

Contaminants in Polar Regions -Dynamic range of contaminants in polar marine ecosystems

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Project summary

This project is a part of the multinational IPY initiative "Fate, uptake and effects of contaminants in the Arctic and Antarctic ecosystem" (short name COPOL). The overall aim of this initiative is to improve the knowledge of the dynamic range of man-made contaminants in marine ecosystems of Polar Regions. This will be done in order to better predict how possible future climatic change imposed alterations of the marine food webs will be reflected in levels and effects at higher trophic levels. These issues will be approached through scientific 4 work packages (WPs) covering: 1) Uptake and dynamics of POPs and Hg in benthic and pelagic food chains; contaminant food web exposure and flux, 2) Dynamics and effects of POPs and Hg at upper trophic levels, 3) Chemical analyses and screening, and 4) Synthesis and integration. The project investigates a comprehensive range of legacy and new contaminants using Kongsfjorden, Svalbard as the main field site and a field based "microcosm" for climatic change. Sampling carried out over several seasons in 2007, and one season in 2008 and 2009 will capture both seasonal and inter-annual variability of key contaminant processes within the pelagic and benthic ecosystems. As a main contributor to the international COPOL programme, this project will achieve a new understanding of polar bioaccumulation issues in a climate change perspective.