A Big Earth Data Platform for Three Poles

**Daily precipitation data with 10km resolution in the upper Brahmaputra (Yarlung Zangbo River) Basin-V2 (1951-2020)**

1、Description

Based on the monthly precipitation data of 262 rain gauges, WRF and ERA5 precipitation data in the Yarlung Zangbo River basin, the daily precipitation data with a resolution of 10km from 1951 to 2020 in the Yarlung Zangbo River basin and seven sub basins are reconstructed using random forest learning algorithm. This data has been verified by the single point of the station and performs well in terms of annual and seasonal changes. And the data has been reverse evaluated by the hydrological model, which is used to drive the VIC hydrological model to simulate the runoff change of Yajiang River basin and each sub basin, and verified by the measured runoff, MODIS and glacier cataloging data. On the basis of the original first edition, this data has considered the spatial distribution characteristics of precipitation, which can better describe the precipitation characteristics in alpine regions.

2、Keywords

Theme：Precipitation,Others,historical simulation,Precipitation amount,Yarlung Zangbo,glacier water resources,Glacier(Ice Sheet),Gridded precipitation,Tibetan Plateau
Discipline：Atmosphere,Cryosphere
Places：Yarlung Tsangpo, Tietan Plateau
Time：1951-2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：447.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：31.0 | - |
| west：82.0 | - | east：97.0 |
| - | south：28.0 | - |

5、Time frame:1950-12-31 16:00:00+00:00--2020-12-30 16:00:00+00:00

6、Reference method

References to data:

SUN He. Daily precipitation data with 10km resolution in the upper Brahmaputra (Yarlung Zangbo River) Basin-V2 (1951-2020). A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2728852022

References to articles:

Sun, H., Yao, T., & Su, F., et al. (2022). Corrected ERA5 precipitation by machine learning significantly improved flow simulations for the Third Pole basins. Journal of Hydrometeorology, 23(10). DOI:10.1175/JHM-D-22-0015.1

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program
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8、Data resource provider

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