

Variability of downward particle flux in waters of the Mackenzie Shelf slope and the Amundsen Gulf in 2003-2004

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Regional and temporal variability of downward particle flux using time-series sediment traps were observed in waters of the Mackenzie Shelf slope and the Amundsen Gulf in 2003-2004 (CASES) Objectives of the present study are; 1.To know the contribution of both autochthonous and allochthonous organic particles and the decadal change through a comparison between 1987-1988 and 2003-2004. 2. To know how to vary biogenic fluxes regionally and seasonally and what are the major flux-mediating processes at CA4, CA7, CA18 and CA20. 3. To find indicator organisms of food web change through a comparison of collected swimmer compositions between 1987-1988 and 2003-2004. Results obtained were; 1. Contribution of annual terrigenous POC flux ranged from 4 to 49% of total POC flux through a year of 2003-2004, which was approximately the same as that in 1987-1988 (details will be given by Ota et al.). 2. The biogenic flux varied regionally and seasonally, and the fluxes could be mediated by the food web structure associated with sea ice concentration. 3. Large microphagous animals, such as pteropods, may be indicative of food web change in response to the decrease of sea ice concentration (global warming?).