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峨眉山地幔柱上升的沉积响应及其地质意义 [点此下载全文](#)

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摘要:

研究表明西南地区峨眉山玄武岩下伏茅口组的部分缺失是峨眉山地幔柱的快速上升及其所形成的地壳穹状隆起造成的。对该地区中、晚二叠世沉积记录的研究也支持上述结论。通过野外实地地质考察和室内综合研究发现, 西南地区峨眉山玄武岩之下零星发育一套碎屑岩系, 其主要分布在穹状隆起的边缘。在隆起西缘盐源平川一带, 为一岩性以砾岩、砂岩为主的低位水下扇; 在隆起的东北缘普格、巧家、武定一带, 峨眉山玄武岩之下发育一层砾石, 主要为茅口组灰岩的灰岩质砾岩; 昆明西山地区的灰岩质砾岩中灰岩砾石的磨圆较好, 可能代表古河谷沉积。在茅口组顶部古剥蚀面上还零星可见一层厚几米至十几米残积相碎屑岩或底砾岩。上述碎屑岩系的厘定及其空间分布和沉积环境的研究表明, 上扬子西缘峨眉山玄武岩喷发前地壳发生快速穹状抬升, 碎屑岩是峨眉山地幔柱上升造成的沉积响应; 地幔柱的上升还造成上扬子中、晚二叠世区域岩相古地理的突变和隆起区古喀斯特的形成。这些为峨眉山大火成岩省地幔柱形成机制提供了进一步佐证, 同时深化了对晚古生代上扬子西缘构造的认识。

关键词: [峨眉山玄武岩](#) [沉积响应](#) [地壳抬升和穹状隆起](#) [地幔柱](#)

Sedimentary Responses to Uplift of Emeishan Mantle Plume and Its Implications [Download Fulltext](#)

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Abstract:

Regional biostratigraphic investigation of the Maokou Formation leads to the proposal that a rapid crustal uplift and doming prior to the eruption of the Emeishan basalts. This conclusion is also supported by spatial distribution and sedimentologic features of clastic rocks beneath the Emeishan flood basalts. Clastic rocks are distributed in the flanks of the domal structure. A lowstand submarine fan is found in the northwestern flank, at Pinchuan, Yanyuan county, which is mainly consisted of sandstone and conglomerate. A 60-120 m layer of conglomerate cemented by lava is discovered in the northeastern flank of dome, which is alluvial gravel fans formed as a result of rapid differential uplift. Gravels of the conglomerate at Xishan, Kunming are round in shape suggesting that they may be derived from sediments of paleocanyon. It is argued that clastic sediments are responses to uplift of mantle plume, which also caused emergent trend in facies and karst relief on erosion surface. These data not only confirm the plume initiation model for generation of the Emeishan flood basalts, but also deepen understanding of tectonic in western margin of Yangtze craton in late Permian.

Keywords: [Emeishan basalt](#) [sedimentary record](#) [uplift and doming](#) [mantle plume](#)

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