The unsusually rapid summertime Arctic sea-ice flush-out of 2005

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Drifting buoys deployed near the North Pole from 2000 to 2005 revealed that sea-ice export from the Arctic Ocean through the Fram Strait was dominant in 2005. The relationship between ice drift and sea level pressure (SLP) indicated that the average SLP from May to October was favorable for causing sea ice to continuously drift offshore from Siberia. This resulted in a record minimum of the ice extent in 2005, partly due to the strongest SLP gradient across the Transpolar Drift since the late 1970s. The lowest salinity was also recorded summer 2005 from the upper ocean observations of the buoys. The large export of freshwater with sea ice presumably enhanced the development of the mixed layer and suppressed sea-ice growth during the subsequent winter, causing the lack of winter recover of sea ice.