



Dissolved Organic Matter (DOM) in sea ice: Antarctic, Arctic and the Baltic

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Measurements of DOM within sea ice are fundamental if we are to understand the seasonal dynamics of microbial activity and biogeochemical processes within the sea ice environment. In this presentation we plan to explore what is known about DOM in sea ice from widely different regions. DOC and DON concentrations within sea ice of varying age and ice types as well as from different seasons in Southern Ocean will be compared with the comparatively fewer measurements made in Arctic sea ice. These contrast markedly from sea ice studies conducted in the lower salinity environments of the White and Baltic Seas. In the latter, the ice also greatly influences the under-ice plumes of freshwater that are typically DOM rich, which in turn influence the microbial activity at the ice-water interface. These will be discussed and compared, in order to establish common concepts regarding DOM when frozen in seawater, and to highlight key variations from these general trends that are ultimately related to the salinity and DOM loading of the source waters.