Geochemical environment of continental shelf and slope of Hupo and Ulleung Basin, East/Japan Sea

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Porewater nutrients and total organic carbon (TOC) were measured in core sediments in order to understand geochemical environment of continental shelf and slope of Hupo and Ulleung basin in East/Japan Sea. Nutrients profiles in pore water show that denitrification were active predominately in the upper 2~4cm sediment layer in continental shelf and continental slope whereas up to 8cm in Ulleung basin. These differences suggested that the sedimentary organic matter is more actively decomposed at the basin than at continental shelf and continental slope.

Concentrations of TOC in the core sediments were higher in the continental shelf stations than the continental slope stations and also represented over 2% in the surface sediment at basin station due to regional high organic carbon flux.

The C/N ratios of organic matter in the study area indicated that the source of organic matter was a mixture of terrestrial and biogenic origin at continental shelf and continental slope stations and derived from marine sources at basin station.