A Big Earth Data Platform for Three Poles

**Transient climate simulation for Dansgaard-Oeschger cycles 5-7 (37.5-32kaBP) by COSMOS**

1、Description

The dataset is from the transient experiment TRN40ka in Zhang et al (2021, Nature Geoscience), spanning 40ka-32ka BP with changing orbital parameters. For detailed description of experimental design, please refer to the original paper.

Model details: COSMOS (ECHAM5-JSBACH-MPI-OM), a comprehensive fully coupled atmosphere–ocean general circulation model (AOGCM), is used to generate the dataset. The atmospheric model ECHAM5, complemented by the land surface component JSBACH, is used at T31 resolution (∼3.75°), with 19 vertical layers. The ocean model MPI-OM, including sea-ice dynamics that is formulated using viscous-plastic rheology, has a resolution of GR30 (3°×1.8°) in the horizontal, with 40 uneven vertical layers.

2、Keywords

Theme：Precipitation,Temperature,Sea surface temperature reconstruction,Air temperature reconstruction,Atmospheric circulation reconstruction,Near surface temperature,Gridded precipitation,Paleoclimate Reconstruction
Discipline：Atmosphere,Palaeoenvironment
Places：Global Scale
Time：Last glaciation, Millennial-scale climate variability

3、Data details

1.Scale：None

2.Projection：Transverse\_Mercator

3.Filesize：2000.0MB

4.Data format：None

4、Space scope

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

5、Time frame:None--None

6、Reference method

References to data:

ZHANG Xu. Transient climate simulation for Dansgaard-Oeschger cycles 5-7 (37.5-32kaBP) by COSMOS. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2716702021

References to articles:

Zhang, X., S. Barker, G. Knorr, G. Lohmann, R. Drysdale, Y.B. Sun, D. Hodell, & Chen, F. H. (2021), Direct astronomical influence on abrupt climate variability, Nature Geoscience, doi:10.1038/s41561-021-00846-6

7、Supporting project information

asic Science Center forTibetan Plateau Earth System
Astronomical control of millennial-scale climate variability

8、Data resource provider

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