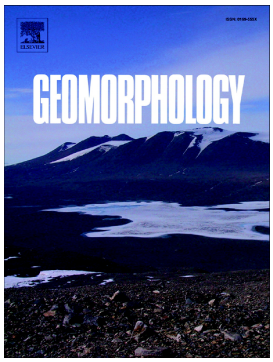

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Are seasonal variations in river-floodplain sediment exchange in the lower Amazon River basin resolvable through meteoric cosmogenic ^{10}Be to stable ^{9}Be ratios?

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The lower Amazon basin contains vast floodplains that exchange sediment with the main river. The exchange of sediment between the floodplain and the channel follows a seasonal cycle that is anticorrelated with the hydrological cycle. At low water stages, sediment that has been stored in the floodplain for potentially several thousands of years is eroded and transferred from the floodplain to the mainstem. During high water stages, most sediment transported in the main channel stems directly from the eroding source with little intermittent storage. We apply the meteoric cosmogenic ^{10}Be to stable ^{9}Be ratio (^{10}Be/^{9}Be) as a denudation and weathering proxy to investigate this seasonality in sediment transport. Single meteoric ^{10}Be concentrations ([^{10}Be]) have previously been shown to record floodplain storage; whereas fractions of mobilized ^{9}Be, a trace metal released during weathering, provide degrees of weathering. The resulting ^{10}Be/^{9}Be ratio provides denudation rates of the sediment sources. We compare ^{10}Be/^{9}Be measured on