A Big Earth Data Platform for Three Poles

**Quantifying the rise of the Himalaya orogen and implications for the South Asian monsoon**

1、Description

This data set is from the paper: Ding, L., Spicer, R.A., Yang, J., Xu, Q., Cai, F.L., Li, S., Lai, q.z., Wang, H.Q., Spicer, t.e.v., Yue, Y.H., Shukla, A., Srivastava, g., Khan, M.A., BERA, S., and Mehrotra, R. 2017. Quantifying the rise of the Himalaya origin and implications for the South Asian monsoon. Geography, 45:215-218. This achievement is part of a series of research results of paleoaltitude carried out by Ding Lin' team. We reconstruct the rise of a segment of the southern flank of the Himalaya-Tibet orogen, to the south of the Lhasa terrane, using a paleoaltimeter based on paleoenthalpy encoded in fossil leaves from two new assemblages in southern Tibet (Liuqu and Qiabulin) and four previously known floras from the Himalaya foreland basin. U-Pb dating of zircons constrains the Liuqu flora to the latest Paleocene (ca. 56 Ma) and the Qiabulin flora to the earliest Miocene (21–19 Ma). The proto-Himalaya grew slowly against a high (~4 km) proto–Tibetan Plateau from ~1 km in the late Paleocene to ~2.3 km at the beginning of the Miocene, and achieved at least ~5.5 km by ca. 15 Ma. Contrasting precipitation patterns between the Himalaya-Tibet edifice and the Himalaya foreland basin for the past ~56 m.y. show progressive drying across southern Tibet, seemingly linked to the uplift of the Himalaya orogen.

2、Keywords

Theme：Tectonics,plate tectonics
Discipline：Solid earth
Places：the Himalaya mountains
Time：million

3、Data details

1.Scale：None

2.Projection：

3.Filesize：1.31MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：75.0 | - | east：95.0 |
| - | south：20.0 | - |

5、Time frame:2015-03-18 00:00:00+00:00--2017-02-15 11:59:59+00:00

6、Reference method

References to data:

DING Lin. Quantifying the rise of the Himalaya orogen and implications for the South Asian monsoon. A Big Earth Data Platform for Three Poles, doi:10.11888/Geo.tpdc.2703512020

References to articles:

Ding, L., Spicer, R.A., Yang, J., Xu, Q., Cai, F.L., Li, S., Lai, Q.Z., Wang, H.Q., Spicer, T.E.V., Yue, Y.H., Shukla, A., Srivastava, G., Khan, M.A., Bera, S., and Mehrotra, R. 2017. Quantifying the rise of the Himalaya orogen and implications for the South Asian monsoon. Geology, 45:215-218.

7、Supporting project information

喜马拉雅山构造结碰撞变形过程

8、Data resource provider

name: DING Lin
unit: Institute of Tibetan Plateau Research, CAS
email: dinglin@itpcas.ac.cn