observed sunshine duration hours, and then the breakpoints of unnatural factors in the data series are adjusted by RH test homogenization method, so as to obtain the regional homogenized monthly solar radiation data set in Japan.

2、Keywords

Theme：Radiation,Sunshine,Sunshine duration,Solar radiation
Discipline：Atmosphere
Places：Japan
Time：1870-2015

3、Data details

1.Scale：None

2.Projection：

3.Filesize：6.34MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：50.0 | - |
| west：120.0 | - | east：155.0 |
| - | south：20.0 | - |

5、Time frame:1869-12-31 15:54:00+00:00--2015-12-29 16:00:00+00:00

6、Reference method

References to data:

WANG Kaicun, HE Yanyi, SU Liangyuan, MA Qian. Homogenized solar radiation data set over Japan (1870-2015). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2715242021

References to articles:

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Wang, K. C., Ma, Q., Li, Z. J., & Wang, J. K. (2015). Decadal variability of surface incident solar radiation over China: Observations, satellite retrievals, and reanalyses. J Geophys Res-Atmos, 120(13), 6500-6514.

Wang, X. L. L.,Chen, H. F., Wu, Y. H., Feng, Y., & Pu, Q. (2010). New Techniques for the Detection and Adjustment of Shifts in Daily Precipitation Data Series. Journal Of Applied Meteorology And Climatology, 49(12), 2416-2436.

[2] Yang, K., T. Koike, B. Ye, 2006: Improving estimation of hourly, daily, and monthly solar radiation by importing global data sets, Agricultural and Forest Meteorology, 137, 43-55.

Ma, Q., Wang, K., He, Y., Su, L., Wu, Q., Liu, H., & Zhang, Y. (2022). Homogenized century-long surface incident solar radiation over Japan. Earth System Science Data, 14, 463-477, 10.5194/essd-14-463-2022.

7、Supporting project information

8、Data resource provider

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