A Big Earth Data Platform for Three Poles

**Long-term surface soil freeze-thaw states dataset of the Three-River\_Source National Park using the dual-index algorithm (1979-2015)**

1、Description

This data set uses SMMR (1979-1987), SSM / I (1987-2009) and ssmis (2009-2015) daily brightness temperature data, which is generated by double index (TB V, SG) freeze-thaw discrimination algorithm. The classification results include four types: frozen surface, melted surface, desert and water body. The data covers the source area of three rivers, with a spatial resolution of 25.067525 km. It is stored in geotif format in the form of ease grid projection. Pixel values represent the state of freezing and thawing: 1 for freezing, 2 for thawing, 3 for deserts, 4 for water bodies. Because all TIF files in the dataset describe the scope of Sanjiangyuan National Park, the row and column number information of these files is unchanged, and the excerpt is as follows (where the unit of cellsize is m):
ncols 52
nrows 28
cellsize 25067.525
nodata\_value 0

2、Keywords

Theme：Microwave remote sensing,Surface Freeze-thaw Cycle/state Remote Sensing,Freeze thawing,Frozen Ground
Discipline：Cryosphere
Places：Tibetan Plateau, Three-River-Source National Park, Three Rivers Source
Time：2015, 1979

3、Data details

1.Scale：None

2.Projection：

3.Filesize：451.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：37.38 | - |
| west：89.15 | - | east：102.58 |
| - | south：30.79 | - |

5、Time frame:1979-01-22 00:00:00+00:00--2016-01-21 00:00:00+00:00

6、Reference method

References to data:

Long-term surface soil freeze-thaw states dataset of the Three-River\_Source National Park using the dual-index algorithm (1979-2015). A Big Earth Data Platform for Three Poles, doi:10.11888/Geocry.tpdc.2709282020

References to articles:

Jin,R, Zhang,T,Y, Li,X, Yang,X,G, Ran,Y,H.(2015). Mapping surface soil freeze-thaw cycles in china based on smmr and ssm/i brightness temperatures from 1978 to 2008. Arctic, Antarctic, and Alpine Research, 47(2), 213-229.

谢燕梅, 晋锐, 杨兴国. (2013). AMSR-E亮温监测中国近地表冻融循环算法研究. 遥感技术与应用, 28(2), 182-191.

7、Supporting project information

8、Data resource provider