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栖霞组和茅口组等厚图:对峨眉山幔柱成因模式的指示意义

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摘要:

对峨眉山大火成岩省(ELIP)及周边地区的栖霞组和茅口组地层进行厚度统计,并利用Surfer软件分别绘制等厚图. 栖霞组和茅口组等厚图表明,峨眉山幔柱导致的隆升可能在栖霞期已开始. 茅口组顶部普遍存在平行不整合界面,说明广大区域内的茅口组地层均曾抬升为陆并遭受剥蚀,与Campbell和Griffiths提出的经典地幔柱模型相吻合. 永仁-大姚-楚雄-石屏以及宜良-曲靖一带存在二叠系地层缺失区域,可能是地壳隆升幅度最大地区. 利用实验模型推导出ELIP的最大隆升幅度为1500m,与前人利用沉积学推算的结果基本一致. 茅口组差异剥蚀指示的地幔柱中心地区与放射状基性岩墙群收敛中心吻合. 隆起幅度最大的中心区域存在海相玄武岩喷发现象则可能是隆升之后快速沉降造成的,并不能作为否定曾经发生隆起的证据.

英文摘要:

The thicknesses of Qixia and Maokou formations in the Emeishan Large Igneous Province (ELIP) and peripheral areas were collected and isopach maps were made by Surfer respectively. The isopach maps indicate that uplift caused by Emeishan mantle plume has started in Qixianian. Disconformities were distributed broadly on the top of Maokou Formation, which demonstrate that Maokou Formation has been uplifted over the sea level and denudated differentially. This has been predicated in Campbell and Griffiths' s classic mantle plume model. There is a blank area of Permian stratum in Yongren-Dayao-Chuxiong-Shiping and Yiliang-Qujing, which probably was the maximum uplift area. The maximum uplift of ELIP was 1500m induced through laboratory model, which was basically in agreement with the result of sedimentary records. The center of mantle plume implied by differential erosion was consistent with the focus of radiating basic dyke swarms. Hydromagmatic deposits and submarine basaltic extrusions were the result of the rapid subsidence followed the uplift and weren' t an important evidence to deny the mantle plume dynamic model of ELIP.

关键词: [栖霞组](#) [茅口组](#) [等厚图](#) [峨眉山大火成岩省](#) [地幔柱](#)

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