

# Supporting Information for “Response of the Intertropical Convergence Zone to Antarctic Ice Sheet melt”

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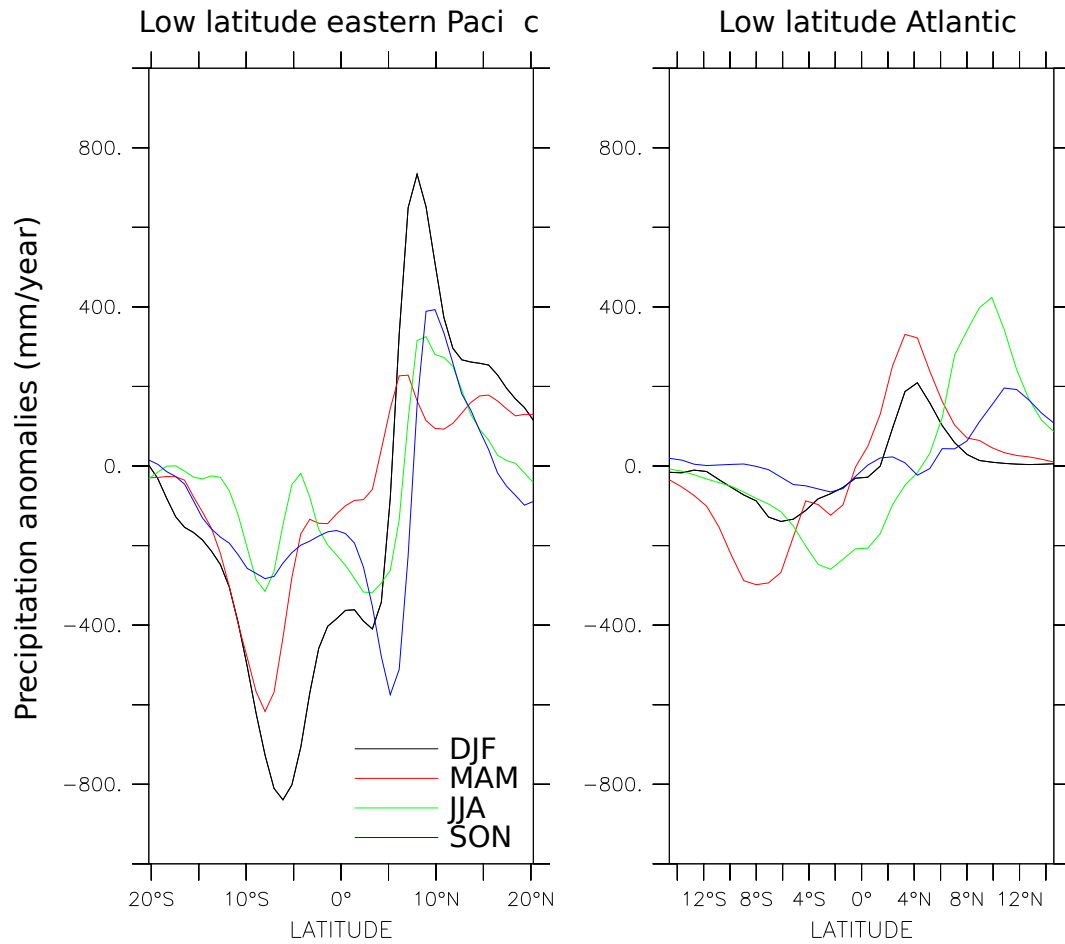
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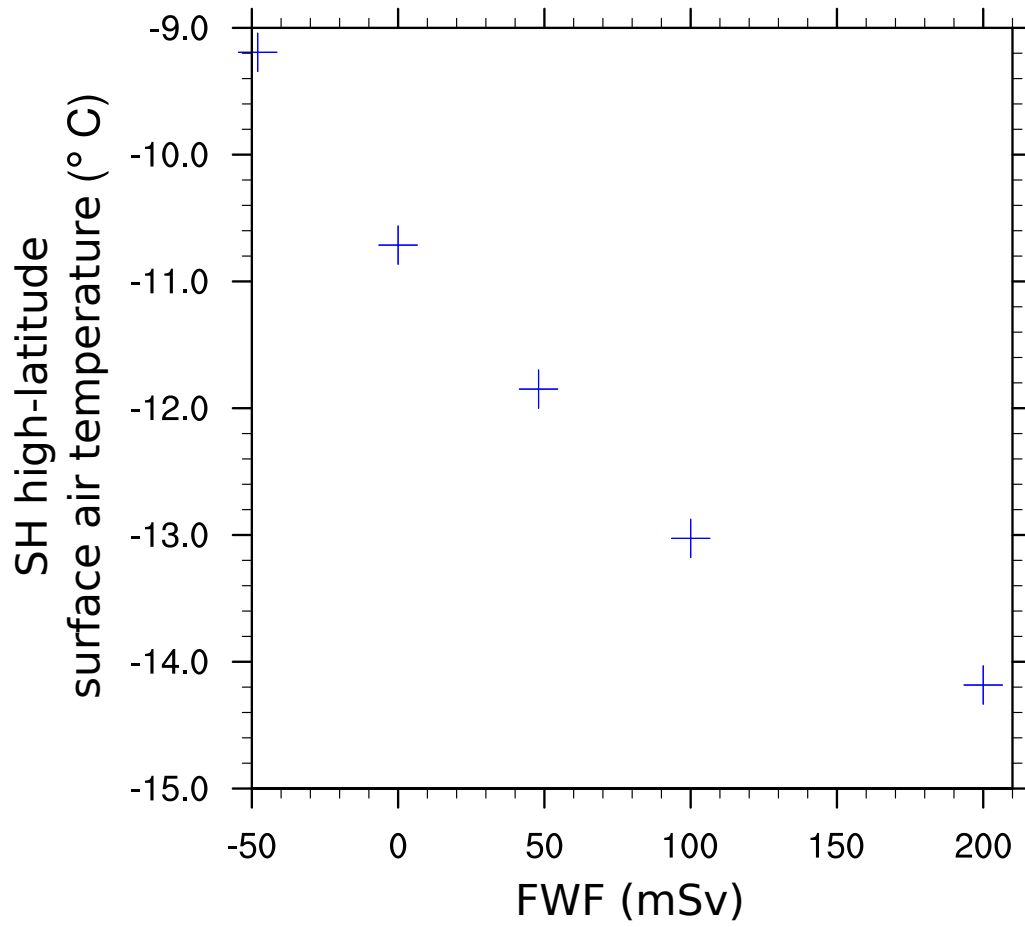
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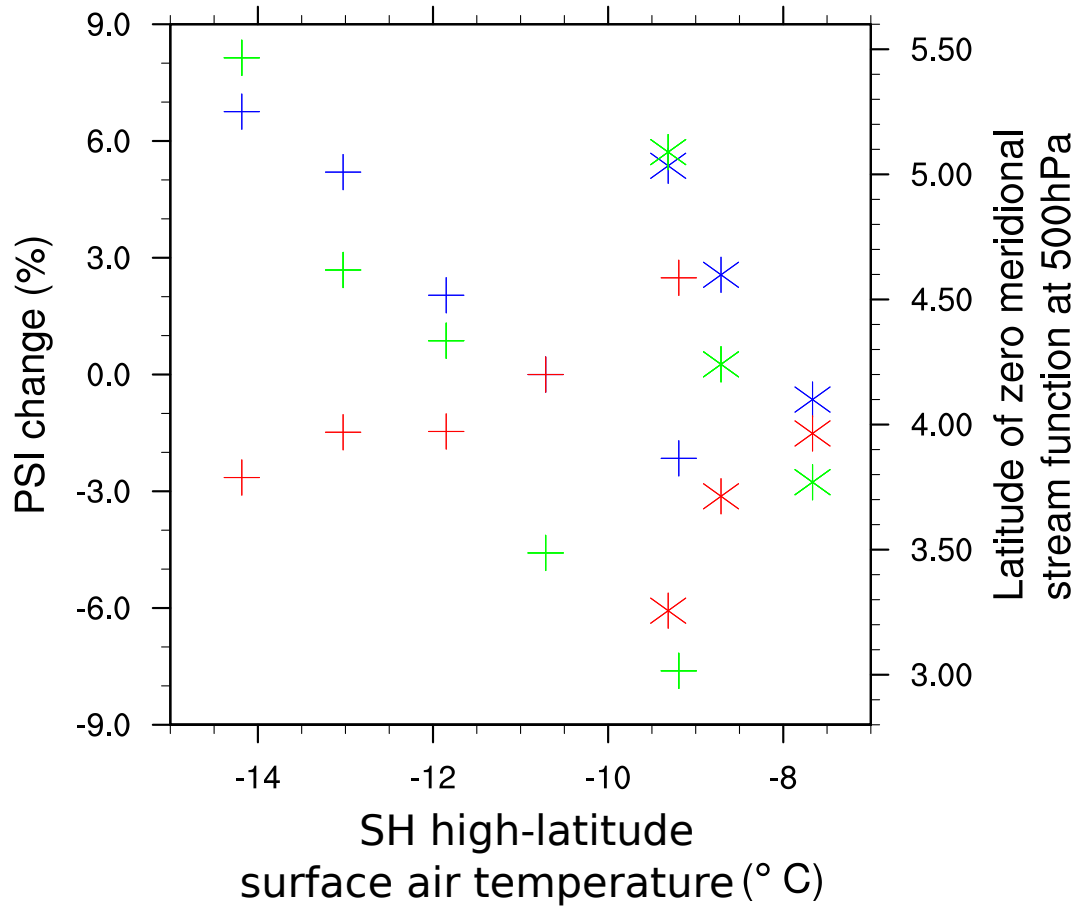
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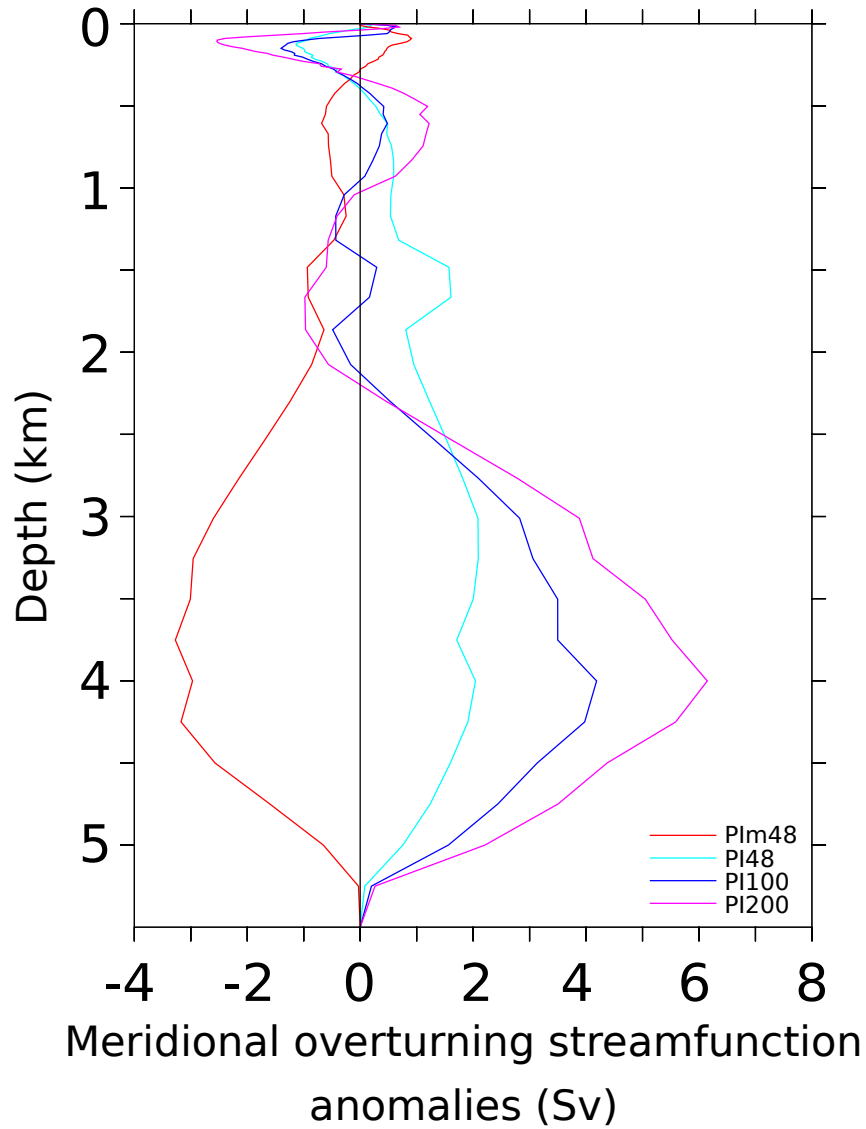
**Figure 1.** Zonal mean precipitation anomalies ( $\text{mm year}^{-1}$ ) over the low latitudes of the Eastern Pacific (left) and Atlantic (right) for different seasons in simulation PI200 with respect to simulation PI. The two regions are defined as: Pacific  $170^{\circ}\text{E}-80^{\circ}\text{W}$ ; Atlantic  $60^{\circ}\text{W}-10^{\circ}\text{E}$ .



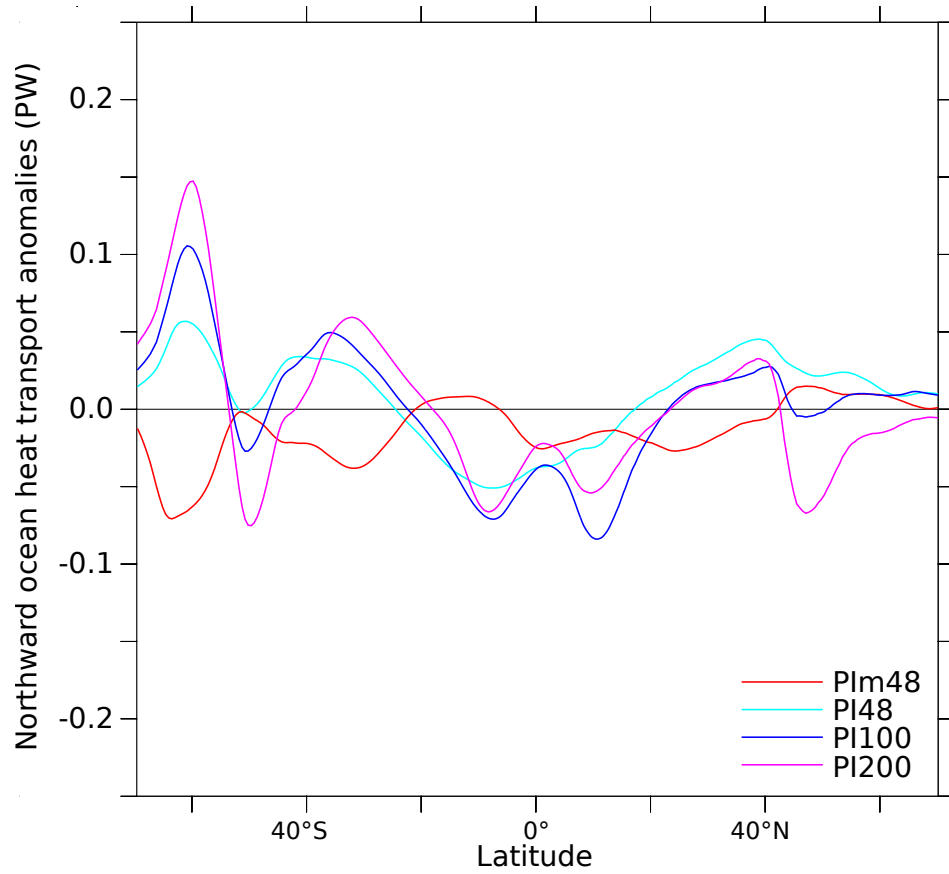
**Figure 2.** Changes in Southern Hemisphere (SH) high-latitude (south of 50°S) surface air temperatures (°C) as a function of the imposed freshwater forcing (FWF; in mSv)



**Figure 3.** Low latitude atmospheric dynamics as a function of SH high-latitude (south of 50°S) surface air temperatures (°C) in the pre-industrial (PI) and global warming (RCP4.5) experiments. In blue (red) the changes in the minimum (maximum) values of the meridional streamfunction (left-hand-side vertical axis; %) and in green the location of the ITCZ (right-hand-side vertical axis; °N) as a function of SH high-latitude (south of 50°S) surface air temperatures (°C). The PI results are given by the plus-symbols and the RCP4.5 results by the asterisks-symbols. The latitude of zero meridional streamfunction at 500hPa is used as a measure of the position of the mean ITCZ.



**Figure 4.** Equatorial meridional overturning streamfunction anomalies (Sv). Shown are anomalies compared to the PI reference case for FWF magnitudes of -48 mSv, 48 mSv, 100 mSv and 200 mSv.



**Figure 5.** Northward oceanic heat transport anomalies (PW). Shown are anomalies compared to the PI reference case for FWF magnitudes of -48 mSv, 48 mSv, 100 mSv and 200 mSv. Oceanic heat transport is calculated inline.