

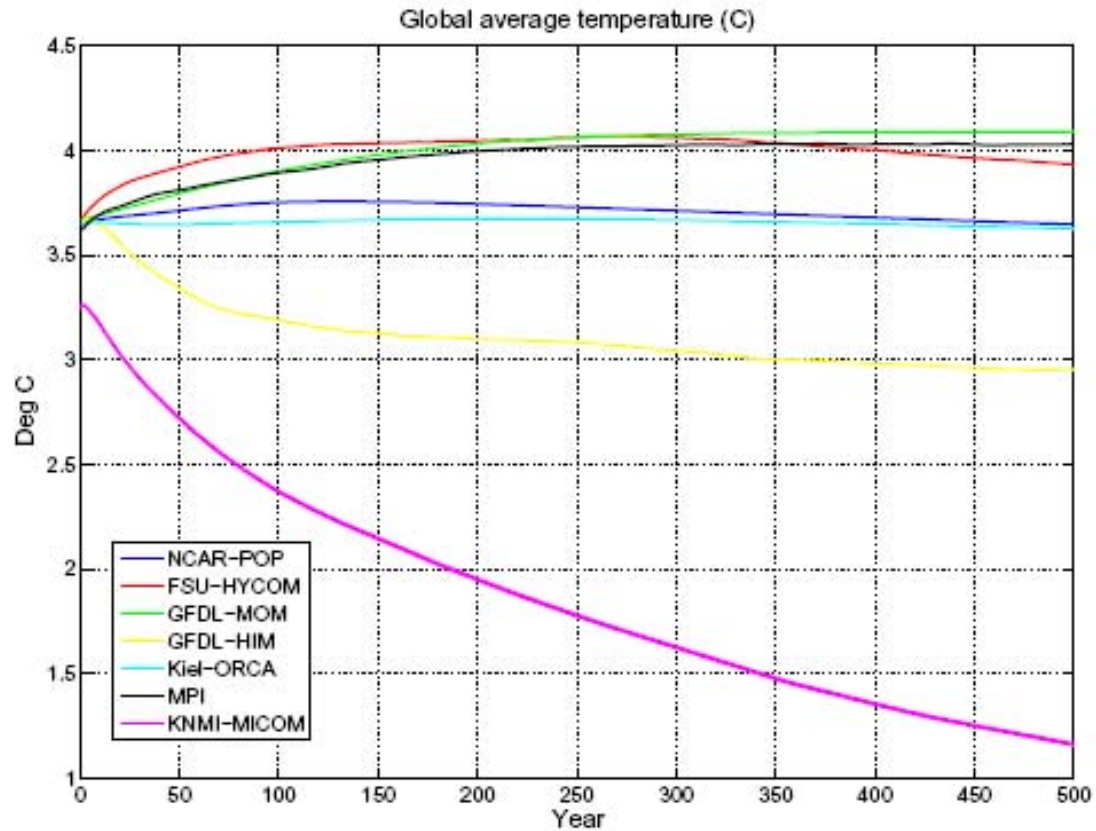
Coordinated Ocean-ice Research Experiments (COREs)

- CORE I : repeat annual cycle forcing, 500 y
- CORE II : 1950-2006 hindcasts (~10 cycles)
- CORE III: Greenland melt

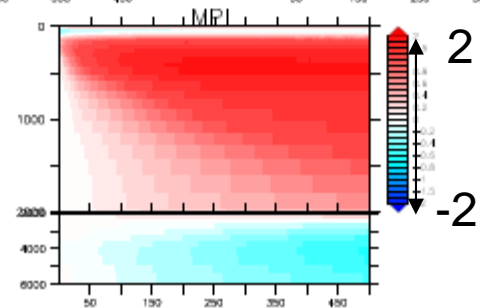
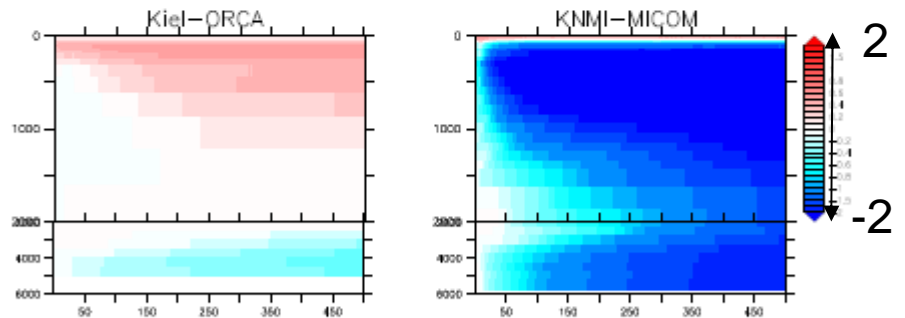
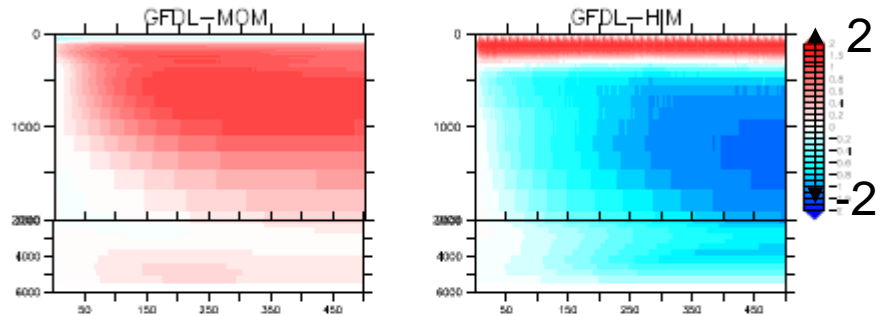
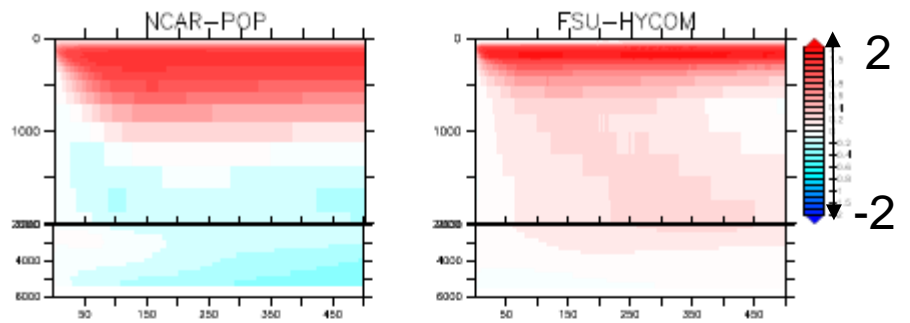
CORE I : Ocean GCMs

	Vertical	SSS restore (50m)	vintage
NCAR-POP	z (40)	4y global	Mar 2004
FSU-HYCOM	hybrid (32)	4y global	Jun 2007
GFDL-MOM	z (50)	1y global-ice	Mar 2005
GFDL-HIM	ρ_2 (50)	1y global	Mar 2007
KNMI-MICOM	ρ_2 (16)	variable	Jun 2006
MPI	z (40)	4y global	Nov 2006
Kiel-ORCA	z (30)	1y global	Mar 2006

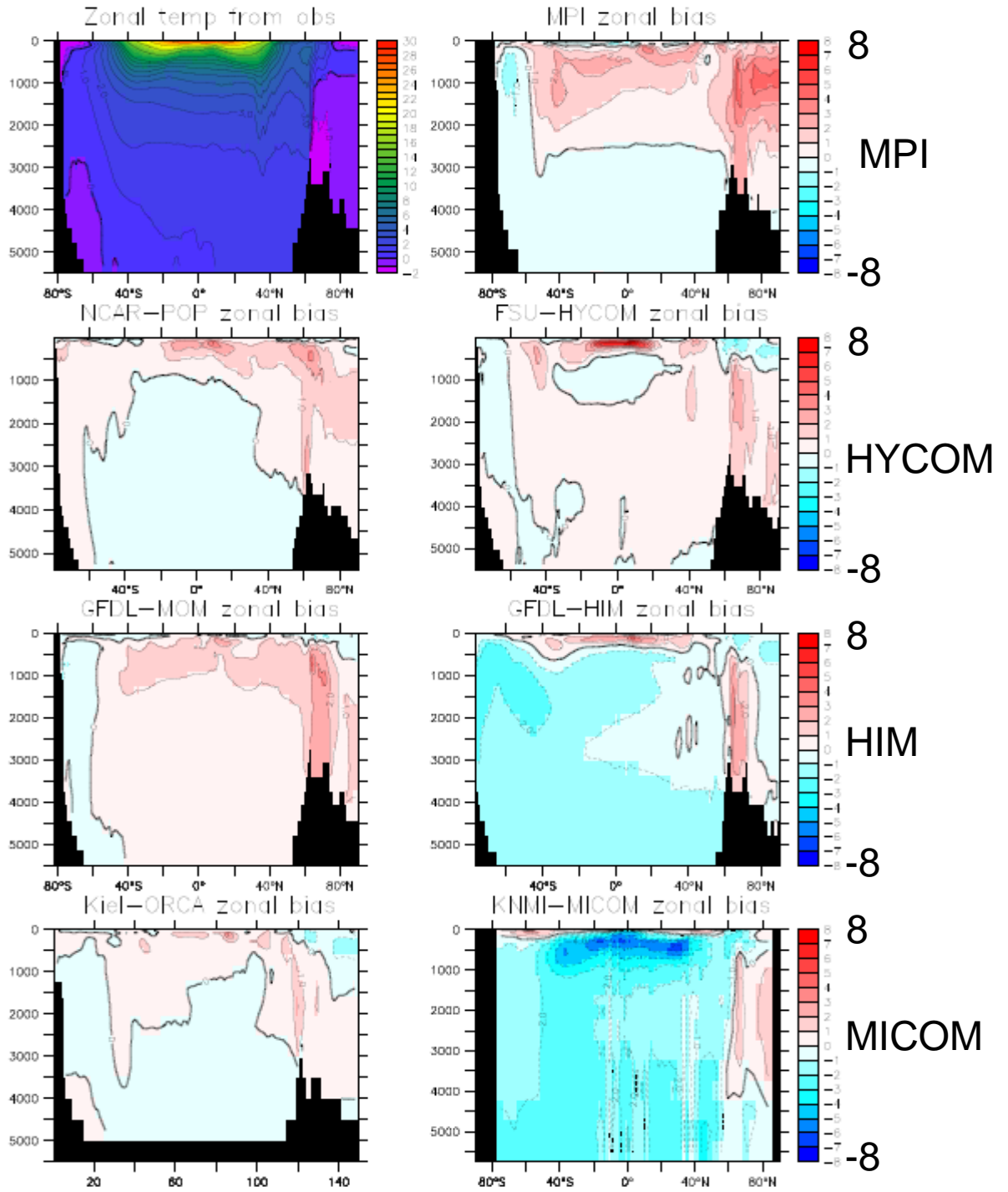
Global Average Temperature Drift



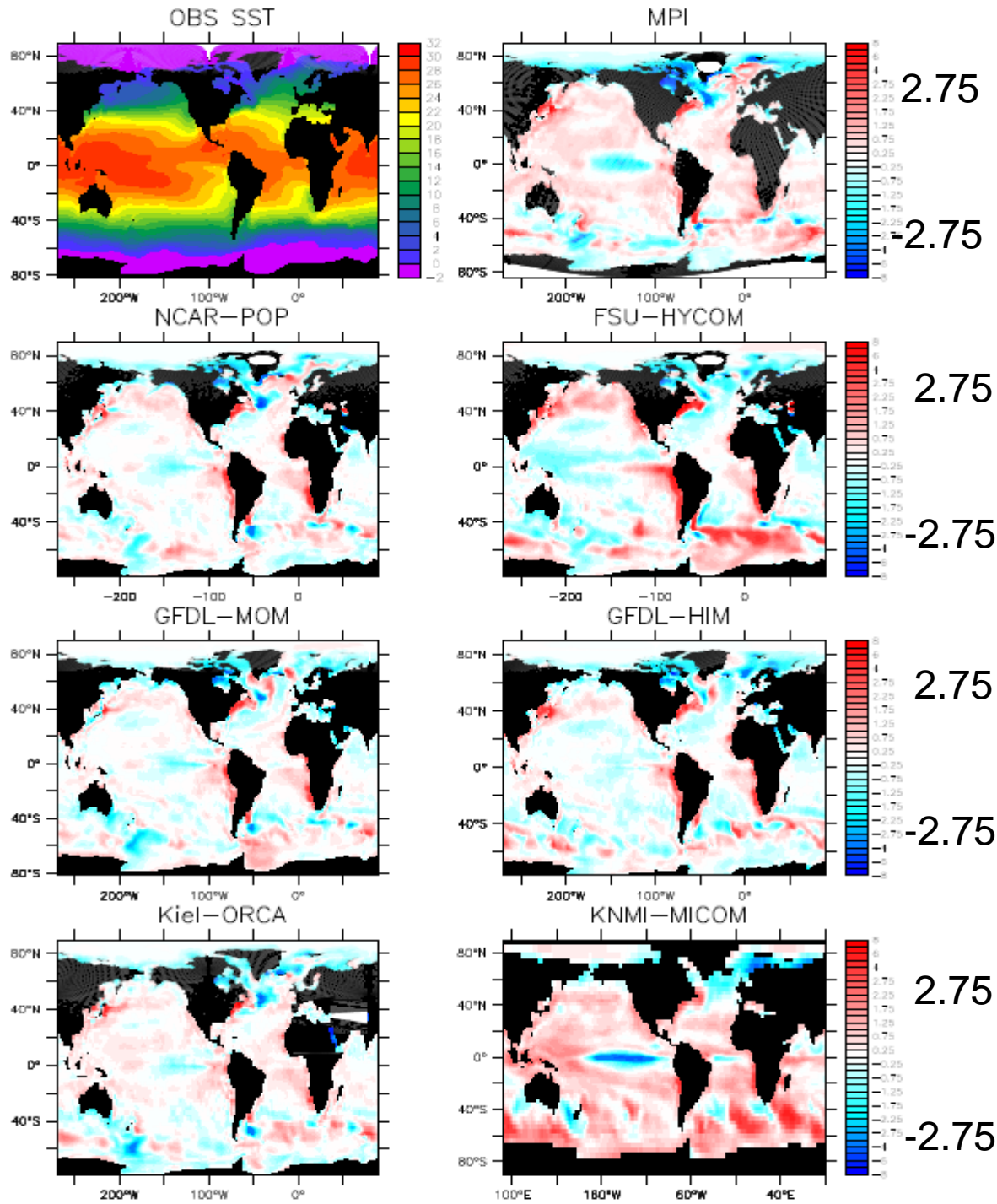
Horizontal Average Temperature Drift



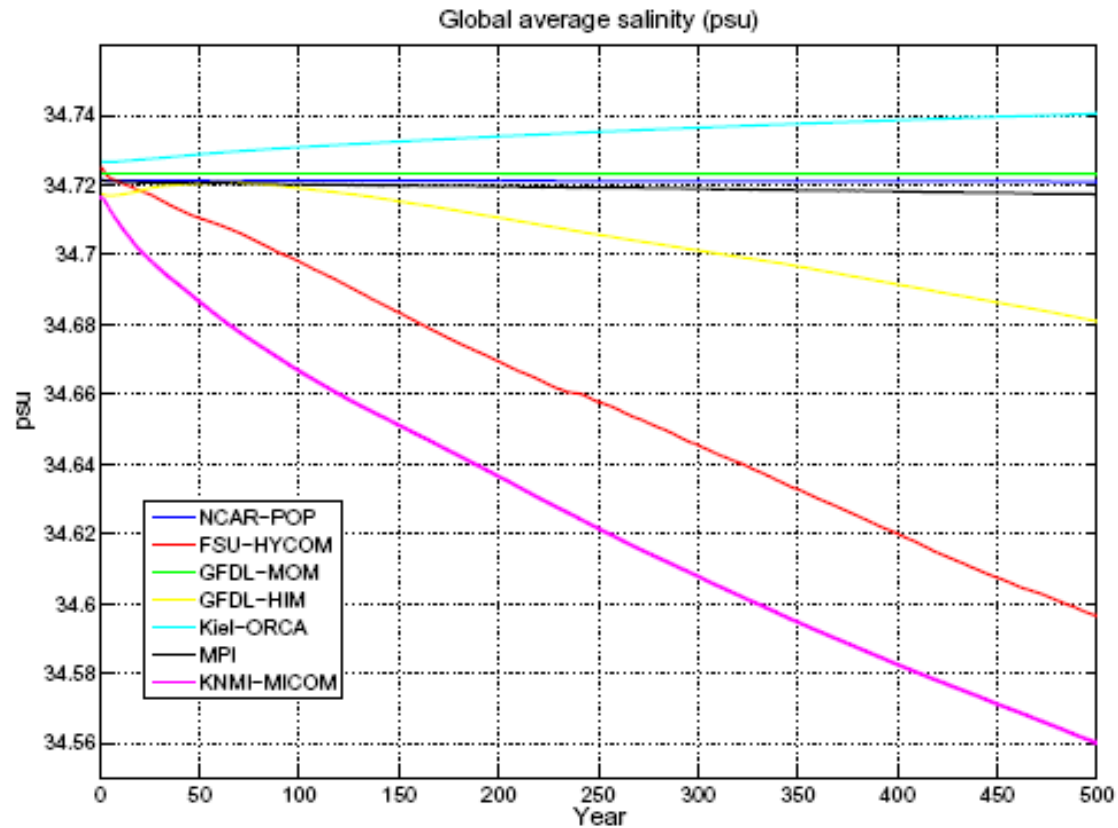
Zonal Average Temperature Bias



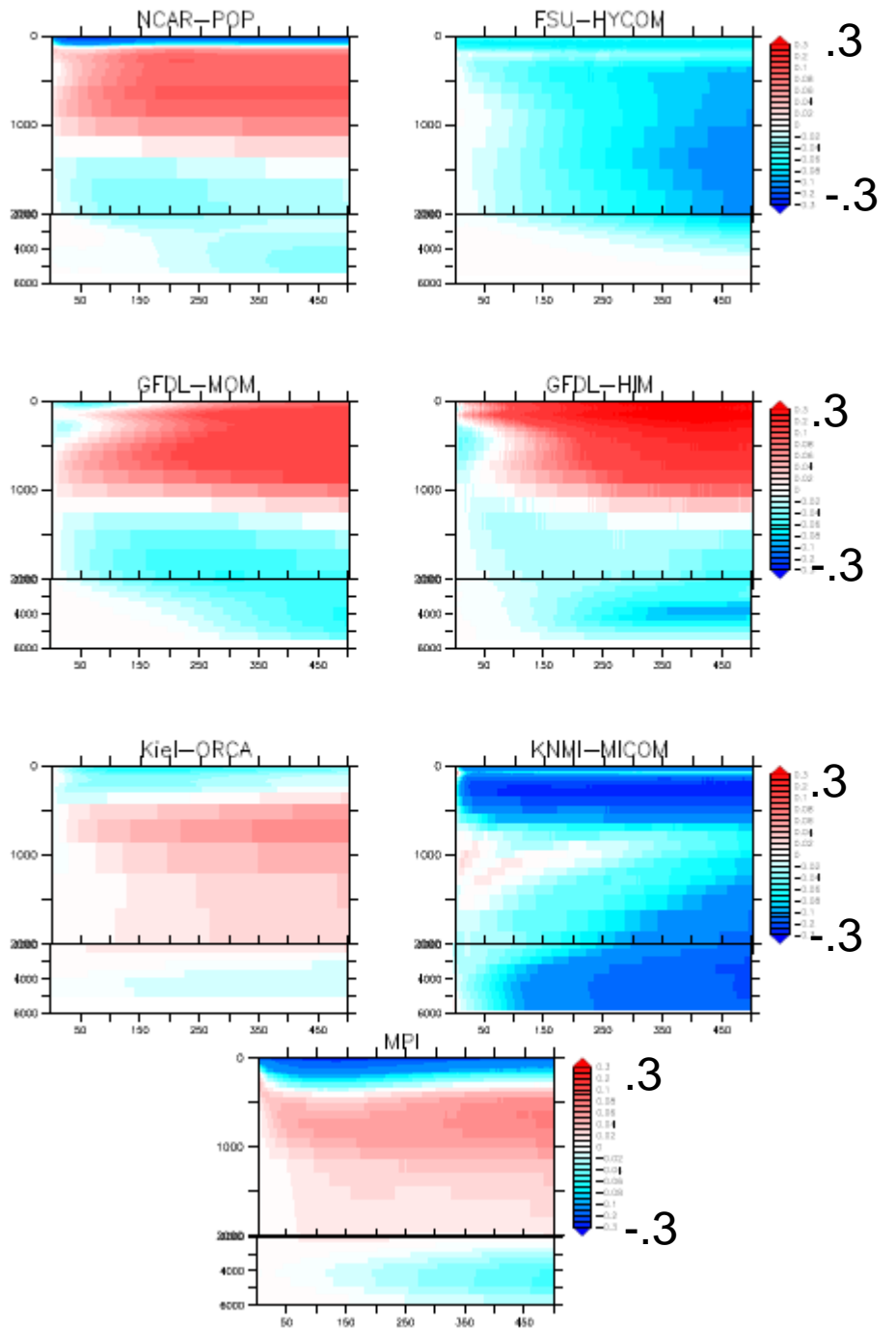
SST bias @ 500y (°C)



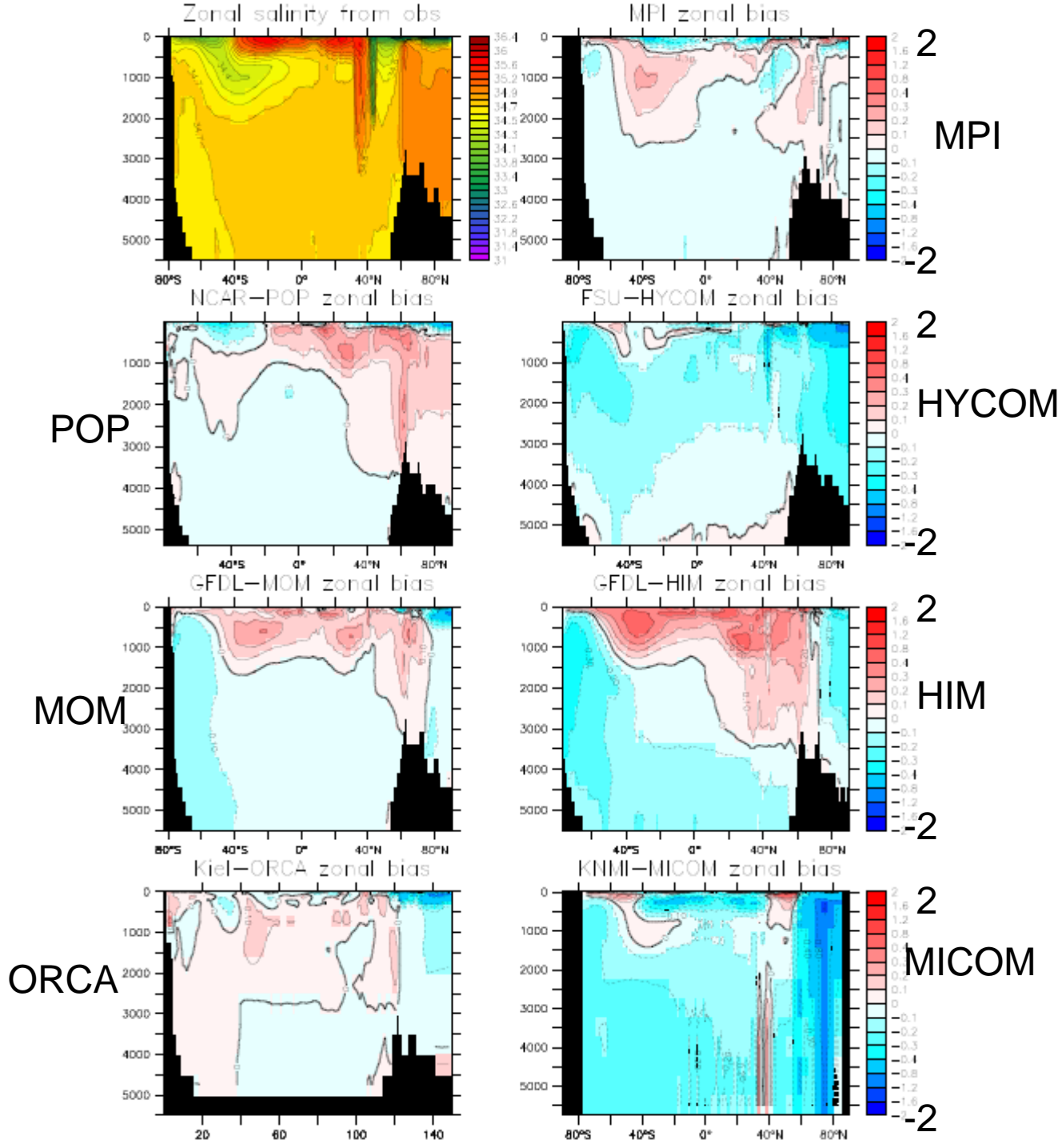
Global Average Salinity Drift



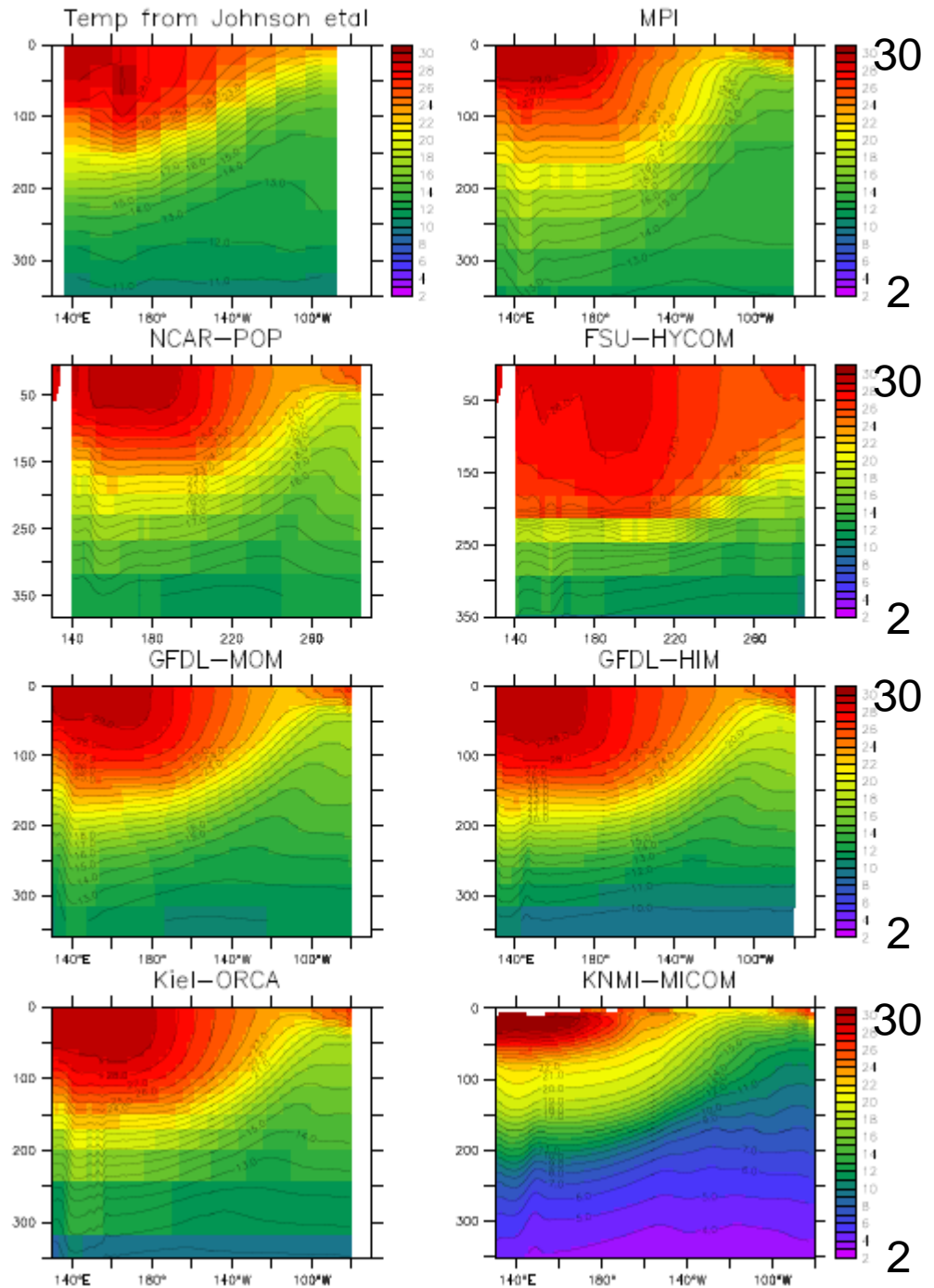
Zonal average Salinity Drift



Zonal average Salinity Bias

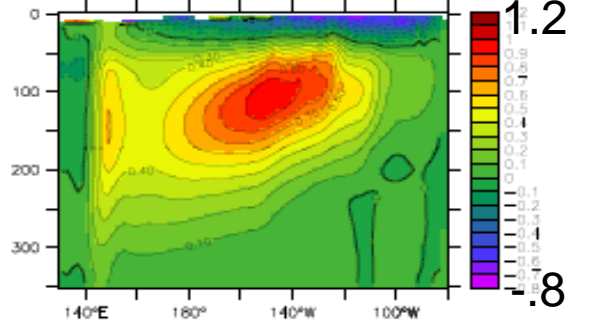
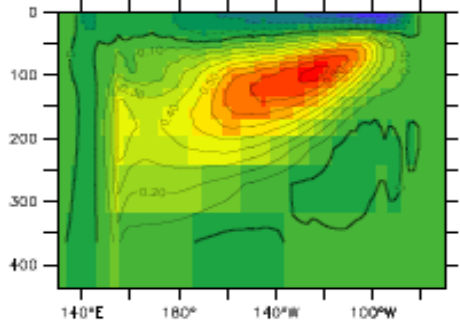
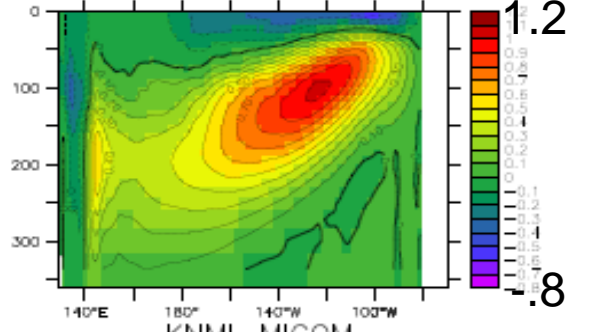
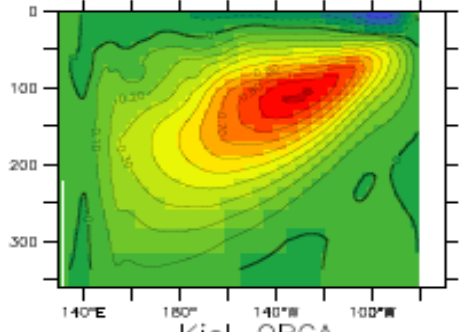
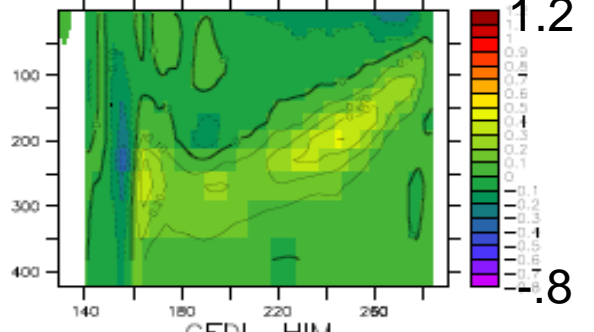
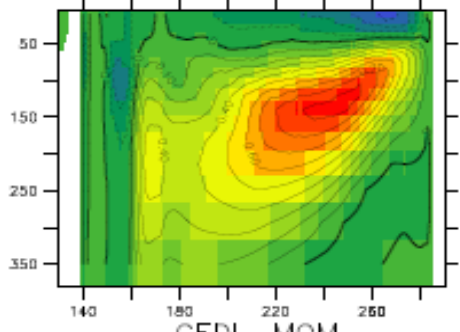
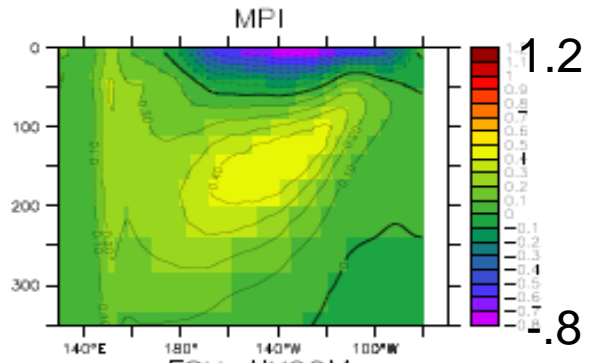
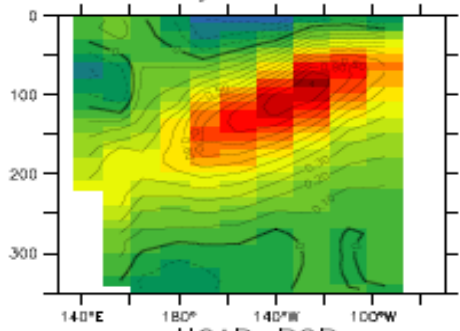


Equatorial Pacific Temperature ($^{\circ}\text{C}$)

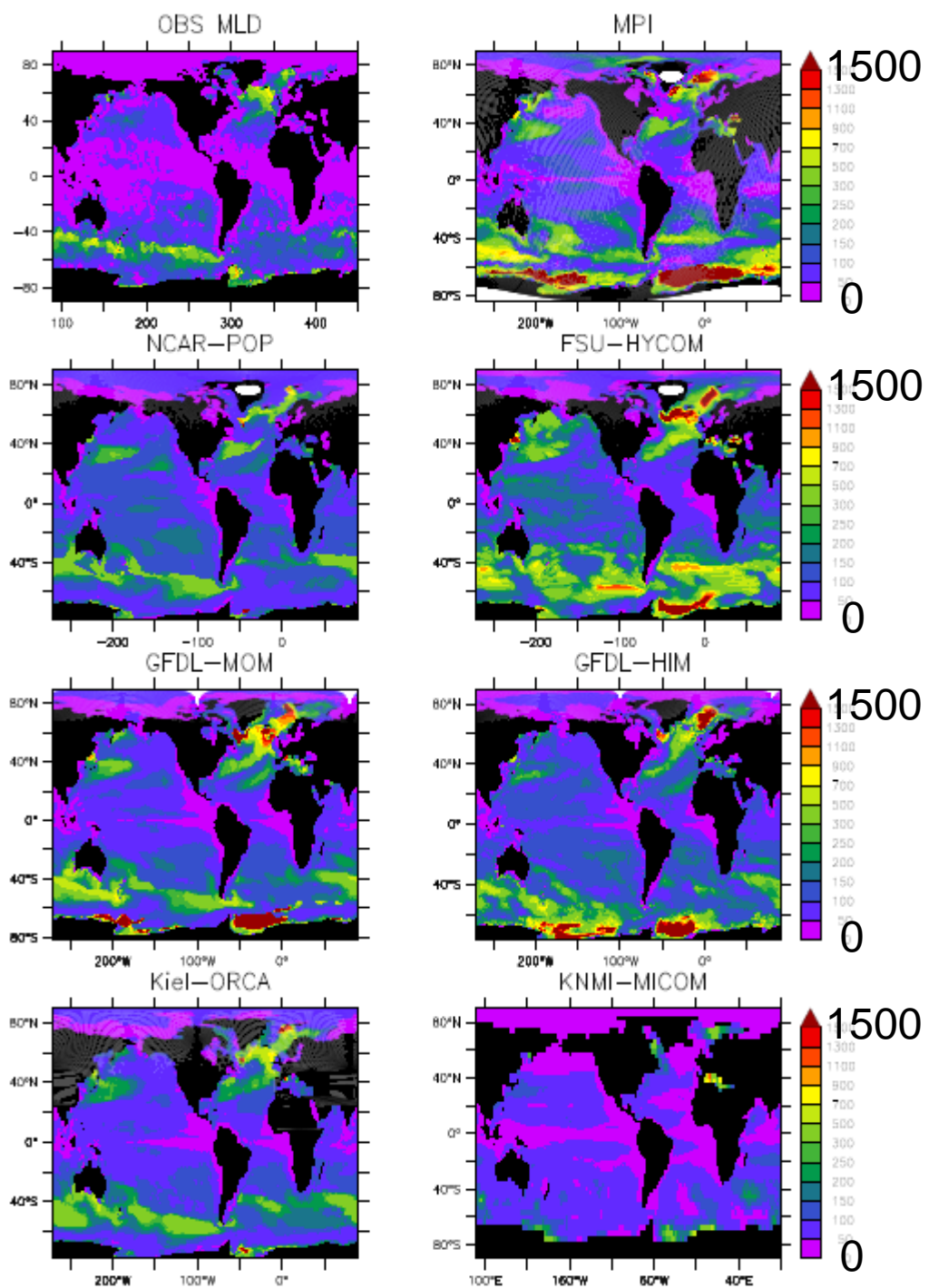


Equatorial Pacific Zonal Velocity (m/s)

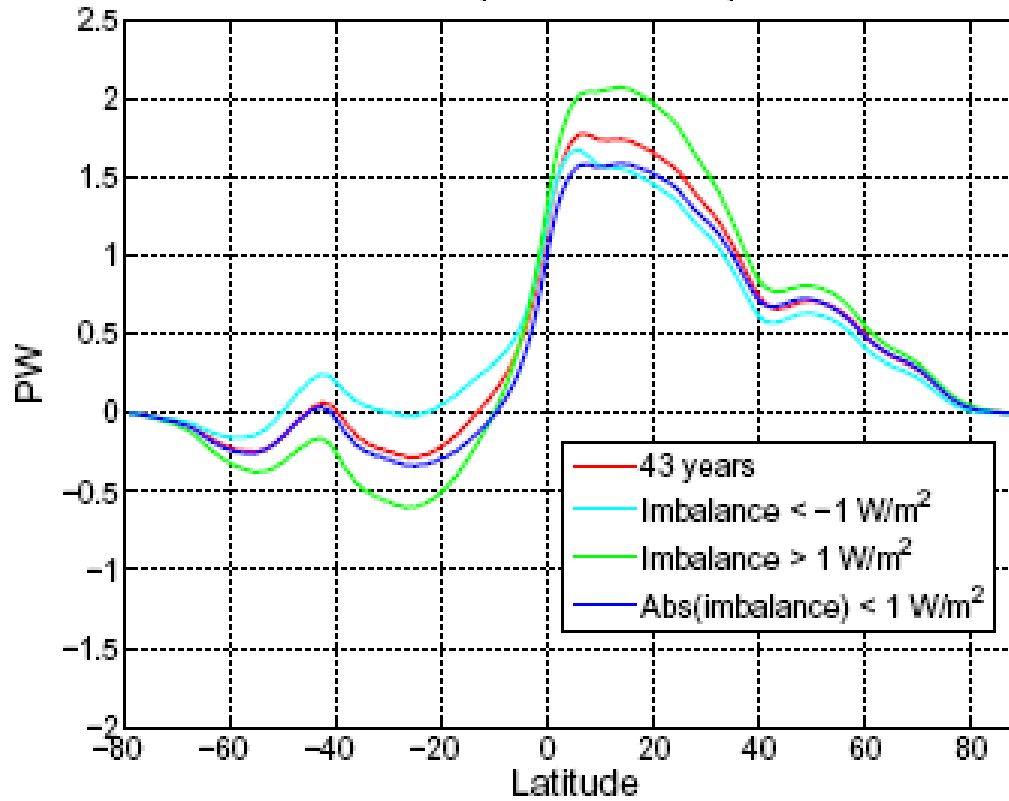
Zonal velocity from Johnson et al



Mixed-Layer Depth (m)



NYF implied heat transport



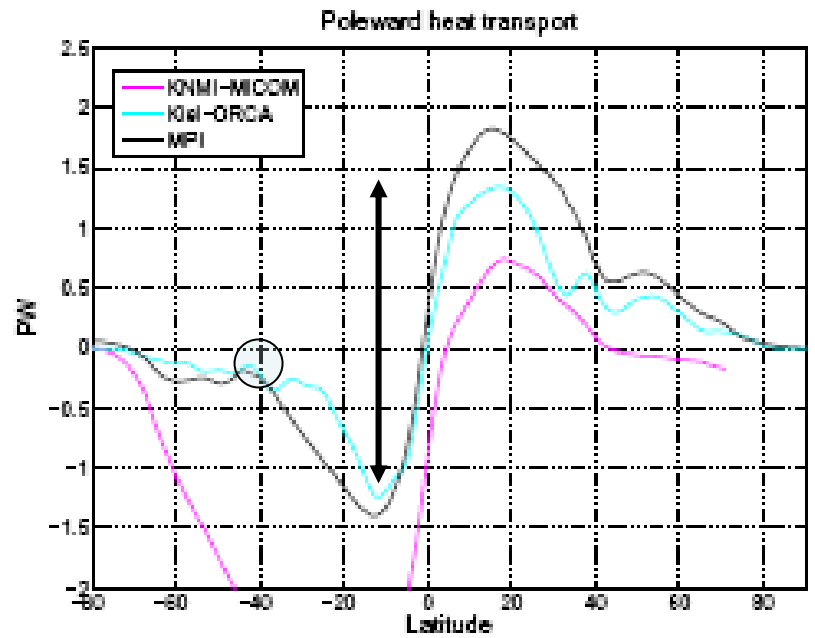
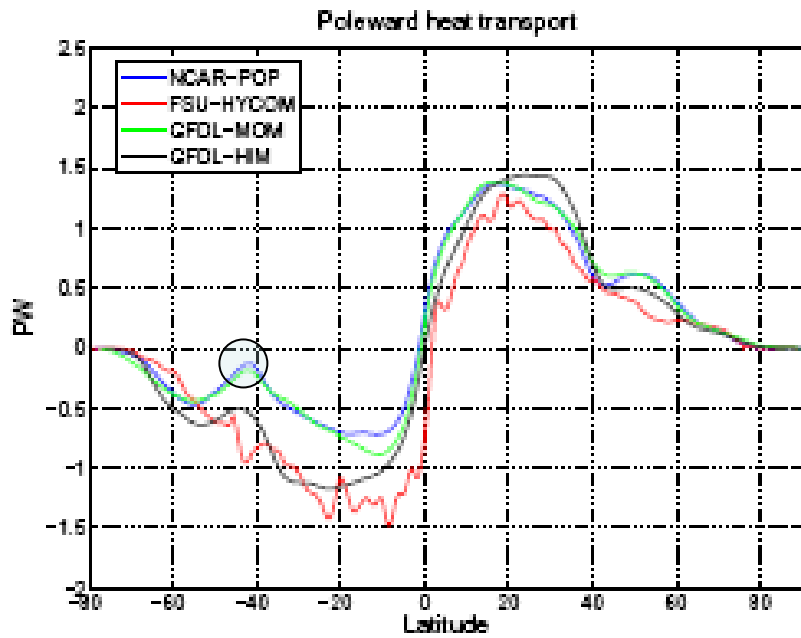
1.4 PW more lost to the north

1.7 PW

Tropical Heating 2 → 2.5 PW

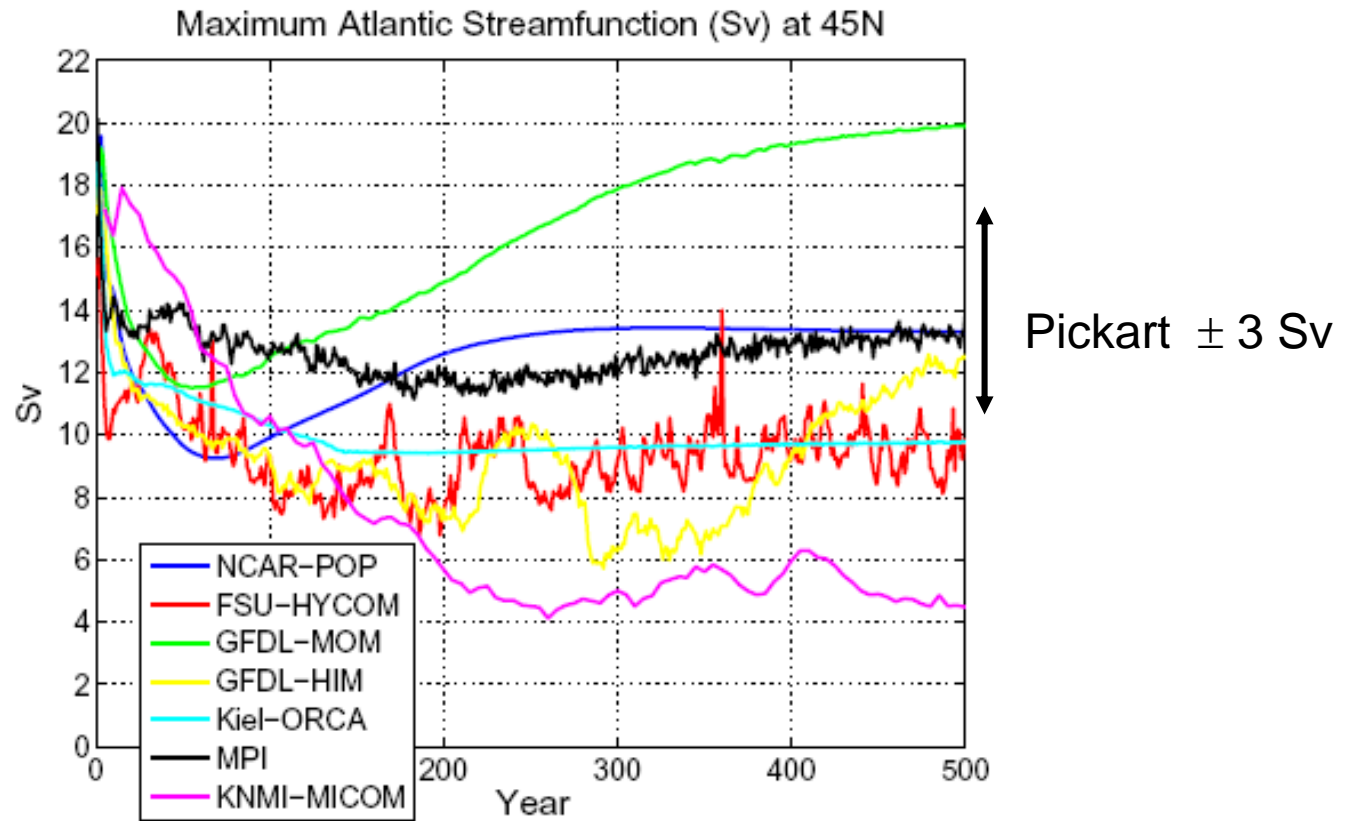
-.3 PW

42 - 55 S Heating ≈ Cooling farther south

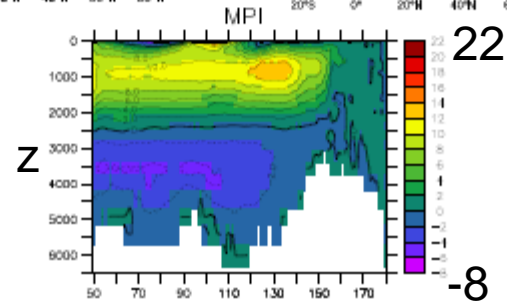
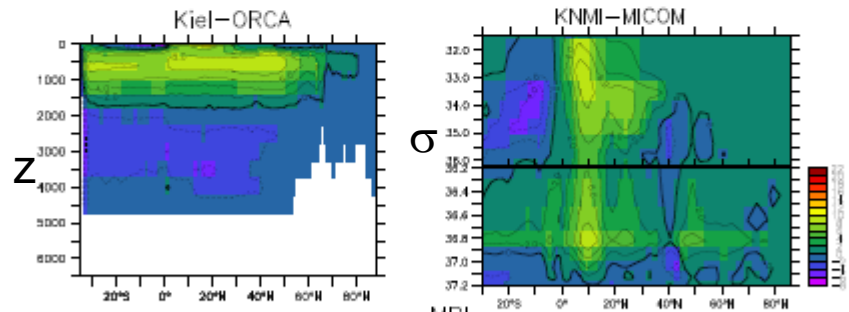
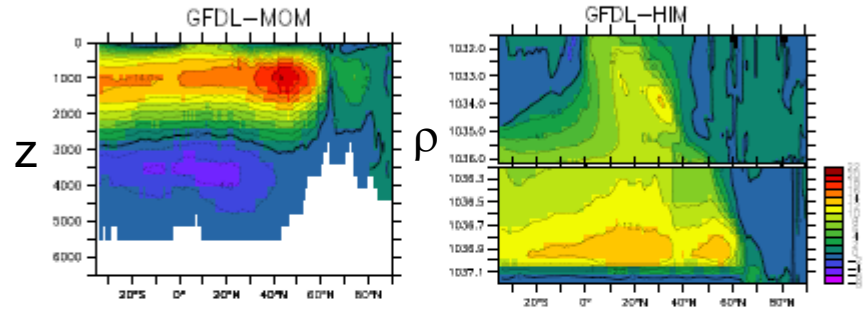
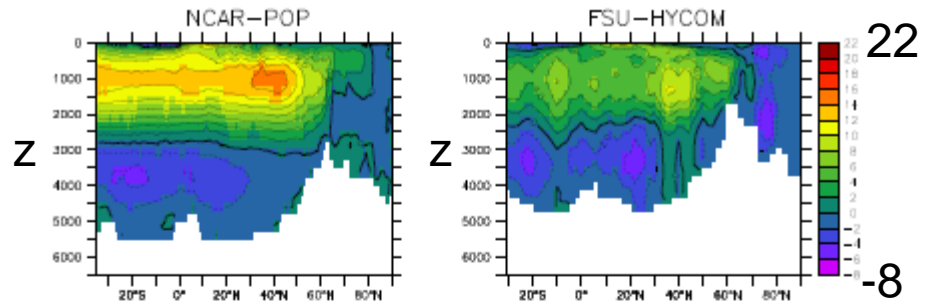


small heating
at 50 S

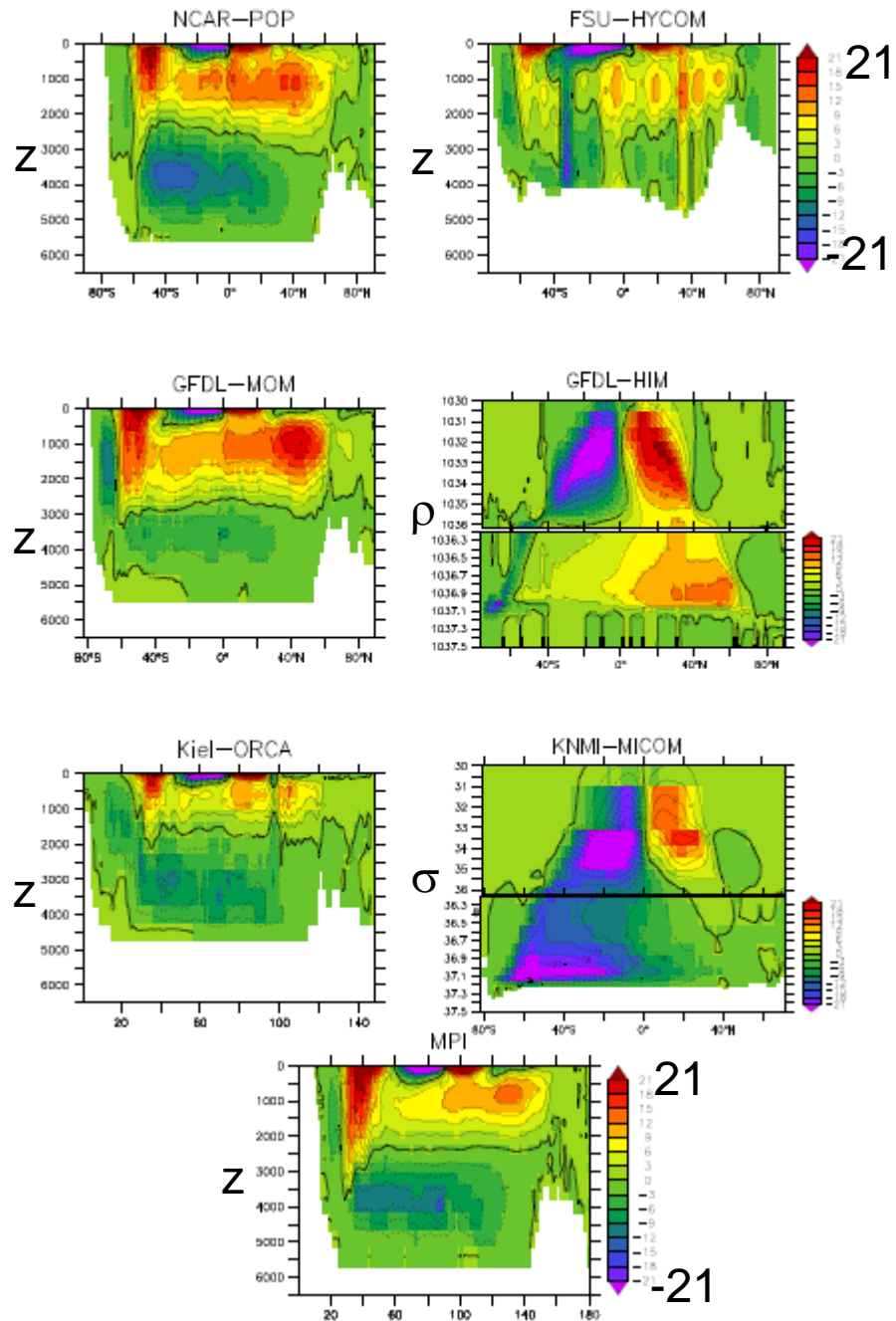
AMOC (Sv)



AMOC (Sv)



Global MOC (Sv)



FINI

EXPERIMENT	SALT/WATER FLUX	$V_{\text{piston}} (\text{m d}^{-1})$	RESTORE REGION	UNDER ICE	NORMAL HYDROLOGY
NCAR-POP	salt	50/(4*365)	global	yes	yes
FSU-HYCOM	salt	50/(4*365)	global	yes	no
GFDL-MOM-A	water	50/(4*365)	global	no	yes
GFDL-MOM-B (control)	water	50/(300)	global	no	yes
GFDL-HIM	water	50/(300)	global	yes	yes
KNMI-MICOM	salt	regional	regional	no	no
MPI-A (control)	water	50/(4*365)	global	fraction	yes
MPI-B	water	50/(300)	global	fraction	yes
Kiel-ORCA	water	50/(300)	regional	yes	no

