

# THE FATE OF LA PLATA RIVER SEDIMENTS OFF SOUTHEASTERN SOUTH AMERICA DURING THE LATE QUATERNARY

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**RESUMO:** The La Plata River drainage basin (PRDB) is the second largest drainage basin in South America delivering annually ca. 130 million t of suspended sediments into the western South Atlantic. Although the present day distribution of PRDB sediments at the South American continental margin is relatively well understood, there is a lack of information about the main depocenters for PRDB sediments during past sea level lowstands (e.g., Last Glacial Maximum; LGM) and subsequent abrupt pulses during deglacial sea level rise (e.g., meltwater pulse 1A). There are at least two possibilities regarding the position of the main depocenter for PRDB sediments during the LGM: (i) the continental slope immediately in front of the La Plata River mouth at ca. 37°S, characterized by the shortest distance between the present-day river mouth and shelf break, with PRDB sediments feeding a number of canyons at the continental slope; and (ii) the Rio Grande Cone, a major depositional feature of the continental slope at ca. 33°S, characterized by a much longer sedimentary pathway from the present-day river mouth to the shelf break if compared to (i), involving an abrupt inflection of the paleovalley of the La Plata River towards the northeast at the exit of the modern estuary. In our presentation we will show geochemical, geophysical and bathymetrical data from the continental shelf and slope off southeastern South America in order to tackle this issue. Based on: (i) neodymium isotopic composition of a set of radiocarbon-dated marine sediment cores collected between 39.3 and 32.5°S; (ii) detailed sediment echo sound data from the Uruguayan continental shelf obtained during RV Meteor cruise M78/3a in 2009; and (iii) atlas bathymetrical data from the Uruguayan and southern Brazilian continental shelves, we will show how the second hypothesis is favored in detriment of the first one.

**PALAVRAS CHAVE:** SEDIMENTAÇÃO, ATLÂNTICO SUL, QUATERNÁRIO TARDIO