

Interactive comment on “Lena River Delta formation during the Holocene” by D. Bolshiyarov et al.

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Received and published: 9 June 2014

Dear Ekaterina Taldenkova, we will try to answer your questions about our article “Lena River Delta formation during the Holocene” Our data about sea-level highstands are not contradicts to the data from shelf sediments cores. Marine microfossils from sediment cores which investigated by you and your colleagues can fix a time and a place when sea came during transgression only. Microfossils in sediments can not show a depth of the sea with accuracy not more than tens meters. Salinity of waters and other parameters of basin which can be determined with microfossils investigations may depend on some factors, such as river water fluctuations or sea level changes. That is why investigations of marine terraces on shoreline with sediments studying on the shelf are necessary instruments for sea level fluctuations determination. Causes of sea

C2298

level rises are not an object of the article. We know that tectonic movements are very important in sea level fluctuations . Because of tectonic movements eastern part of the Delta is lowering relatively western part of the Delta during last 60 years as minimum. We fixed this process when studied modern sea level fluctuations in Russian Arctic (Ashik et al. 2010) with analysis of 60 years instrumental measurements of sea level on Russian Arctic hydrometeorological stations. This is a reason because Bykovskaya channel is lowering and becoming an estuary. This data show that even in modern time sea level is changing appreciably. We also suggest that there are eustatic reasons (not glacioeustatic) for sea level changes. But in our article we fixed these changes only. Thank you for your questions and comments.

Interactive comment on Biogeosciences Discuss., 11, 4085, 2014.

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