

Mississippi discharge variability - reflection of ice sheet dynamic and relation to Loop Current extension

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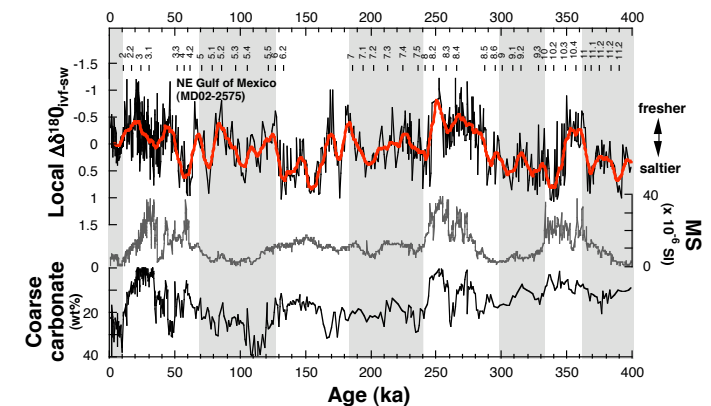
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The **Mississippi** and its supply of freshwater have a dominating effect on the Gulf of Mexico surface hydrography, leaving a temperature as well as a salinity anomaly. Today, this discharge ranks seventh in the world, being exceeded only by those of the Amazon, Congo (or Zaire), Orinoco, Yangtze, the combined Ganges-Brahmaputra, and Yenisey Rivers.

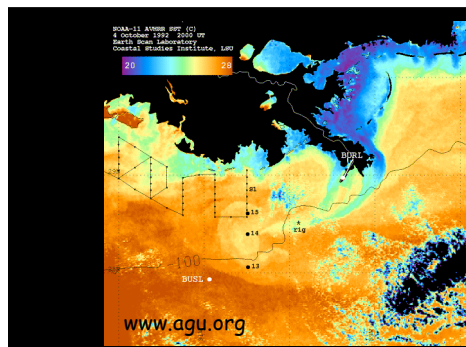
The **paleo discharge** on centennial and millennial to orbital time-scales is not well known, although our preliminary studies reveal that during extreme glacial periods the Mississippi discharge by far exceeded the Holocene values, with a potential impact on the Gulf hydrography and the large-scale circulation pattern.



Geochemical and sediment-physical parameters reflect varying Mississippi-discharge over the last ~400.000 years.

Topics

- Temporal and spatial patterns of freshwater input
- Effect of freshwater pulse on surface hydrography
- Tracing freshwater pulses within the Gulf and into the N-Atlantic
- Effect of freshwater injection on large-scale circulation



Mississippi River

Origin: Lake Itasca
Mouth: Gulf of Mexico
Length: 6,270 km
Avg. discharge
at Baton Rouge:
12,740 m³/s

