A Big Earth Data Platform for Three Poles

**Global glacier meltwater hydrochemical data set**

1、Description

This data set includes the average concentrations of chemical species (Na+, K+, Mg2+, Ca2+ and TDS) in meltwater runoff draining 77 glaciers worldwide, annual glacial runoff from eight mountain ranges in Asia, and the mineral compositions of glacial deposits in some typical glacial catchments within Asia. This data set comes from the field monitoring of 19 glaciers in Asia by the data set provider, the previous published data worldwide, and the data shared by the authors of published papers. This data set can be used to evaluate the impact of climate warming on glacier erosion process and chemical weathering process, and the impact of glacier melt caused by climate warming on downstream ecosystems and element cycles.

2、Keywords

Theme：Element content,Glacier melt,Glacier(Ice Sheet),Glacier meltwater hydrochemistry  
Discipline：Cryosphere  
Places：Global glaciers  
Time：Since 1974

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：79.67 | - |
| west：148.5 | - | east：163.08 |
| - | south：77.72 | - |

5、Time frame:1973-12-31 16:00:00+00:00--2017-12-30 16:00:00+00:00

6、Reference method

References to data:

LI Xiangying. Global glacier meltwater hydrochemical data set. A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2717052021

References to articles:

Li, X., Wang, N., Ding, Y. et al. (2022). Globally elevated chemical weathering rates beneath glaciers. Nature Communications, 13, 407. https://doi.org/10.1038/s41467-022-28032-1.

7、Supporting project information

Open Foundation of State Key Laboratory of Frozen Soil Engineering  
National Natural Science Foundation of 737 China  
Second Tibetan Plateau Scientific Expedition Program  
National Natural Science Foundation of China (91647102)  
National Natural Science Foundation of 737 China

8、Data resource provider

name: LI Xiangying  
unit:   
email: shaanxilxy@163.com