



## **A comparison of anthropogenic carbon during the LOMROG 07 and IAOE 91 cruises in the Arctic Ocean**

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During summer 2007, the Swedish icebreaker Oden travelled to the Arctic and amongst other investigations repeated a CTD- transect occupied 16 years earlier during the IAOE cruise. Data measured on both cruises were e.g. nutrients, oxygen, alkalinity, total dissolved inorganic carbon (DIC), and chlorofluorocarbons (CFC11, CFC12 and CCl4). Preliminary results of the comparison show a shallowing of the saturation levels of calcite and aragonite with increasing concentrations of DIC, found almost throughout the entire water column. An estimation of the anthropogenic carbon increase is made by using three different methods, multi linear regression (MLR), the  $\Delta C^*$  methods and the TrOCA method. The  $\Delta C^*$  method and the TrOCA approach shows reasonable agreements while the MLR method gives unrealistic results. The increase in anthropogenic carbon through the water column is well matched with the CFC 11 increase.