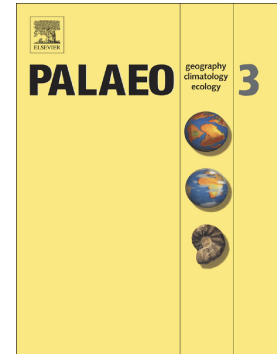


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Regional depositional changes and their controls on carbon and sulfur cycling across the Ordovician-Silurian boundary, northwestern Guizhou, South China  
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## Abstract

The controls of regional depositional environment on stable isotope records spanning the Ordovician-Silurian boundary on the Yangtze Platform have seldom been investigated. The objectives of this study include reconstruction of regional depositional settings and assessment of how sedimentary processes may have influenced carbon- and sulfur-isotopic fractionation. Seven shale facies have been recognized in the Wufeng-Longmaxi interval from two locations. Completely bioturbated claystone of the basal Wufeng Formation accumulated on a shallow oxygenated muddy shelf. Overlying faintly banded black siliceous shale suggests deposition under deep anoxic conditions interrupted by episodes of dysoxia. Muddy fossiliferous facies of the Guanyinqiao Formation reflects a glacial sea-level lowstand setting, and the observed proximal to distal heterogeneity of facies matrix supports shallowing in the proximal area. Overlying faintly banded black shale of the Longmaxi Formation tells of a post-glacial

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