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Understanding the behavior of the Pacific-origin waters from the ocean mooring data observed on the Chukchi Plateau

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In summer 2015, two ocean mooring systems were recovered in the Chukchi Plateau (CP), which had been deployed over the northern CP in 2013 (nCP13) and the southern CP in 2014 (sCP14), respectively. Yearlong temperature and water velocity data show spatial and temporal variations of the Pacific summer water (PSW) over the CP. During the autumn 2014, especially, the period that PSW was weakened in nCP13 coincides with the period that PSW appeared in sCP14. Northeasterly winds and sea ice covering appear to play an important role in initiating substantial heat release/storage within the PSW layer from October and mid-winter of 2014. This study will focus on understanding how winds and sea ice have an influence on the distribution of PSW over the CP through the intensive analysis of the mooring data.