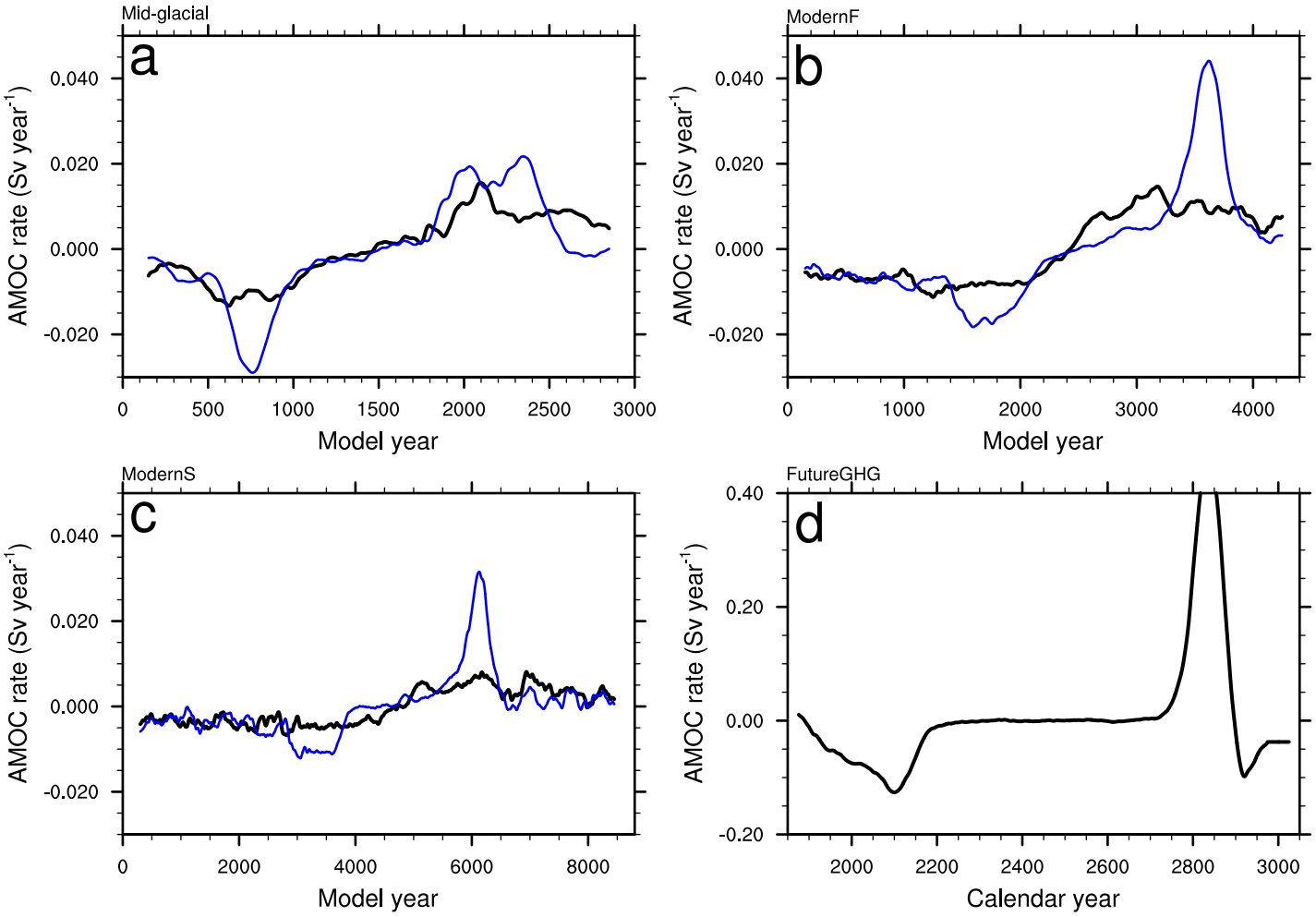
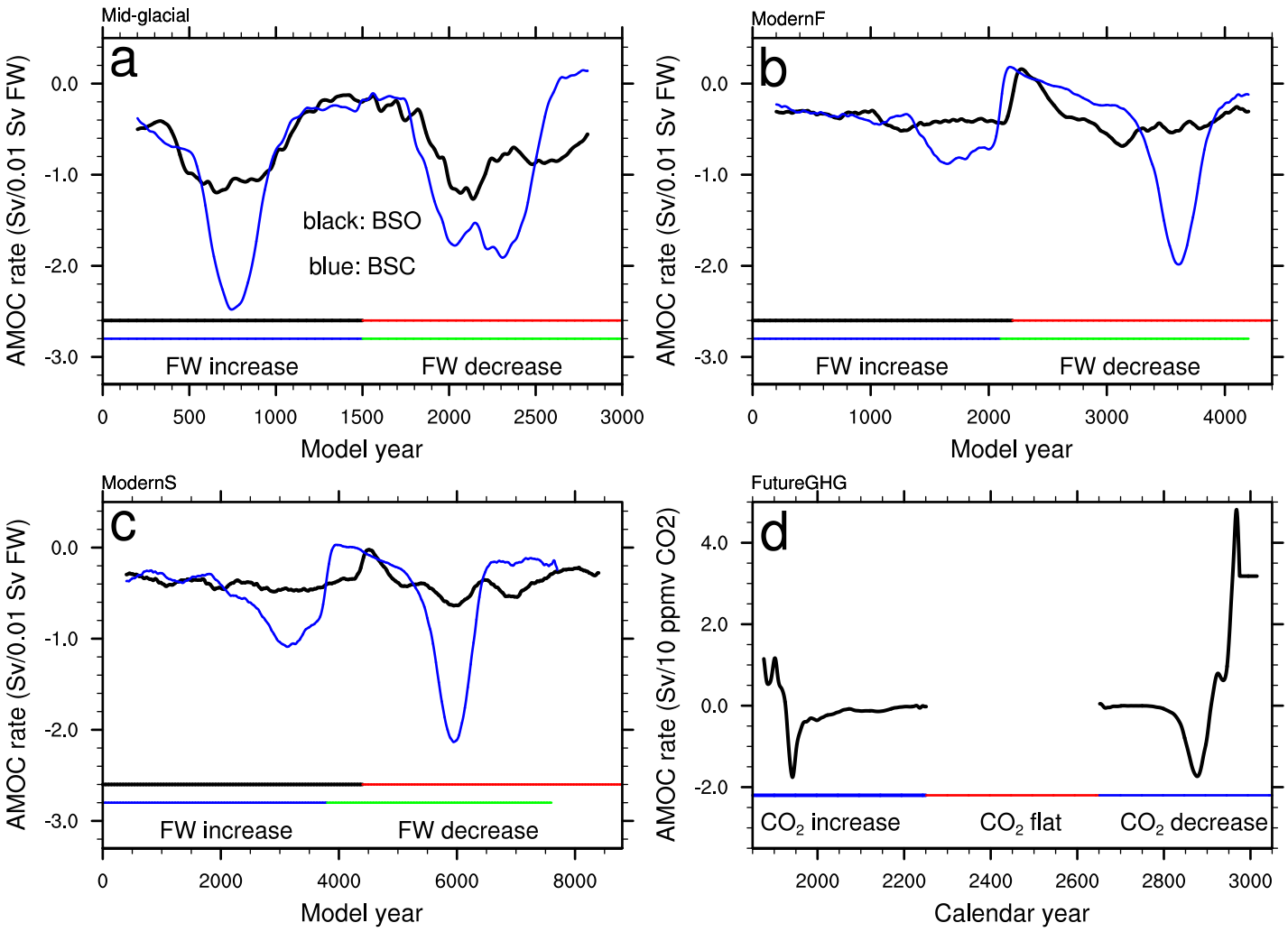
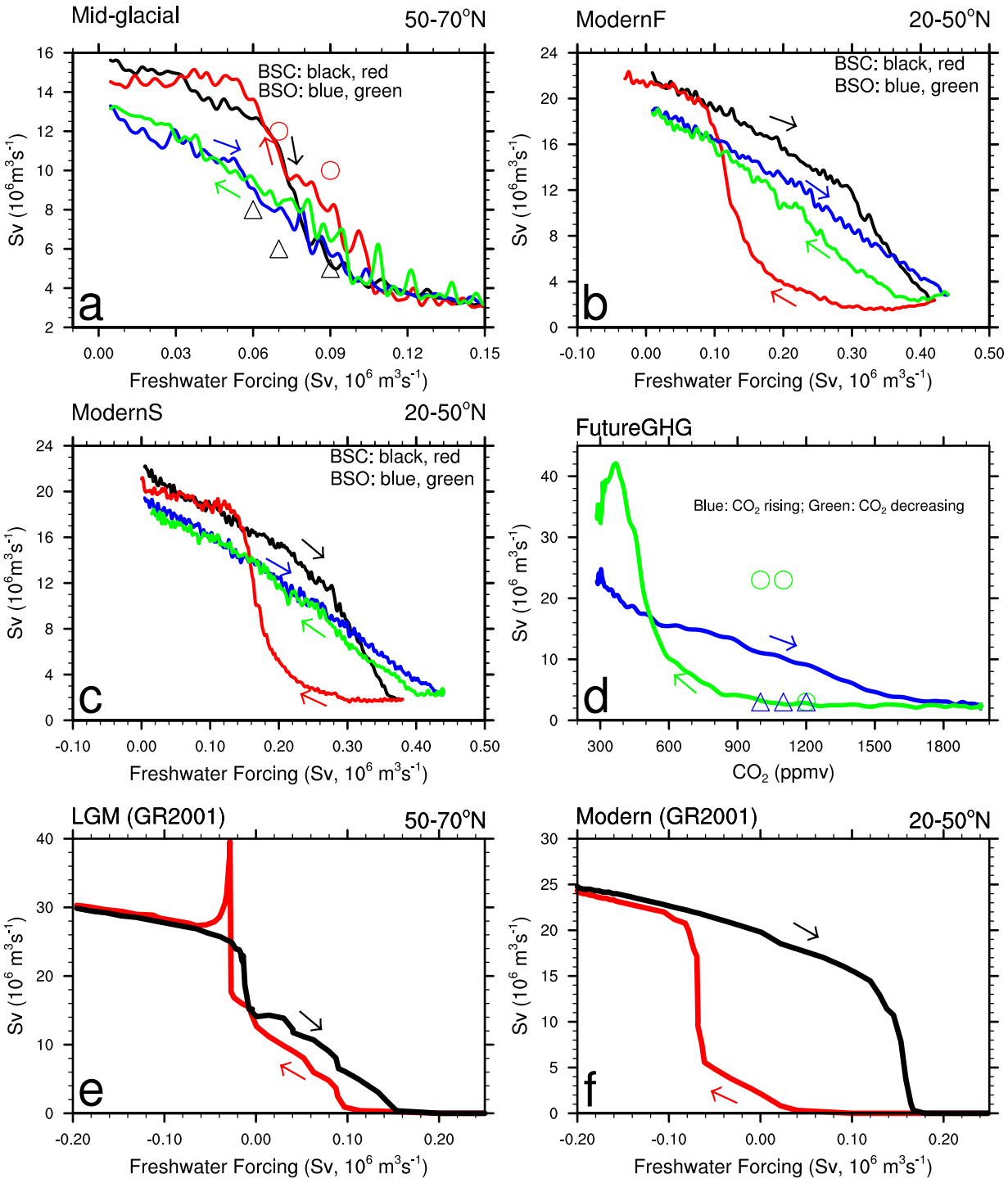
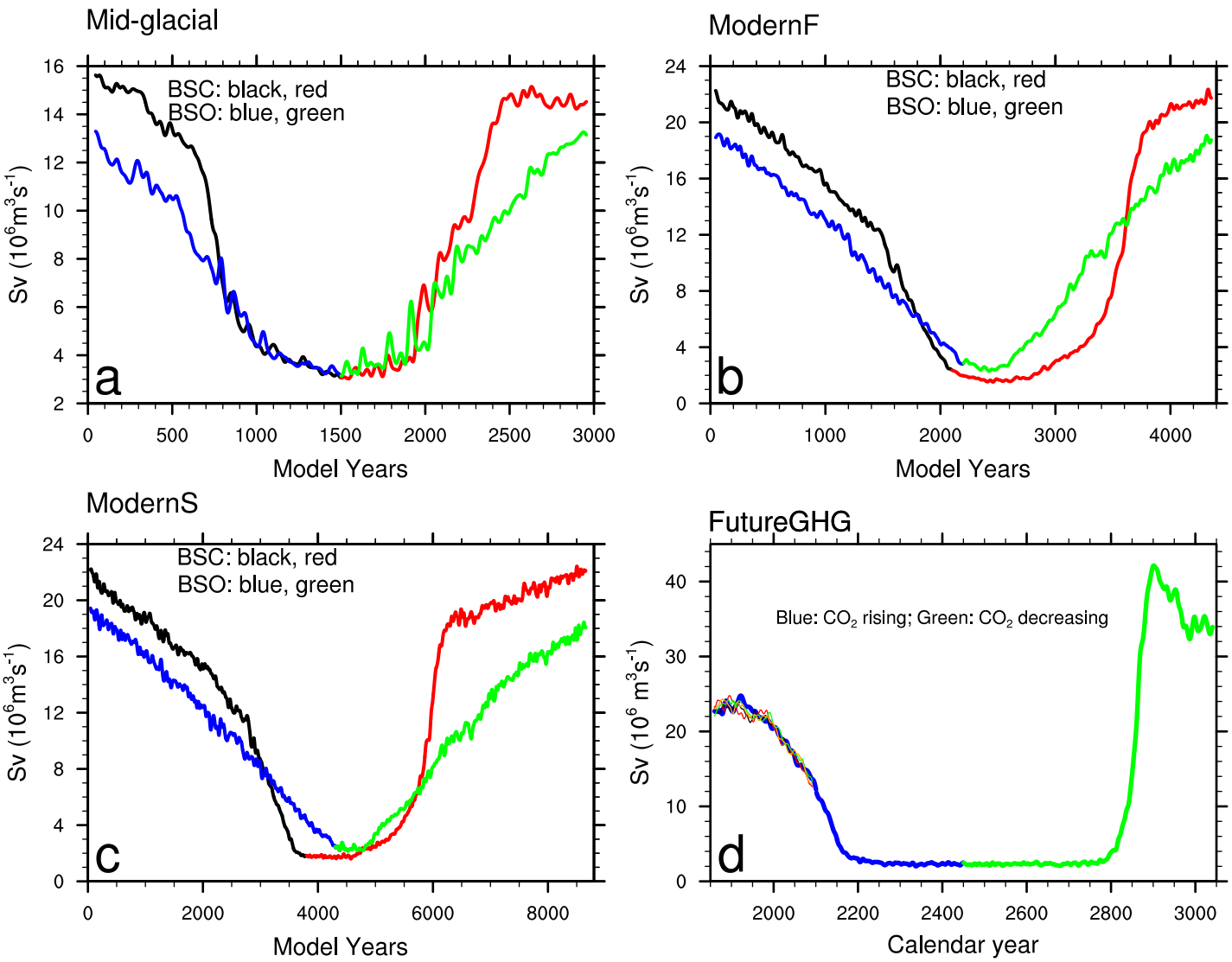
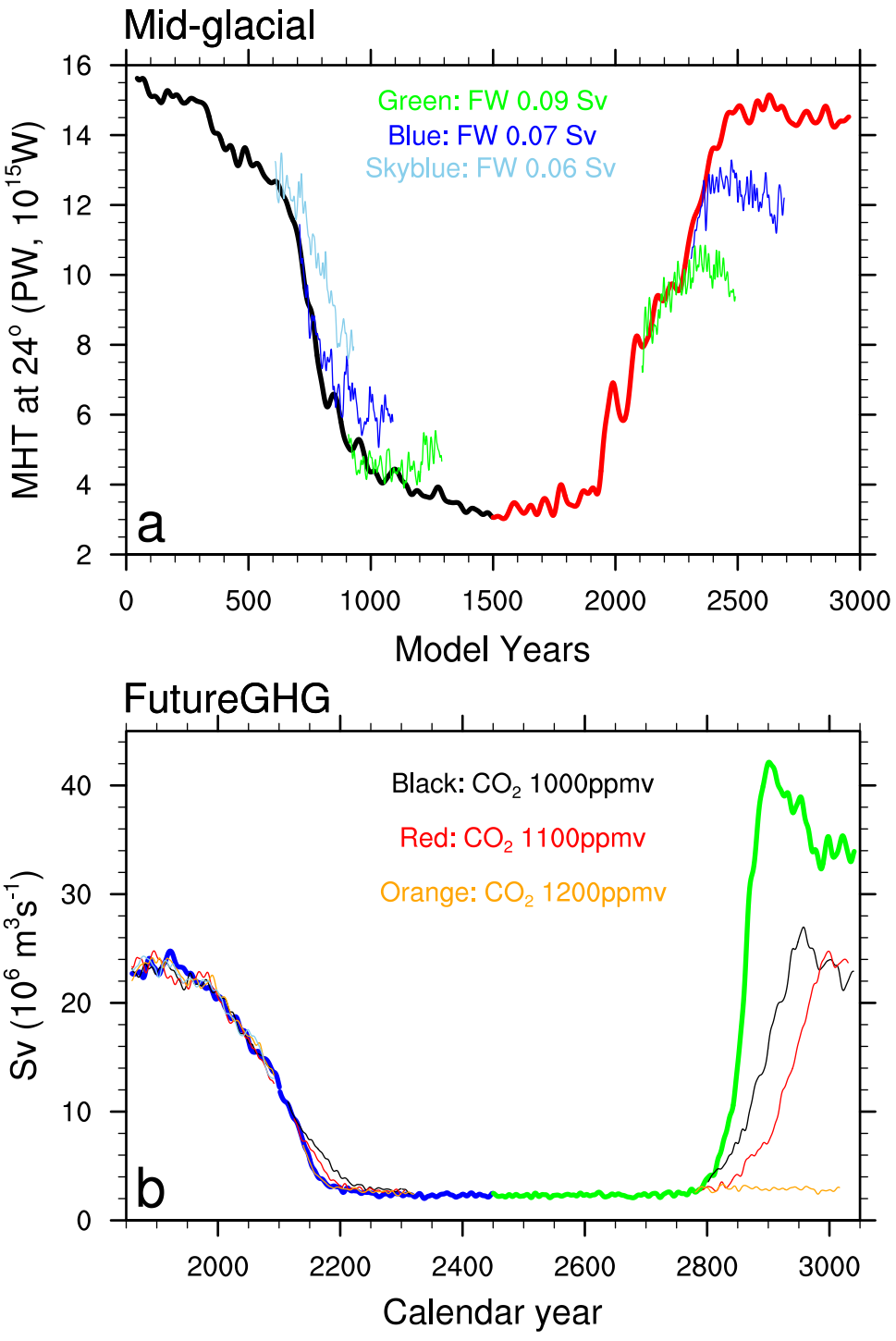
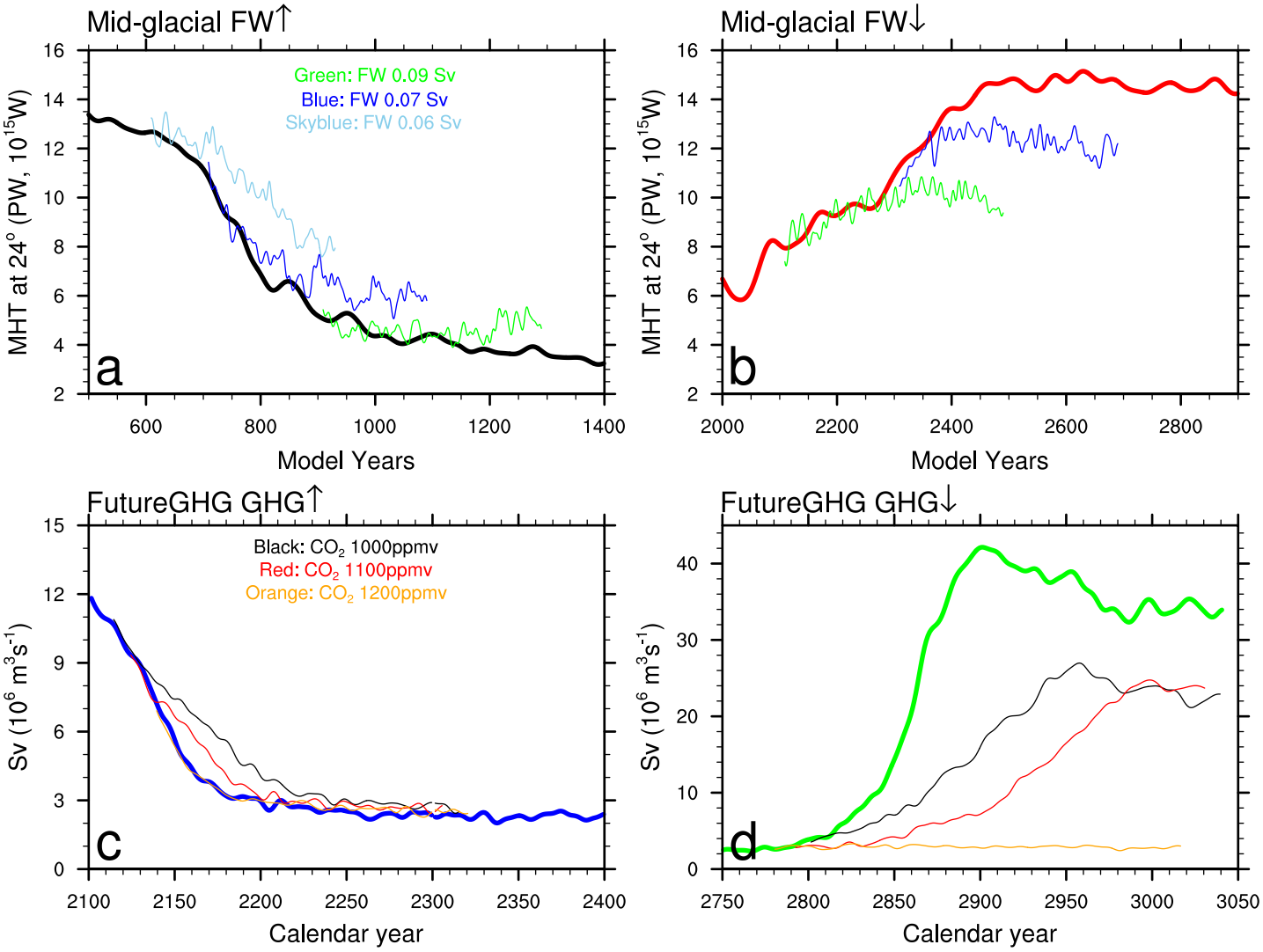

Mid-glacial
a
AMOC rate (Sv year-1)
0.040
0.020
0.000
-0.020
0
500
1000
1500
2000
2500
3000
Model year
ModernF
b
AMOC rate (Sv year-1)
0.040
0.020
0.000
-0.020
0
1000
2000
3000
4000
Model year
ModernS
c
AMOC rate (Sv year-1)
0.040
0.020
0.000
-0.020
0
2000
4000
6000
8000
Model year
FutureGHG
d
AMOC rate (Sv year-1)
0.40
0.20
0.00
-0.20
2000
2200
2400
2600
2800
3000
Calendar year

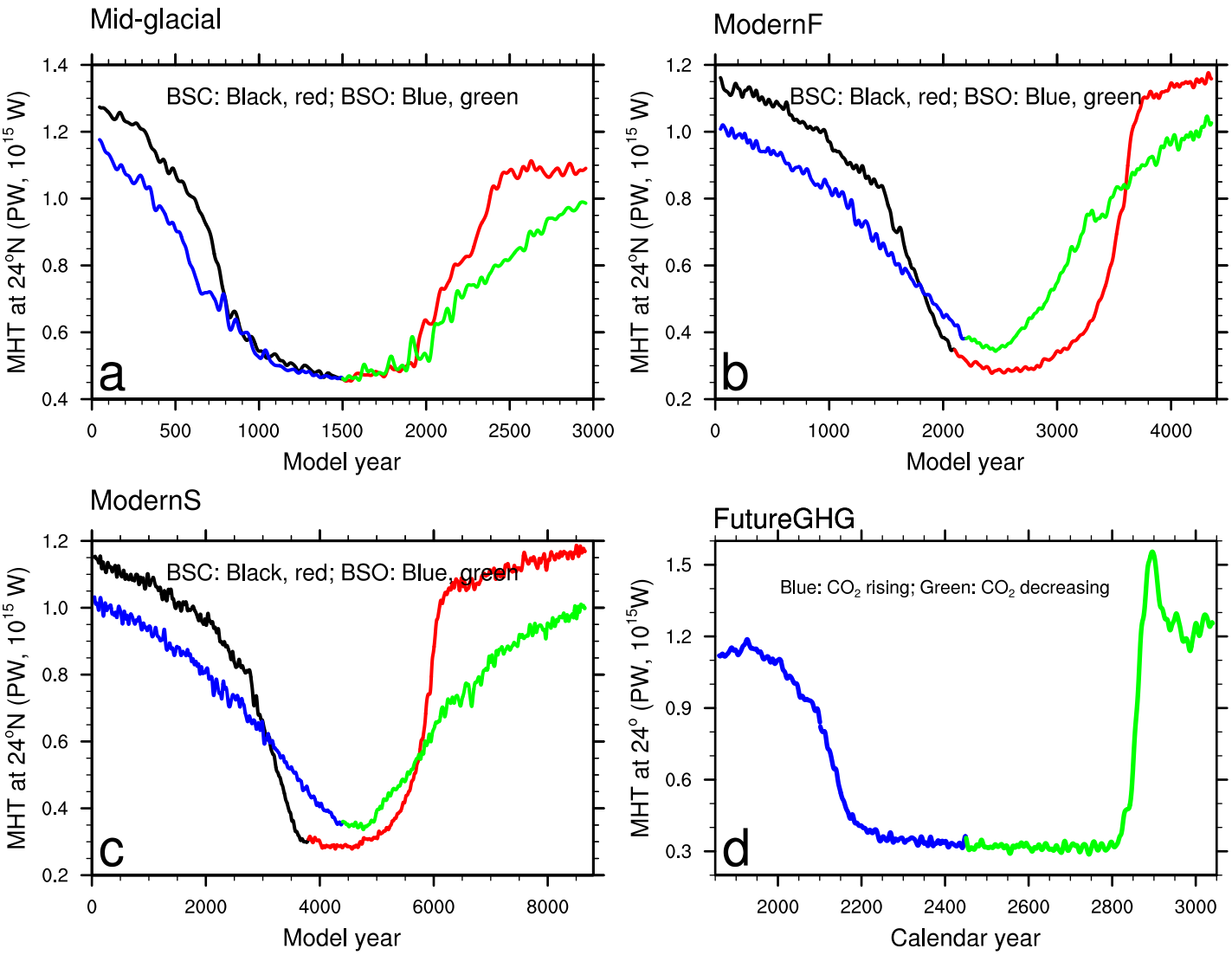

Mid-glacial
a
black: BSO
blue: BSC
FW increase
FW decrease
AMOC rate (Sv/0.01 Sv FW)
Model year
ModernF
b
FW increase
FW decrease
AMOC rate (Sv/0.01 Sv FW)
Model year
ModernS
c
FW increase
FW decrease
AMOC rate (Sv/0.01 Sv FW)
Model year
FutureGHG
d
CO2 increase
CO2 flat
CO2 decrease
AMOC rate (Sv/10 ppmv CO2)
Calendar year

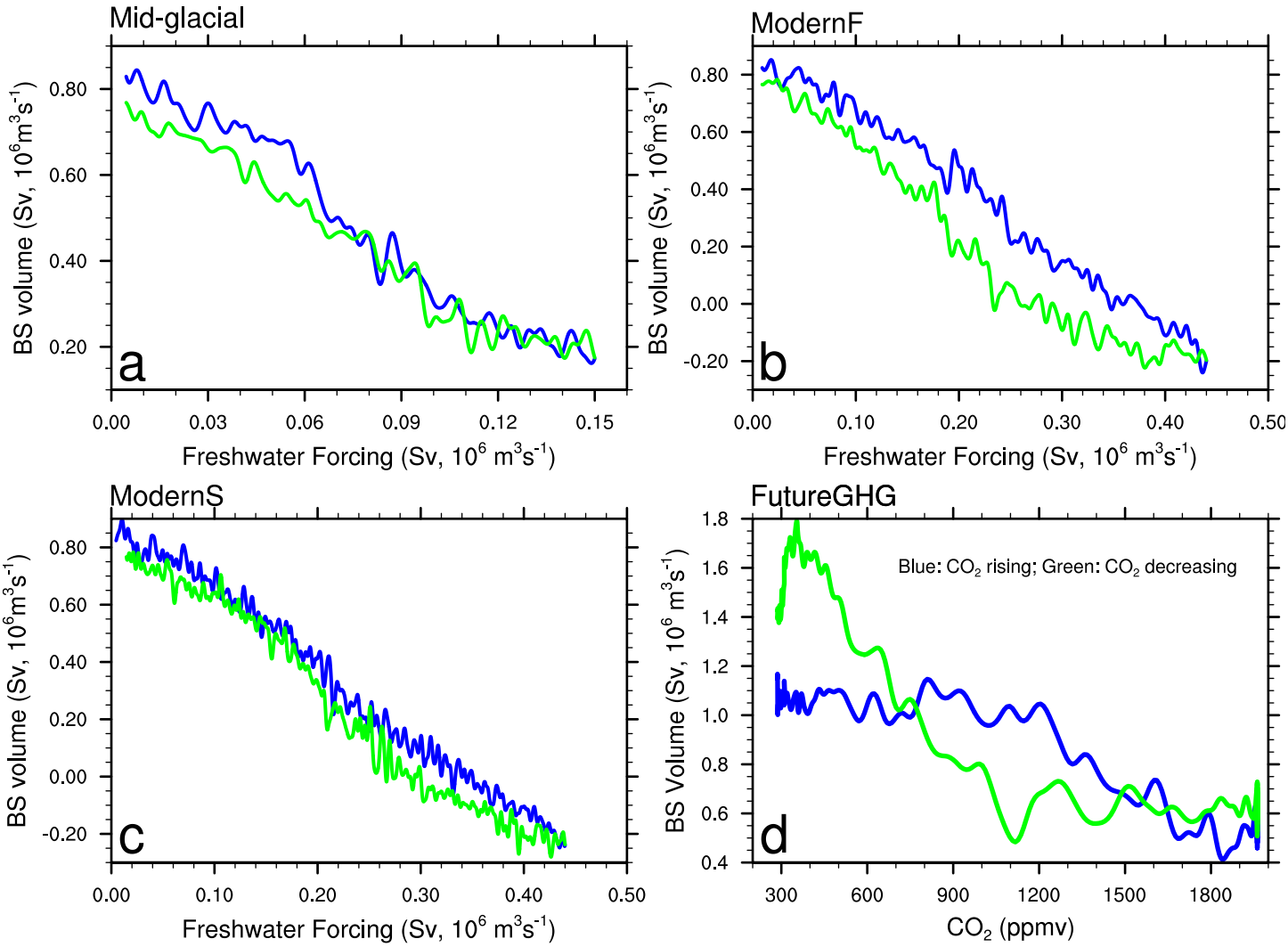

Mid-glacial
50-70°N
BSC: black, red
BSO: blue, green
a
Sv (10^6 m^3s^-1)
Freshwater Forcing (Sv, 10^6 m^3s^-1)
ModernF
20-50°N
BSC: black, red
BSO: blue, green
b
Sv (10^6 m^3s^-1)
Freshwater Forcing (Sv, 10^6 m^3s^-1)
ModernS
20-50°N
BSC: black, red
BSO: blue, green
c
Sv (10^6 m^3s^-1)
Freshwater Forcing (Sv, 10^6 m^3s^-1)
FutureGHG
Blue: CO2 rising; Green: CO2 decreasing
d
Sv (10^6 m^3s^-1)
CO2 (ppmv)
LGM (GR2001)
50-70°N
e
Sv (10^6 m^3s^-1)
Freshwater Forcing (Sv, 10^6 m^3s^-1)
Modern (GR2001)
20-50°N
f
Sv (10^6 m^3s^-1)
Freshwater Forcing (Sv, 10^6 m^3s^-1)

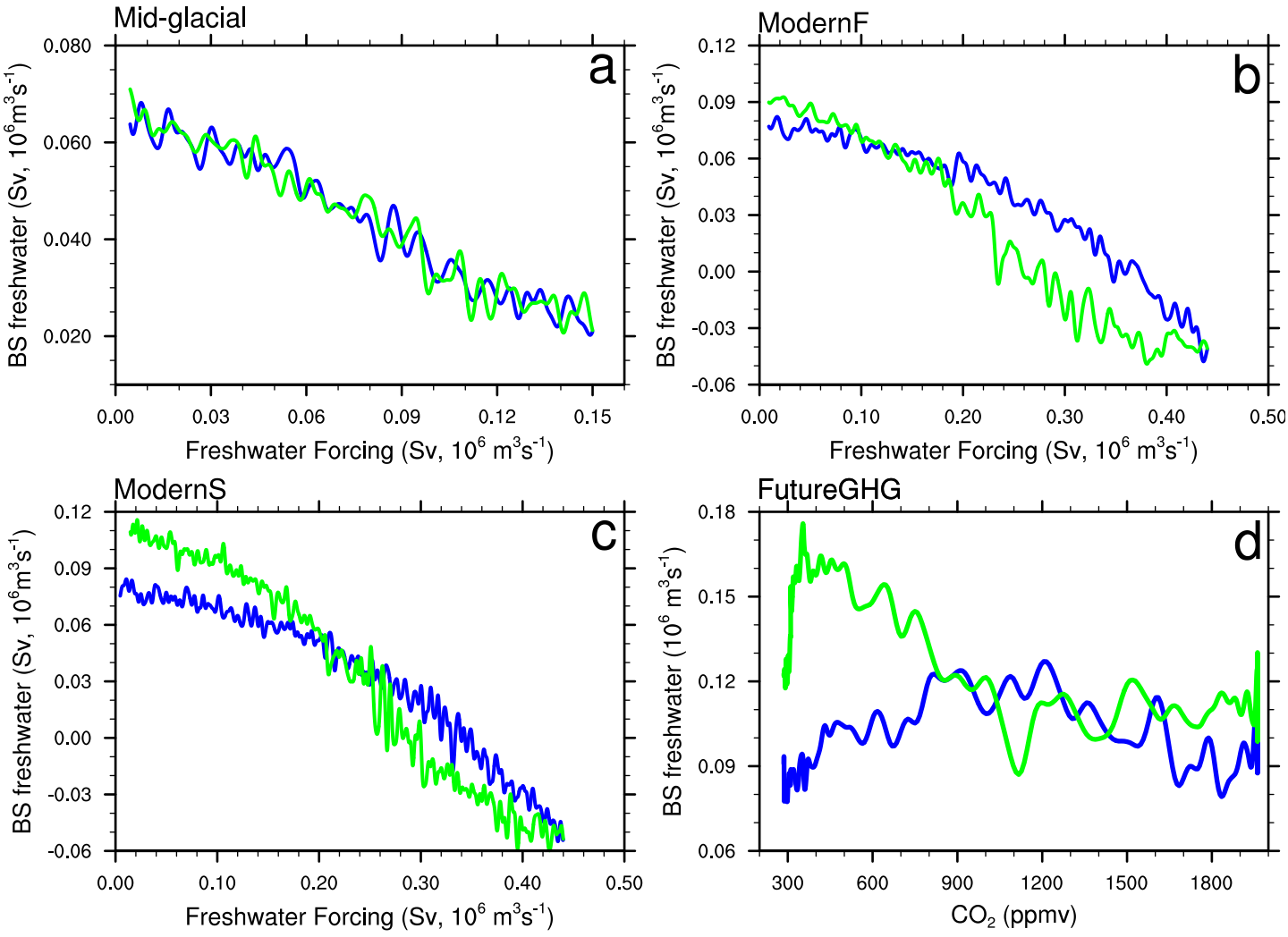

Mid-glacial
BSC: black, red
BSO: blue, green
a
Sv ($10^6 m^3 s^{-1}$)
Model Years
ModernF
BSC: black, red
BSO: blue, green
b
Sv ($10^6 m^3 s^{-1}$)
Model Years
ModernS
BSC: black, red
BSO: blue, green
c
Sv ($10^6 m^3 s^{-1}$)
Model Years
FutureGHG
Blue: CO_2 rising; Green: CO_2 decreasing
d
Sv (10^6 $m^3 s^{-1}$)
Calendar year

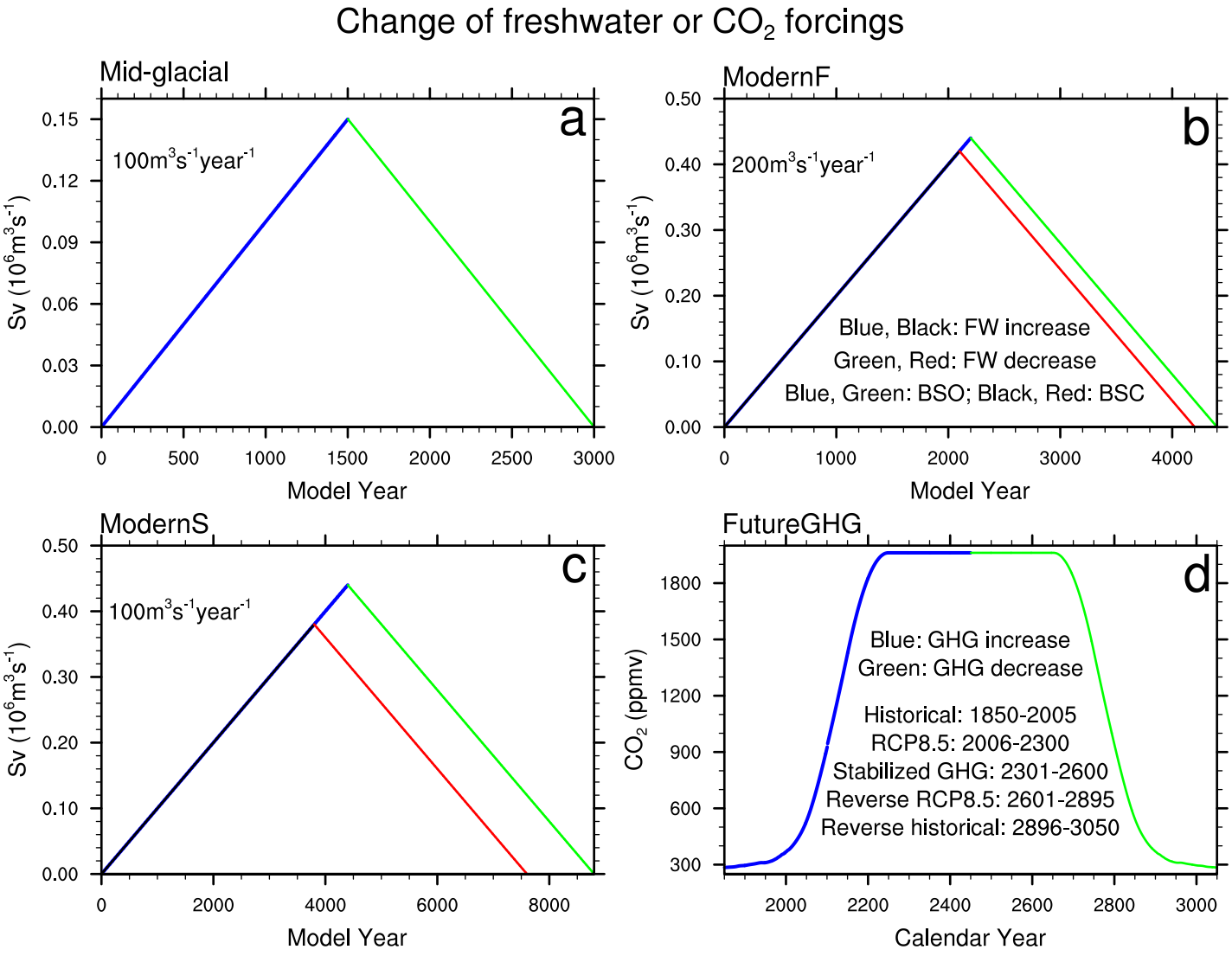

Mid-glacial
Green: FW 0.09 Sv
Blue: FW 0.07 Sv
Skyblue: FW 0.06 Sv
MHT at 24° (PW, 10^15W)
Model Years
a
FutureGHG
Black: CO2 1000ppmv
Red: CO2 1100ppmv
Orange: CO2 1200ppmv
Sv (10^6 m^3s^-1)
Calendar year
b


Mid-glacial FW↑
Green: FW 0.09 Sv
Blue: FW 0.07 Sv
Skyblue: FW 0.06 Sv
MHT at 24° (PW, 10^15 W)
Model Years
a
Mid-glacial FW↓
MHT at 24° (PW, 10^15 W)
Model Years
b
FutureGHG GHG↑
Black: CO2 1000ppmv
Red: CO2 1100ppmv
Orange: CO2 1200ppmv
Sv (10^6 m^3 s^-1)
Calendar year
c
FutureGHG GHG↓
Sv (10^6 m^3 s^-1)
Calendar year
d


Mid-glacial
BSC: Black, red; BSO: Blue, green
MHT at 24°N (PW, 10^15 W)
Model year
a
ModernF
BSC: Black, red; BSO: Blue, green
MHT at 24°N (PW, 10^15 W)
Model year
b
ModernS
BSC: Black, red; BSO: Blue, green
MHT at 24°N (PW, 10^15 W)
Model year
c
FutureGHG
Blue: CO2 rising; Green: CO2 decreasing
MHT at 24° (PW, 10^15W)
Calendar year
d


Mid-glacial
a
BS volume (Sv, 10^6m^3s^-1)
0.80
0.60
0.40
0.20
0.00
0.03
0.06
0.09
0.12
0.15
Freshwater Forcing (Sv, 10^6 m^3s^-1)
ModernF
b
BS volume (Sv, 10^6m^3s^-1)
0.80
0.60
0.40
0.20
0.00
-0.20
0.00
0.10
0.20
0.30
0.40
0.50
Freshwater Forcing (Sv, 10^6 m^3s^-1)
ModernS
c
BS volume (Sv, 10^6m^3s^-1)
0.80
0.60
0.40
0.20
0.00
-0.20
0.00
0.10
0.20
0.30
0.40
0.50
Freshwater Forcing (Sv, 10^6 m^3s^-1)
FutureGHG
d
BS Volume (Sv, 10^6 m^3s^-1)
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
Blue: CO2 rising; Green: CO2 decreasing
300
600
900
1200
1500
1800
CO2 (ppmv)


Mid-glacial
a
BS freshwater (Sv, 10^6 m^3 s^-1)
0.080
0.060
0.040
0.020
0.00
0.03
0.06
0.09
0.12
0.15
Freshwater Forcing (Sv, 10^6 m^3 s^-1)
ModernF
b
BS freshwater (Sv, 10^6 m^3 s^-1)
0.12
0.09
0.06
0.03
0.00
-0.03
-0.06
0.00
0.10
0.20
0.30
0.40
0.50
Freshwater Forcing (Sv, 10^6 m^3 s^-1)
ModernS
c
BS freshwater (Sv, 10^6 m^3 s^-1)
0.12
0.09
0.06
0.03
0.00
-0.03
-0.06
0.00
0.10
0.20
0.30
0.40
0.50
Freshwater Forcing (Sv, 10^6 m^3 s^-1)
FutureGHG
d
BS freshwater (10^6 m^3 s^-1)
0.18
0.15
0.12
0.09
0.06
300
600
900
1200
1500
1800
CO2 (ppmv)


Change of freshwater or CO_2 forcings
Mid-glacial
a
100m^{3}s^{-1}year^{-1}
Sv (10^{6}m^{3}s^{-1})
0.00
0.03
0.06
0.09
0.12
0.15
0
500
1000
1500
2000
2500
3000
Model Year
ModernF
b
200m^{3}s^{-1}year^{-1}
Sv (10^{6}m^{3}s^{-1})
0.00
0.10
0.20
0.30
0.40
0.50
0
1000
2000
3000
4000
Model Year
Blue, Black: FW increase
Green, Red: FW decrease
Blue, Green: BSO; Black, Red: BSC
ModernS
c
100m^{3}s^{-1}year^{-1}
Sv (10^{6}m^{3}s^{-1})
0.00
0.10
0.20
0.30
0.40
0.50
0
2000
4000
6000
8000
Model Year
FutureGHG
d
CO_2 (ppmv)
300
600
900
1200
1500
1800
2000
2200
2400
2600
2800
3000
Calendar Year
Blue: GHG increase
Green: GHG decrease
Historical: 1850-2005
RCP8.5: 2006-2300
Stabilized GHG: 2301-2600
Reverse RCP8.5: 2601-2895
Reverse historical: 2896-3050