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论文

# 西藏高原与喜马拉雅的隆升历史和研究方法:回顾与进展

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摘要:

西藏高原和喜马拉雅的隆升历史是新生代以来众多地质事件的边界条件。因此,它对于我们理解新生代全球气候变冷以及亚洲环境变化等许多地质过程都具有深远的意义。尽管各种替代指标已经被广泛应用于研究高原隆升历史,然而,不同方法所得出的高原隆升历史并不一致。这主要归咎于一些替代指标本身存在多解性和不确定性,从而严重阻碍了获取正确的高原隆升历史。在对这些替代指标进行详细的阐述之后,对其指示的高原隆升历史进行重新评估,并结合在高原腹地开展的工作,提出了原西藏高原的隆升模式,即拉萨地体和羌塘地体在始新世就已经达到现在的海拔高度,而此时青藏高原北部还是低地,南部和西部可能还处在海洋环境。在中新世时,高原向北、向东和向南生长并在第四纪时形成现在的高原特征。

关键词: 关键词:西藏高原;喜马拉雅;隆升历史;新生代

## The uplift history of the Tibetan Plateau and Himalaya and its study approaches and techniques: A review.

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Abstract:

The uplift history of Tibetan Plateau and Himalaya is the key boundary condition in many Cenozoic geological events. Thus it profoundly affects the interpretation of the geological processes ranging from global cooling to the changes of Asian environments during the Cenozoic. Although various proxies have been applied, many of debates on the timing of the surface uplift of Tibetan Plateau and Himalaya still exist. The main reason is some of the proxies are problematic in themselves. Therefore, it is necessary to review these proxies together and to reassess their significances for the uplift of Tibetan and Himalaya. On the basis of our studies in north central Tibet, as well as the existing possible estimates, we provide a new model for the growth of Tibetan Plateau: Lhasa and Qiangtang terranes gained their elevations during Eocene time, whereas its northern area was still low and southern area was under sea level at that time. The Proto Tibetan Plateau expanded throughout the Neogene toward its present southern and northern margins in the Himalaya and Qilian Mountains.

Keywords:

Key words: Tibet Plateau; Himalaya; uplift history; Cenozoic

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