A Big Earth Data Platform for Three Poles

**Circum-Arctic map of permafrost and ground ice conditions (v2) (1997)**

1、Description

The data set includes 1. permaice (map of frozen soil types), 2. subsea (subsea boundary vectorgraph), 3. treeline (timberline vectorgraph), 4. nhipa (grid map) and 5. llipa (grid map).  
Permaice includes the following attribute fields: Num\_code (frozen soil attribute code),  
Combo (frozen soil attribute), extent (frozen soil coverage) and content (ice content).  
The attribute comparison is as follows. (1) Frozen soil attribute comparison table:  
0 （No information）  
1 - chf （Continuous permafrost extent with high ground ice content and thick overburden）  
2 - dhf （Discontinuous permafrost extent with high ground ice content and thick overburden）  
3 - shf （Sporadic permafrost extent with high ground ice content and thick overburden）  
4 - ihf （Isolated patches of permafrost extent with high ground ice content and thick overburden）  
5 - cmf （Continuous permafrost extent with medium ground ice content and thick overburden）  
6 - dmf （Discontinuous permafrost extent with medium ground ice content and thick overburden）  
7 - smf （Sporadic permafrost extent with medium ground ice content and thick overburden）  
8 - imf （Isolated patches of permafrost extent with medium ground ice content and thick overburden）  
9 - clf （Continuous permafrost extent with low ground ice content and thick overburden）  
10 - dlf （Discontinuous permafrost extent with low ground ice content and thick overburden）  
11 - slf （Sporadic permafrost extent with low ground ice content and thick overburden）  
12 - ilf （Isolated patches of permafrost extent with low ground ice content and thick overburden）  
13 - chr （Continuous permafrost extent with high ground ice content and thin overburden and exposed bedrock）  
14 - dhr （Discontinuous permafrost extent with high ground ice content and thin overburden and exposed bedrock）  
15 - shr （Sporadic permafrost extent with high ground ice content and thin overburden and exposed bedrock）  
16 - ihr （Isolated patches of permafrost extent with high ground ice content and thin overburden and exposed bedrock）  
17 - clr （Continuous permafrost extent with low ground ice content and thin overburden and exposed bedrock）  
18 - dlr （Discontinuous permafrost extent with low ground ice content and thin overburden and exposed bedrock）  
19 - slr （Sporadic permafrost extent with low ground ice content and thin overburden and exposed bedrock）  
20 - ilr （Isolated patches of permafrost extent with low ground ice content and thin overburden and exposed bedrock）  
21 - g （Glaciers）  
22 - r （Relict permafrost）  
23 - l （Inland lakes）  
24 - o （Ocean/inland seas）  
25 - ld （Land）  
   
（2）The frozen soil coverage attribute comparison table  
c = continuous (90-100%)   
d = discontinuous (50-90%)   
s = sporadic (10-50%)   
i = isolated patches (0-10%)   
（3）The ice content comparison table   
h = high (>20% for "f" landform codes) (>10% for "r" landform codes)   
m = medium (10-20%)   
l = low (0-10%)   
------------------------------------------------------------  
Projection of the shapefiles is:  
PROJCS["Sphere\_ARC\_INFO\_Lambert\_Azimuthal\_Equal\_Area",  
GEOGCS["GCS\_Sphere\_ARC\_INFO",  
DATUM["Sphere\_ARC\_INFO", SPHEROID["Sphere\_ARC\_INFO",6370997.0,0.0]],  
PRIMEM["Greenwich",0.0],  
UNIT["Degree",0.0174532925199433]],  
PROJECTION["Lambert\_Azimuthal\_Equal\_Area"],  
PARAMETER["False\_Easting",0.0],  
PARAMETER["False\_Northing",0.0],  
PARAMETER["longitude\_of\_center",180.0],  
PARAMETER["latitude\_of\_center",90.0],  
UNIT["Meter",1.0]]  
Projection for the raster (\*.byte) files is:  
Projection: Lambert Azimuthal  
Units: meters  
Spheroid: defined  
Major Axis: 6371228.00000  
Minor Axis: 6371228.000  
Parameters:   
radius of the sphere of reference: 6371228.00000  
longitude of center of projection: 0  
latitude of center of projection: 90  
false easting (meters): 0.00000  
false northing (meters): 0.00000

2、Keywords

Theme：Ground ice,Frozen ground distribution,Frozen Ground  
Discipline：Cryosphere  
Places：Circum-Arctic  
Time：1997

3、Data details

1.Scale：10000000

2.Projection：3408

3.Filesize：23.5MB

4.Data format：shp

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：180.0 | - | east：-180.0 |
| - | south：25.0 | - |

5、Time frame:2019-05-11 19:08:33+00:00--2019-05-11 19:08:33+00:00

6、Reference method

References to data:

ZHANG Tingjun, E. Melnikov, O. Ferrians, J. A. Heginbottom. Circum-Arctic map of permafrost and ground ice conditions (v2) (1997). A Big Earth Data Platform for Three Poles, 2011

References to articles:

Zhang, T., J.A. Heginbottom, R.G. Barry, and J. Brown. 2000. Further Statistics on the Distribution of Permafrost and Ground Ice in the Northern Hemisphere. Polar Geog. 24(2): 126-131.  
  
Brown, J., O.J. Ferrians, Jr., J.A. Heginbottom, and E.S. Melnikov.. 2002. Circum-Arctic Map of Permafrost and Ground-Ice Conditions. Version 2. [indicate subset used]. Boulder, Colorado USA: National Snow and Ice Data Center.

7、Supporting project information

8、Data resource provider

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