

Table B1 Diagnostic variables of the pre-industrial control states of PMIP2 and CMIP5/PMIP3 (temperature and salinity as read from Fig. 9.18. of WG1 in IPCC AR5 and AMOC as given in Table 1 in Muglia and Schmittner (2015)) compared to similar diagnostics for our ensemble *SE1-SE12* and control state *PIES278*.

Variables	PMIP2 + CMIP5/PMIP3 pre-industrial control states	Ödalen et al. <i>cGENIE</i> <i>SE1-SE12</i> and <i>PIES278</i>
Potential temperature (°C), N.Atl.	2.9 – 6.4 ¹	4.6 – 8.0 ²
Potential temperature (°C), S.Atl.	-1.6 – 2.0 ³	-0.3 – 3.7 ⁴
Salinity, N.Atl.	34.8 – 35.5 ¹	35.3 – 35.6 ²
Salinity, S.Atl.	34.6 – 35.0 ³	34.9 – 35.1 ⁴
AMOC (1 Sv = $10^6 \text{ m}^3 \text{ s}^{-1}$)	12.64 – 23.02 ⁵	2.0 – 18.0 ⁶

¹ North Atlantic PMIP grid point: 55.5°N, 14.5°W, 2,184 m depth

² North Atlantic *cGENIE* closest corresponding grid cell: 51-56°N, 10-20°W, 1,738-2,100 m depth

³ South Atlantic PMIP grid point: 50°S, 5°E, 3,636 m depth

⁴ South Atlantic *cGENIE* closest corresponding grid cell: 46-51°S, 0-10°E, 3,008-3,576 m depth

⁵ Muglia and Schmittner (2015), PMIP3 pre-industrial control ensemble AMOC at 25°N, average with interval of one standard deviation

⁶ *cGENIE* maximum Atlantic overturning. The *SE* ensemble member with halved wind stress and low vertical (diapycnal) diffusivity has a collapsed AMOC circulation (2.0 Sv). The average of this variable for all other *SE*:s is 13.8 Sv (range 8.3 – 18.0 Sv).