A Big Earth Data Platform for Three Poles

**Carbonate content and C, O isotope data from the Zagros foreland basin**

1、Description

This dataset includes contents, stable carbon and oxygen isotopes of carbonates in the Qom section, Central Iran. Stable carbon and oxygen isotopes from carbonates are important climatic proxies in paleoenvironmental reconstruction. The sediment samples were grounded and sieved through a 100 mesh screen, and then directly analyzed using an isotope ratio mass spectrometer (MAT-252) with an automated carbonate preparation device (Kiel Ⅱ). C, O isotope ratios are converted to Vienna Pee Dee Belemnite (V-PDB) standards. Typical analytical errors for C, O isotope are within ±0.1‰ (±0.06‰ and ±0.08‰ for carbon isotope and oxygen isotope, respectively). The carbonate content was measured by neutralization titration with an accuracy of 0.5%. The ages of the data were obtained by linear interpolation based on magnetostratigraphy. Based on the carbonate concentrations and the stable carbon and oxygen isotopes of the Qom Basin the Miocene paleoenvironmental evolution history can be well reconstructed, being useful for discussing the environmental effects of the uplift of the Arabia-Eurasia collision and the global climatic changes. This study aims to analyze the history of climate change in central Iran since the mid-late Miocene, and finally reveals the intensification of aridity in central Iran since 13 Ma.

2、Keywords

Theme：Isotopes,Paleoclimate Reconstruction  
Discipline：Palaeoenvironment  
Places：Iranian plateau, Zagros foreland basin  
Time：Miocene

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.09MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：50.0 | - | east：51.0 |
| - | south：33.0 | - |

5、Time frame:2019-12-31 16:00:00+00:00--2021-12-31 16:00:00+00:00

6、Reference method

References to data:

SUN Jimin. Carbonate content and C, O isotope data from the Zagros foreland basin. A Big Earth Data Platform for Three Poles, doi:10.11888/SolidEar.tpdc.2723282022

References to articles:

Sun, J.M., Talebian, M., Jin, C.S., Liu, W.G., Zhang, Z.L., Cao, M.M., Windley, B., Sheykh, M., Shahbazi, R., & Tian, S.C. (2021). Timing and forcing mechanism of the final Neotethys seawater retreat from Central Iran in response to the Arabia-Asia collision in the late early Miocene. Global and Planetary Change, 197, 103395, https://doi.org/10.1016/j.gloplacha.2020.103395

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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