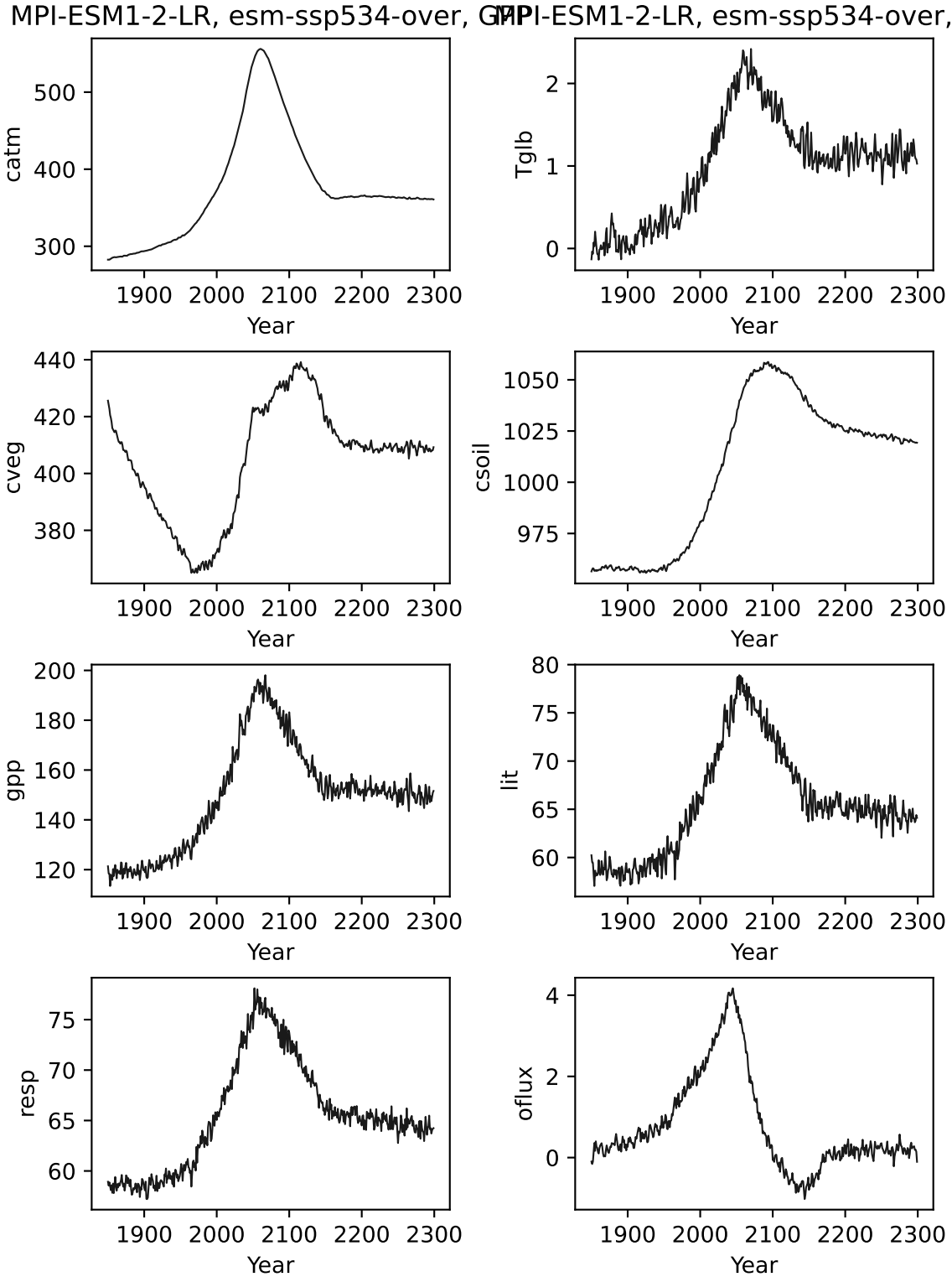
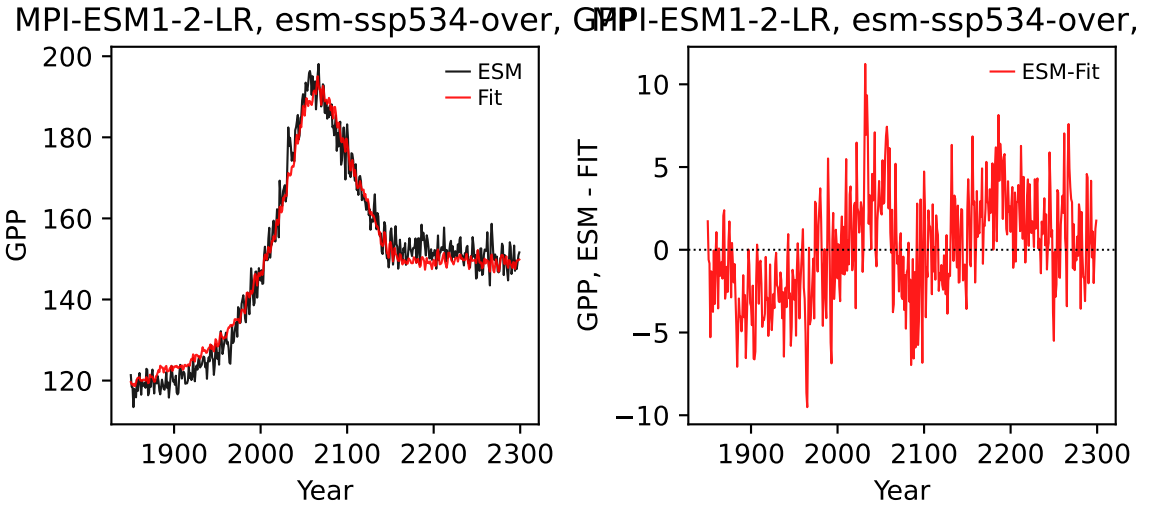
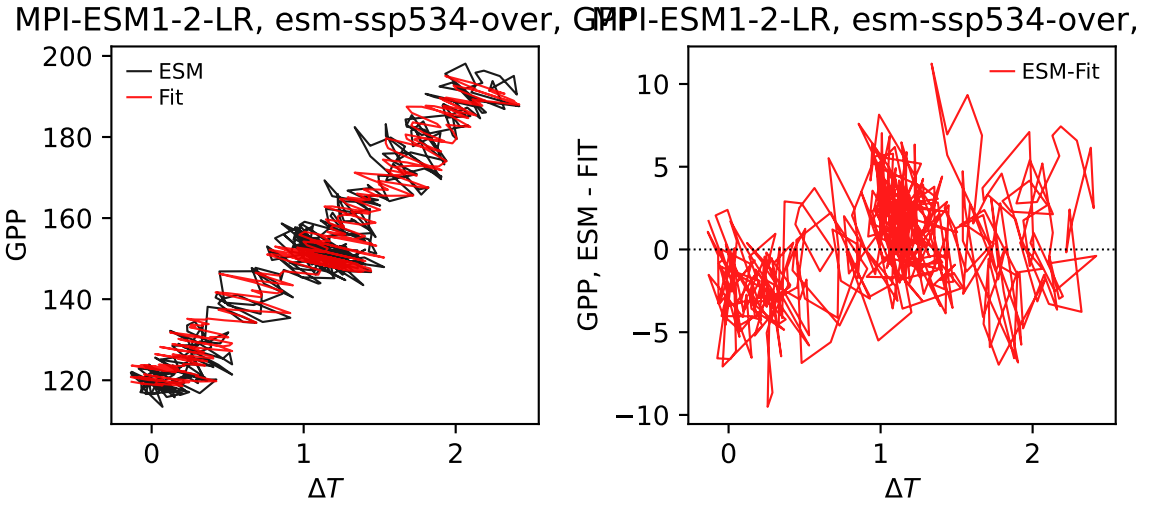
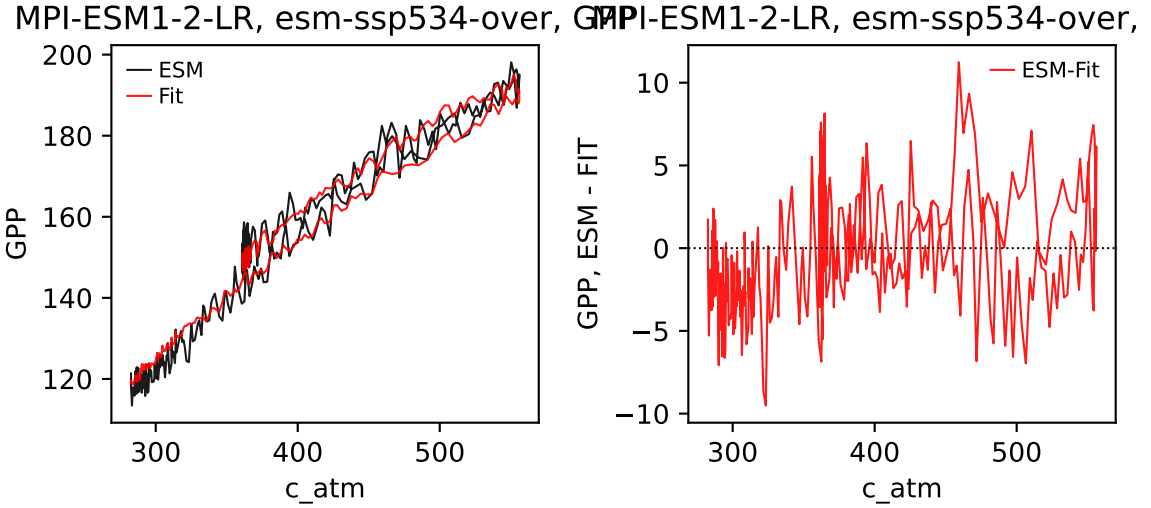
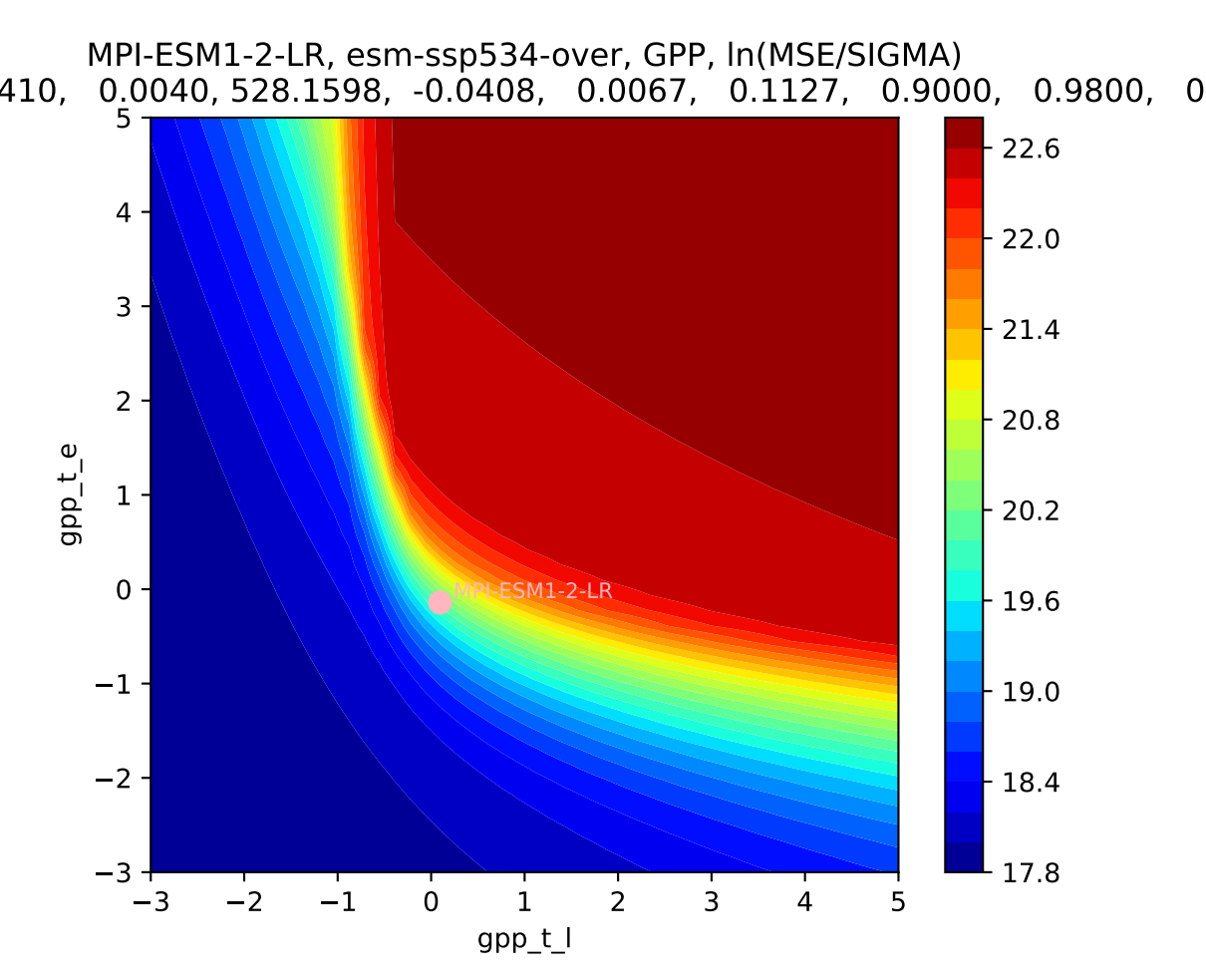
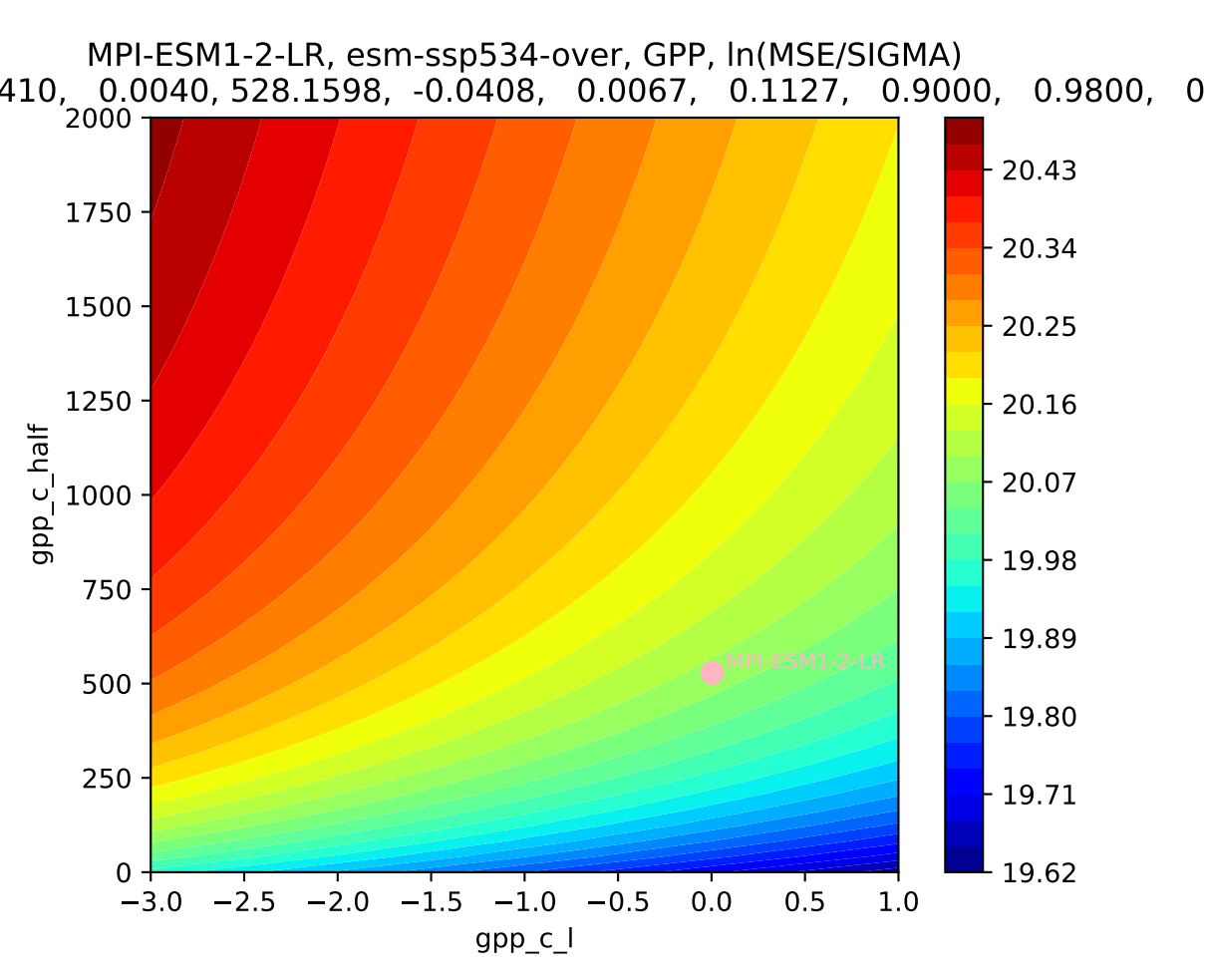

MPI-ESM1-2-LR, esm-ssp534-over, GPP
MPI-ESM1-2-LR, esm-ssp534-over,
catm
Tglb
cveg
csoil
gpp
lit
resp
oflux
Year
1900
2000
2100
2200
2300

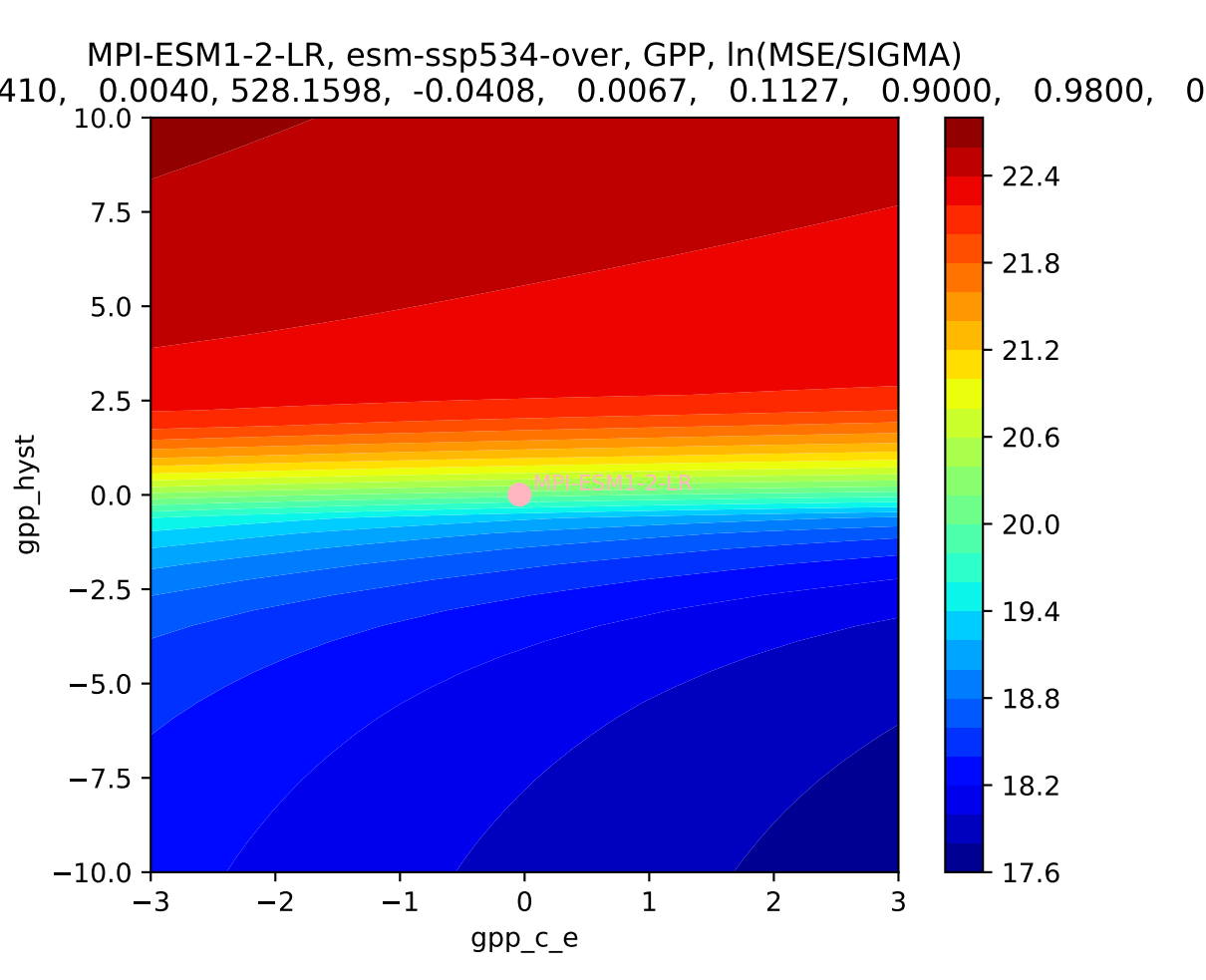

MPI-ESM1-2-LR, esm-ssp534-over, GPP
ESM
Fit
GPP
Year
MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
GPP, ESM - FIT
Year

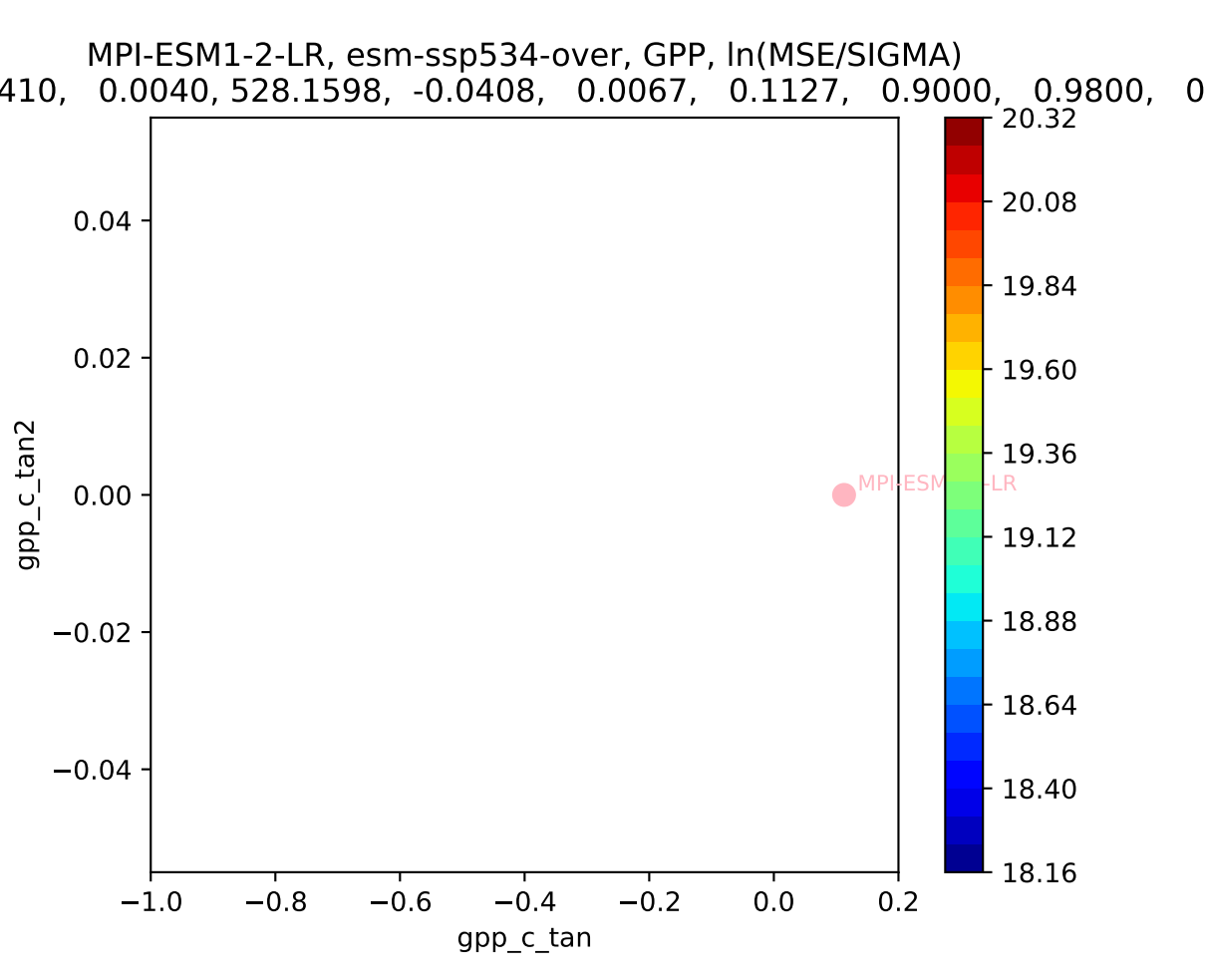

MPI-ESM1-2-LR, esm-ssp534-over, GPP
ESM
Fit
GPP
ΔT
MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
GPP, ESM - FIT
ΔT

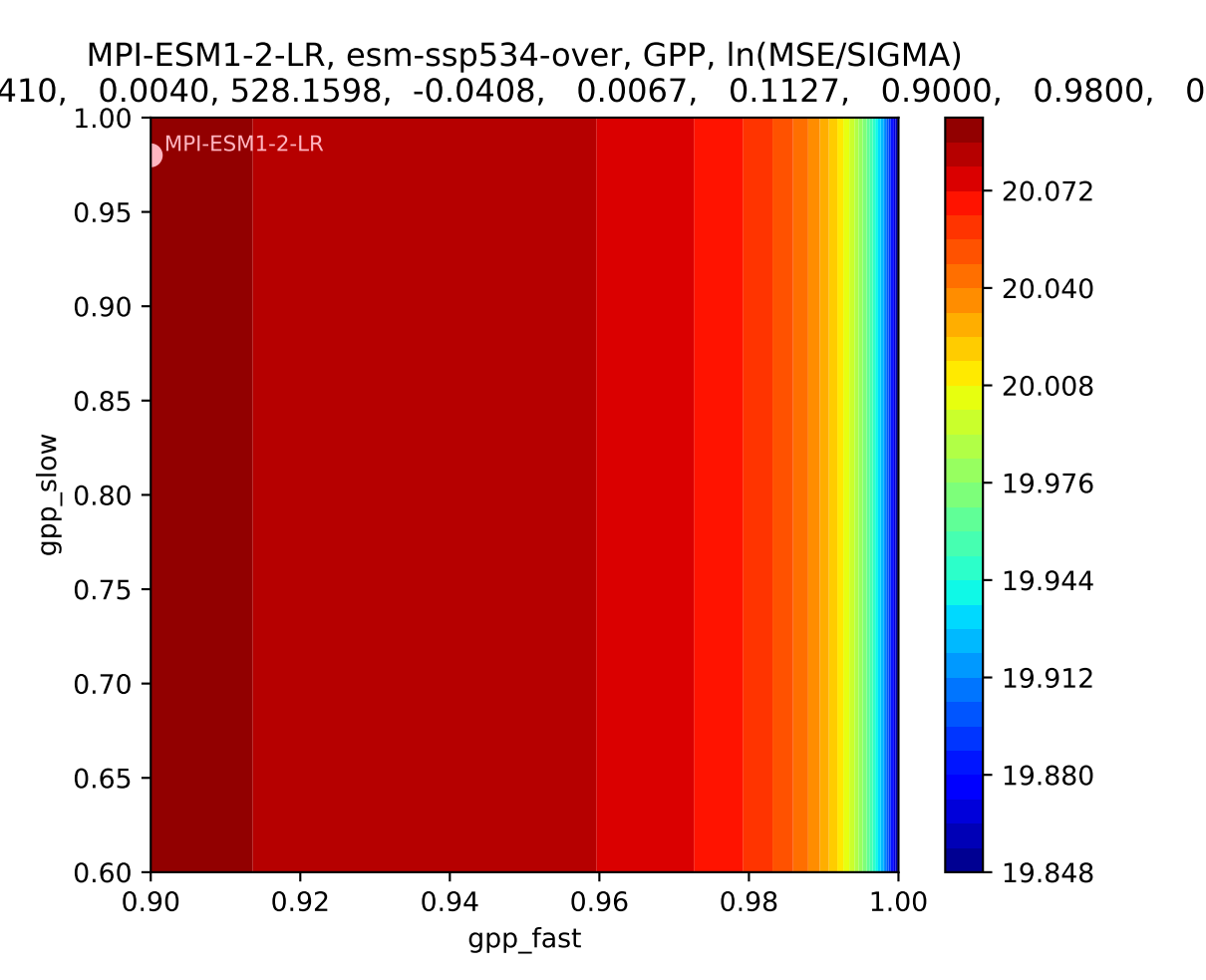

MPI-ESM1-2-LR, esm-ssp534-over, GPP
ESM
Fit
GPP
c_atm
MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
GPP, ESM - FIT
c_atm

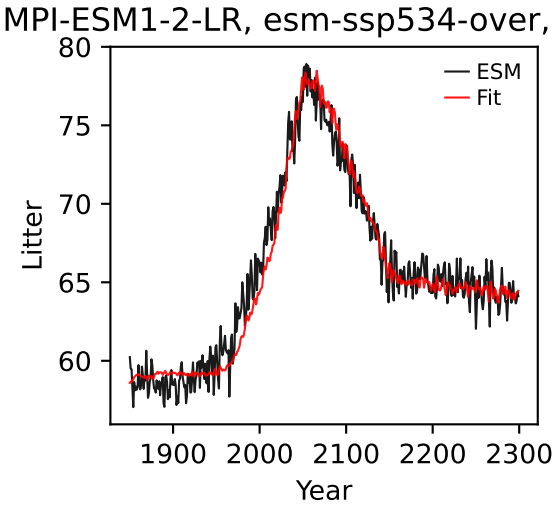

MPI-ESM1-2-LR, esm-ssp534-over, GPP, ln(MSE/SIGMA)
410, 0.0040, 528.1598, -0.0408, 0.0067, 0.1127, 0.9000, 0.9800, 0
MPI-ESM1-2-LR
gpp_t_e
gpp_t_l
5
4
3
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
3
4
5
22.6
22.0
21.4
20.8
20.2
19.6
19.0
18.4
17.8

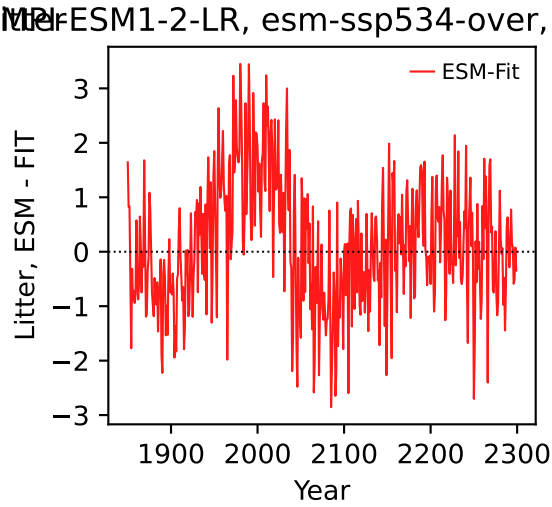

MPI-ESM1-2-LR, esm-ssp534-over, GPP, ln(MSE/SIGMA)
410, 0.0040, 528.1598, -0.0408, 0.0067, 0.1127, 0.9000, 0.9800, 0
gpp_c_half
gpp_c_l
MPI-ESM1-2-LR
2000
1750
1500
1250
1000
750
500
250
0
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
20.43
20.34
20.25
20.16
20.07
19.98
19.89
19.80
19.71
19.62

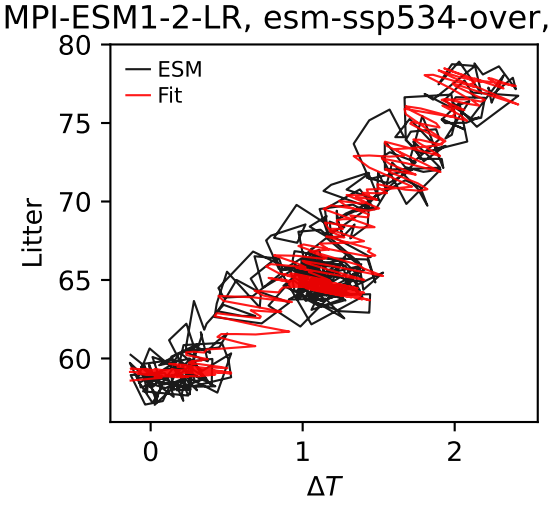

MPI-ESM1-2-LR, esm-ssp534-over, GPP, ln(MSE/SIGMA)
410, 0.0040, 528.1598, -0.0408, 0.0067, 0.1127, 0.9000, 0.9800, 0
MPI-ESM1-2-ER
gpp_hyst
gpp_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
22.4
21.8
21.2
20.6
20.0
19.4
18.8
18.2
17.6

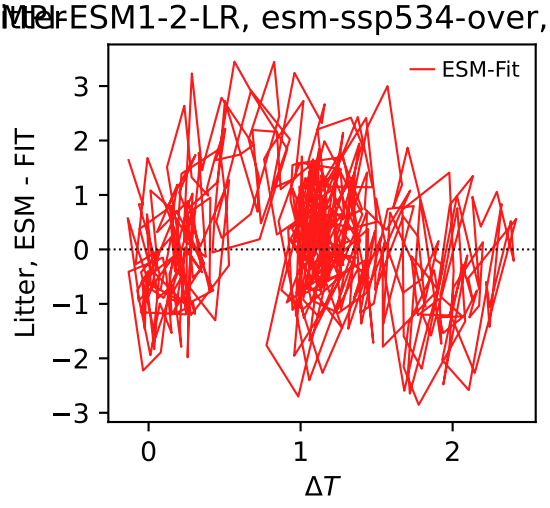

MPI-ESM1-2-LR, esm-ssp534-over, GPP, ln(MSE/SIGMA)
410, 0.0040, 528.1598, -0.0408, 0.0067, 0.1127, 0.9000, 0.9800, 0
gpp_c_tan2
gpp_c_tan
0.04
0.02
0.00
−0.02
−0.04
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
20.32
20.08
19.84
19.60
19.36
19.12
18.88
18.64
18.40
18.16

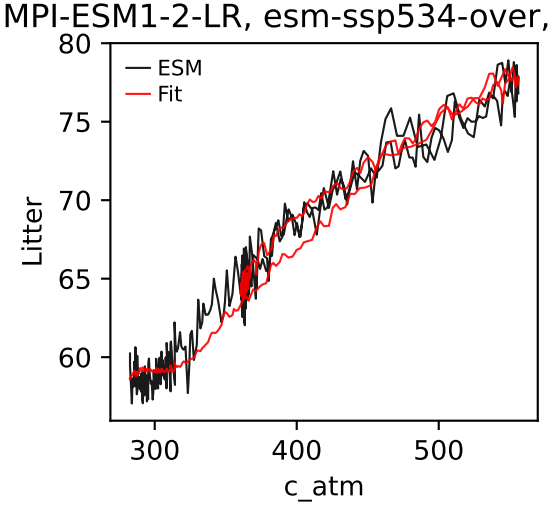

MPI-ESM1-2-LR, esm-ssp534-over, GPP, ln(MSE/SIGMA)
410, 0.0040, 528.1598, -0.0408, 0.0067, 0.1127, 0.9000, 0.9800, 0
MPI-ESM1-2-LR
gpp_slow
gpp_fast
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.90
0.92
0.94
0.96
0.98
1.00
20.072
20.040
20.008
19.976
19.944
19.912
19.880
19.848

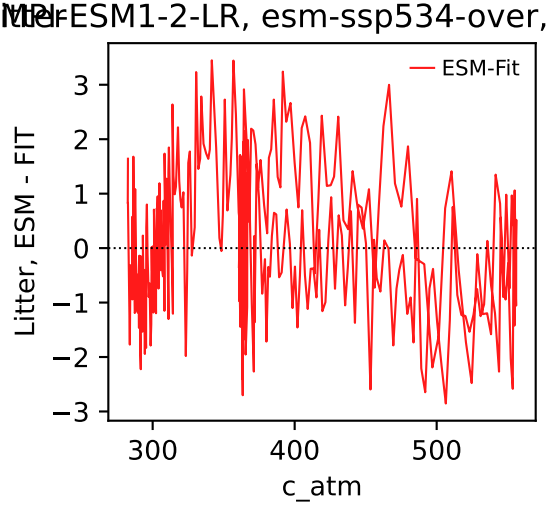

MPI-ESM1-2-LR, esm-ssp534-over, Litter
ESM
Fit
Litter
Year

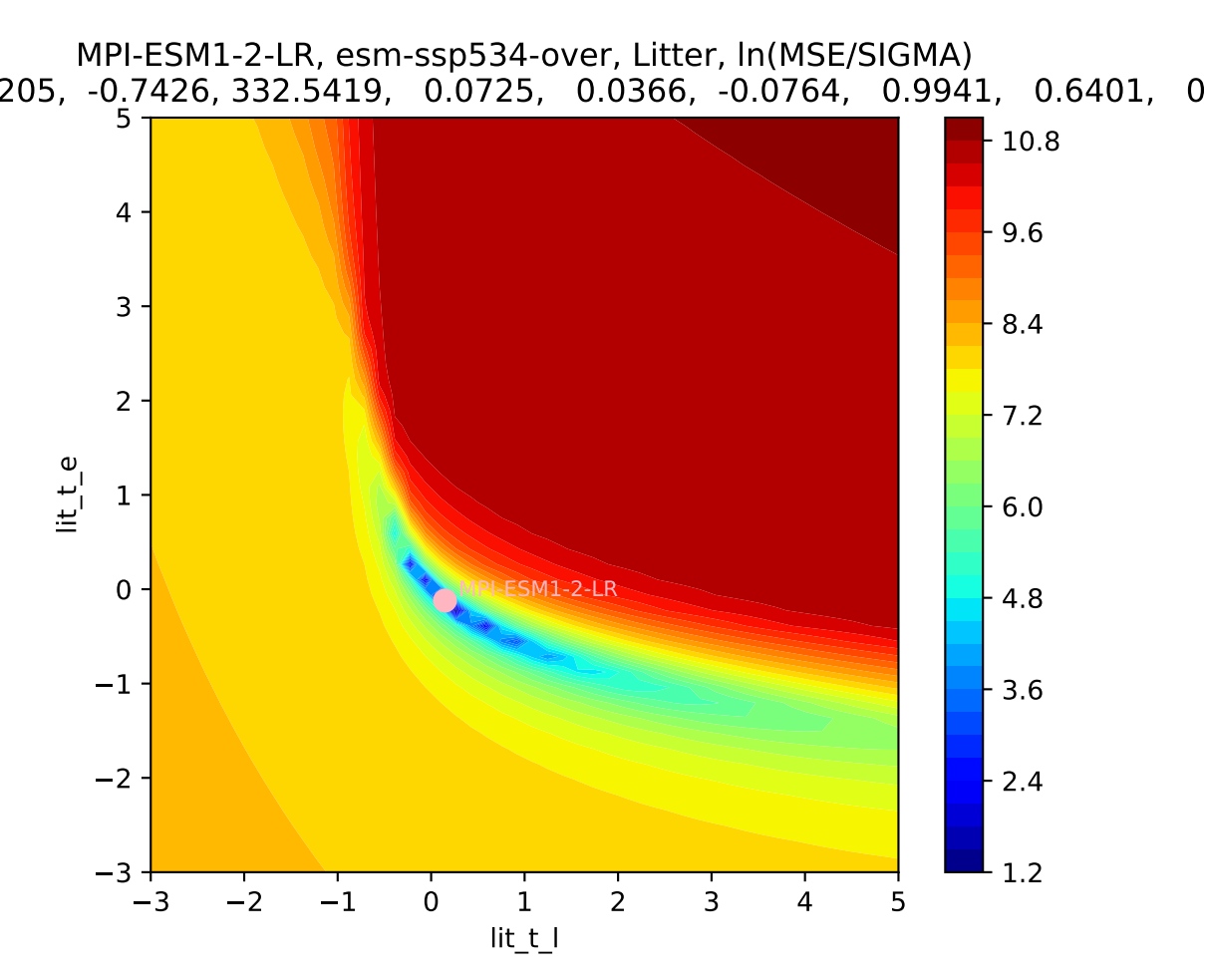

MPI-ESM1-2-LR, esm-ssp534-over, L
ESM-Fit
Litter, ESM - FIT
Year

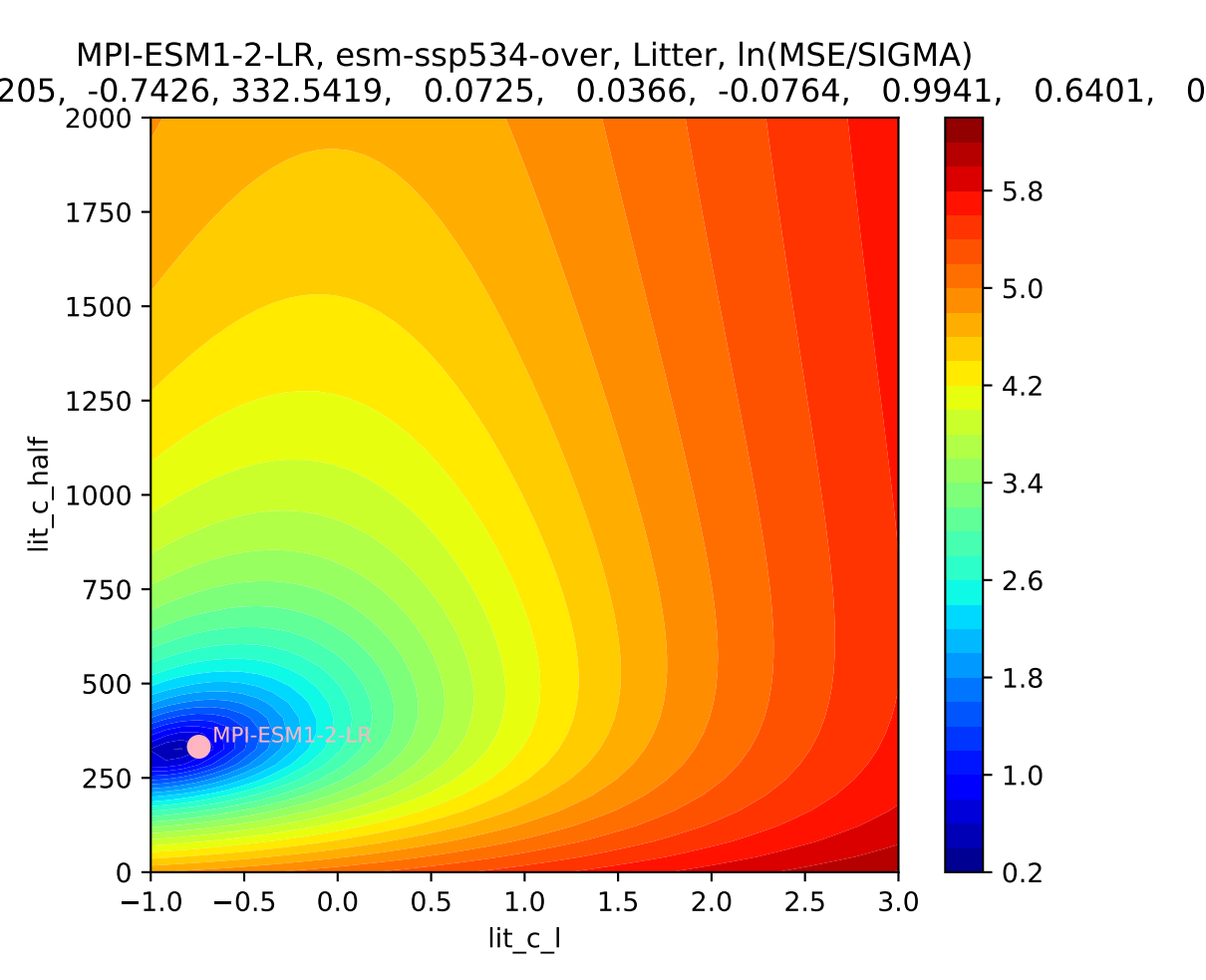

MPI-ESM1-2-LR, esm-ssp534-over, Litter
ESM
Fit
Litter
ΔT

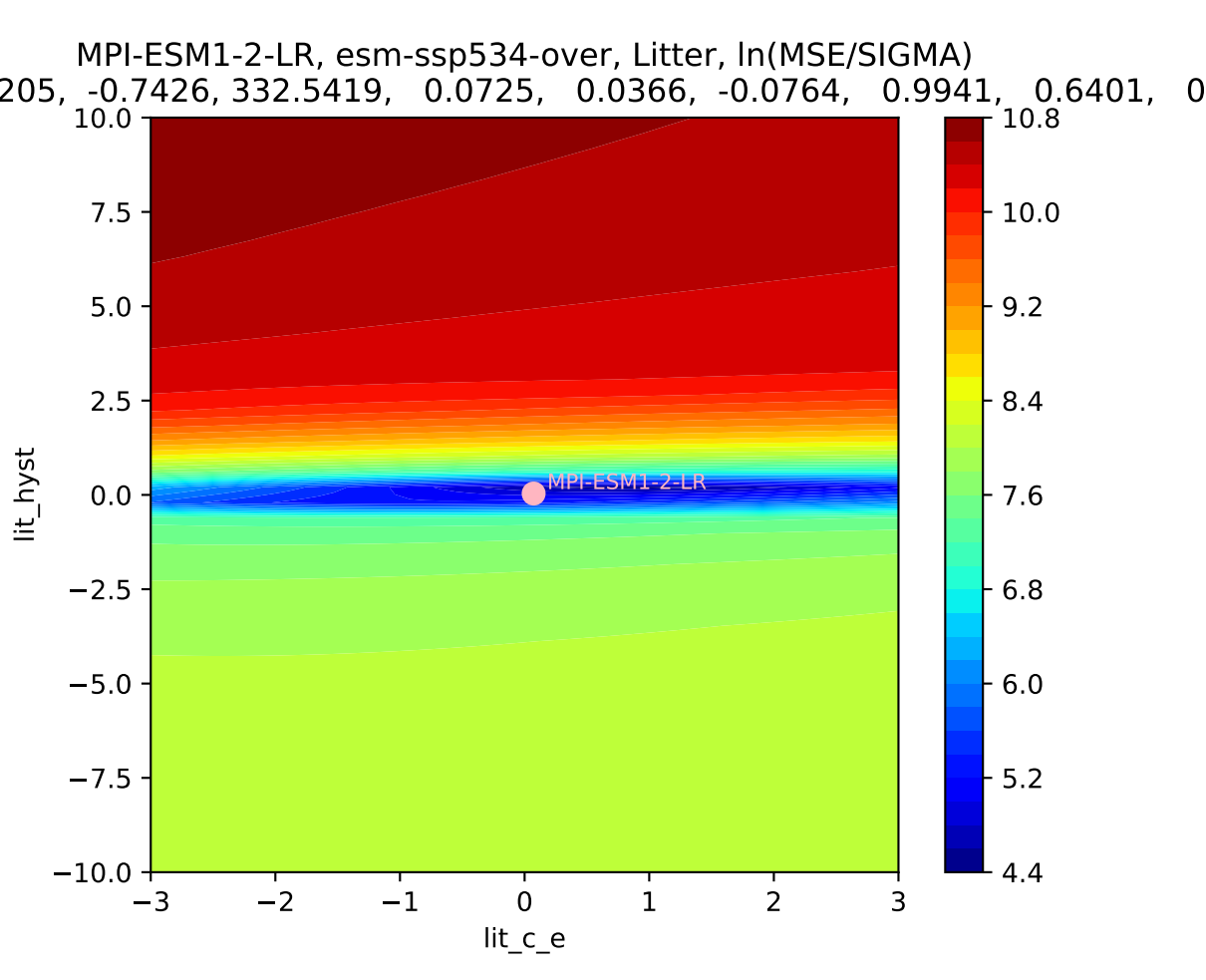

MPI-ESM1-2-LR, esm-ssp534-over, L
ESM-Fit
Litter, ESM - FIT
ΔT

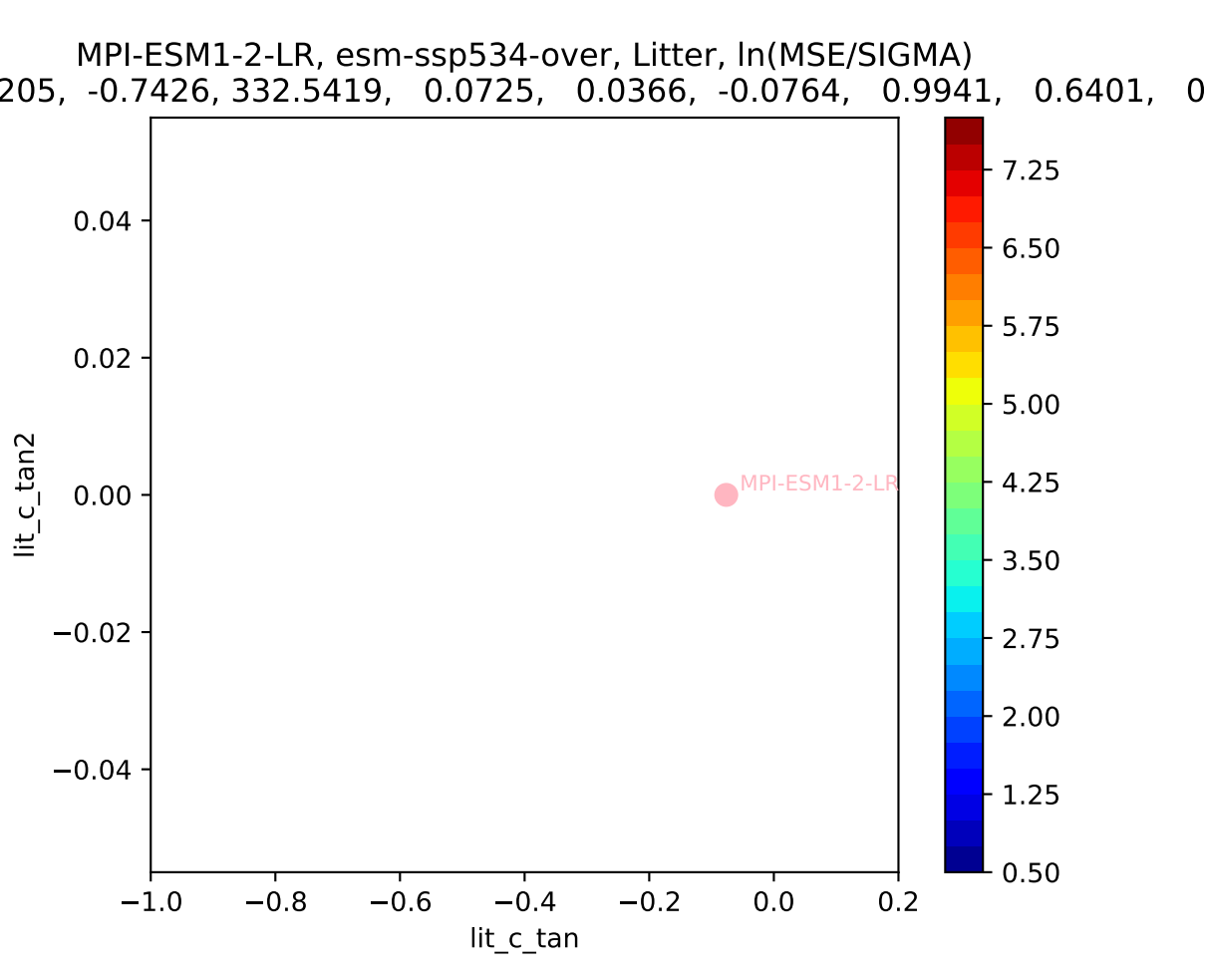

MPI-ESM1-2-LR, esm-ssp534-over, Litter
ESM
Fit
Litter
c_atm

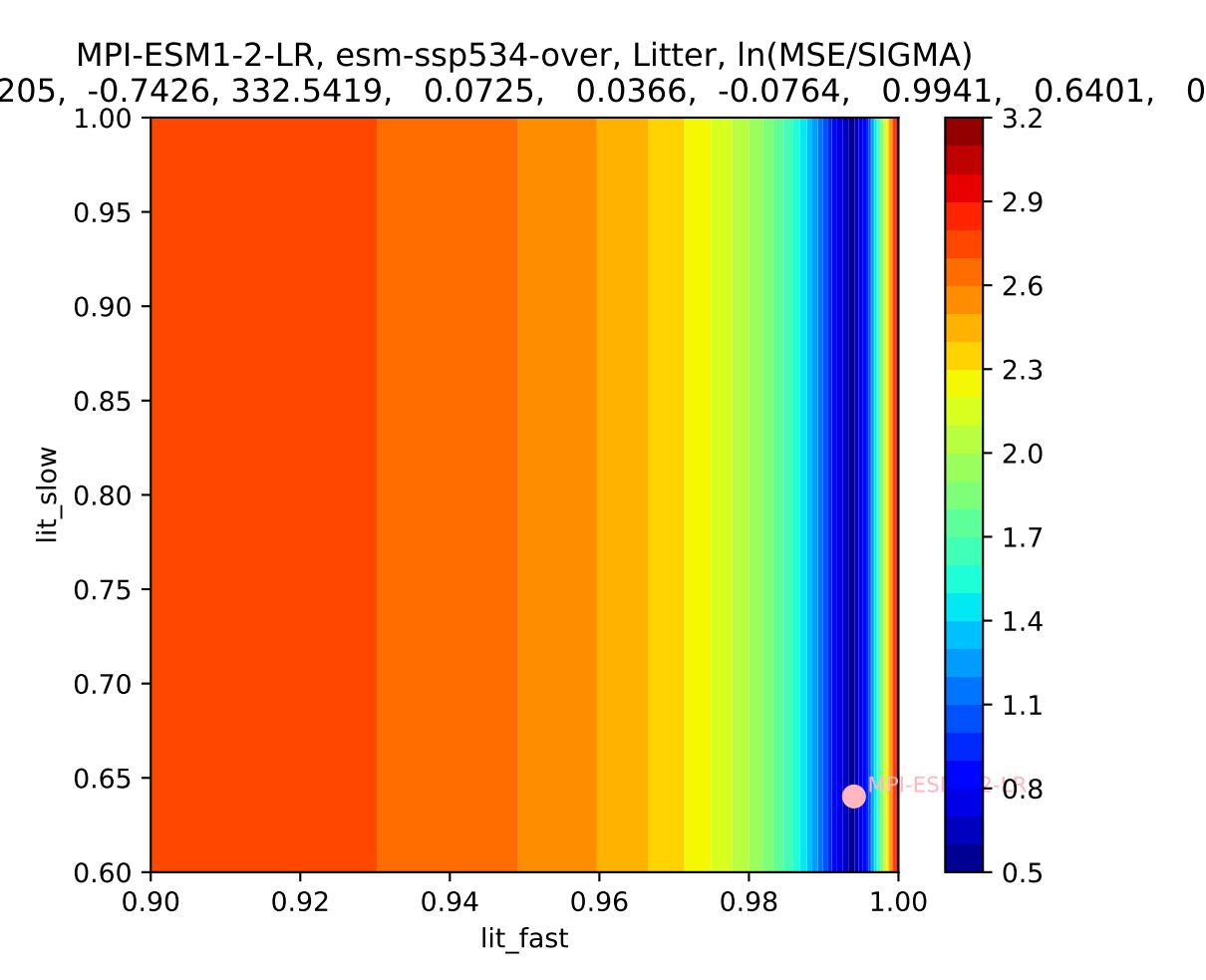

MPI-ESM1-2-LR, esm-ssp534-over, L
ESM-Fit
Litter, ESM - FIT
c_atm

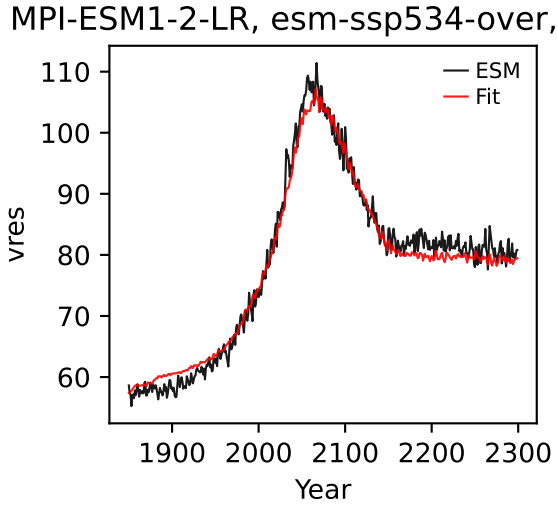

MPI-ESM1-2-LR, esm-ssp534-over, Litter, ln(MSE/SIGMA)
205, -0.7426, 332.5419, 0.0725, 0.0366, -0.0764, 0.9941, 0.6401, 0
MPI-ESM1-2-LR
lit_t_e
lit_t_l
5
4
3
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
3
4
5
10.8
9.6
8.4
7.2
6.0
4.8
3.6
2.4
1.2

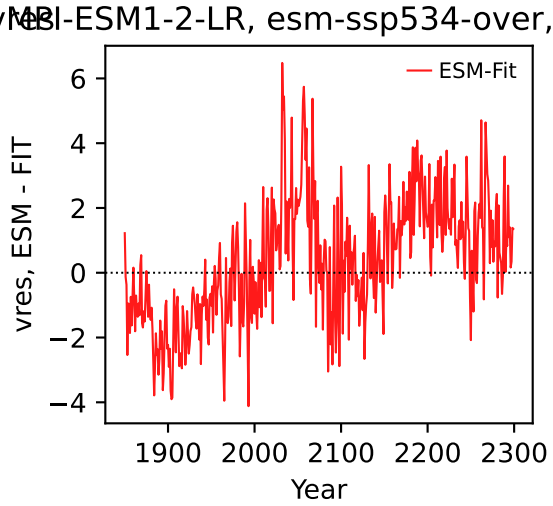

MPI-ESM1-2-LR, esm-ssp534-over, Litter, ln(MSE/SIGMA)
205, -0.7426, 332.5419, 0.0725, 0.0366, -0.0764, 0.9941, 0.6401, 0
lit_c_half
lit_c_l
MPI-ESM1-2-LR
2000
1750
1500
1250
1000
750
500
250
0
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
5.8
5.0
4.2
3.4
2.6
1.8
1.0
0.2

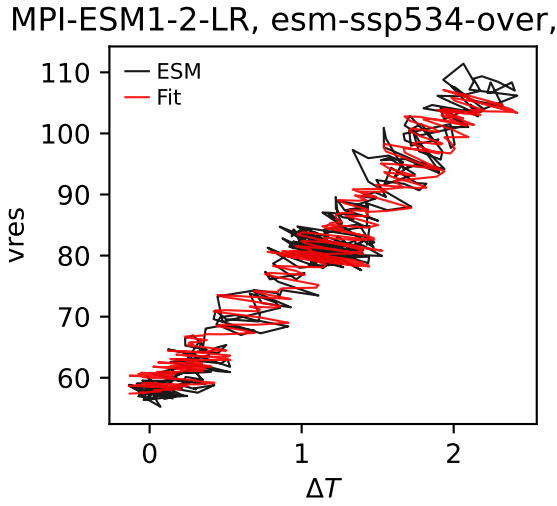

MPI-ESM1-2-LR, esm-ssp534-over, Litter, ln(MSE/SIGMA)
205, -0.7426, 332.5419, 0.0725, 0.0366, -0.0764, 0.9941, 0.6401, 0
MPI-ESM1-2-LR
lit_hyst
lit_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
10.8
10.0
9.2
8.4
7.6
6.8
6.0
5.2
4.4

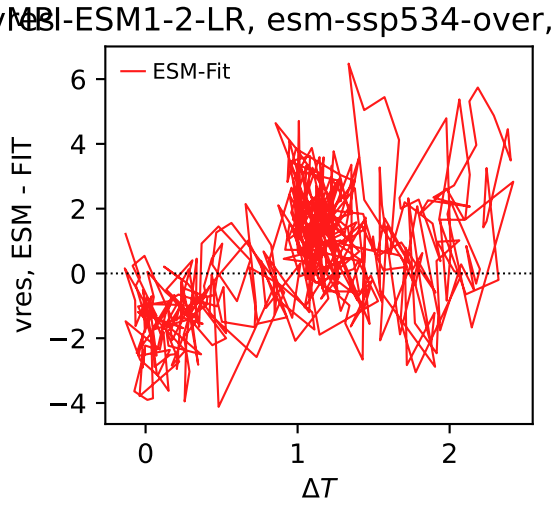

MPI-ESM1-2-LR, esm-ssp534-over, Litter, ln(MSE/SIGMA)
205, -0.7426, 332.5419, 0.0725, 0.0366, -0.0764, 0.9941, 0.6401, 0
MPI-ESM1-2-LR
lit_c_tan2
lit_c_tan
0.04
0.02
0.00
−0.02
−0.04
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
7.25
6.50
5.75
5.00
4.25
3.50
2.75
2.00
1.25
0.50

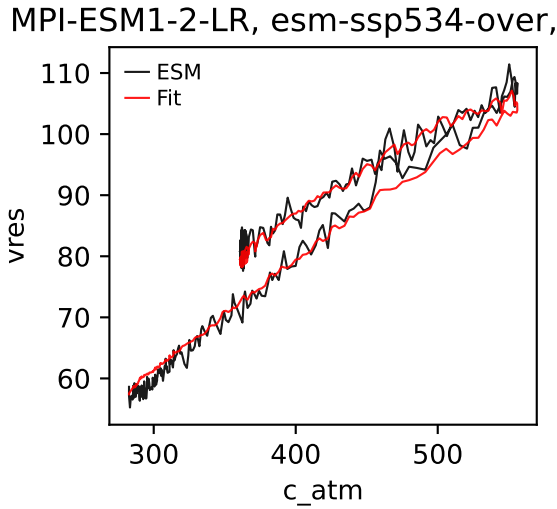

MPI-ESM1-2-LR, esm-ssp534-over, Litter, ln(MSE/SIGMA)
205, -0.7426, 332.5419, 0.0725, 0.0366, -0.0764, 0.9941, 0.6401, 0
lit_slow
lit_fast
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.90
0.92
0.94
0.96
0.98
1.00
3.2
2.9
2.6
2.3
2.0
1.7
1.4
1.1
0.8
0.5

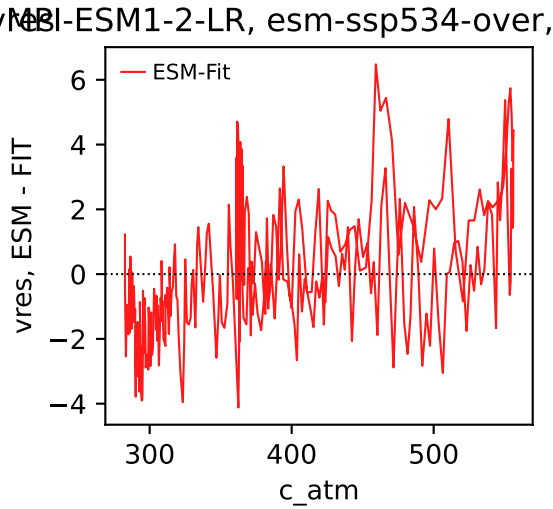

MPI-ESM1-2-LR, esm-ssp534-over, vres
ESM
Fit
vres
Year

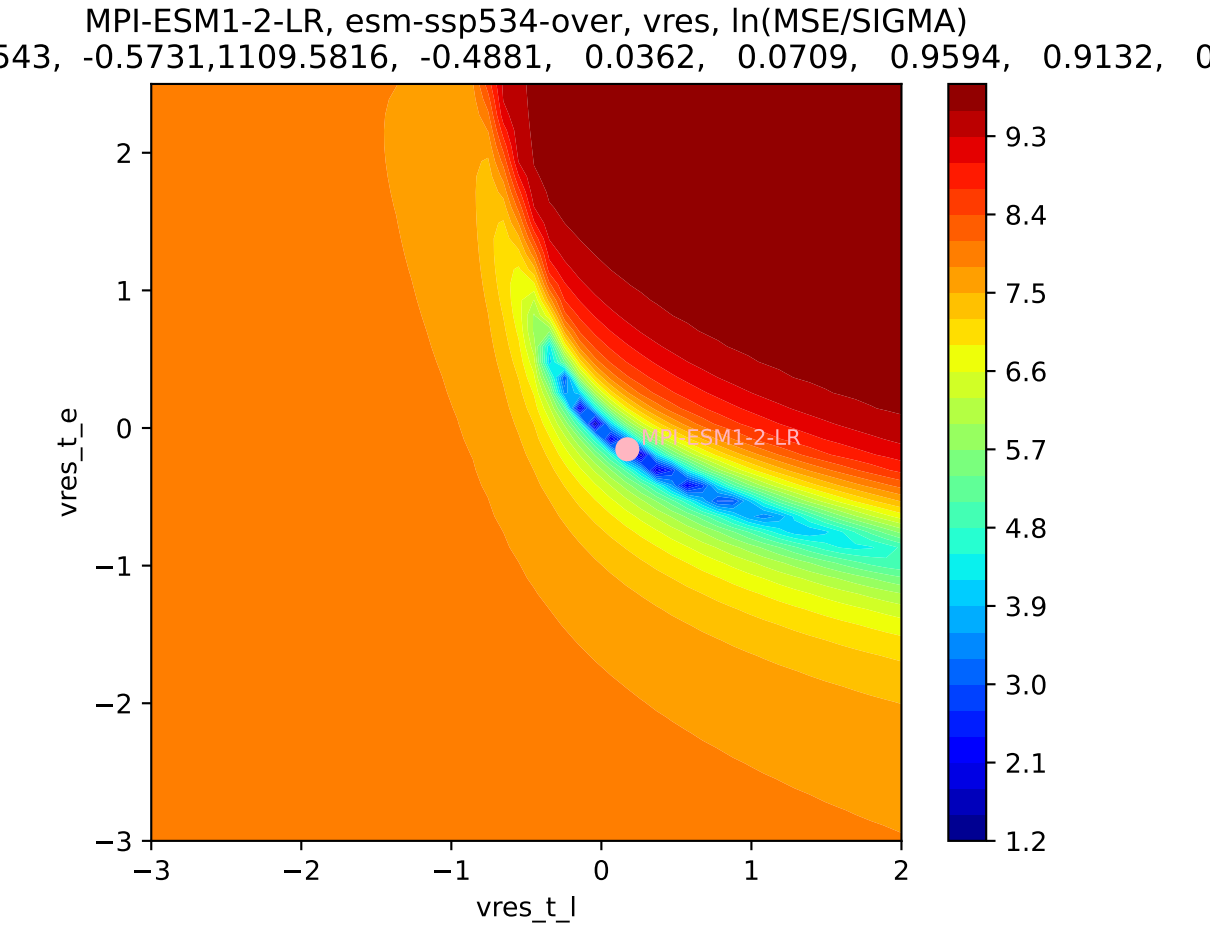

MPI-ESM1-2-LR, esm-ssp534-over, v
ESM-Fit
vres, ESM - FIT
Year

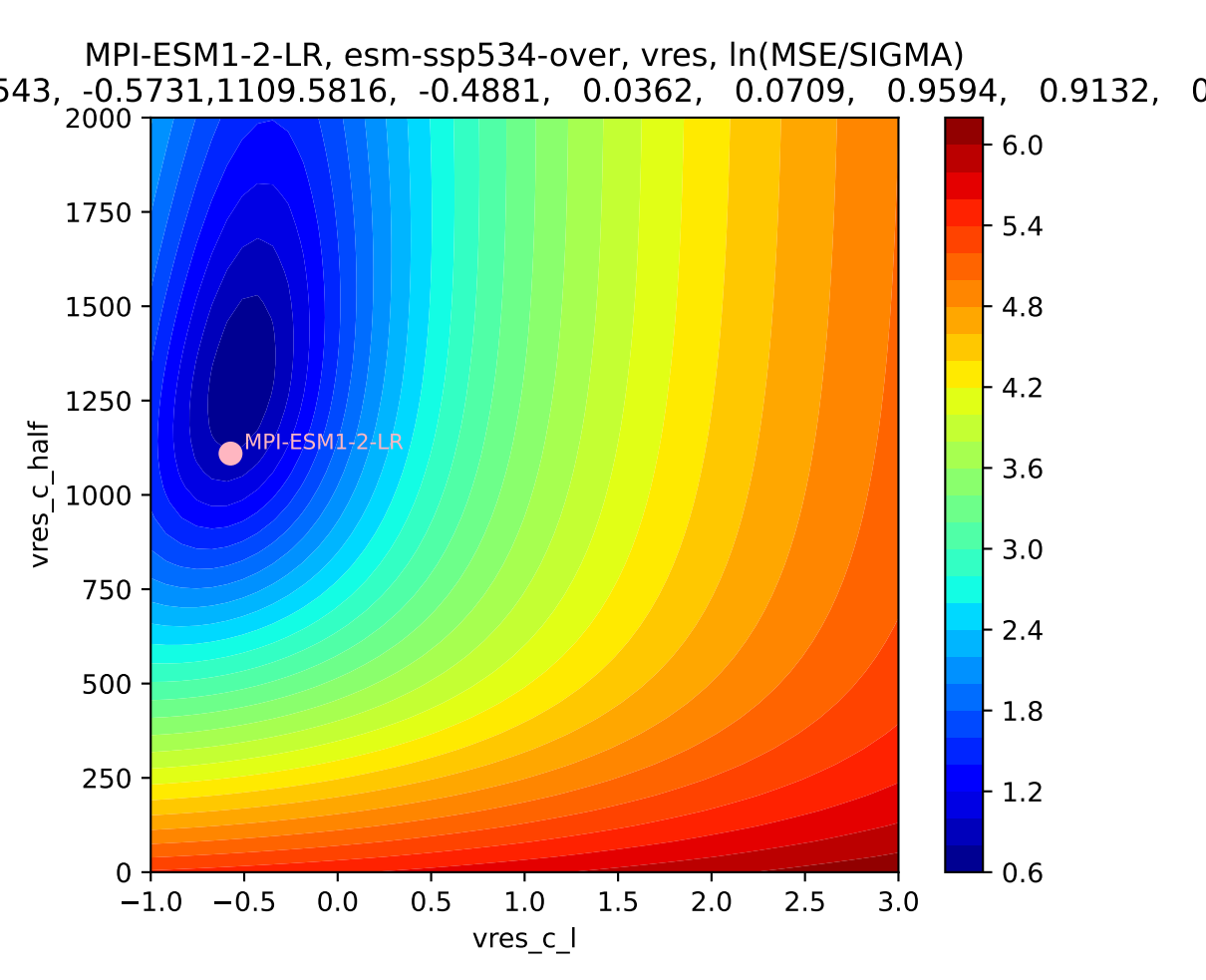

MPI-ESM1-2-LR, esm-ssp534-over, vres
ESM
Fit
vres
ΔT

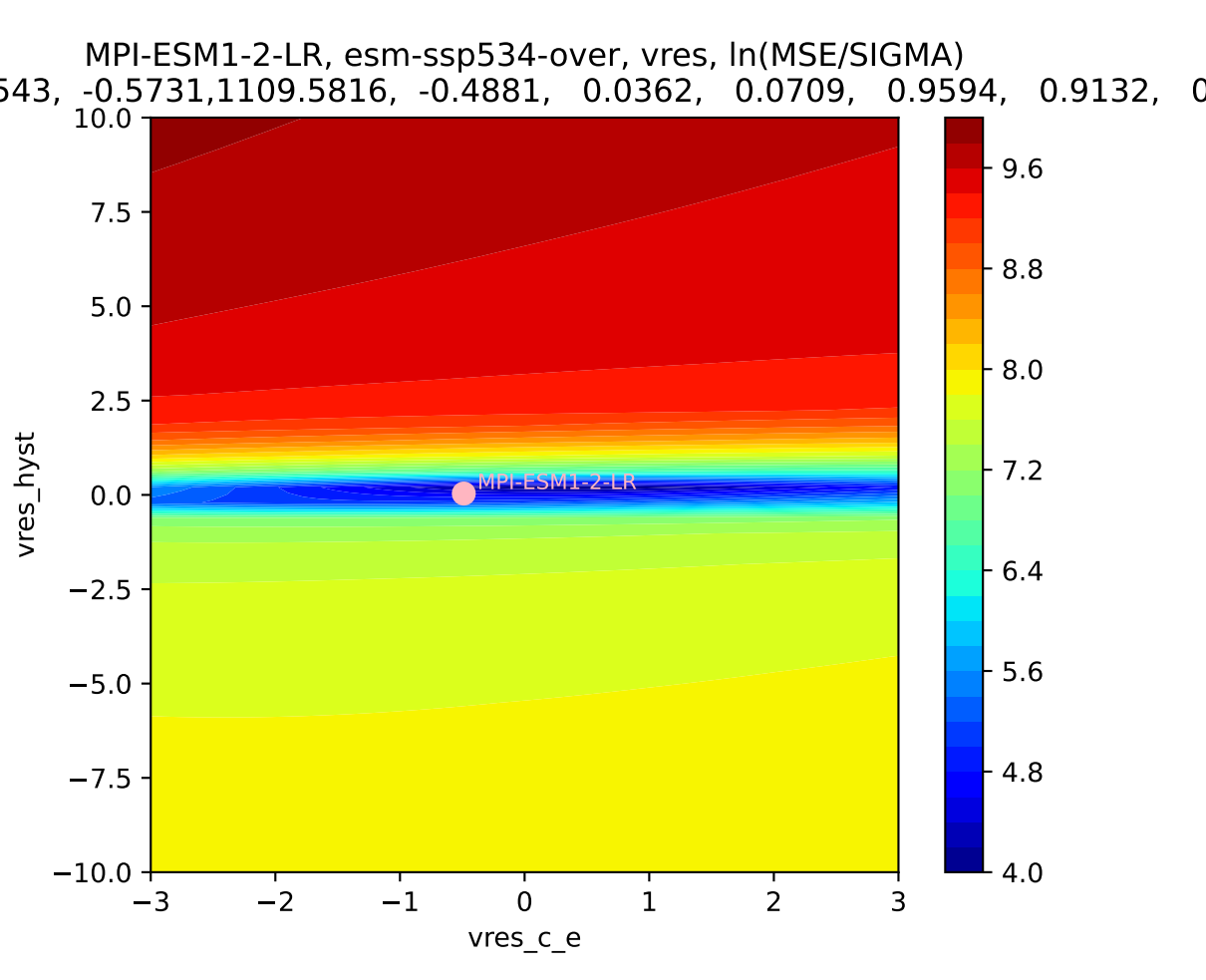

MPI-ESM1-2-LR, esm-ssp534-over, v
ESM-Fit
vres, ESM - FIT
ΔT

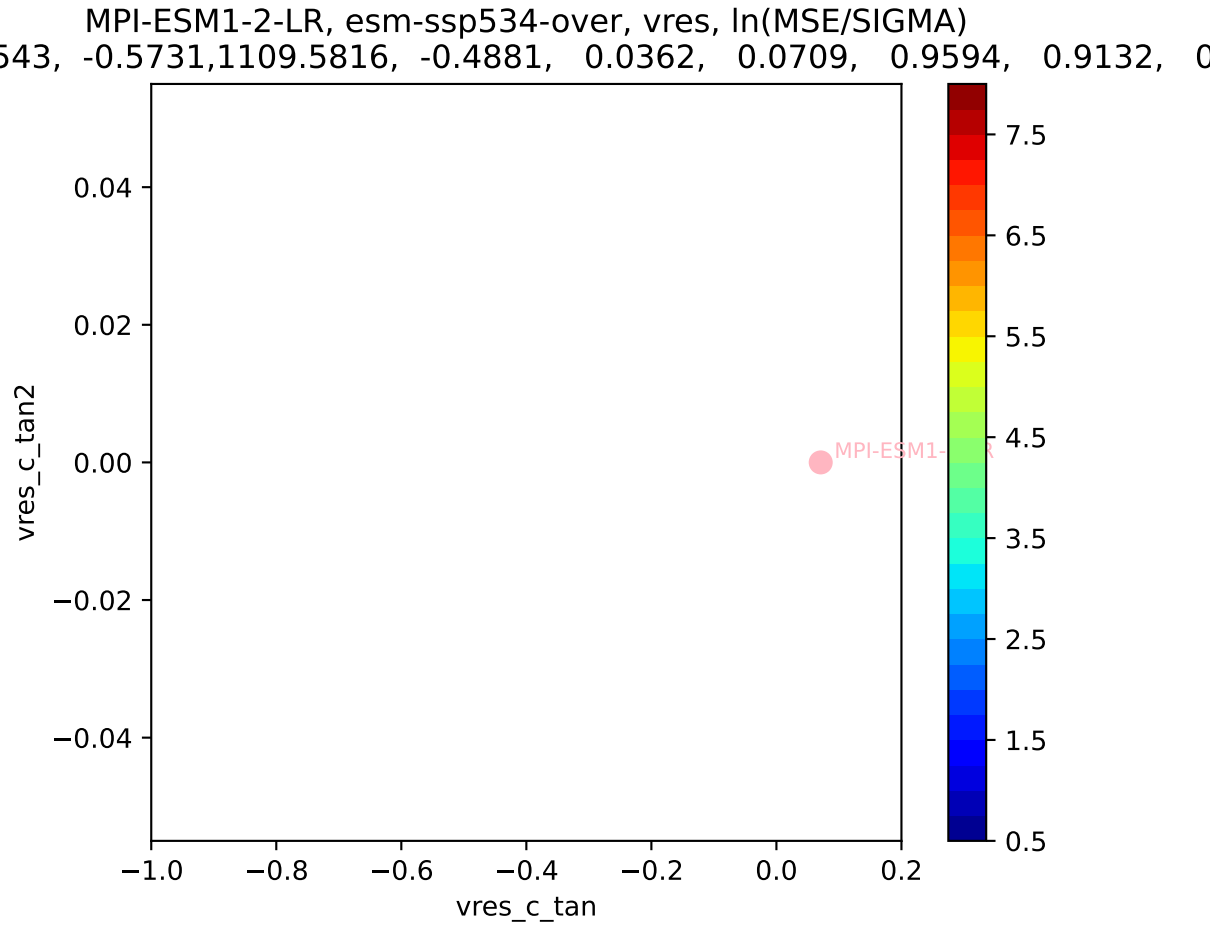

MPI-ESM1-2-LR, esm-ssp534-over, vres
ESM
Fit
vres
c_atm

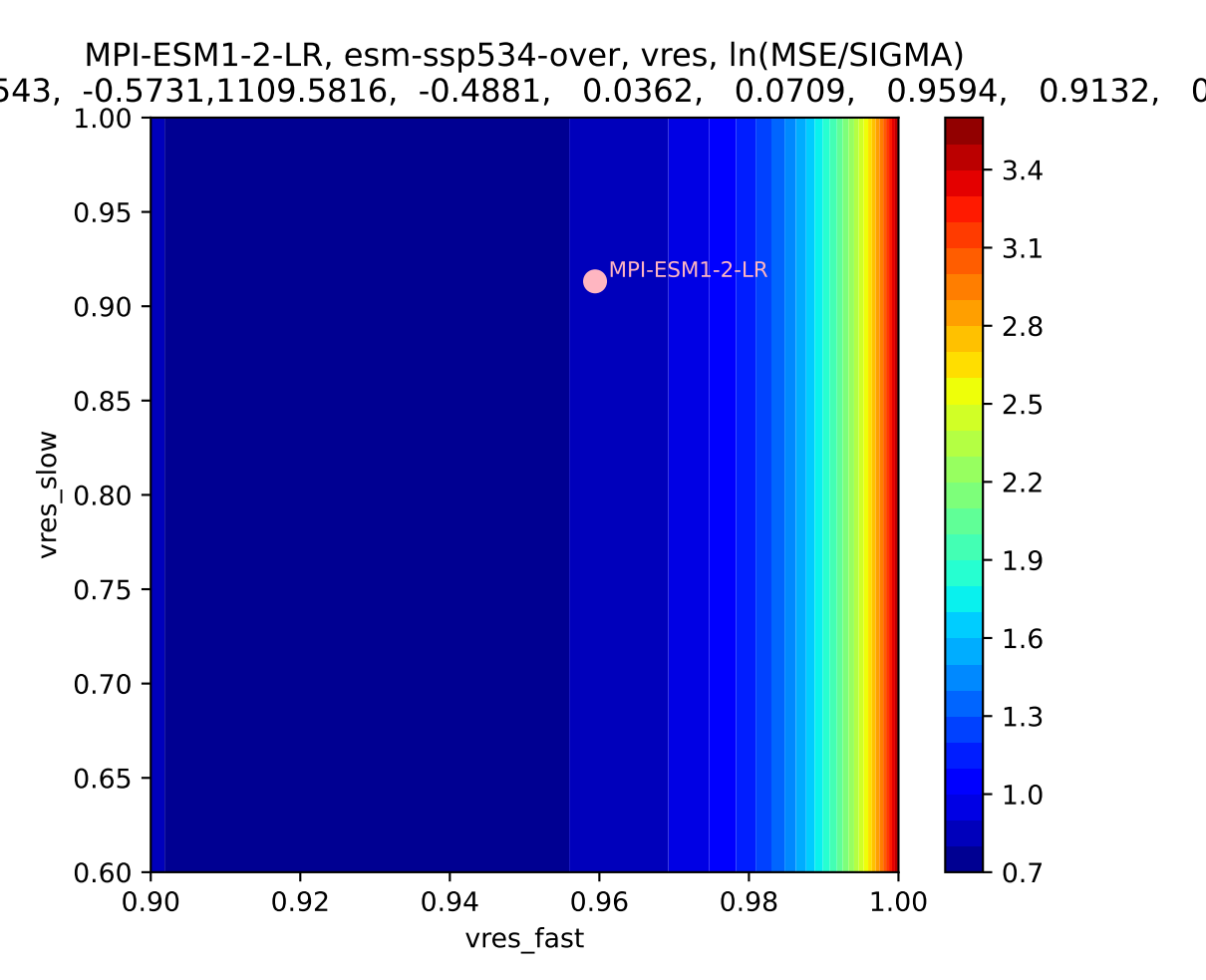

MPI-ESM1-2-LR, esm-ssp534-over, v
ESM-Fit
vres, ESM - FIT
c_atm

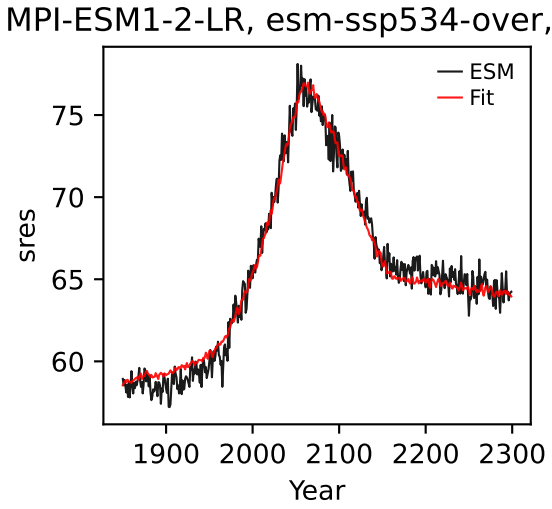

MPI-ESM1-2-LR, esm-ssp534-over, vres, ln(MSE/SIGMA)
543, -0.5731,1109.5816, -0.4881, 0.0362, 0.0709, 0.9594, 0.9132, 0
MPI-ESM1-2-LR
vres_t_e
vres_t_l
2
1
0
−1
−2
−3
9.3
8.4
7.5
6.6
5.7
4.8
3.9
3.0
2.1
1.2

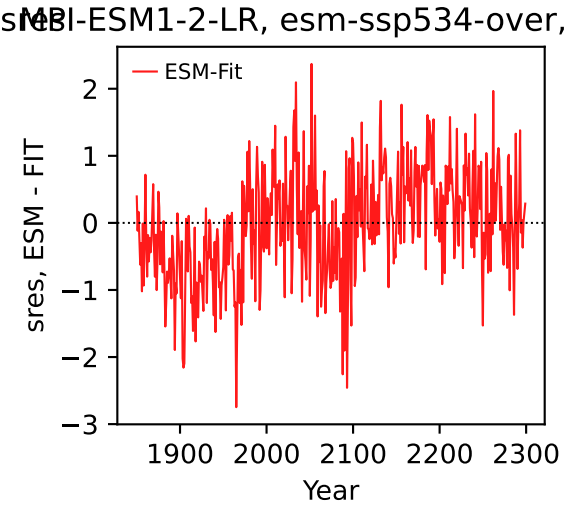

MPI-ESM1-2-LR, esm-ssp534-over, vres, ln(MSE/SIGMA)
543, -0.5731,1109.5816, -0.4881, 0.0362, 0.0709, 0.9594, 0.9132, 0
MPI-ESM1-2-LR
vres_c_half
vres_c_l
2000
1750
1500
1250
1000
750
500
250
0
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
6.0
5.4
4.8
4.2
3.6
3.0
2.4
1.8
1.2
0.6

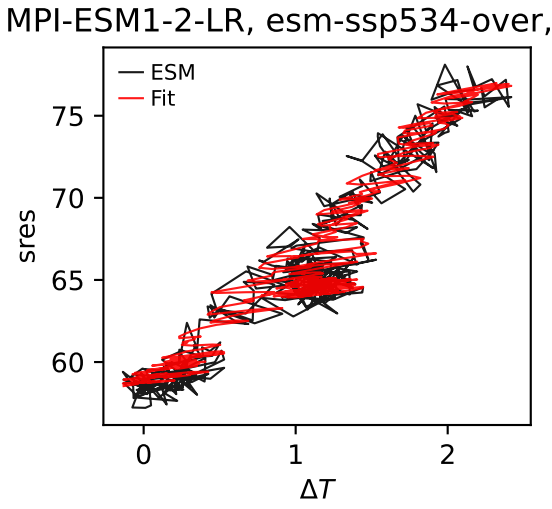

MPI-ESM1-2-LR, esm-ssp534-over, vres, ln(MSE/SIGMA)
543, -0.5731,1109.5816, -0.4881, 0.0362, 0.0709, 0.9594, 0.9132, 0
MPI-ESM1-2-LR
vres_hyst
vres_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
9.6
8.8
8.0
7.2
6.4
5.6
4.8
4.0

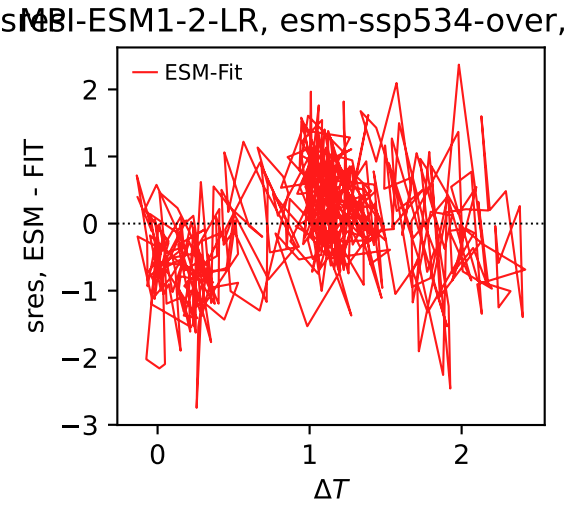

MPI-ESM1-2-LR, esm-ssp534-over, vres, ln(MSE/SIGMA)
543, -0.5731,1109.5816, -0.4881, 0.0362, 0.0709, 0.9594, 0.9132, 0
0.04
0.02
0.00
−0.02
−0.04
vres_c_tan2
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
vres_c_tan
7.5
6.5
5.5
4.5
3.5
2.5
1.5
0.5

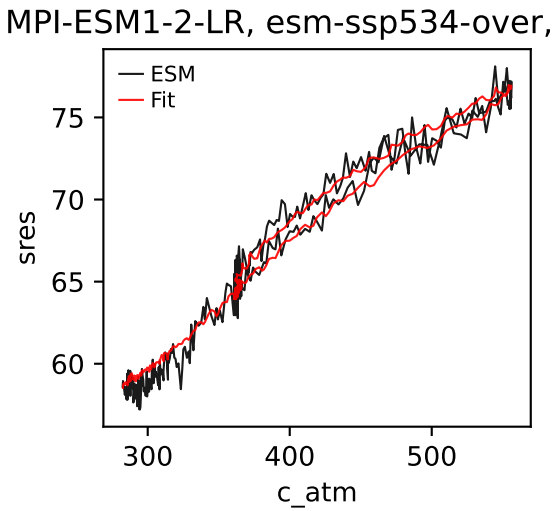

MPI-ESM1-2-LR, esm-ssp534-over, vres, ln(MSE/SIGMA)
543, -0.5731,1109.5816, -0.4881, 0.0362, 0.0709, 0.9594, 0.9132, 0
MPI-ESM1-2-LR
vres_slow
vres_fast
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.90
0.92
0.94
0.96
0.98
1.00
3.4
3.1
2.8
2.5
2.2
1.9
1.6
1.3
1.0
0.7

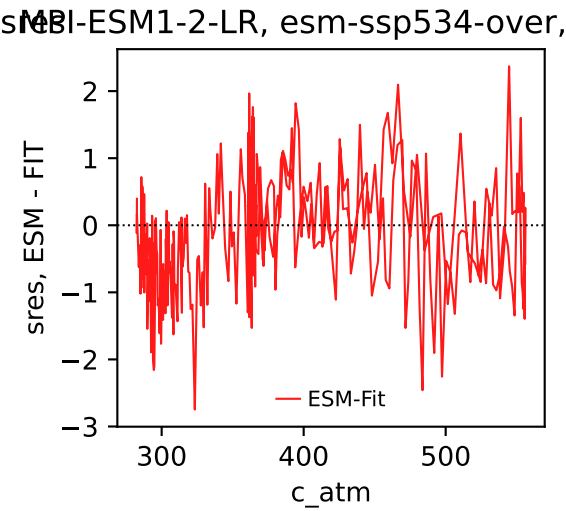

MPI-ESM1-2-LR, esm-ssp534-over, sres
ESM
Fit
sres
Year

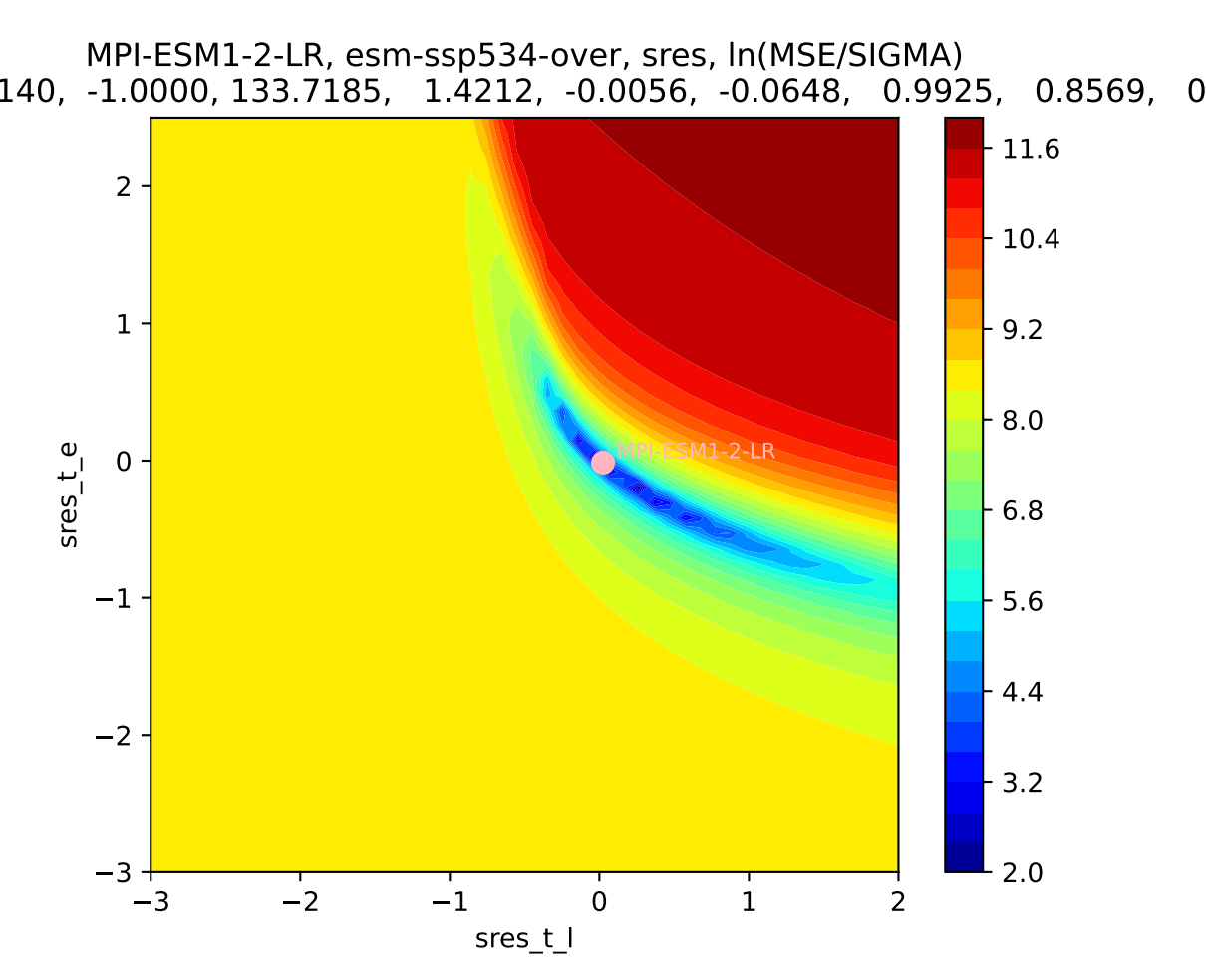

MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
sres, ESM - FIT
Year

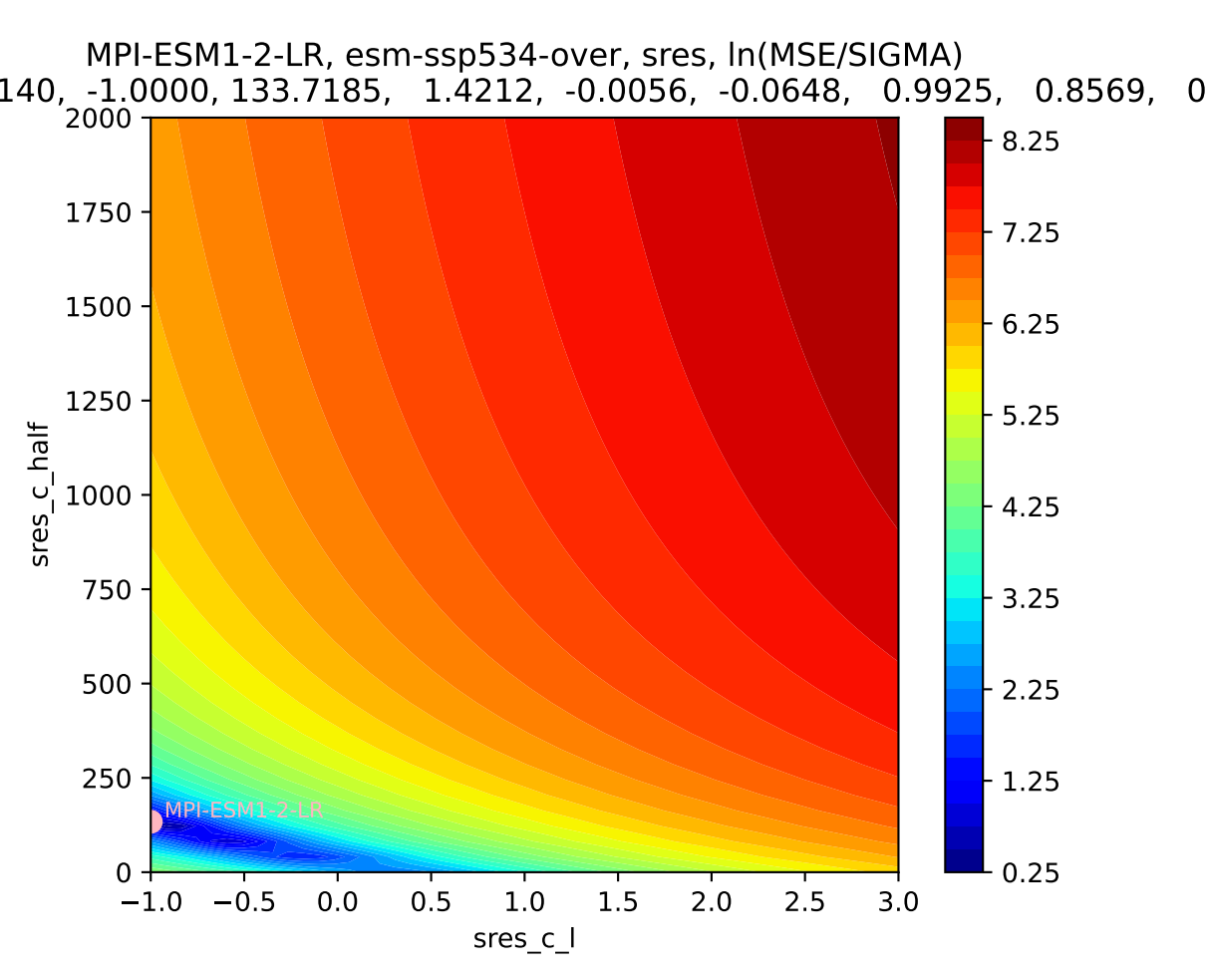

MPI-ESM1-2-LR, esm-ssp534-over, sres
ESM
Fit
sres
ΔT

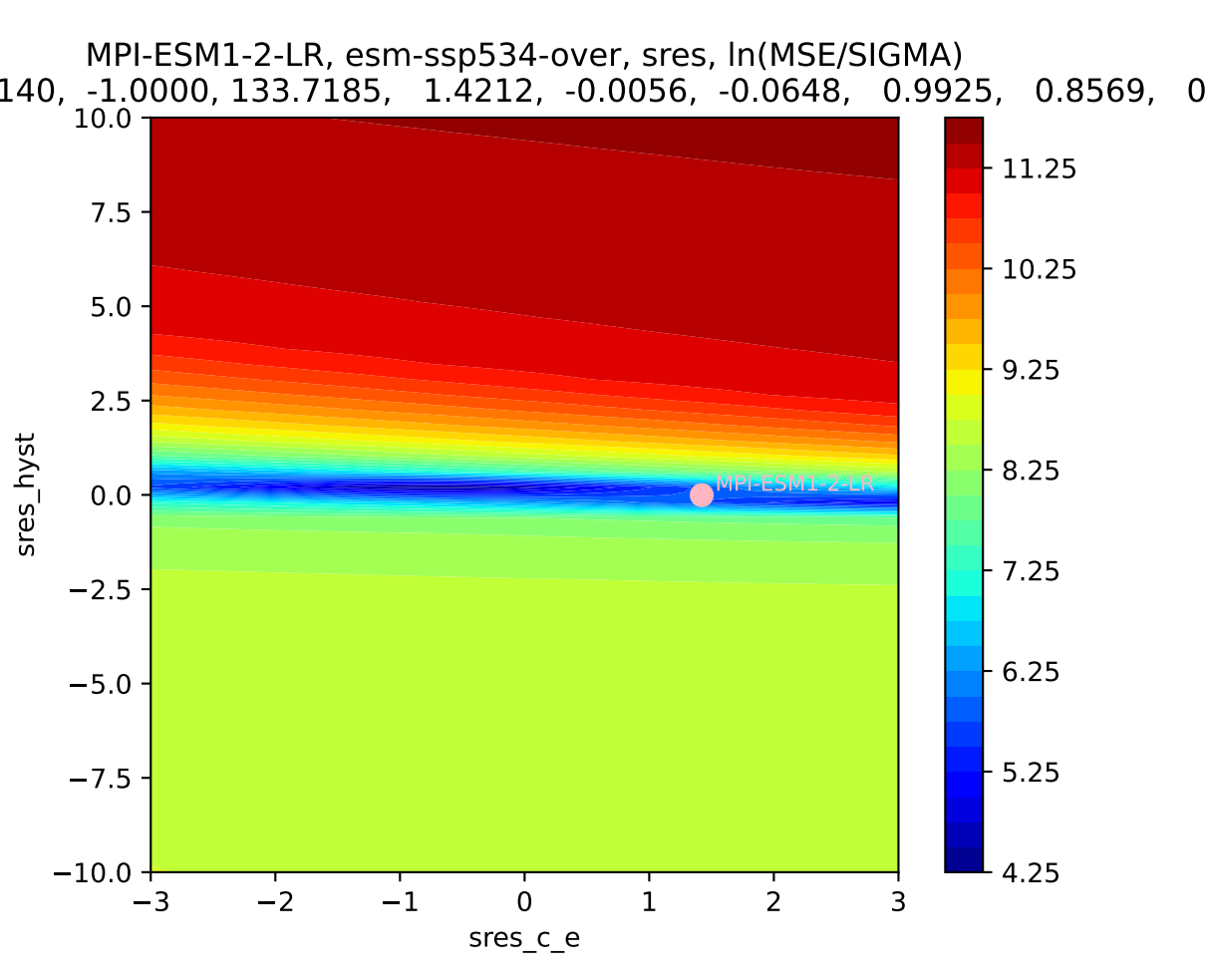

MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
sres, ESM - FIT
ΔT

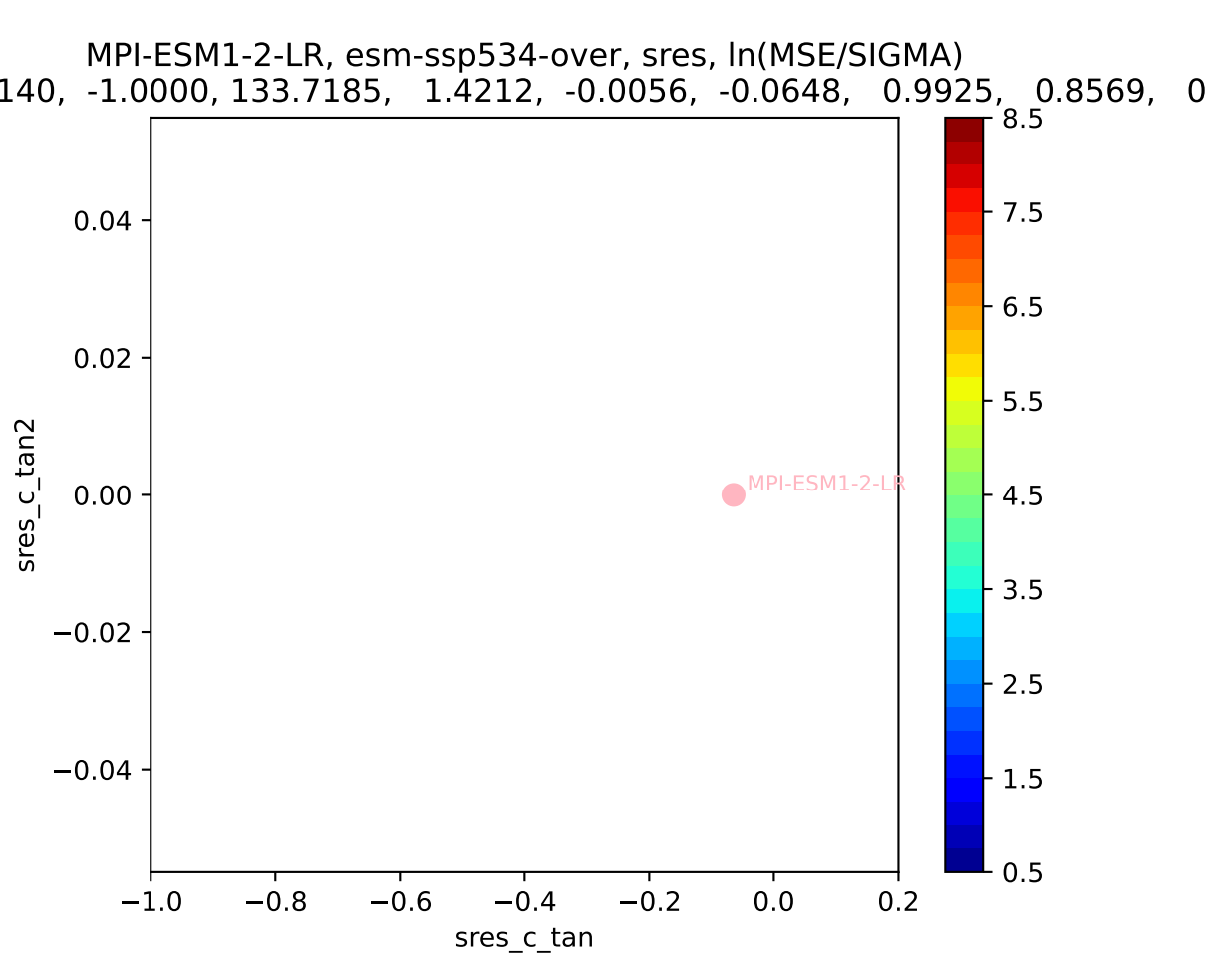

MPI-ESM1-2-LR, esm-ssp534-over, sres
ESM
Fit
sres
c_atm

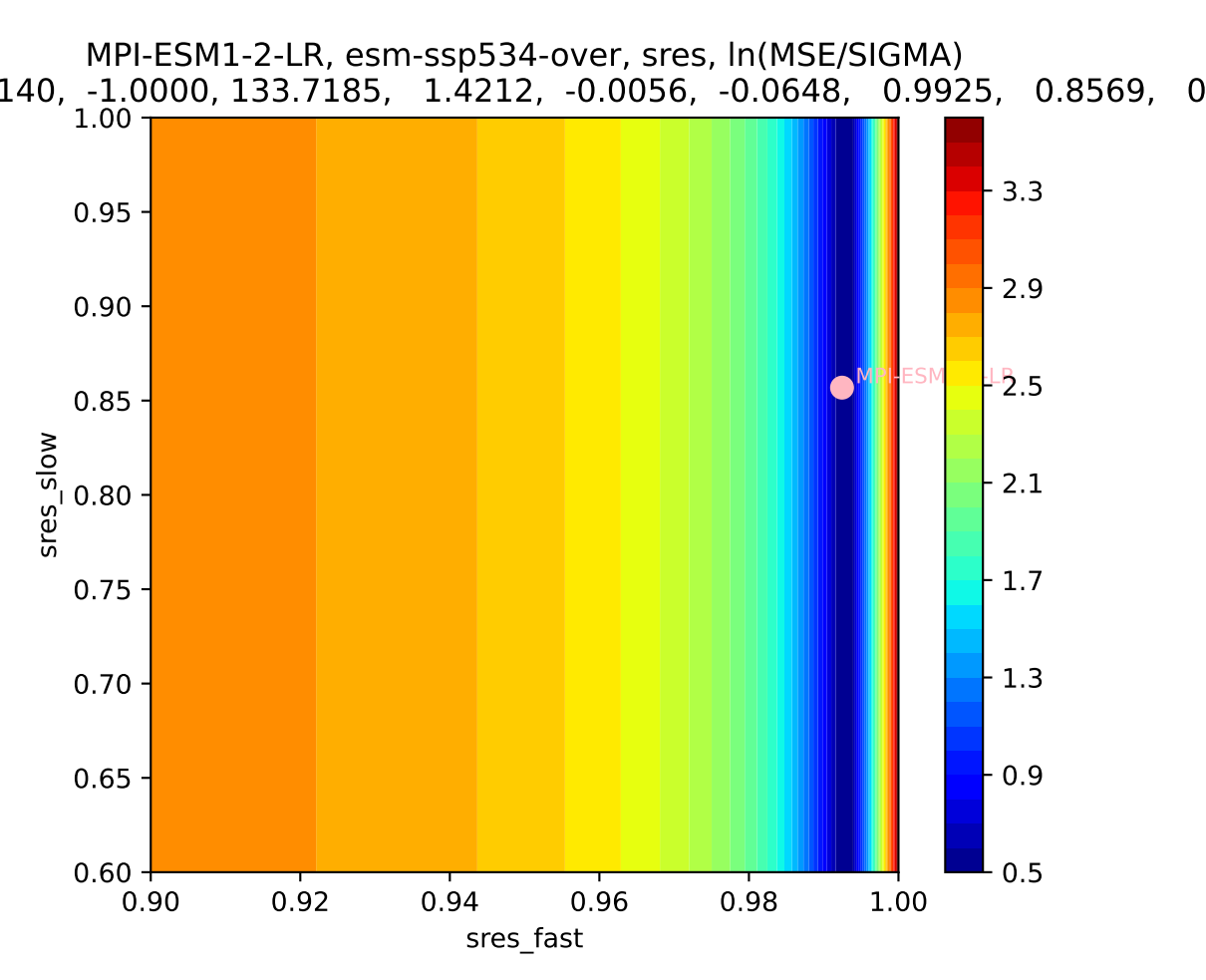

MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
sres, ESM - FIT
c_atm

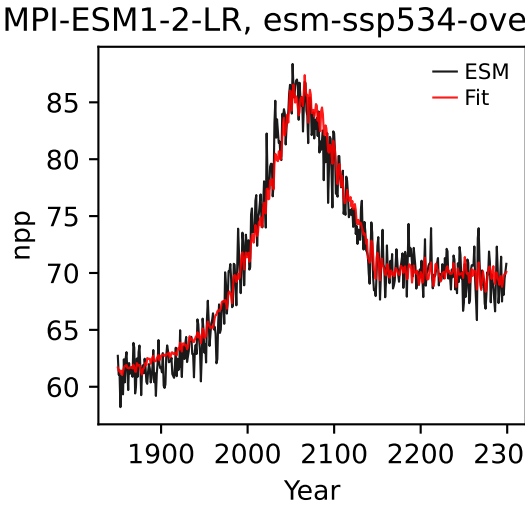

MPI-ESM1-2-LR, esm-ssp534-over, sres, ln(MSE/SIGMA)
140, -1.0000, 133.7185, 1.4212, -0.0056, -0.0648, 0.9925, 0.8569, 0
MPI-ESM1-2-LR
sres_t_e
sres_t_l
−3
−2
−1
0
1
2
11.6
10.4
9.2
8.0
6.8
5.6
4.4
3.2
2.0

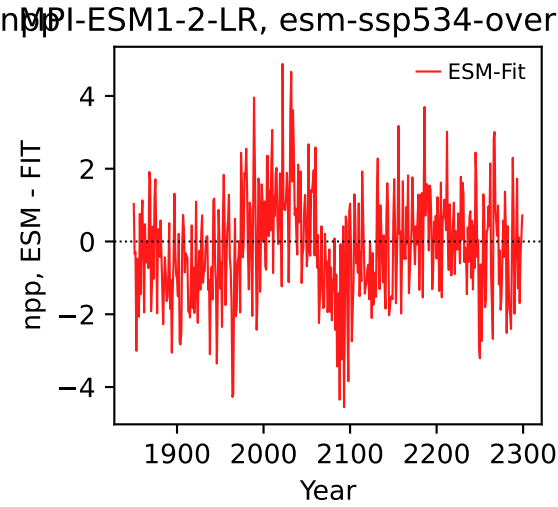

MPI-ESM1-2-LR, esm-ssp534-over, sres, ln(MSE/SIGMA)
140, -1.0000, 133.7185, 1.4212, -0.0056, -0.0648, 0.9925, 0.8569, 0
sres_c_half
sres_c_l
MPI-ESM1-2-LR
2000
1750
1500
1250
1000
750
500
250
0
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
8.25
7.25
6.25
5.25
4.25
3.25
2.25
1.25
0.25

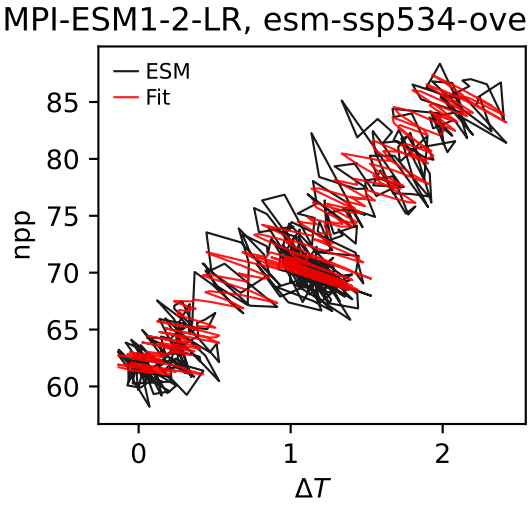

MPI-ESM1-2-LR, esm-ssp534-over, sres, ln(MSE/SIGMA)
140, -1.0000, 133.7185, 1.4212, -0.0056, -0.0648, 0.9925, 0.8569, 0
MPI-ESM1-2-LR
sres_hyst
sres_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
11.25
10.25
9.25
8.25
7.25
6.25
5.25
4.25

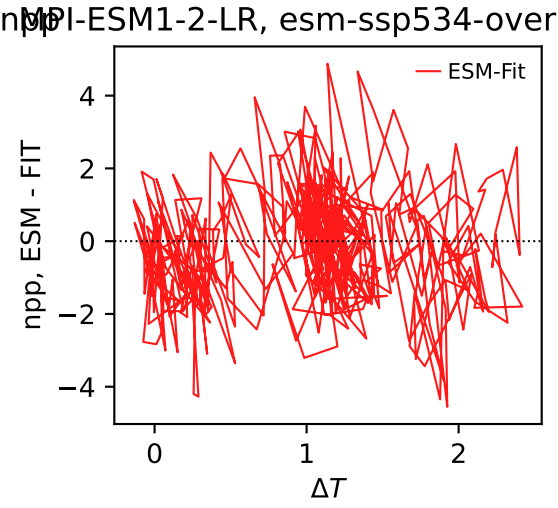

MPI-ESM1-2-LR, esm-ssp534-over, sres, ln(MSE/SIGMA)
140, -1.0000, 133.7185, 1.4212, -0.0056, -0.0648, 0.9925, 0.8569, 0
MPI-ESM1-2-LR
sres_c_tan2
sres_c_tan
0.04
0.02
0.00
−0.02
−0.04
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
8.5
7.5
6.5
5.5
4.5
3.5
2.5
1.5
0.5

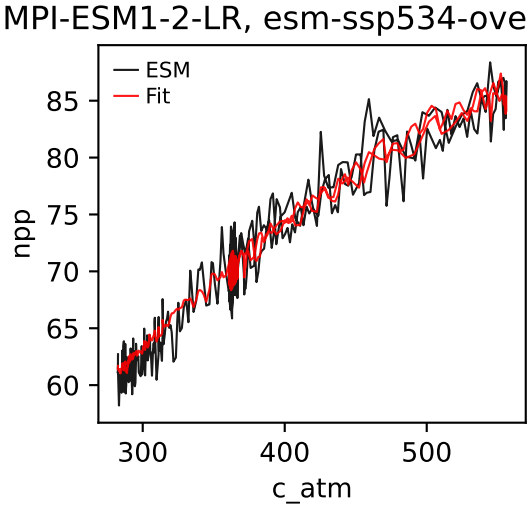

MPI-ESM1-2-LR, esm-ssp534-over, sres, ln(MSE/SIGMA)
140, -1.0000, 133.7185, 1.4212, -0.0056, -0.0648, 0.9925, 0.8569, 0
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
sres_slow
0.90
0.92
0.94
0.96
0.98
1.00
sres_fast
3.3
2.9
2.5
2.1
1.7
1.3
0.9
0.5

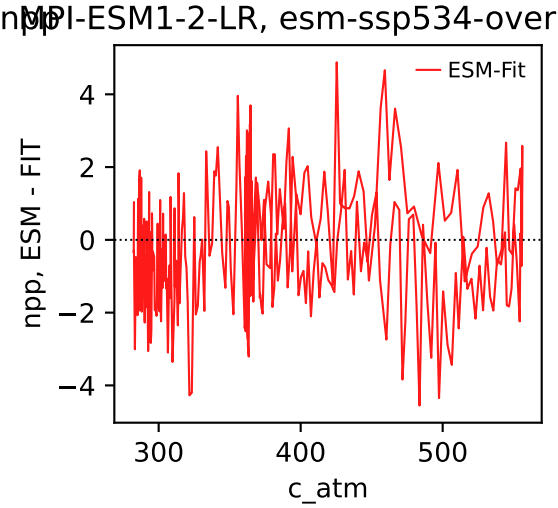

MPI-ESM1-2-LR, esm-ssp534-over, npp
ESM
Fit
npp
Year

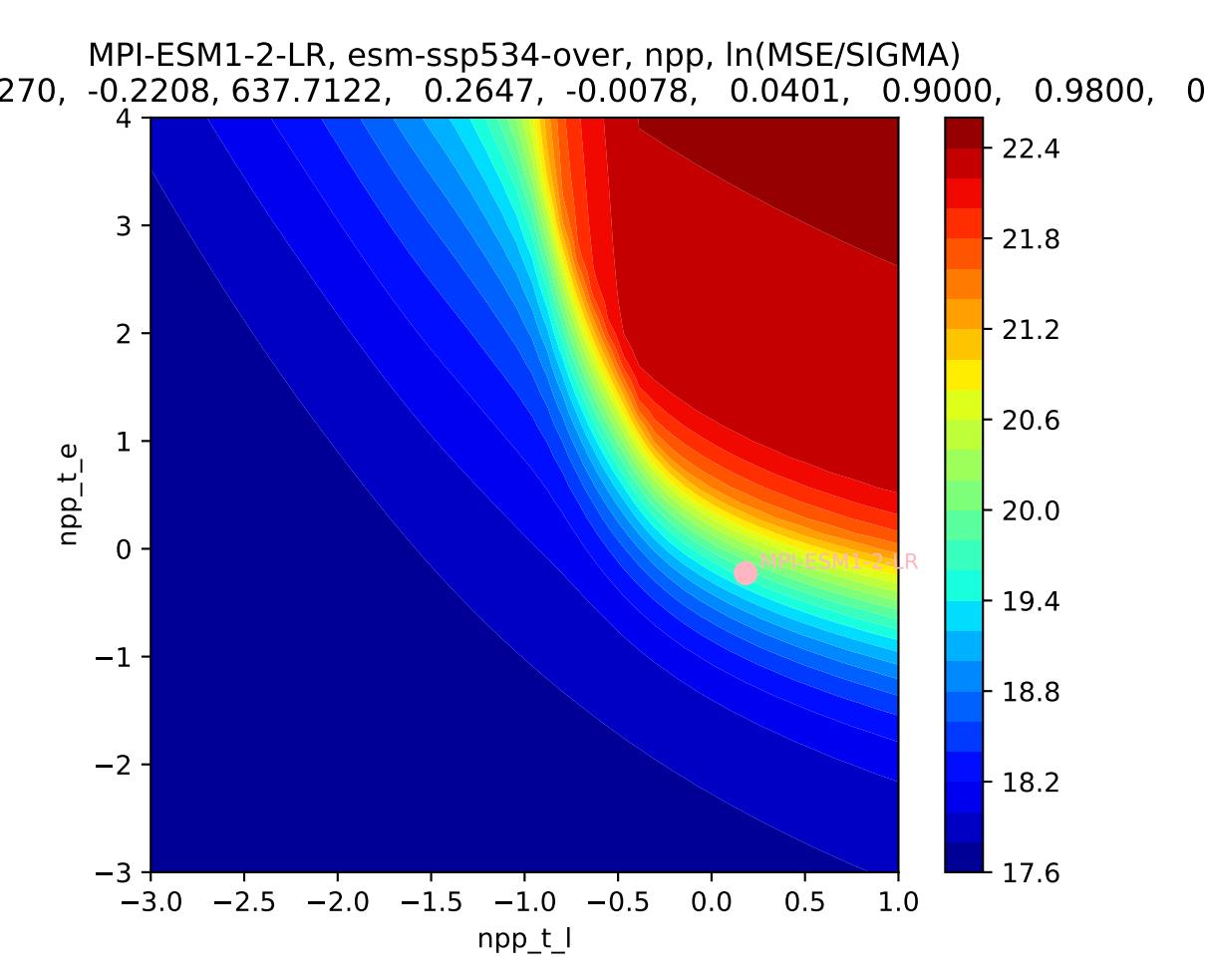

MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
npp, ESM - FIT
Year

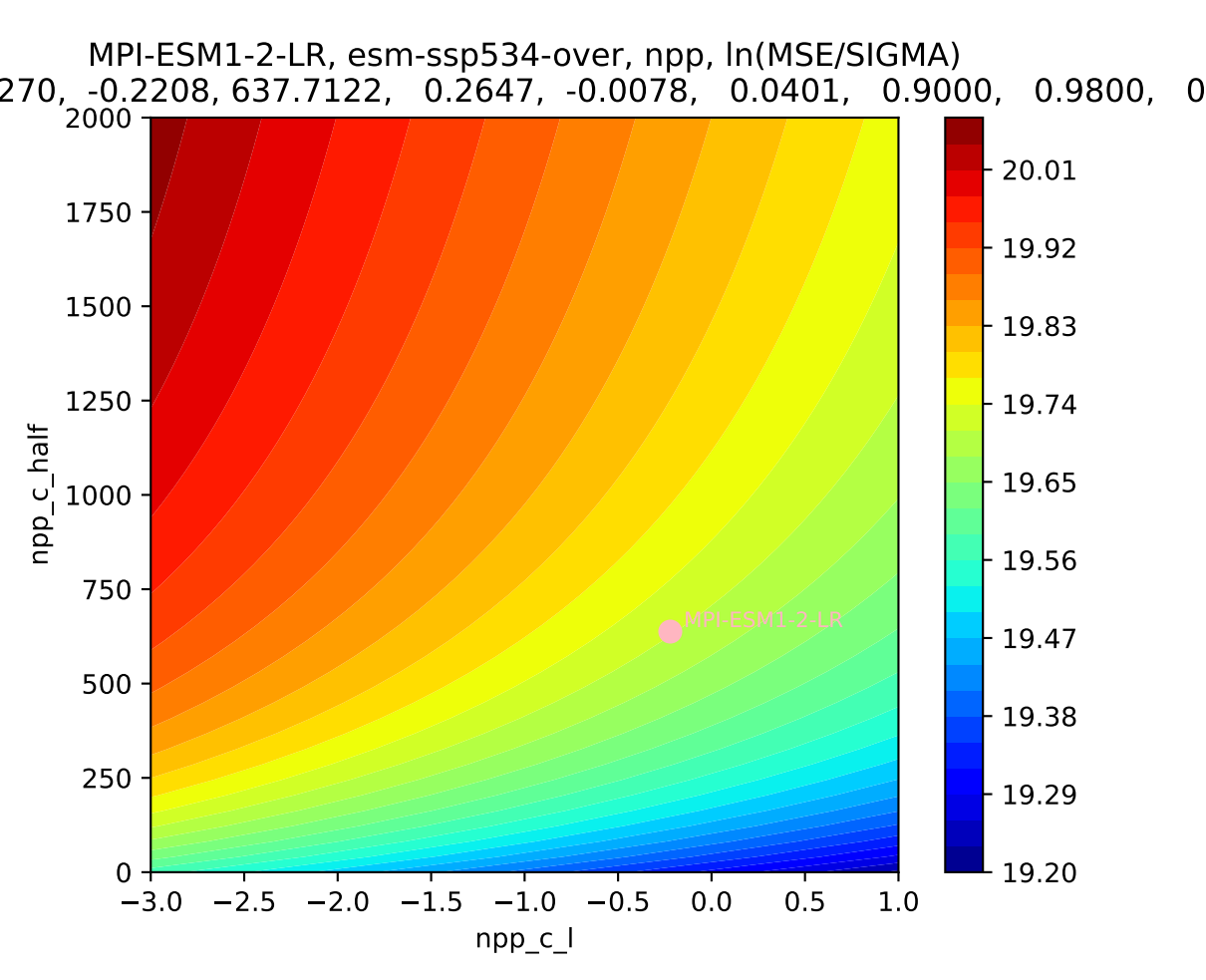

MPI-ESM1-2-LR, esm-ssp534-over, npp
ESM
Fit
npp
ΔT

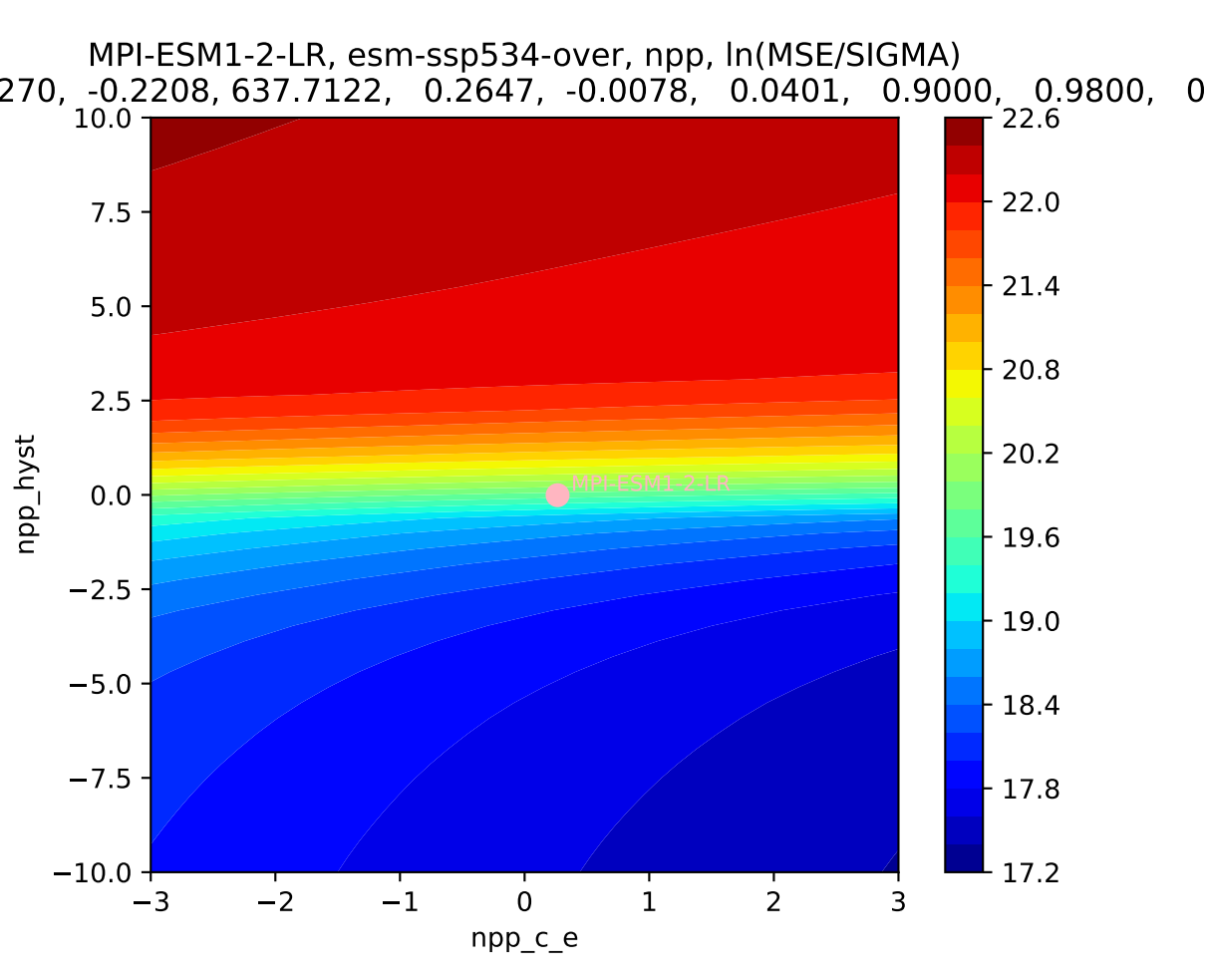

MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
npp, ESM - FIT
ΔT

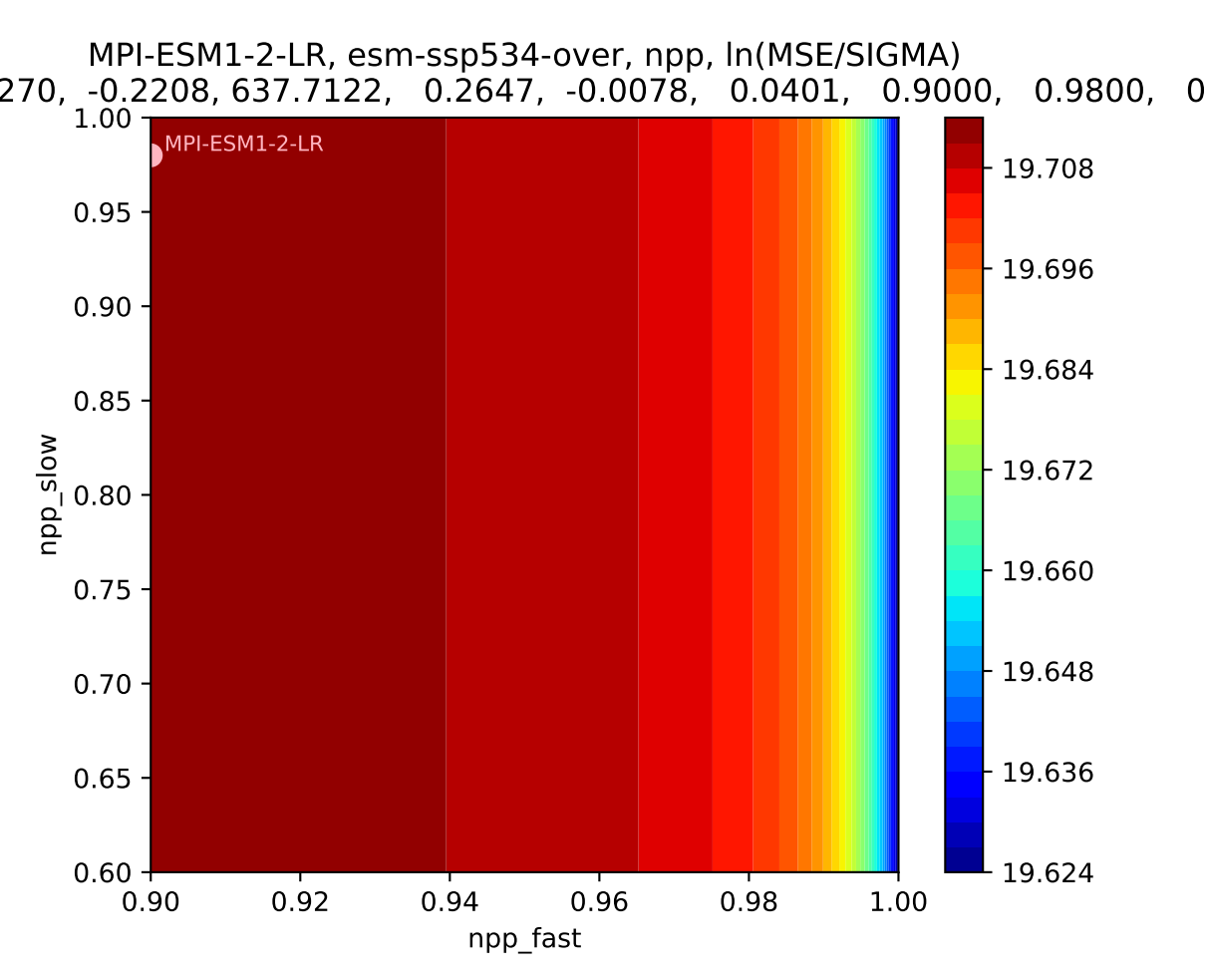

MPI-ESM1-2-LR, esm-ssp534-over, npp
ESM
Fit
npp
c_atm

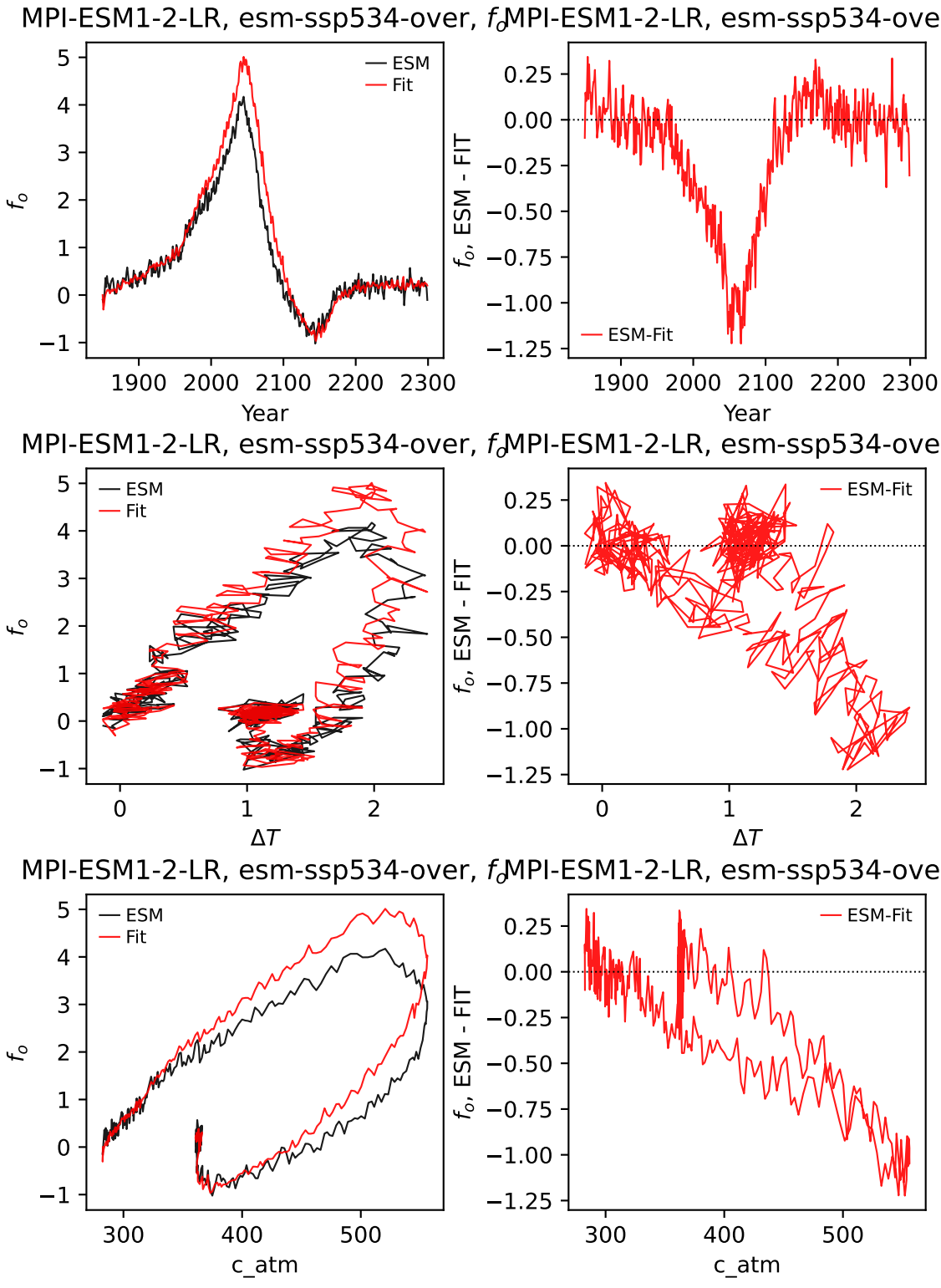

MPI-ESM1-2-LR, esm-ssp534-over,
ESM-Fit
npp, ESM - FIT
c_atm

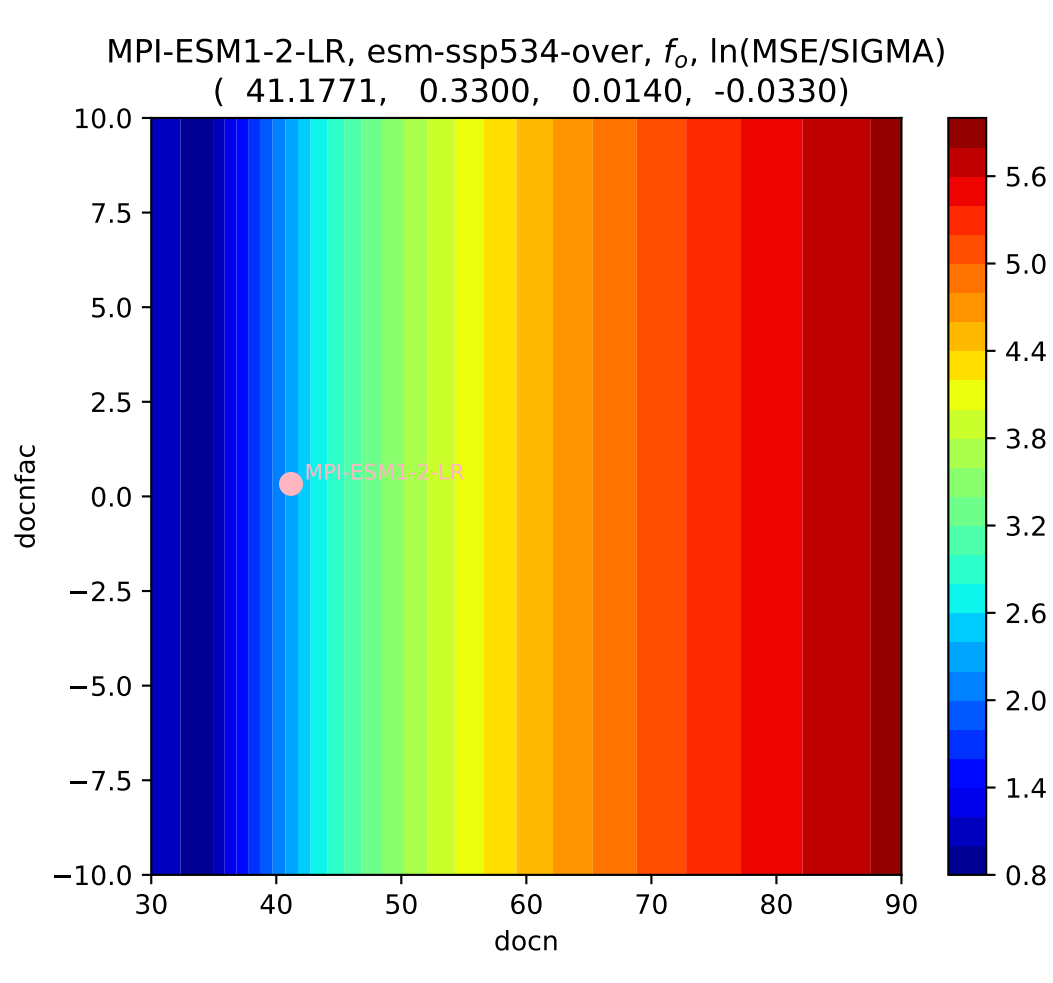

MPI-ESM1-2-LR, esm-ssp534-over, npp, ln(MSE/SIGMA)
270, -0.2208, 637.7122, 0.2647, -0.0078, 0.0401, 0.9000, 0.9800, 0
MPI-ESM1-2-LR
npp_t_e
npp_t_l
4
3
2
1
0
−1
−2
−3
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
22.4
21.8
21.2
20.6
20.0
19.4
18.8
18.2
17.6

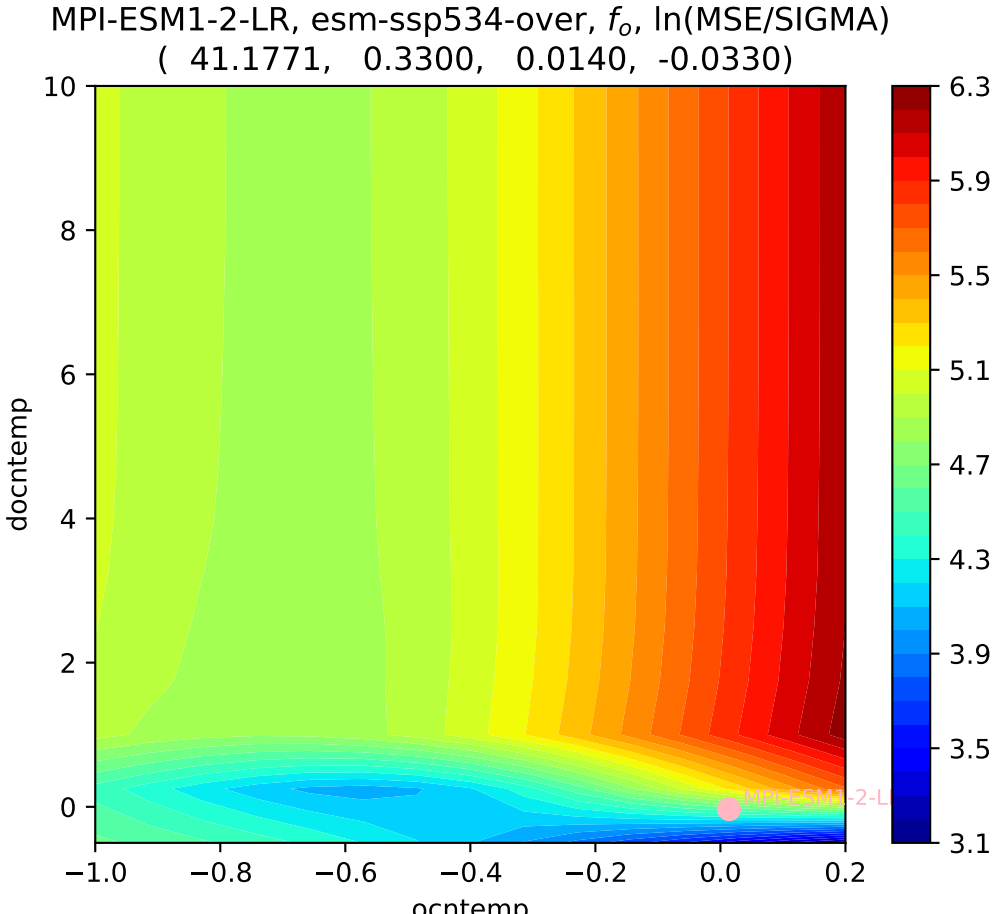

MPI-ESM1-2-LR, esm-ssp534-over, npp, ln(MSE/SIGMA)
270, -0.2208, 637.7122, 0.2647, -0.0078, 0.0401, 0.9000, 0.9800, 0
2000
1750
1500
1250
1000
750
500
250
0
npp_c_half
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
npp_c_l
MPI-ESM1-2-LR
20.01
19.92
19.83
19.74
19.65
19.56
19.47
19.38
19.29
19.20


MPI-ESM1-2-LR, esm-ssp534-over, npp, ln(MSE/SIGMA)
270, -0.2208, 637.7122, 0.2647, -0.0078, 0.0401, 0.9000, 0.9800, 0
MPI-ESM1-2-LR
npp_hyst
npp_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
22.6
22.0
21.4
20.8
20.2
19.6
19.0
18.4
17.8
17.2


MPI-ESM1-2-LR, esm-ssp534-over, npp, ln(MSE/SIGMA)
270, -0.2208, 637.7122, 0.2647, -0.0078, 0.0401, 0.9000, 0.9800, 0
MPI-ESM1-2-LR
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
npp_slow
0.90
0.92
0.94
0.96
0.98
1.00
npp_fast
19.708
19.696
19.684
19.672
19.660
19.648
19.636
19.624


MPI-ESM1-2-LR, esm-ssp534-over, f_o
ESM
Fit
f_o
Year
f_o, ESM - FIT
ESM-Fit
ΔT
c_atm


MPI-ESM1-2-LR, esm-ssp534-over, f_o, ln(MSE/SIGMA)
(41.1771, 0.3300, 0.0140, -0.0330)
MPI-ESM1-2 LR
docnfac
docn
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
30
40
50
60
70
80
90
5.6
5.0
4.4
3.8
3.2
2.6
2.0
1.4
0.8


MPI-ESM1-2-LR, esm-ssp534-over, f_o, ln(MSE/SIGMA)
(41.1771, 0.3300, 0.0140, -0.0330)
docntemp
ocntemp
10
8
6
4
2
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
6.3
5.9
5.5
5.1
4.7
4.3
3.9
3.5
3.1
MPI-ESM1-2-LR