A Big Earth Data Platform for Three Poles

**Dataset of climate background and changes in China-Mongolia-Russia Economic Corridor from 1981 to 2019 (Version 1.0)**

1、Description

The China-Mongolia-Russia Economic Corridor is confronted with security problems related with global warming, mostly including the increasingly serious of degradation of permafrost and land desertification. On one hand, frozen soil degradation has caused frequent disasters such as debris flow, flood, ice and snow damage along the China-Mongolia-Russia transportation and pipeline, which will cause water and soil erosion followed by exposed pipes in frozen soil, in particular in summer. On the other hand, desertification will drive the ecological environment more vulnerable with the compound hazards of soil erosion and sandstorms occurring frequently. Therefore, this dataset will hopefully provide basic climate data for the research on the climate change and its impacts on permafrost and desertification for the China-Mongolia-Russia Economic Corridor. The original data is extracted from ERA5- Land surface climate reanalysis data (ERA5 – Land) (source: https://cds.climate.copernicus.eu). We adopted the inverse distance weight (IDW) method to interpolate the original data with the spatial resolution of 10 km. Based on this dataset, the spatial and temporal distribution pattern of climatic factors are outlined over the past 40 years for the corridor.

2、Keywords

Theme：Precipitation,Temperature,Winds
Discipline：Atmosphere
Places：China-Mongolia-Russia
Time：1981-2019

3、Data details

1.Scale：10000

2.Projection：None

3.Filesize：5.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：58.9561812195 | - |
| west：94.9832729231 | - | east：138.577611923 |
| - | south：34.9504879378 | - |

5、Time frame:1980-12-31 16:00:00+00:00--2019-12-30 16:00:00+00:00

6、Reference method

References to data:

ZHANG Xueqin. Dataset of climate background and changes in China-Mongolia-Russia Economic Corridor from 1981 to 2019 (Version 1.0). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2711102020

References to articles:

张雪芹, 李想, 徐晓明. ( 2020). 中蒙俄经济走廊气候变化及其对跨境交通管线的影响.

Zhang, X.Q., Li, X., & Xu, X.M. (2020). Climate change in the China-Mongolia-Russia Economic Corridor and its impact on cross-border transportation and pipelines.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

name: ZHANG Xueqin
unit:
email: zhangxq@igsnrr.ac.cn