In June 2010 four krill species were collected in Godthåbsfjord, SW Greenland, namely Thysanoessa raschii, T. inermis, T. longicaudata and Meganyctiphanes norvegica. A transect from offshore Fyllas Bank to the inner Godthåbsfjord revealed a zonation of the species in relation to hydrography. Offshore, in the Atlantic-influenced water, the Atlantic T. longicaudata dominated. All individuals of T. longicaudata found offshore were carrying spermatophores. Within the fjord T. raschii and T. inermis were present in high numbers but the former dominated. The boreal M. norvegica were only present in the inner part of the fjord. Presence of only 1-year-old individuals and no fertilized females suggests the population is sustained by advection of M. norvegica from offshore waters. Krill community abundance and biomass were lowest offshore and peaked in the innermost part of Godthåbsfjord. Thysanoessa inermis matured after 2 years, while T. raschii matured after 1 and 2 years, respectively, depending on temperature. The present study suggests that a warmer future will favour Atlantic species and result in a more diverse self-sustainable krill community in the Godthåbsfjord.