

Atlantic Meridional Overturning Circulation: Wind-driven variability of the Nordic Seas Overflow

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The Atlantic Meridional Overturning Circulation (AMOC) is driven in part by the overflow of the Nordic Seas dense water through Denmark Strait and the Faroe Bank Channel. Recent observations have shown that the overflow transport varies in response to wind-stress forcing. Most hydraulics models of marginal-sea overflow do not consider wind stress forcing. We will use a two-layer hydraulics model to examine how wind stress affects overflow transports. Results from a high-resolution model using realistic topography and observed wind stress will be discussed to elucidate how variations in wind stress affect the Nordic Seas overflow and the AMOC transport.