

WATER TRANSPORT THROUGH THE BOSPORUS STRAIT AT THE LATE GLACIAL-HOLOCENE TRANSITION

Goran GEORGIEVSKI and Emil V. STANEV

University of Oldenburg Postfach 2503, D-26111 Oldenburg, GERMANY

Variations of the Black Sea water export to the Mediterranean Sea since the Last Glacial Maximum based on simple hydrological balance method are studied. We consider two alternative scenarios:

- i) with rerouting the rivers of the West Siberian Plain to the Aral Sea and further to the Caspian and Black Seas, and
- ii) without contribution of rerouted rivers.

Performing several sensitivity experiments with present day conditions, we show that contribution from the rerouted rivers is more important for the Black Sea water balance than the runoff from melted ice sheets (1.7 times versus 1.1 times). Performing similar experiments with increased river discharges as suggested by various paleo reconstructions reveals that changes in the Black Sea water balance are even larger. If the rerouting and ice melting operate in concert the transport

through the Black Sea straits would increase about 2.5 times (0.03sv). Furthermore, we estimate that hydrological conditions in the Black Sea catchment area should change significantly (perhaps unrealistically) in order to result in a drop of sea level of ~100 m below the present day sea level as suggested by some authors. This gives a further argument that abrupt flooding of the Black Sea is not very plausible.

Ice sheet retreat

