River nutrient control of Quaternay Productivity in Bay of Bengal

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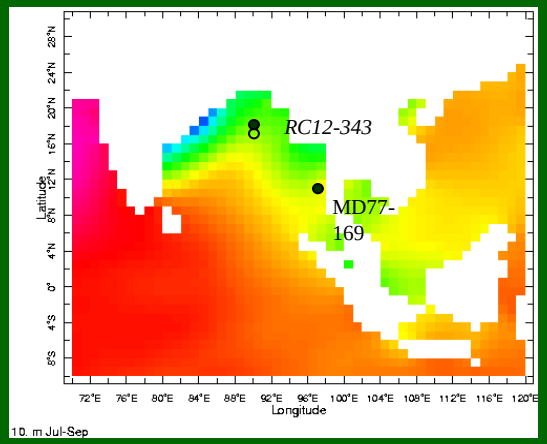
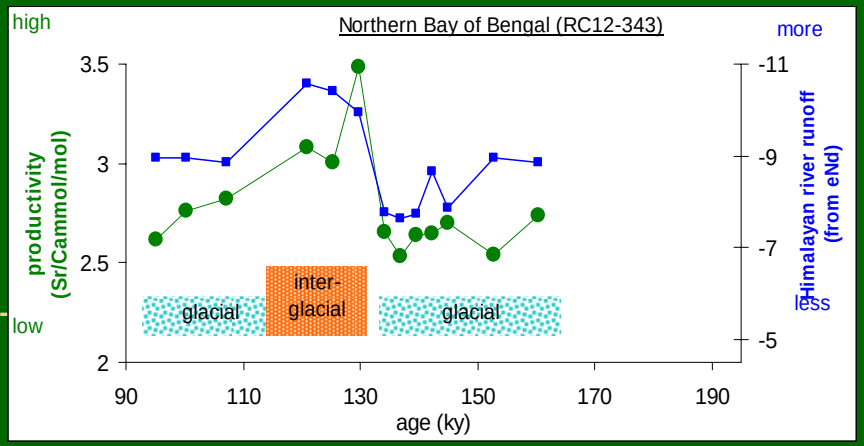
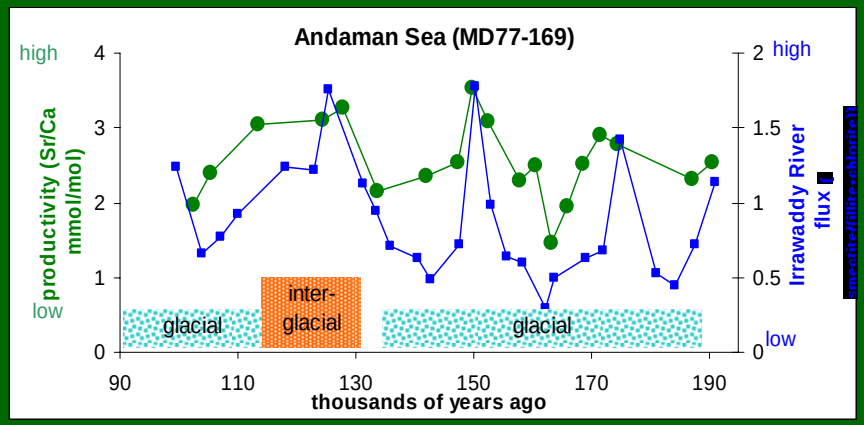
Record of past productivity variations in response to climate changes: Since marine algae consume CO2, changes in their productivity can stabilize or perturb climate. Variations in the earth's orbit triggered changes in intensity and location of tropical summer monsoon rainfall. We sought to evaluate whether wetter climate cycles released more nutrients to fuel higher production by algae in the Bay of Bengal .



←We analyzed sediments 200,000 to 90,000 years old from Northern Bay of Bengal (RC12-343) and more southerly Andaman Sea (MD77-169).





In both regions productivity cycles are closely tied to the cycles in river flux.

In the northern Bay, Himalayan River flux is higher during the interglacial and fuels steep productivity increase.

To the south in Andaman Sea, river flux is highest when orbital configuration amplified the monsoon every 23,000 years. Productivity peaks during high river flux.

eNd record from Stoll et al., 2007; clay mineral record from Colin et al 1999)

These data suggest climate's influence on river nutrient supply does regulate productivity.