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The role of ocean dynamics on NAO variability under global warming conditions.

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Determining how the dominant atmospheric and oceanic teleconnection patterns will change under global warming scenarios is a subject of utmost importance which has been long debated in the context of climate variability studies.
Here we focus on a specific aspect concerning the role of the ocean circulation on the NAO-related variability in the Euro-Atlantic sector. In a previous study (Bellucci et al. 2008) the NAO-ocean circulation interplay was investigated using a state-of-the-art global coupled general circulation model for the 20th Century climate. In the present work, we extend this analysis to idealized global warming experiments, under double and quadruple CO2 concentration conditions, with respect to preindustrial CO2 levels. The analysis is performed over approximately century-long integrations, for stable radiative forcing conditions (i.e., after the transient periods). Also, a preindustrial simulation (CO2 concentration held fixed at 287 ppm) has been analysed, as a control experiment.