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Arctic Oscillation predictability and its relationship with sea ice

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The Arctic Oscillation (AO) is a dominant atmospheric mode in the Northern Hemisphere winter influencing the frequency of climate-related hazards from the eastern seaboard of North America to Siberia, and from the Arctic to the subtropical region. In this study, we investigate the AO predictability and its relevance to sea ice variability using multivariate statistics and trend analysis. Sea ice concentrations are taken from the dataset of Chapman and Walsh and geopotential heights at six pressure levels (1000, 700, 500, 200, 100 and 10 hPa) are extracted from the ERA40 reanalysis.