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Interannual variations of the water masses in the Fram Strait

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Interannual variations in the amount of the different water masses passing through the Fram Strait have been studied for the period 1984 to 2005 in an east-west section at about 79°N. The Fram Strait is the only deep connection between the Arctic Ocean and the adjacent seas, with a sill depth of approximate 2600 m. The exchange of mass, heat, and salt are therefore of particular interest in this region. The most important water masses in this strait are Atlantic Water, Arctic Water, Polar Water, Recirculated Atlantic Water, and deep waters from the Norwegian Sea, the Greenland Sea, the Canadian Basin, and the Eurasian Basin. The Optimum Multiparameter Analysis has been used to estimate the amount of each water mass for the different years. This method requires measurements of nutrients and oxygen in addition to temperature and salinity.