

Snow deposition and distribution of persistent organic pollutants (POPs) on Bear Island

R. Kallenborn, G.N. Christensen, D. Gregor & A. Evenset (2004)

In the recent assessment report of the Arctic Monitoring and assessment programme (AMAP), Bjornoya (Bear island) has been identified as a "hot spot" area for deposition of long-range transported persistent organic pollutants (POP) in the Arctic. As an integrated part of a comprehensive study on fate and distribution of POPs in the Bjornoya ecosystem, the deposition (snow, fog) and atmospheric POP burden at Bjornoya has been monitored. Selected polychlorinated biphenyls (33 congeners) and organochlorine pesticides (HCHs, HCB) were analysed in the samples. Relative high levels in fog and precipitation samples indicate a significant contribution of atmospheric long-range transport to the overall contaminant burden in the Bjornoya ecosystem. Pattern changes between fresh fallen snow and aged surface snow indicated evaporation loss and/or possible degradation during the aging process of the surface snow.

A comprehensive elucidation on transport and distribution of selected POPs in the Bjornoya environment will be presented.