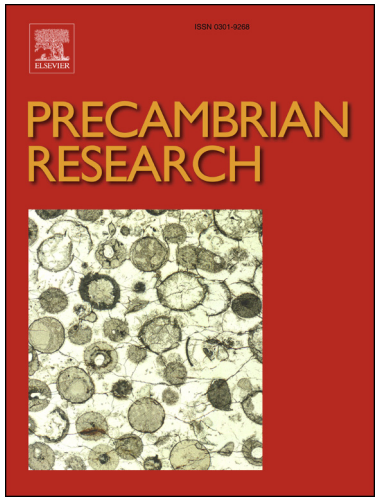

Rare earth elements of carbonate rocks from the Bambuí Group, southern São Francisco Basin, Brazil, and their significance as paleoenvironmental proxies

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Rare earth elements of carbonate rocks from the Bambuí Group, southern São Francisco Basin, Brazil, and their significance as paleoenvironmental proxies

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Abstract

Rare Earth Elements plus Y (REY) data obtained for carbonate rocks of the Bambuí Group in the southern portion of the São Francisco basin match the C and Sr isotope variations that subdivide the unit in three Chemostratigraphic Intervals (CI-1 to CI-3). The lower CI-1 samples exhibit flat REY shale normalised distributions that record a high freshwater input in the basin after a glacial period. The subsequent marine transgression diminished the continental influence and initiated the development of La, Gd, and Y positive anomalies in the CI-2 samples. Interestingly, a "seawater" like REY pattern is present in the CI-3 samples, which correspond to the closure of the São Francisco Basin. Rather than open marine conditions, the CI-3 records a decrease in the silicate chemical weathering of sources located on the marginal belts of the São Francisco craton due to higher denudation rates and a change in the dissolved influx