Supplemental Material

Supplementary Material for "Using large ensembles to elucidate the possible roles of Southern Ocean meridional overturning circulation in the Southern Ocean SST trend"

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Figure S1: Long term mean Southern Ocean SST and SST bias in different model simulations

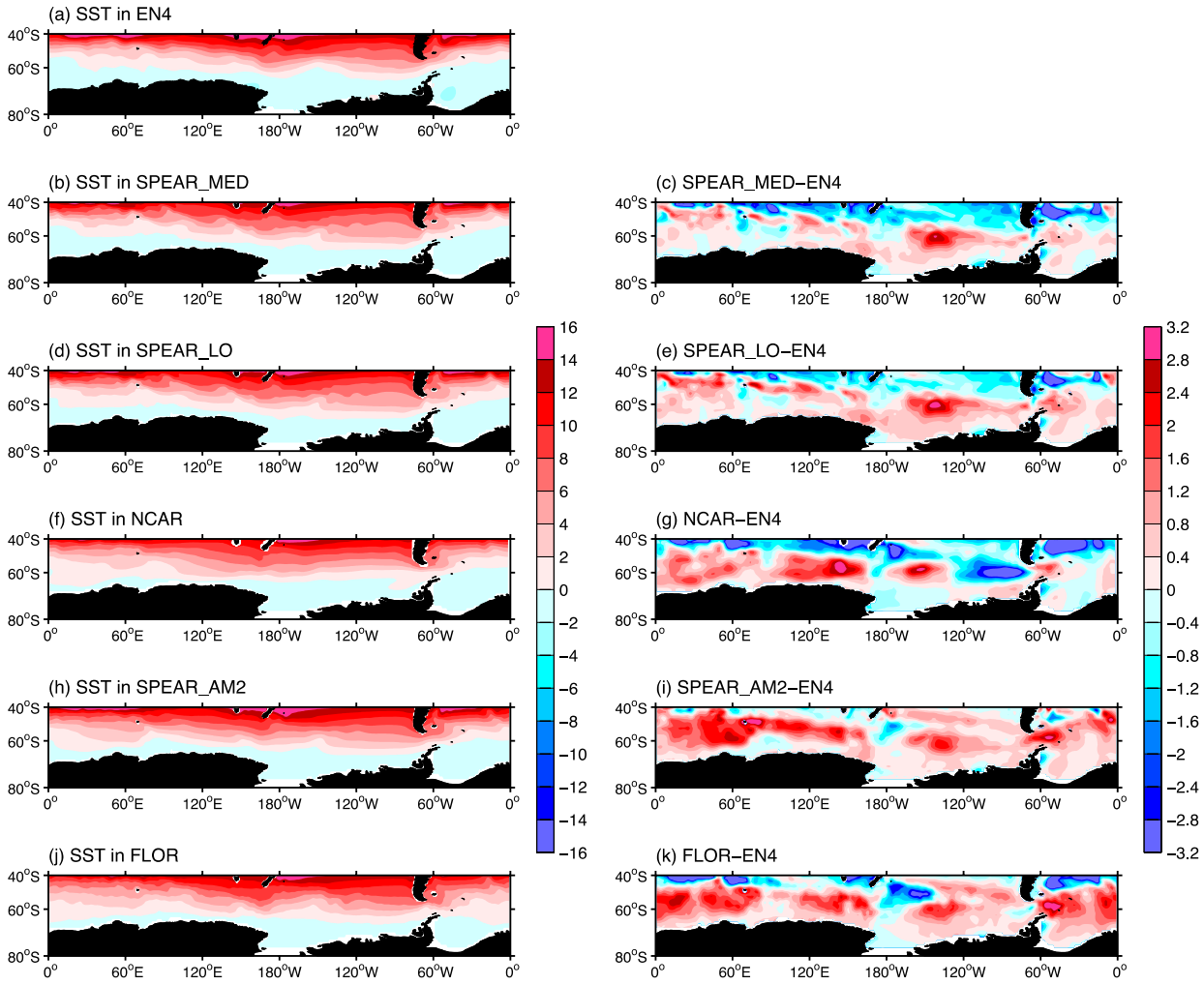

Figure S1: Long term mean Southern Ocean (SO) SST (°C) in the (a) EN.4.2.2 dataset (Good et al. 2013), (b) SPEAR_MED, (d) SPEAR_LO, (f) NCAR_CESM1, (h) SPEAR_AM2 and (j) FLOR control simulations. (c, e, g, i, k) Long term mean SO SST difference between model simulations and observation (EN4) and we refer to this difference as the SST bias.

Figure S2: Long term mean subsurface temperature and temperature bias in different model simulations

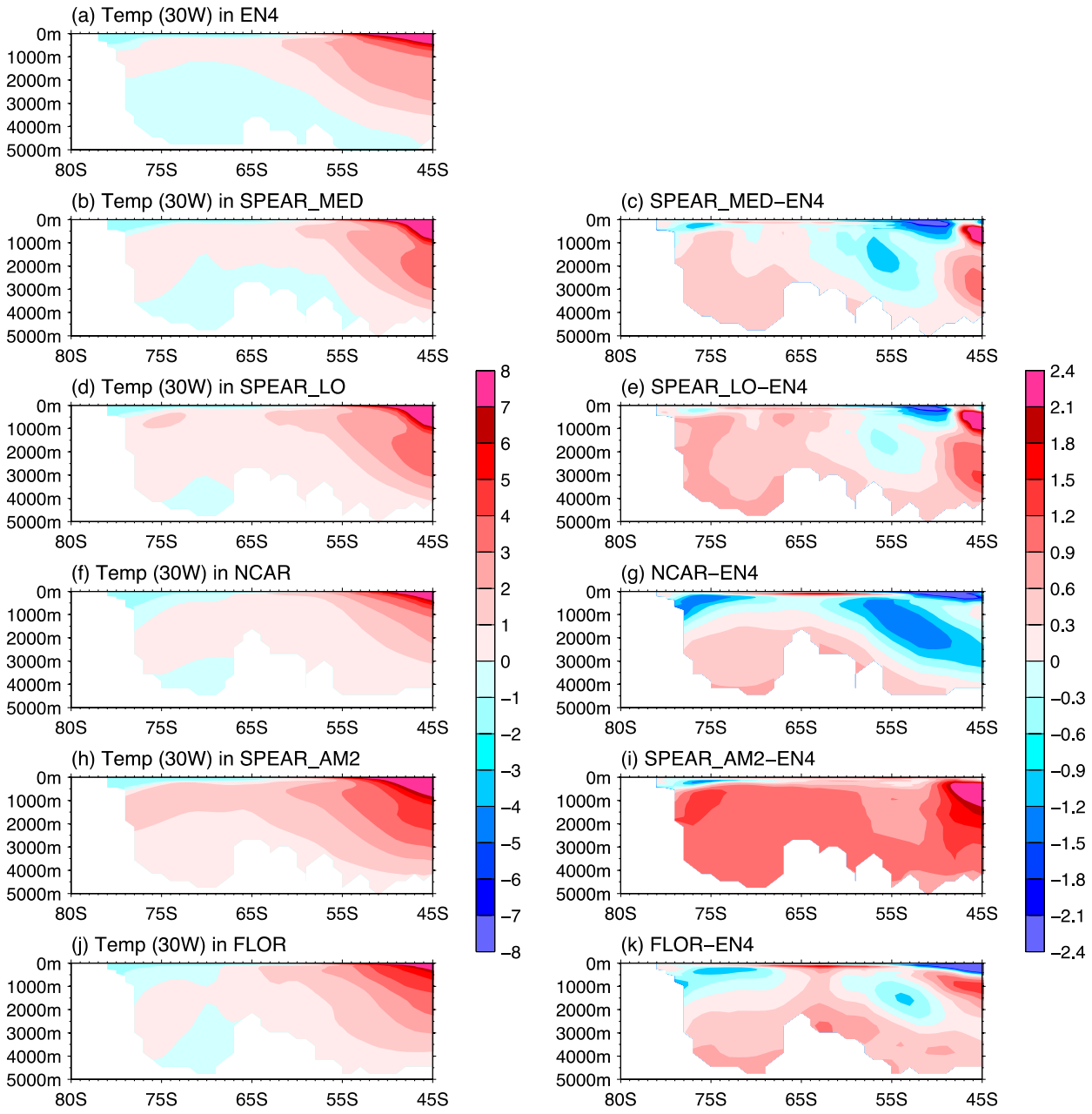

Figure S2: Same as Figure S1 but for the subsurface temperature profile at 30°W longitude. Unit is °C.

Figure S3: Long term mean subsurface salinity and salinity bias in different model simulations

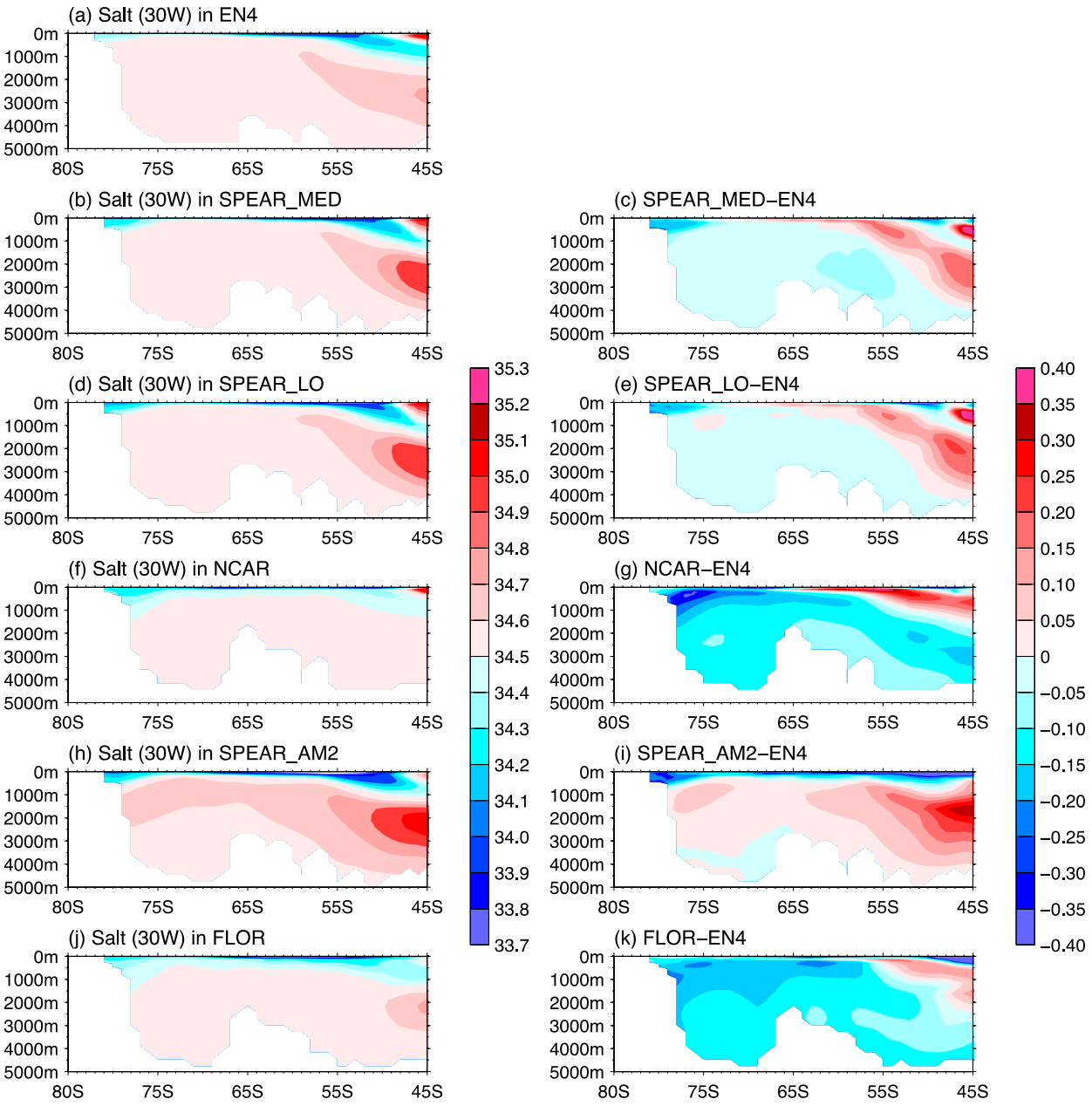

Figure S3: Same as Figure S2 but for the subsurface salinity profile at 30°W longitude. Unit is PSU.

Reference:

Good, S. A., M. J. Martin and N. A. Rayner, 2013: EN4: quality controlled ocean temperature and salinity profiles and monthly objective analyses with uncertainty estimates. *Journal of Geophysical Research: Oceans*. 118, 6704-6716, doi:10.1002/2013JC009067.