

Summer hydrology and zooplankton in two Svalbard fiords

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Abstract: Two West Spitsbergen fiords, Hornsund (77°N) and Kongsfjorden (79°N) were compared with respect to their hydrology and zooplankton occurrence on the base of two summer surveys made in 1987 and 1988. Both fiords were found to be influenced by four types of masses: Atlantic Waters, Intermediate Atlantic Waters, Local Waters and Brackish Surface Waters. The amount of fresh water in both fiords reached up to 10 % of water volume of the uppermost water layers. Hornsund in August 1987 was richer in mesozooplankton biomass than Kongsfjorden in 1988. Estimated energetic value of pelagic prey of marine birds was 180-500 KJ / m³ in Hornsund and 130-200 in Kongsfjorden. Two major plankton communities were found in both fiords: *Pseudocalanus* community in the inner fiord basins and *Calanus* dominated community in the outer areas of the fiords. Plankton occurrence in fiords was not linked directly with the temperature – salinity patterns but rather with dynamic phenomena like upwellings and wind drift of surface waters.