North Atlantic Ocean internal decadal variability: role of the mean state and ocean-atmosphere coupling

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Supplemental Material

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Access to model data

The CMIP5 IPSL-CM5A-LR and IPSL-CM5A-MR preindustrial control runs data are available through the ESGF data portal (https://esgf-node.llnl.gov/projects/cmip5/). The period analysed in this paper correspond to the last 500-yr and 300-yr of the preindustrial control runs distributed. The outputs of the ocean-only simulations illustrated in this study are available at https://doi.org/10.5281/zenodo.1216984 .
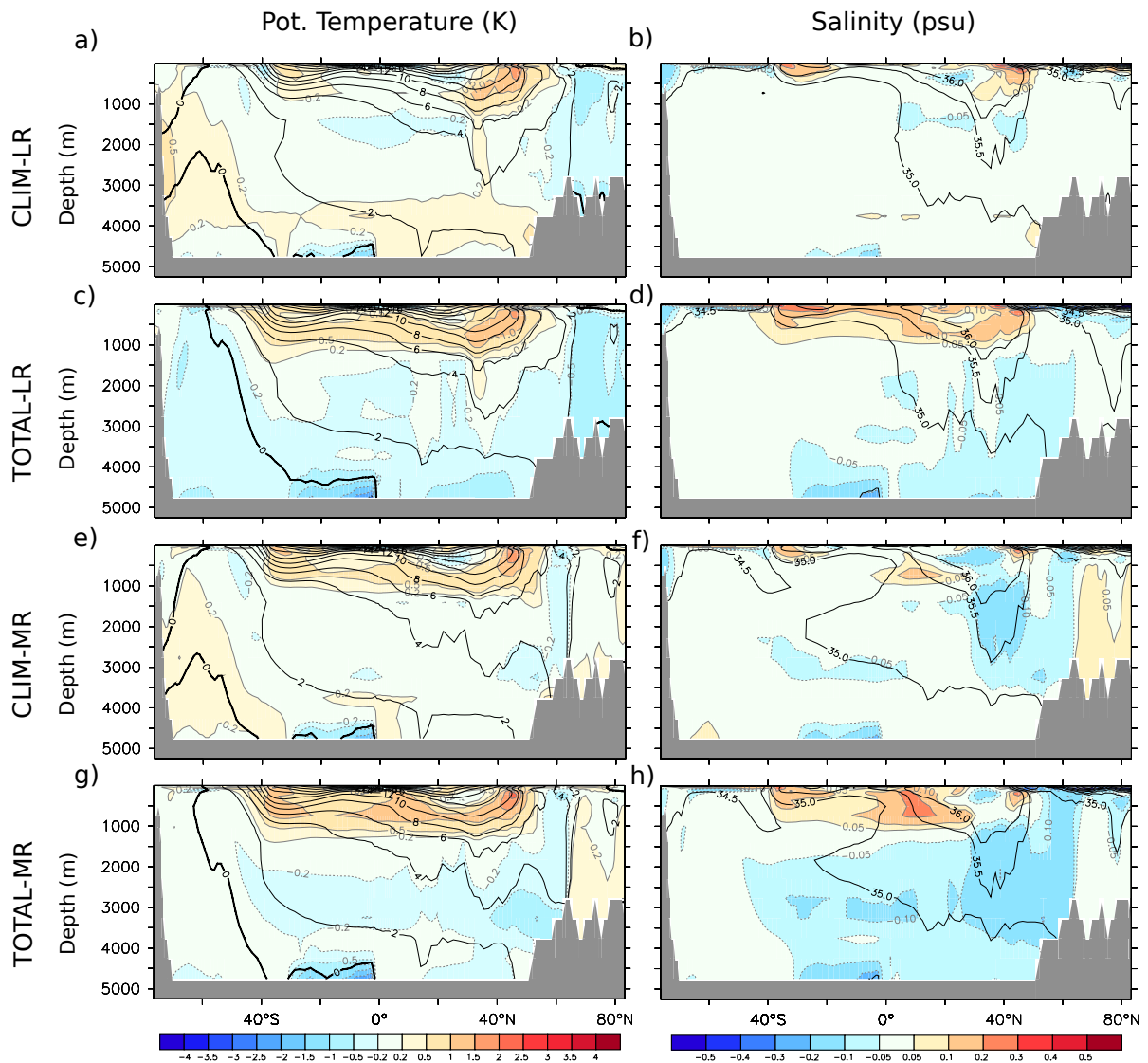
Figure S1:

(a) Zonal mean Atlantic Ocean temperature (in K) for (contour) COUPLED-LR and (color) difference of the ocean-only CLIM-LR simulation minus COUPLED-LR. (b) Same as (a), but for salinity (in psu). (c) and (d) same as (a) and (b), but for TOTAL-LR minus COUPLED-LR. (e) and (f) same as (a) and (b), but for CLIM-MR minus COUPLED-MR. (g) and (h) same as (a) and (b), but for TOTAL-MR minus COUPLED-MR. The first 50-yr of the ocean-only simulations were excluded to remove a small spin-up.
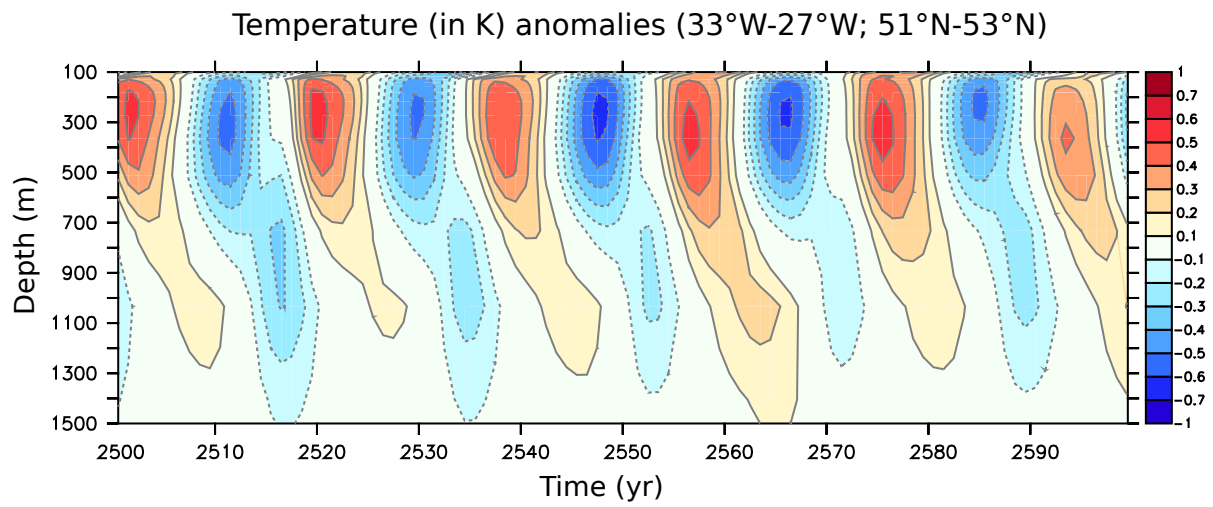
Figure S2:

Potential temperature anomalies in the west European basin (33°W-27°W; 51°N-53°N)

for a period of 100-yr of CLIM-LR. No smoothing was applied to the time series.
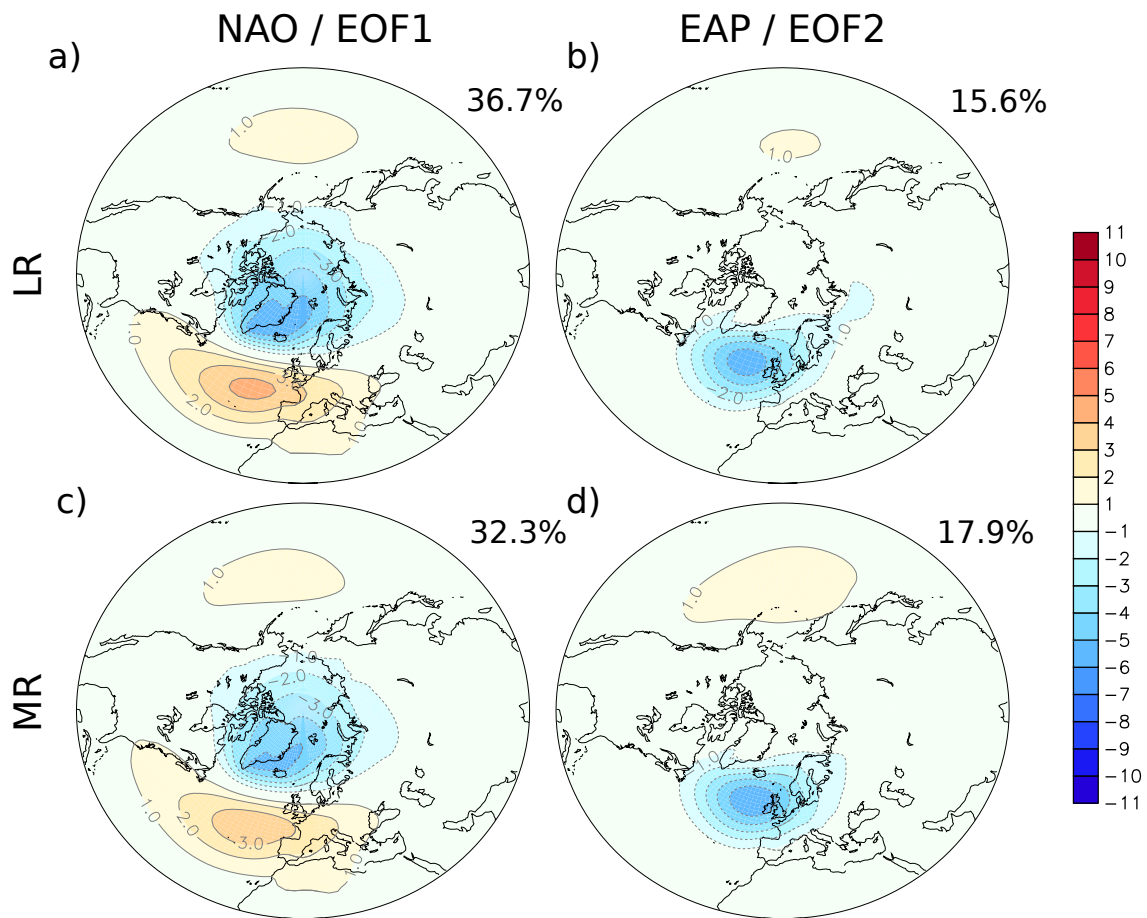
Figure S3:

(a) First and (b) second EOF of the monthly SLP anomalies in COUPLED-LR, in hPa, illustrating the NAO and EAP patterns, respectively. (c) and (d) are the same as (a) and (b), but for COUPLED-MR.
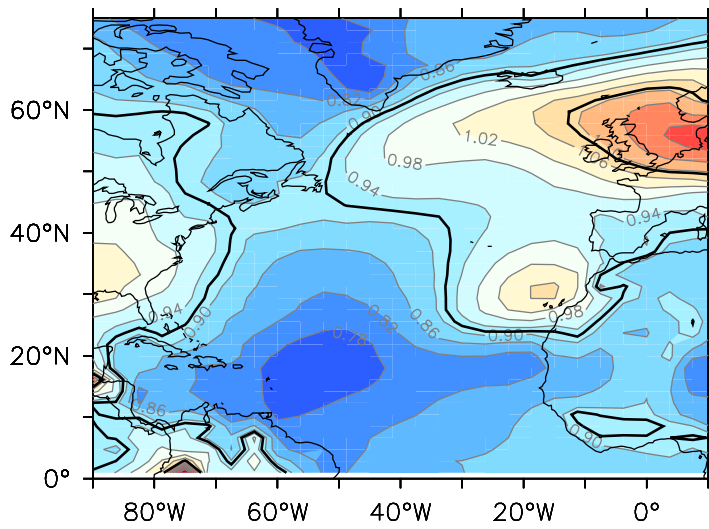
Figure S4:

Ratio of the SLP variance of MR over LR. The SLP variance is given by the variance of the monthly SLP anomalies. A ratio below (above) one means a SLP variance in MR lower (larger) than in LR. The thick black line denotes where the difference in variance is statistically significant at the 5% level.