A Big Earth Data Platform for Three Poles

**A gridded dataset of different forms of precipitation (snow, sleet, and rain) and their wet-bulb temperature threshold across mainland China from 1961-2016**

1、Description

Different forms of precipitation (snow, sleet, and rain) have divergent effects on the Earth’s surface water and energy fluxes. Therefore, discriminating between these forms is of significant importance, especially under a changing climate. We applied a state-of-the-art parameterization scheme with wet-bulb temperature, relative humidity, surface air pressure, and elevation as inputs, as well as observational gridded datasets with a maximum spatial resolution of 0.25◦, to generate a gridded dataset of different forms of daily precipitation (snow, sleet, and rain) and their temperature threshold across mainland China from 1961-2016. The annual snow, sleet, and rain amount were further calculated. The dataset may benefit various research communities, such as cryosphere science, hydrology, ecology, and climate change.

2、Keywords

Theme：Precipitation,Sonwfall  
Discipline：Atmosphere,Cryosphere  
Places：China  
Time：1961-2016

3、Data details

1.Scale：None

2.Projection：

3.Filesize：5314.6MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：53.5 | - |
| west：73.2 | - | east：135.1 |
| - | south：3.9 | - |

5、Time frame:1960-12-31 16:00:00+00:00--2016-12-30 16:00:00+00:00

6、Reference method

References to data:

SU Bo , ZHAO Hongyu. A gridded dataset of different forms of precipitation (snow, sleet, and rain) and their wet-bulb temperature threshold across mainland China from 1961-2016. A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2726542022

References to articles:

Su, B., Xiao, C.D., Zhao, H.Y., Huang, Y., Dou, T.F., Wang, X.J., & Chen, D.L. (2022). Estimated changes in different forms of precipitation (snow, sleet, and rain) across mainland China. Atmospheric Research.

7、Supporting project information

8、Data resource provider

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