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Water Masses Variability in Inner Kongsfjorden (Svalbard) during 2010-2020

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Since the mid-1980s, Arctic air temperature has been warming with a pace almost twice as fast as the global mean. Also the Arctic ocean has accumulated heat and it is experiencing an “Atlantification” process, i.e. the advance of the typical Atlantic regime toward higher latitudes. Understanding the future evolution of the Arctic thus requires knowledge about the interactions between Atlantic and Arctic water masses at high-latitudes. Kongsfjorden is an Arctic research hotspot located in the north-western part of the Svalbard archipelago. Its hydrography is influenced by the warm and saline Atlantic Waters in the West Spitsbergen Current and the cold and fresh Polar Waters circulating on the shelf. Summer CTD surveys and observations from the *Mooring Dirigibile Italia* obtained by CNR in the 2010-2020 decade are used to assess the Atlantification of Kongsfjorden. In particular, water masses variability, long-term temperature and salinity evolutions and the link with large-scale dynamics are inspected to unravel the modifications currently characterising this remote environment.