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Mid Holocene and last glacial maximum North Atlantic climate variability: a PMIP2 model Intercomparison

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The mid-Holocene (6000 years before present) North Atlantic Oscillation (NAO) from nine models in the Paleoclimate Modeling Intercomparison Project Phase 2 is studied, primarily through principal component analysis of winter time North Atlantic sea level pressure (SLP). Modeled mid-Holocene NAO and mean SLP show small changes compared to pre-industrial control runs, with a shift in mean state towards a more positive NAO regime for three of the models. Modeled NAO variability shows little change, with a small increase for some models in the fraction of time spent in the NAO-negative phase during the mid-Holocene. Proxy based reconstructions of the NAO indicate a more positive NAO regime compared to present day during the mid-Holocene.

We intend to present similar analyses of climate variability at the last glacial maximum.