A Big Earth Data Platform for Three Poles

**Bacteria distribution in the Arctic and Antarctic (version 1.0) (2005-2006)**

1、Description

The Antarctic and Arctic bacterial distribution data set provides distribution characteristics of bacteria in the Arctic and Antarctic. The collection period of the samples was from December 13,2005, to December 8,2006; 52 samples were obtained from 3 Arctic regions (Spitsbergen Slijeringa, Spitsbergen Vestpynten, and Alexandra Fjord\_Highlands), and 171 samples were obtained from 5 Antarctic regions (the Mitchell Peninsula, Casey station main Power house, Robinsons Ridge, Herring Island, and Browning Peninsula). The soil surface samples were stored in liquid nitrogen after collection, shipped to a Sydney laboratory, and extracted using the FastPrep DNA kit. The extracted DNA samples were processed by 27F (5'-GAGTTTGATCNTGGCTCA-3' and 519R (5'-GTNTTACNGCGGCKGCTG-3') to amplify the 16S rRNA gene fragments. The amplified fragments were sequenced by the 454 method, and the raw data were analyzed by Mothur software. First, the sequences with poor sequencing quality were removed, the sequences were then sorted, and the chimera sequences were removed. The similarities between the sequences were calculated, the sequences with similarities above 97% were clustered into one OTU, and the OTU representative sequence was defined. By comparison with the Silva database, the OTU sequences with reliabilities greater than 80% were identified as level one. This data system compared the diversity of microorganisms in the eastern Antarctic with that in the Arctic and is of great significance for the study of the distributions of microorganisms in the Antarctic and Arctic.

2、Keywords

Theme：Biological Resources,Bacterial distribution,Glacier(Ice Sheet)  
Discipline：Human-nature Relationship,Cryosphere  
Places：Antarctic and Arctic  
Time：

3、Data details

1.Scale：None

2.Projection：

3.Filesize：1.0MB

4.Data format：txt

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：28.21666667 | - |
| west：69.16666667 | - | east：162.0 |
| - | south：77.61666667 | - |

5、Time frame:2005-12-19 00:00:00+00:00--2006-12-14 00:00:00+00:00

6、Reference method

References to data:

Bacteria distribution in the Arctic and Antarctic (version 1.0) (2005-2006). A Big Earth Data Platform for Three Poles, doi:10.11888/GlaciolGeocryol.tpe.0000008.file2018

References to articles:

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider