A Big Earth Data Platform for Three Poles

**Gridded pollen-based Holocene regional plant cover in temperate and northern subtropical China**

1、Description

The Regional Estimates of Vegetation Abundance from Large Sites (REVEALS) model was developed by Sugita (2007) to correct for bias due to inter-taxonomic differences in pollen productivity and dispersion and estimate plant cover at a regional spatial scale based on pollen records. We provide the dataset of pollen-based REVEALS reconstruction for temperate and northern sub-tropical China over the Holocene. The REVEALS reconstruction was achieved using 94 selected pollen records from lakes and bogs at a 1˚x1˚ spatial scale and a temporal resolution of 500 years between 11.7 and 0.7 ka BP, and three recent time windows (0.7˗0.35 ka BP, 0.35˗0.1 ka BP, and 0.1 ka BP˗present).
The dataset of pollen-based REVEALS reconstruction of Holocene plant cover for the study region includes the REVEALS proportions of plant cover (and related SEs) for 75 1˚x 1˚grid cells and 25 time windows for each grid cell for 27 taxa, two alternatives of aggregation of plant taxa to PFTs: ten PFTs and six PFTs, and three land-cover types. The metadata files providing details on the sites used in the REVEALS reconstruction for each grid cell and each time window. For instance, the original site names, modern vegetation zones, geographical coordinates (latitude and longitude in decimal degrees), elevation in meters above sea level, site types (bog or lake), basin sizes (radius and area), number of 14C radiocarbon dates or other types of dates, approximate temporal extent of the site. The dataset is suitable for palaeoclimate modeling, can be applied also in evaluating simulations of past vegetation from dynamic vegetation models and anthropogenic land cover change (ALCC) scenarios.

2、Keywords

Theme：Others,Quantitative reconstruction of vegetation cover,REVEALS model,Pollen
Discipline：Palaeoenvironment
Places：China
Time：Holocene

3、Data details

1.Scale：None

2.Projection：

3.Filesize：5.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：50.0 | - |
| west：79.0 | - | east：135.0 |
| - | south：24.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

LI Furong . Gridded pollen-based Holocene regional plant cover in temperate and northern subtropical China. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2722922022

References to articles:

Li, F, and coauthors (2020). Towards quantification of Holocene anthropogenic land-cover change in temperate China: A review in the light of pollen-based REVEALS reconstructions of regional plant cover. Earth-Science Reviews, 103119, https://doi.org/10.1016/j.earscirev.2020.103119, 2020.

Li, F. et al., Gridded pollen-based Holocene regional plant cover in temperate and northern subtropical China suitable for climate modeling and evaluation of dynamic vegetation models and ALCC scenarios. (Under review)

7、Supporting project information

National Science Foundation of China (NSCF)：Pollen productivity estimates from desert-steppe-needle-leaved forest transition zone and Holocene land cover reconstruction in north Xinjiang

8、Data resource provider

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