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Temporal and spatial variability in Atlantic Water in the Arctic from observations

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Observational data from across the Arctic are used to investigate temporal and spatial variability in Atlantic Water throughout the Arctic basin from the 1980s to the present day, with a focus on Atlantic Water heat and its potential influence on the upper water column. MIMOC climatological data are also used in the analysis. The inferred mechanisms behind Atlantic Water spread in the Arctic – both vertically and laterally into sub-basin interiors – are discussed, along with the local and remote influences on the Atlantic Water layer in different Arctic regions. The usefulness of the Atlantic Water core in tracking changes in the Atlantic Water layer is also assessed.