

## Sediment dispersal in Bering Sea by sediment load of the Yukon River, Alaska

# Kazuhisa Chikita[1]; Isao Kudo[2]; Tomoyuki Wada[3]; Sei-Ichi Saitoh[4]; Yongwon Kim[5]

[1] Hydrol. Lab., Fac. Sci., Hokkaido Univ.; [2] Fisheries Sciences, Hokkaido Univ.; [3] Natural History Sci., Hokkaido Univ.; [4] Fisheries, Hokkaido Univ.; [5] Int'l Arctic Research Center, Univ. of Alaska Fairbanks

<http://www.sci.hokudai.ac.jp/grp/rikusui2/rikusui2/>

The discharge and sediment discharge time series for the Yukon River, Alaska, were obtained in the summers of 2006 to 2008. The coupling of the tank model and sediment rating curve was performed to simulate the time series. As a result, the simulations gave the good fit to the observed time series with high correlations of  $R=0.88-0.94$  for discharge and  $R=0.73-0.93$  for sediment load. The behaviors of the Yukon river sediment plume were examined by oceanic observations off the Yukon Delta. As an observational result, the plume was dispersed only in the sea surface layer at the Yukon sediment load of less than 2000 kg/s, but was bifurcated into the surface plume and turbid bottom currents at more than 4000 kg/s. Three-dimensional simulations of the plume are being carried out to investigate the dynamic behaviors for more detail.