

## Limited Mantle Plume Motion for the Louisville Hotspot

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Deep Earth convection can be understood by studying hotspot volcanoes that form where mantle plumes rise up and intersect the lithosphere, the Earth's rigid outer layer. For many years it has been widely assumed that these narrow diapirs generate stationary hotspots within an overall convective mantle regime, but it is apparent now that the Hawaiian mantle plume moved approximately 15 degrees south between about 80 and 50 million years ago. In this presentation we show that the Louisville hotspot in the South Pacific behaved in a different way over the same time period, experiencing only a limited latitudinal motion, using drill cores of Integrated Ocean Drilling Program Expedition 330. Our findings demonstrate that the motions of the Louisville and Hawaiian hotspots are incompatible and that mantle plumes are moving independently.

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