



Fresh water in the northern East Greenland Current from 1982 through 2005.

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The distribution and variability of the Pacific fresh water and total fresh water in the East Greenland shelf and slope in the region west of the Polar Front from Fram Strait to 72°N are described. These waters make up a considerable part of the Polar Water leaving the Arctic Ocean through Fram Strait. Data were obtained for most years between 1982 and 2005. We determine the total fresh water and Pacific fresh water fractions using the phosphate and nitrate concentrations together with salinity. During 1993 and 2002, alkalinity values were also determined allowing estimates of river water and sea ice melt water fractions as well. Pacific fresh water and river water accounted for almost all of the fresh water in this region in 2002, when data were taken early in spring, while a considerable amount of sea ice melt water was present in 1993, when measurements were done later in the season. In 2004 and 2005 there were almost no traces of Pacific fresh water in the East Greenland Current.