

Land-sea interactions: the Yukon River and Bering Sea

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The Interaction between the Yukon River, Alaska and the Bering Sea is discussed. Discharge and suspended sediment load of the Yukon River were monitored in the downstream region in 2006 and 2007. The runoff analysis for the hydrograph revealed the ca. 17% contribution of glacier-melt discharge to the Yukon discharge. This means a significant decrease of the Yukon discharge by the glacial retreat due to global warming. The sediment plume formed off the Yukon delta was three-dimensionally simulated, using the data of discharge and turbidity of the Yukon River. As a result, It was found out that the sediment plume is dispersed by weak littoral currents of the 0.1m/s order, and that suspended sediment in the plume could deposit under flocculation.