



*Supplement of*

## **North Atlantic Oscillation model projections and influence on tracer transport**

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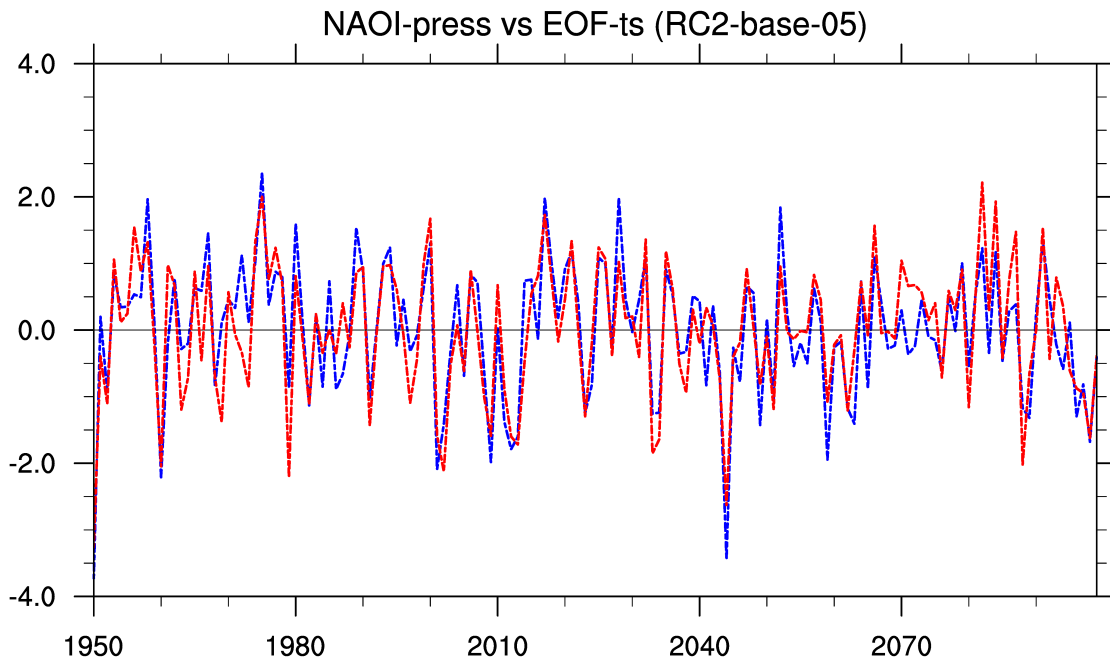


Figure 1: Time series of the modeled NAOI-press index, based on the normalized SLP difference between Ponta Delgada, Azores, and Stykkisholmur/Reykjavik, Iceland, (blue dashed line) and EOF1-ts index (red dashed line) of the long simulation.

Station Name	Latitude	Longitude	Contributor
Assekrem	23.3	5.6	NOAA/ESRL
Assekrem	23.3	5.6	ONM
Baltic Sea	55.4	17.2	NOAA/ESRL
BEO Moussala	42.2	23.6	INRNE
Black Sea	44.2	28.7	NOAA/ESRL
Chibougamau	49.7	-74.3	EC
Dwejra Point	36.1	14.2	NOAA/ESRL
Egbert	44.2	-79.8	EC
Fraserdale	49.9	-81.6	EC
Giordan Lighthouse	36.1	14.2	Univ. Malta
Grifton	35.4	-77.4	NOAA/ESRL
Hegyhatsal	46.0	16.7	NOAA/ESRL
Heimaey	63.4	-20.3	NOAA/ESRL
Hohenpeissenberg	47.8	11.0	DWD
Hohenpeissenberg	47.8	11.0	NOAA/ESRL
Izaña (Tenerife)	28.3	-16.5	AEMET
Izaña (Tenerife)	28.3	-16.5	NOAA/ESRL
Jungfrauoch	46.6	8.0	Empa
Key Biscayne	25.7	-80.2	NOAA/ESRL
Kollumerwaard	53.3	6.3	RIVM
Krvavec	46.3	14.5	ARSO
Lampedusa	35.5	12.6	NOAA/ESRL
Mace Head	53.3	-10.0	AGAGE
Mace Head	53.3	-10.0	NOAA/ESRL
Monte Cimone	44.2	10.7	ISAC
Neuglobsow	53.2	13.0	UBA
Ocean Station "M"	66.0	2.0	NOAA/ESRL
Ochsenkopf	50.0	11.8	NOAA/ESRL
Payerne	46.8	7.0	Empa
Pallas-Sammaltunturi	68.0	24.1	NOAA/ESRL
Park Falls	45.9	-90.3	NOAA/ESRL
Pic du Midi	43.0	0.1	LA
Puy de Dome	45.8	3.0	LAMP
Rigi	46.1	8.5	Empa
Sable Island	43.9	-60.0	EC
Schauinsland	47.9	7.9	UBA
Sede Boker	31.1	34.9	NOAA/ESRL
Shetland	60.1	-1.3	CSIRO
Sonnblick	47.1	13.0	UBA
St. David's Head	32.4	-64.7	NOAA/ESRL
Summit	72.6	-38.5	NOAA/ESRL
Terceira Island	38.8	-27.4	NOAA/ESRL
Tudor Hill	32.3	-64.9	NOAA/ESRL
Zeppelinfjellet (Ny-Alesund)	79.0	11.9	NOAA/ESRL
Zugspitze/Schneefernerhaus	47.4	11.0	UBA

Table 1: WDCGG stations providing records of surface CO in the North Atlantic sector (20°N-80°N, 90°W-40°E).

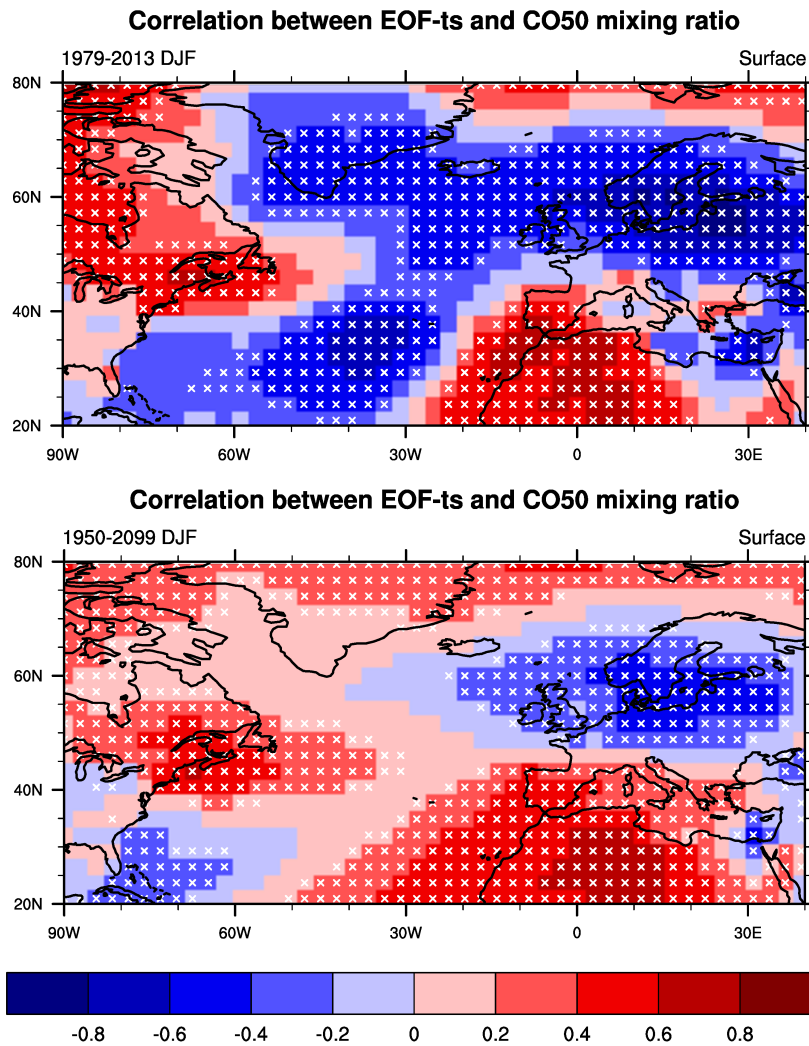


Figure 2: Correlation of winter (DJF) seasonal CO-50 mixing ratio anomalies at the surface level with the principal component of the EOF1 time series for the nudged simulation (RC1SD-base-09) (top) and for the long simulation (RC2-base-05) (bottom). Points with a white cross indicate the local 95% level of significance.