

AMOC Project (old CCSM4)

Observations

Data	Analysis
Merged SST (HadiSST 1870-1981; NCEP OI2 1981-2008)	EOFs

Fully-Coupled

1990, 20th Cent, 1850, Prediction

Experiment	Description	Initialization	Diagnostics			
			Atmosphere	Ice	Land	Ocean
b40.032b	Present Day, ccsm4_0_beta10, 1.9x2.5_gx1v5, CAM3_5, N^2 dependent kappa	Case Info.	Yrs 483-502 w/ Obs	Yrs 611-910 vs Obs	Yrs 483-502 w/ Obs	pd.timeseries, 541-560, pd.moc.360-909,
b40.032b_no	Present Day, equivalent to b40.032b, BUT no overflows	b40.032b 0359-01-01	Atm	Yrs 611-1090 vs Obs	Lnd	pd.timeseries, 541-560, MOC_compare, pd.moc.530-1079,
b40.20th.track1.1deg.002a	1850-2000 transient, Track1, start from end of b40.1850.track1.1deg.004, CN + new ice albedo	Case Info.	Yrs 1985-2004 w/ Obs,	Yrs 1985-2004 vs Obs	Yrs 1985-2004 vs Obs	pd.timeseries, 1985-2004, MOC_compare
b40.1850.track1.008	1850 Control, B1850TR1 new ice albedos, CN, rhminl 0.924	Case Info.	Yrs 515-534 w/ Obs	Yrs 515-534 vs Obs	Yrs 515-534 vs Obs	pd.timeseries, 515-534
b40.20th.track1.005	1850-2000 transient, Track1, start from 101-01-01 of b40.1850.track1.008	Case Info.	Yrs 1985-2004 w/ Obs	Yrs 1985-2004 vs Obs	Yrs 1985-2004 vs Obs	pd.timeseries, MOC_compare
b40.1850.track1.1deg.005	1850 Control, hybrid run off end of b40.1850.tr1_bgccspin, 160 years spun up	Case Info.	Yrs 131-150 w/ Obs	Yrs 131-150 vs Obs	Yrs 131-150 vs Obs	pd.timeseries 131-150, MOC_compare
b40.1850.track1.2deg.003	1850 2deg Control, Out-of-box beta35	Case Info.	Atm	Ice	Lnd	MOC_compare pd.MOC.400-1000,
b40.1850.track1.1deg.006	1850 Control, hybrid run off end of b40.1850T1_1deg_07ornl, (130+ years spun up)	Case Info.	Atm	Ice	Lnd	pd.timeseries 181-200, 1001-1100, MOC_compare, pd.MOC.400-1000, pd.MOC.700-1299,
b40.20th.track1.1deg.004	1850-2005 transient, Track1, start from 0863-01-01 of b40.1850.track1.1deg.006	Case Info.	Atm	Ice	Lnd	pd.timeseries, MOC_compare, MOC_compare2, SSTA_2000-2005,
b40.20th.track1.1deg.005	1850-2005 transient, Track1, start from 0863-01-01 of b40.1850.track1.1deg.006, CMIP5 aerosols	Case Info.	Atm	Ice	Lnd	Ocn
b40.20th.track1.1deg.006	1850-2005 transient, Track1, start from 0893-01-01 of b40.1850.track1.1deg.006, CMIP5 aerosols	Case Info.	Atm	Ice	Lnd	Ocn
b40.20th.track1.1deg.007	1850-2005 transient, Track1, start from 0983-01-01 of b40.1850.track1.1deg.006, CMIP5 aerosols	Case Info.	Atm	Ice	Lnd	Ocn
b40.dp.i1970.1deg.001	1970-2005 prediction, ocn/ice IC: g.b29.01, atm/lnd IC: a 20C run	Case Info.	Atm	Ice	Lnd	Ocn
b40.dp.i1980.1deg.001	1980-2005 prediction, ocn/ice IC: g.b29.01, atm/lnd IC: a 20C run	Case Info.	Atm	Ice	Lnd	Ocn

b40.dp.i1990.1deg.001	1990-2005 prediction, ocn/ice IC: g.b29.01, atm/lnd IC: a 20C run	Case Info.	Atm	Ice	Lnd	Ocn
b40.dp.i2000.1deg.001	2000-2005 prediction, ocn/ice IC: g.b29.01, atm/lnd IC: a 20C run	Case Info.	Atm	Ice	Lnd	Ocn
b40.dp.i2000.1deg.005	2000-2005 prediction, ocn/ice IC: c.da48 (DART), atm/lnd IC: a 20C run	Case Info.	Atm	Ice	Lnd	Ocn
b40.dp.i2000.rcp4_5.1deg.005	2005-2030 prediction extension, ocn/ice IC: b40.dp.i2000.1deg.005, atm/lnd IC: b40.dp.i2000.1deg.005	Case Info.	Atm	Ice	Lnd	2020-2029,
b40.dp.i2000.rcp4_5.1deg.006	2005-2030 prediction extension, ocn/ice IC: b40.dp.i2000.1deg.006, atm/lnd IC: b40.dp.i2000.1deg.006	Case Info.	Atm	Ice	Lnd	2020-2029,
b40.dp.i2000.rcp4_5.1deg.007	2005-2030 prediction extension, ocn/ice IC: b40.dp.i2000.1deg.007, atm/lnd IC: b40.dp.i2000.1deg.007	Case Info.	Atm	Ice	Lnd	2020-2029,
b40.dp.i2000.rcp4_5.1deg.008	2005-2030 prediction extension, ocn/ice IC: b40.dp.i2000.1deg.008, atm/lnd IC: b40.dp.i2000.1deg.008	Case Info.	Atm	Ice	Lnd	2020-2029,

Coupled Ocean-Ice

Experiment	Description	Initialization	Diagnostics			
			Atmosphere	Ice	Land	Ocean
g.b29.01	ccsm4_0_beta29, GIAF,CORE2_IAF (1948-2007); equivalent to c.b27.01; sfwf_weak_restore = 0.0115	Levitus/PHC	Atm	Yrs 1-60, Yrs 61-120, Yrs 121-180, Yrs 181-240,	Lnd	51-60, 111-120, 171-180, 1998-02, 1998-03, 1998, 1999, 2000-02, 231-240, WOCEtracks.3rdcycle, pd.timeseries, pd.MOC.121-180, pd.MOC.181-240,
g.b29.02	ccsm4_0_beta29, GIAF,CORE2_IAF (1948-2007); equivalent to c.b27.02; sfwf_weak_restore = 0.046	Levitus/PHC	Atm	Yrs 1-60, Yrs 61-120, Yrs 121-180, Yrs 181-240,	Lnd	51-60, 111-120, 171-180, 231-240, pd.timeseries
g.b29.03	ccsm4_0_beta29, GIAF,CORE2_IAF (1948-2007); equivalent to c.b27.03; sfwf_weak_restore = 0.55	Levitus/PHC	Atm	Yrs 1-60, Yrs 61-120, Yrs 121-180, Yrs 181-240,	Lnd	51-60, 111-120, 1998, 171-180, 231-240, pd.timeseries, pd.MOC.121-180,
g.b29.04	ccsm4_0_beta29, GIAF,CORE2_IAF (1948-2007); equivalent to c.b27.04; sfwf_weak_restore = 0.0	Levitus/PHC	Atm	Yrs 1-60, Yrs 61-120, Yrs 121-180, Yrs 181-240,	Lnd	51-60, 111-120, 171-180, 231-240, pd.timeseries

Ocean Only

Experiment	Description	Initialization	Diagnostics			
			Atmosphere	Ice	Land	Ocean
c.b12.001	CORE2 IAF, 0.5deg SSML, 1deg annual Dai-Tren runoff, ccsm4_0_beta12, N^2 dependent kappa	Levitus/PHC2	Atm	Ice	Lnd	20-20, 44-53 (1991-2000), pd.timeseries,

c.b12.002	CORE2 NYF, 0.5deg SSML, 1deg annual Dai-Tren runoff, ccs4_0_beta12, N^2 dependent kappa	Levitus/PHC2	Atm	Ice	Lnd	20-20, 44-53, 91-100, 141-150, pd.timeseries, MOC_compare
c.b12.002a	identical to c.b12.002 BUT climatological (12-month) Dai-Tren runoff	branch from 0075-01-01 of c.b12.002	Atm	Ice	Lnd	91-100, 141-150, 141-150w/c. b12.002, pd.timeseries, MOC_compare
c.b12.002b	identical to c.b12.002 BUT interannual (56-year) Dai-Tren runoff	branch from 0075-01-01 of c.b12.002	Atm	Ice	Lnd	91-100, 141-150, 141-150w/c. b12.002, pd.timeseries, MOC_compare
c.b12.002a.2x	identical to c.b12.002a BUT uses future projection climatological (12-month) runoff (runoff.daitren.clim.090427.future.nc)	branch from 0075-01-01 of c.b12.002	Atm	Ice	Lnd	91-100, MOC_compare
c.b27.01	CORE2 IAF 1948-2007 (60 yr cycle): 0.5deg SSML, 12-month clim Dai-Tren runoff, ccs4_0_beta27, sfwf_weak_restore = 0.0115	Levitus/PHC2	Atm	Ice	Lnd	51-60, 111-120, 171-180, 231-240, 1998, 1999, pd.timeseries, WOCEtracks. 3rdcycle,
c.b27.02	CORE2 IAF 1948-2007 (60 yr cycle): 0.5deg SSML, 12-month clim Dai-Tren runoff, ccs4_0_beta27, sfwf_weak_restore = 0.046	Levitus/PHC2	Atm	Ice	Lnd	51-60, 2000_01, 111-120, 171-180, 231-240, pd.timeseries,
c.b27.03	CORE2 IAF 1948-2007 (60 yr cycle): 0.5deg SSML, 12-month clim Dai-Tren runoff, ccs4_0_beta27, sfwf_weak_restore = 0.55	Levitus/PHC2	Atm	Ice	Lnd	51-60, 111-120, 1998, 171-180, 231-240, pd.timeseries,
c.b27.04	CORE2 IAF 1948-2007 (60 yr cycle): 0.5deg SSML, 12-month clim Dai-Tren runoff, ccs4_0_beta27, sfwf_weak_restore = 0.0	Levitus/PHC2	Atm	Ice	Lnd	51-60, 111-120, pd.timeseries,

DART, Ocean Only

Experiment	Description	Initialization	Diagnostics			
			Atmosphere	Ice	Land	Ocean
dart.002hy	23-ocean, ccs4_0_beta21ie, January 2000 CORE2 IAF, GTSP T&S, daily restart/assimilate	c.b12.001, jan01, various years	Atm	Ice	Lnd	Jan2000_12,
dart.003hy	equivalent to dart.002hy BUT: correct & evaluate salinity, cutoff=0.2, reduced TEMP variance, DART speedup.	c.b12.001, jan01, various years	Atm	Ice	Lnd	Jan2000_20, Jan2000_ensavg
dart.004	January 2000; WOD obs; S var = 0.5g/kg; T var = 1degC	c.b12.001, jan01, various years	Atm	Ice	Lnd	Jan2000_17, Jan2000_ensavg , Feb2000_3, Feb2000_ensavg
dart.004ai	February 2000; WOD obs; equivalent to dart.004 BUT w/ adaptive inflation	dart.004, feb01	Atm	Ice	Lnd	Feb2000_9, Feb2000_ensavg

dart.005.6	January 1998 on; WOD obs; adaptive inflation OFF; 6 nodes	c.b12.001, jan01	Atm	Ice	Lnd	Jan1998_14, Feb1998_18, 1998_9, 1998_ensavg, 1999_9, 1999_ensavg,
c.da48	January 1998 on; WOD obs; NO inflation; 48-member	core2 hindcasts, jan01-1998	Atm	Ice	Lnd	Mar1998_9, 1998_ensavg, 1998_9, 1999_9,
c.da48.2c	January 2000 on; WOD obs; continuation of c.da48	c.da48	Atm	Ice	Lnd	2000_9, 2001_9, 2002_9,