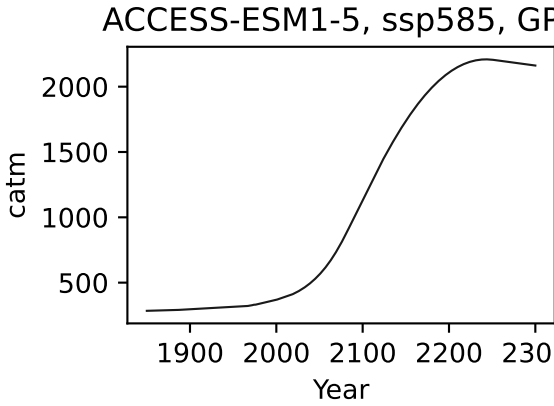
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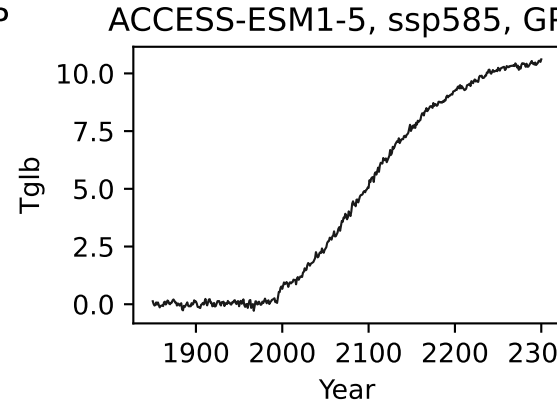
2200
2300
Year


ACCESS-ESM1-5, ssp585, GPP
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2.5
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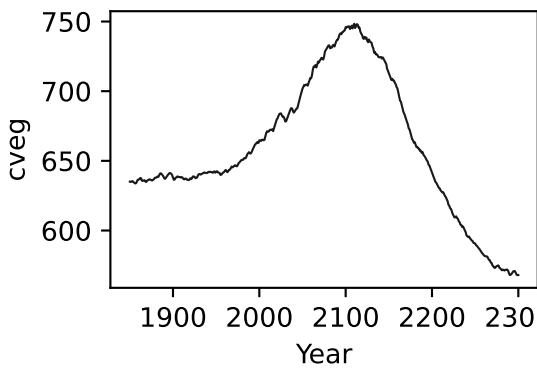
2200
2300
Year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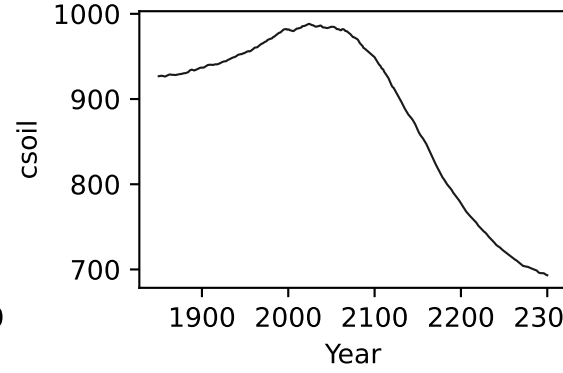
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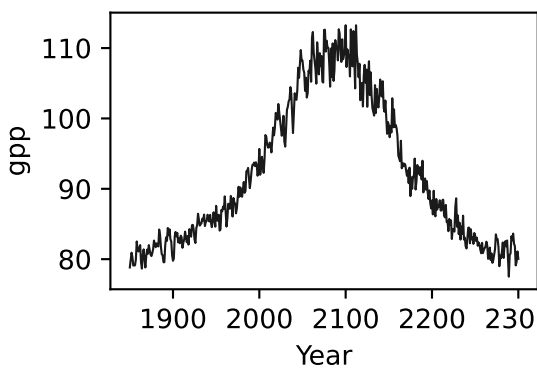
2300
Year


gpp
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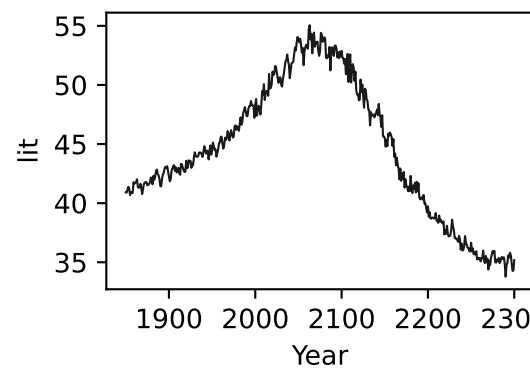
Year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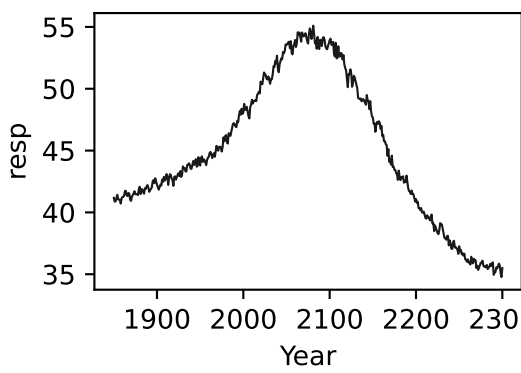
2200
2300
Year


resp
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1900
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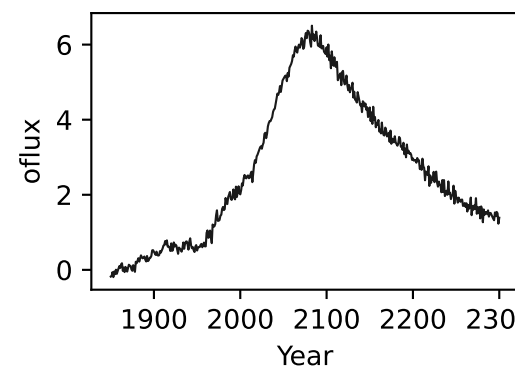
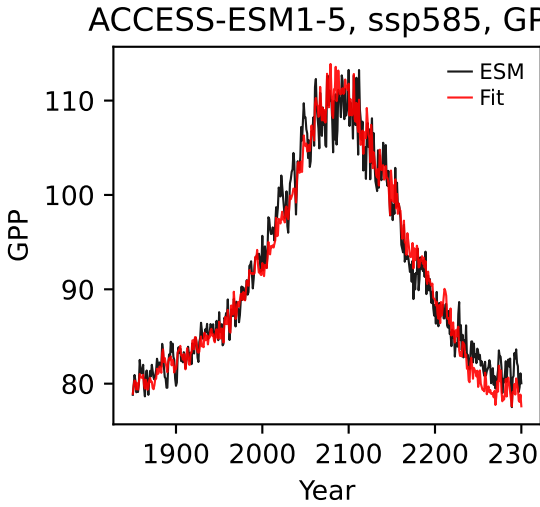
2300
Year


oflux
6
4
2
0
1900
2000
2100
2200
2300
Year


ACCESS-ESM1-5, ssp585, GPP
ESM
Fit
GPP
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80
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2000
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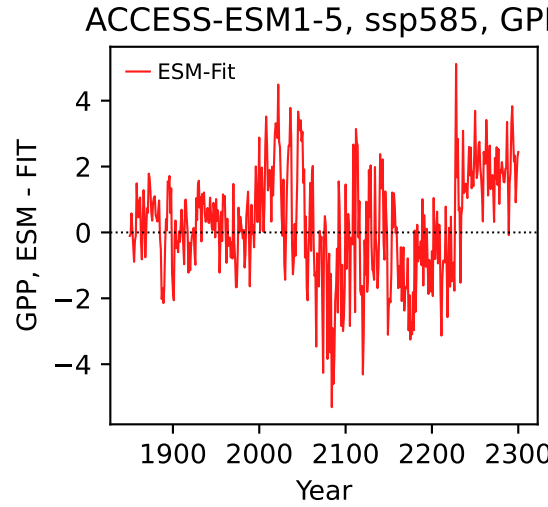
2200
2300
Year


ACCESS-ESM1-5, ssp585, GPP
ESM-Fit
GPP, ESM - FIT
4
2
0
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−4
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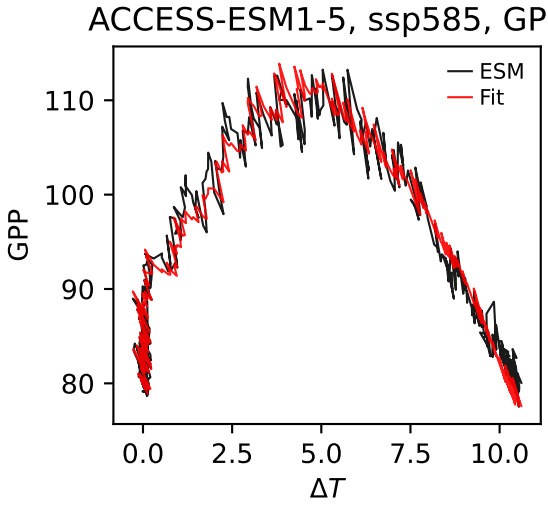
2000
2100
2200
2300
Year


ACCESS-ESM1-5, ssp585, GPP
ESM
Fit
GPP
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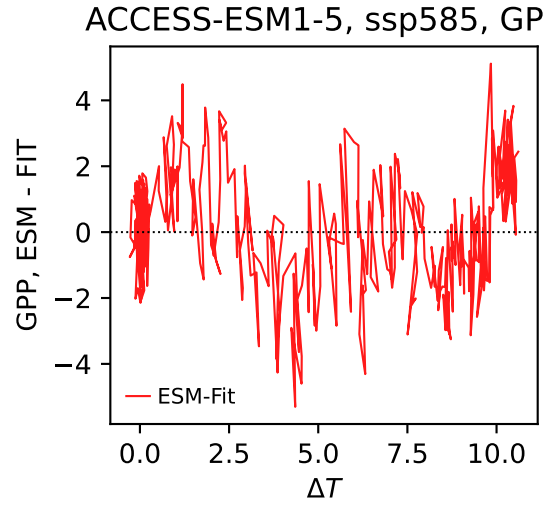
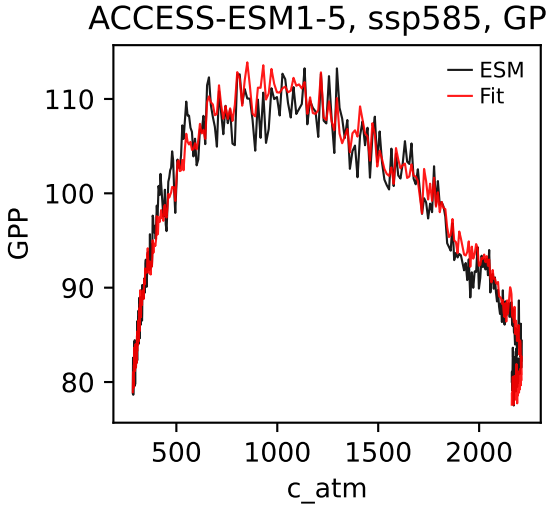
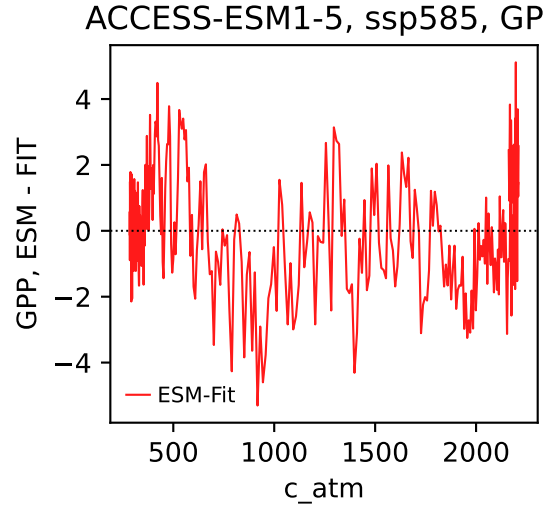
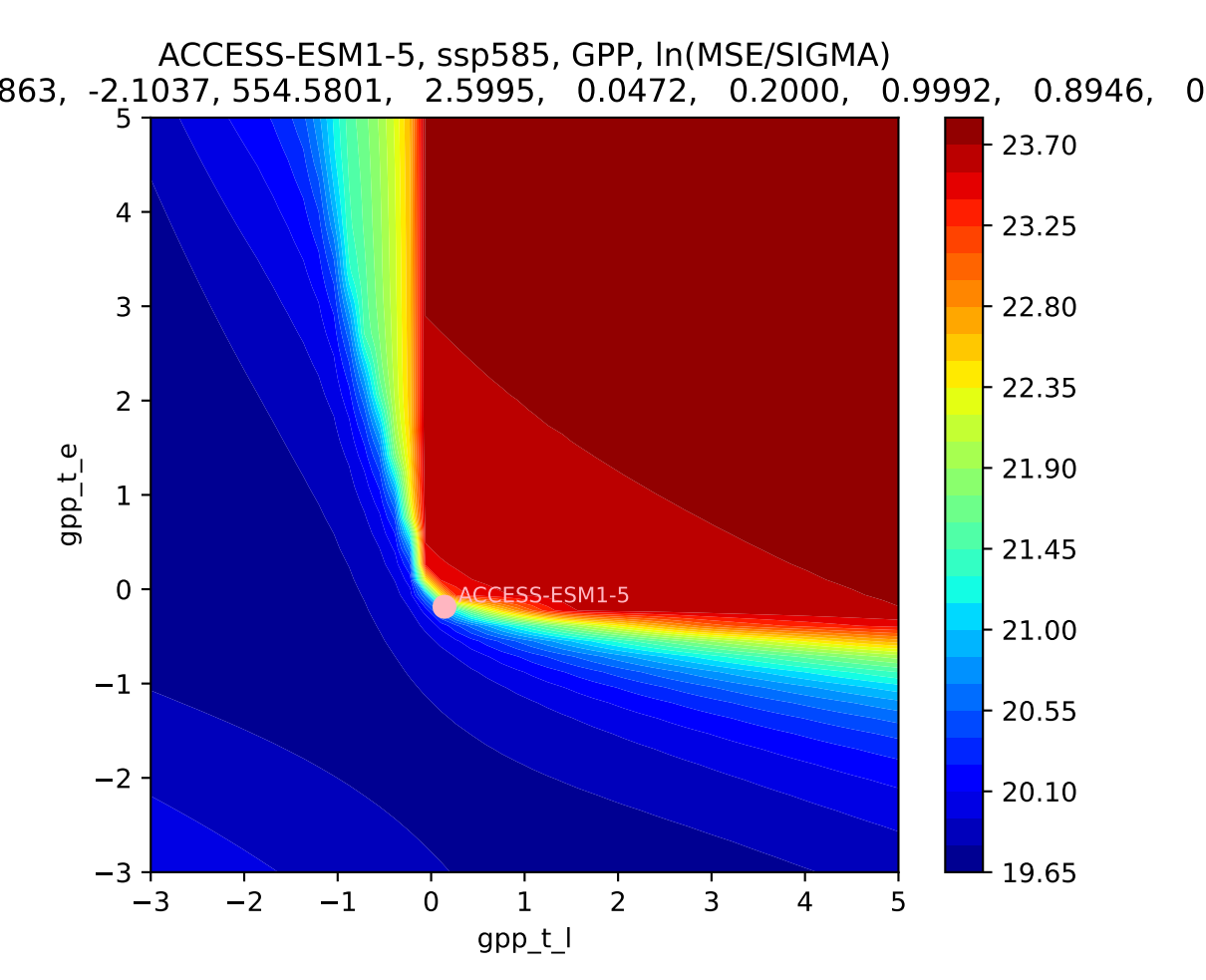
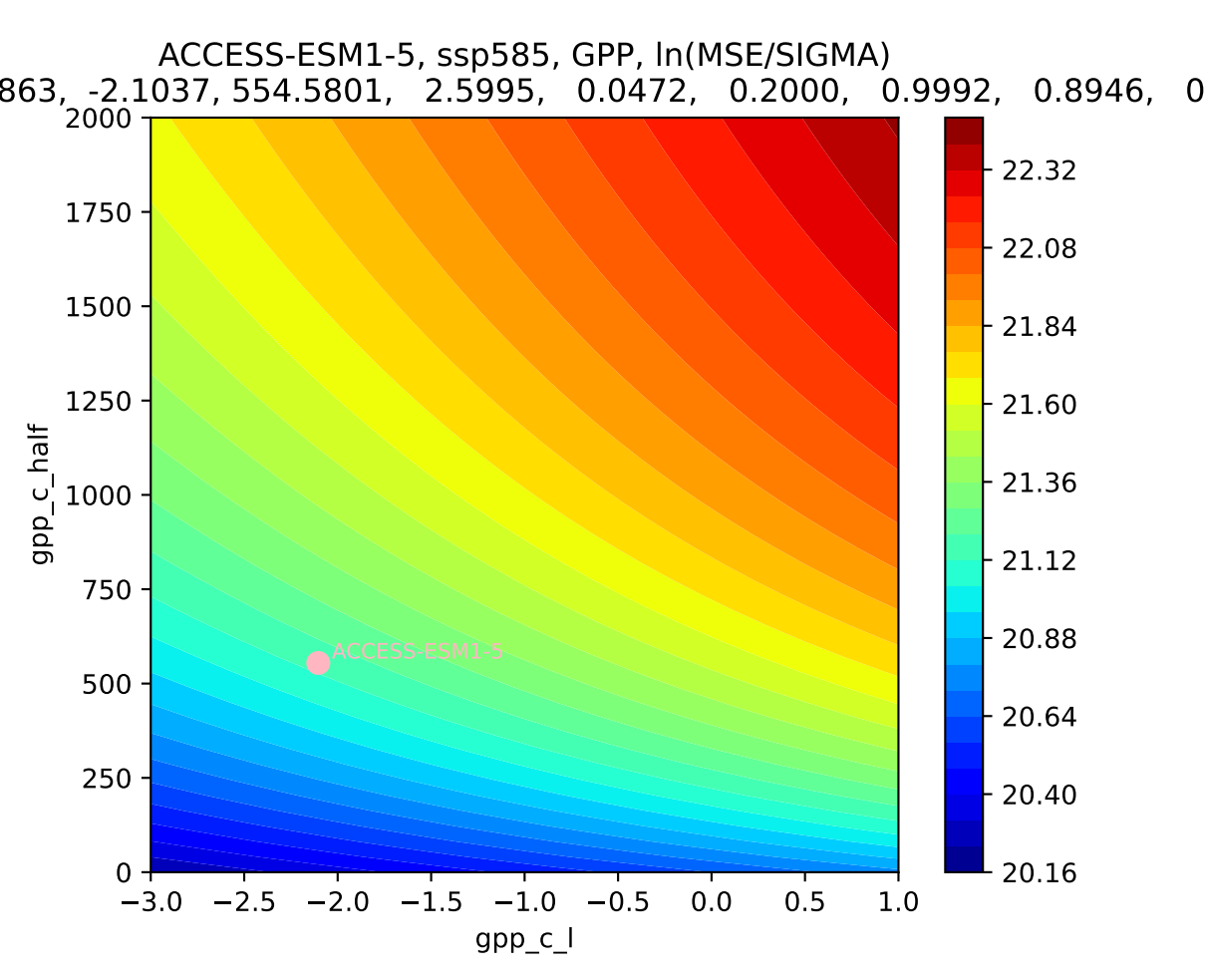
100
90
80
0.0
2.5
5.0
7.5
10.0
ΔT

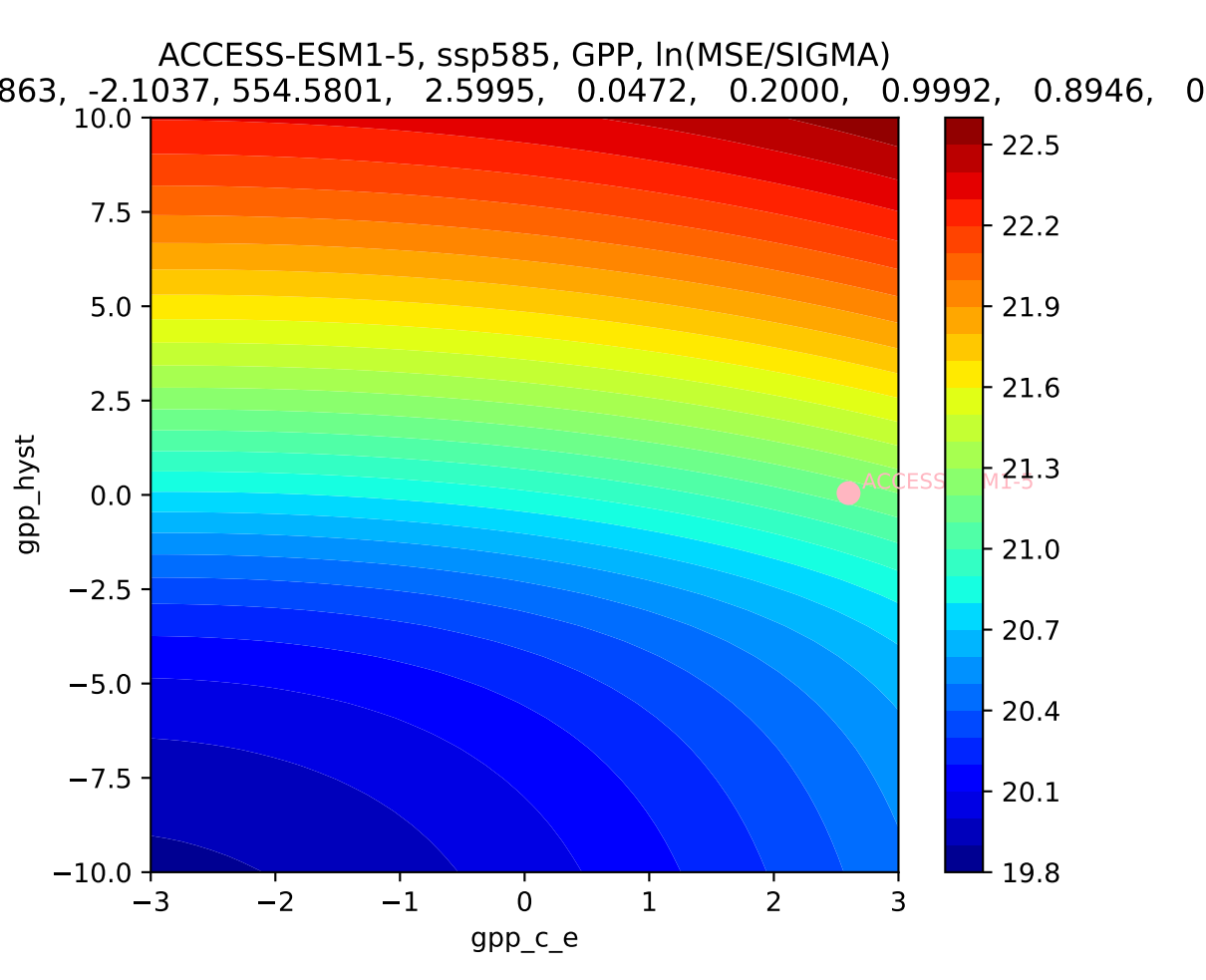

ACCESS-ESM1-5, ssp585, GPP
ESM-Fit
GPP, ESM - FIT
4
2
0
−2
−4
0.0
2.5
5.0
7.5
10.0
ΔT

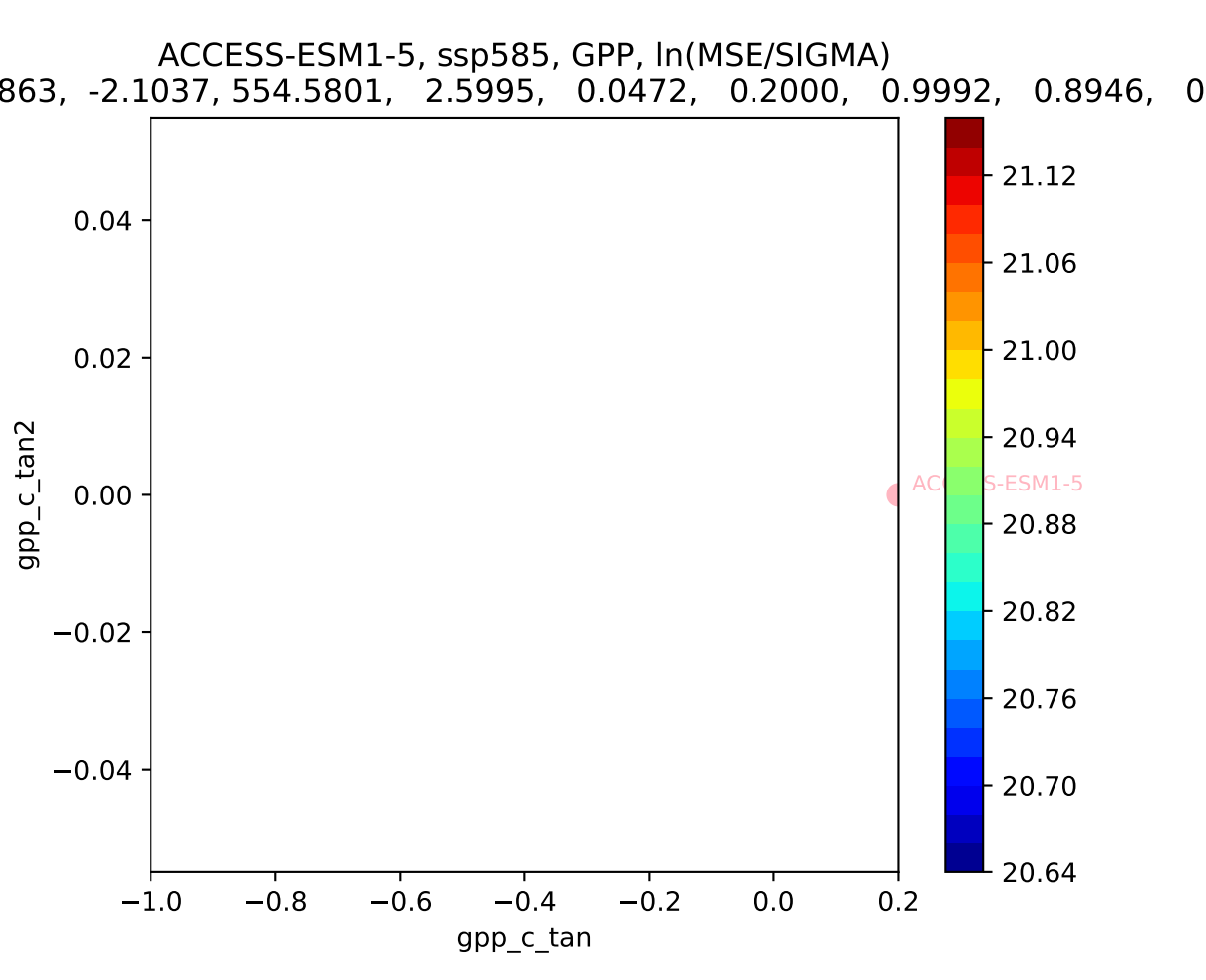

ACCESS-ESM1-5, ssp585, GPP
ESM
Fit
GPP
110
100
90
80
500
1000
1500
2000
c_atm

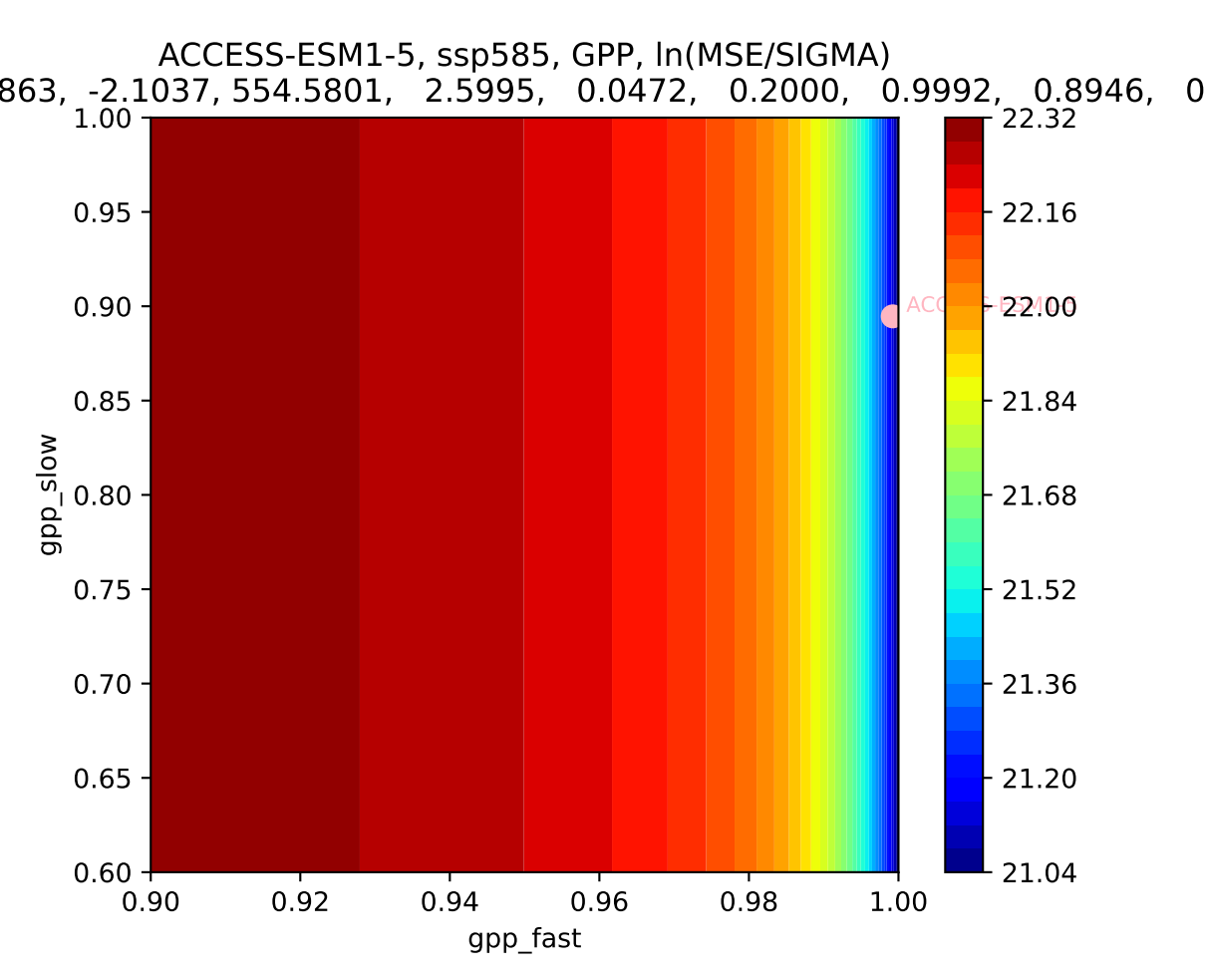

ACCESS-ESM1-5, ssp585, GPP
ESM-Fit
GPP, ESM - FIT
4
2
0
−2
−4
500
1000
1500
2000
c_atm

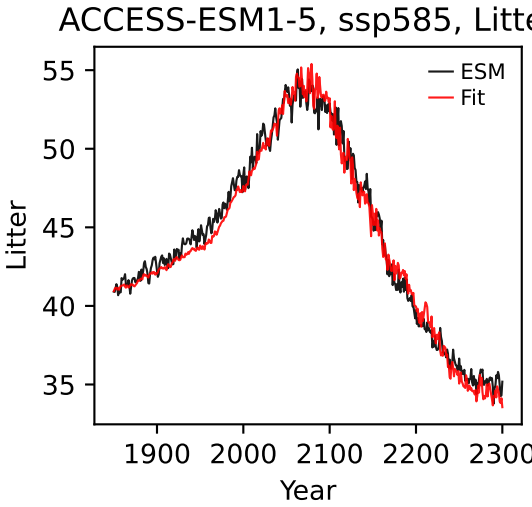

ACCESS-ESM1-5, ssp585, GPP, ln(MSE/SIGMA)
863, -2.1037, 554.5801, 2.5995, 0.0472, 0.2000, 0.9992, 0.8946, 0
ACCESS-ESM1-5
gpp_t_e
gpp_t_l
5
4
3
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
3
4
5
23.70
23.25
22.80
22.35
21.90
21.45
21.00
20.55
20.10
19.65

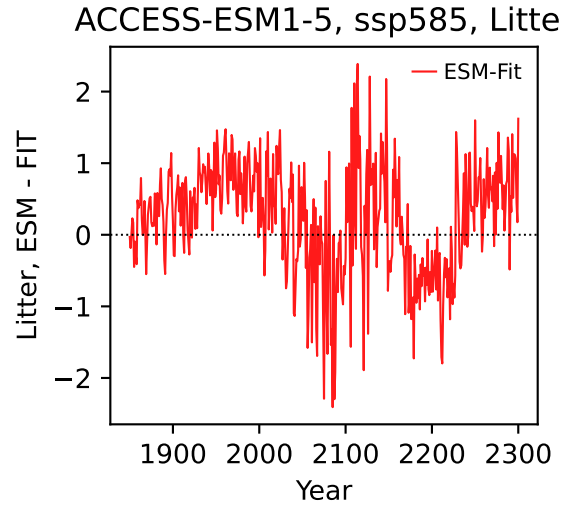

ACCESS-ESM1-5, ssp585, GPP, ln(MSE/SIGMA)
863, -2.1037, 554.5801, 2.5995, 0.0472, 0.2000, 0.9992, 0.8946, 0
gpp_c_half
gpp_c_l
ACCESS-ESM1-5
2000
1750
1500
1250
1000
750
500
250
0
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
22.32
22.08
21.84
21.60
21.36
21.12
20.88
20.64
20.40
20.16

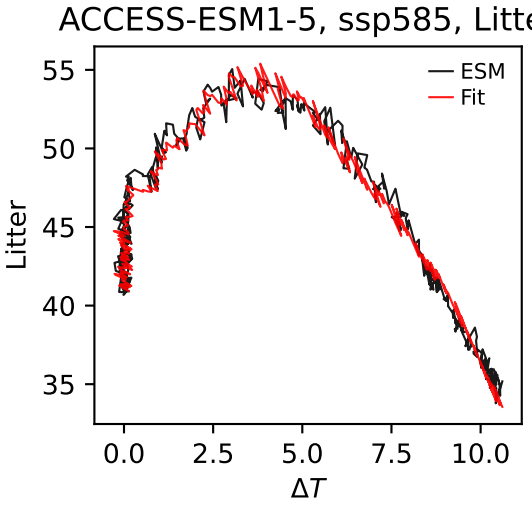

ACCESS-ESM1-5, ssp585, GPP, ln(MSE/SIGMA)
863, -2.1037, 554.5801, 2.5995, 0.0472, 0.2000, 0.9992, 0.8946, 0
gpp_hyst
gpp_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
22.5
22.2
21.9
21.6
21.3
21.0
20.7
20.4
20.1
19.8

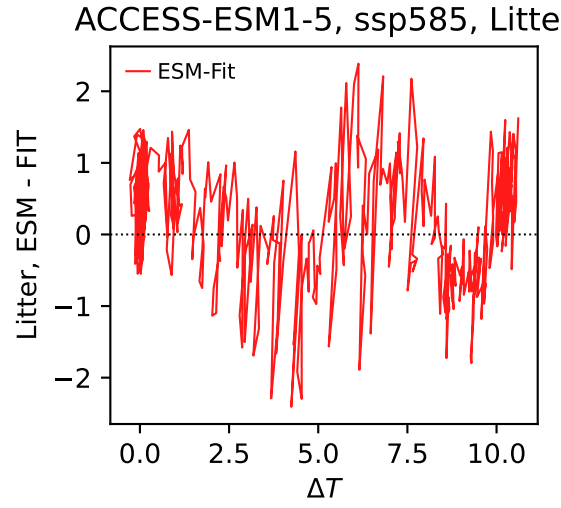

ACCESS-ESM1-5, ssp585, GPP, ln(MSE/SIGMA)
863, -2.1037, 554.5801, 2.5995, 0.0472, 0.2000, 0.9992, 0.8946, 0
gpp_c_tan2
gpp_c_tan
0.04
0.02
0.00
−0.02
−0.04
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
21.12
21.06
21.00
20.94
20.88
20.82
20.76
20.70
20.64

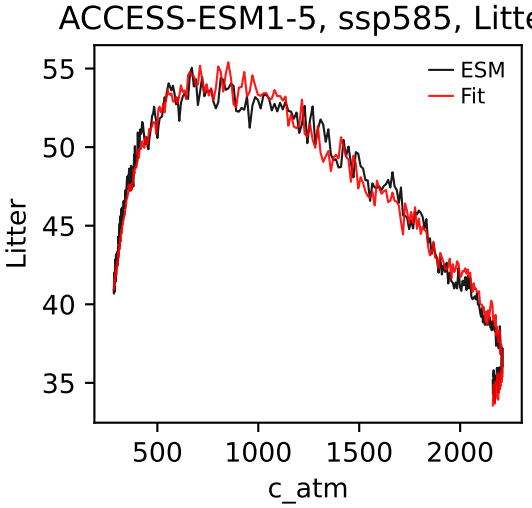

ACCESS-ESM1-5, ssp585, GPP, ln(MSE/SIGMA)
863, -2.1037, 554.5801, 2.5995, 0.0472, 0.2000, 0.9992, 0.8946, 0
gpp_slow
gpp_fast
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.90
0.92
0.94
0.96
0.98
1.00
22.32
22.16
22.00
21.84
21.68
21.52
21.36
21.20
21.04

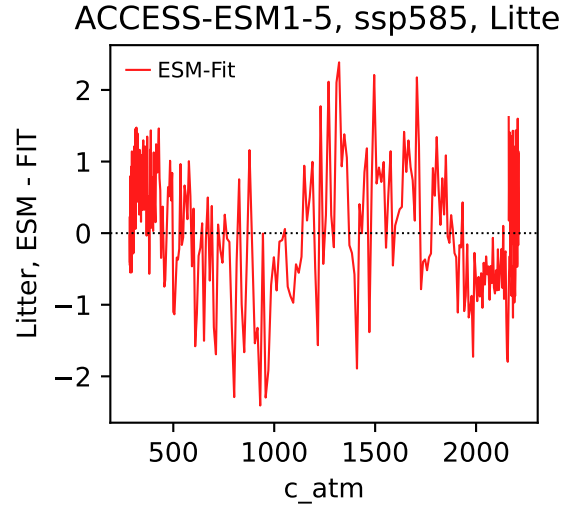

ACCESS-ESM1-5, ssp585, Litter
ESM
Fit
Litter
Year

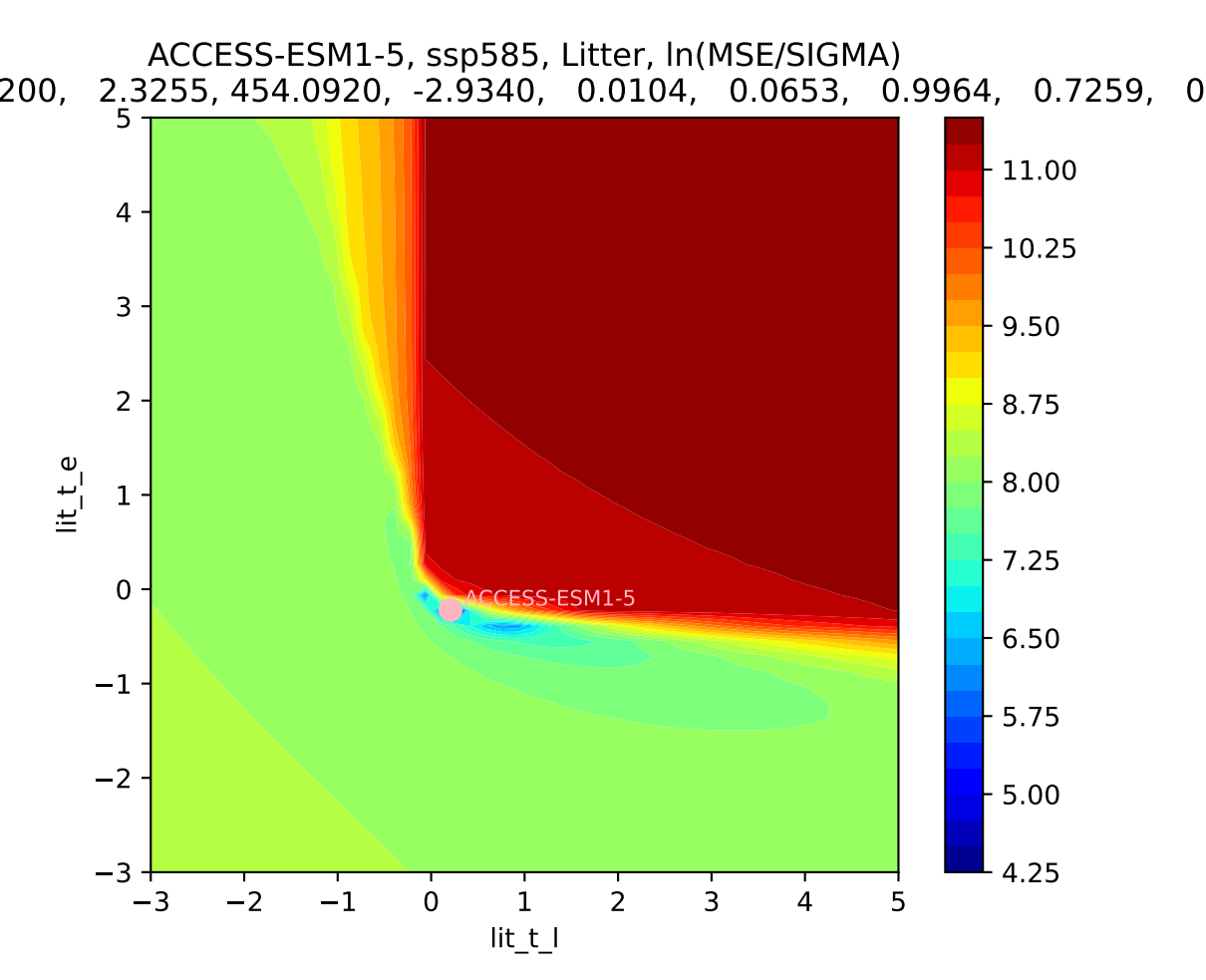

ACCESS-ESM1-5, ssp585, Litter
ESM-Fit
Litter, ESM - FIT
Year

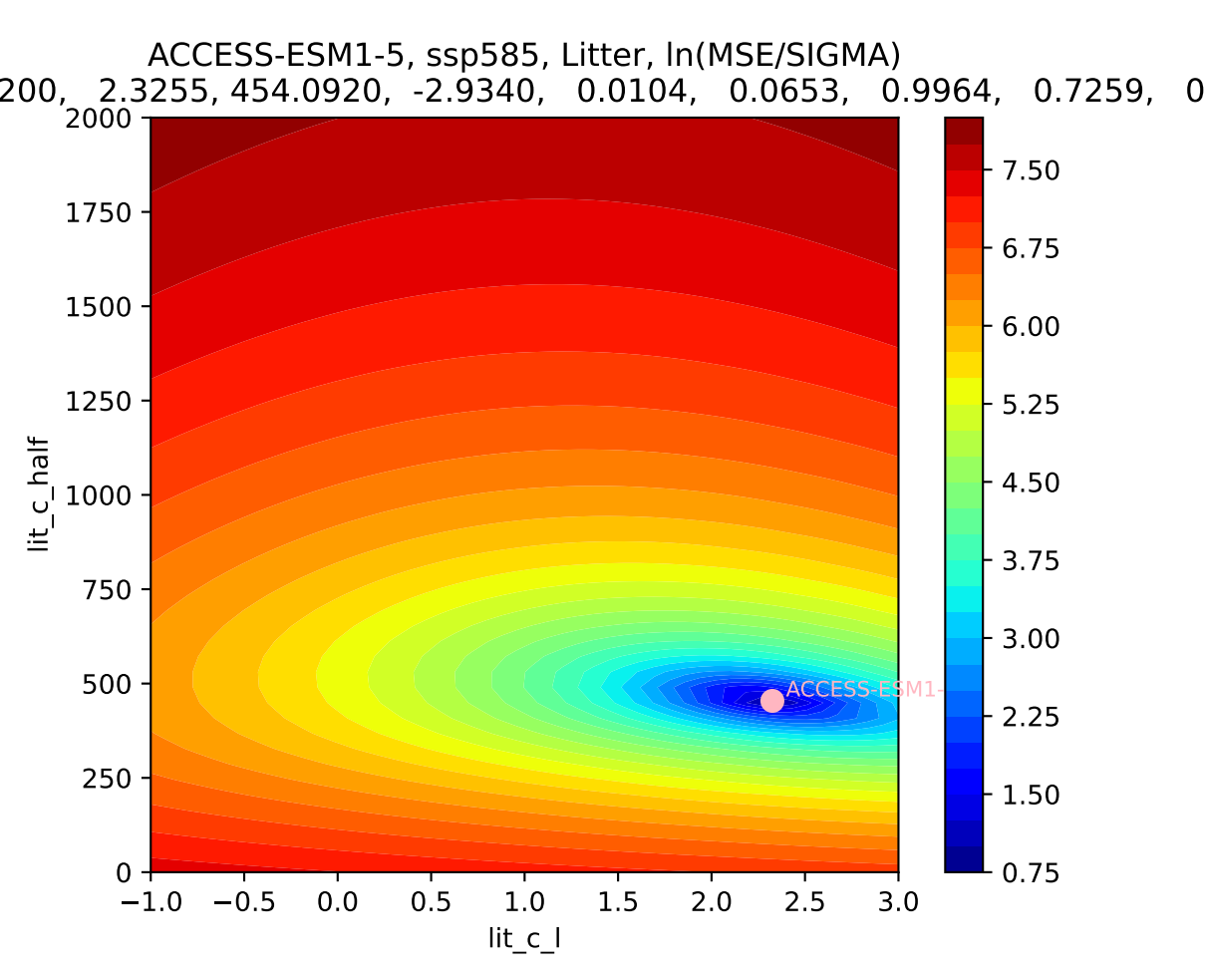

ACCESS-ESM1-5, ssp585, Litter
ESM
Fit
Litter
ΔT

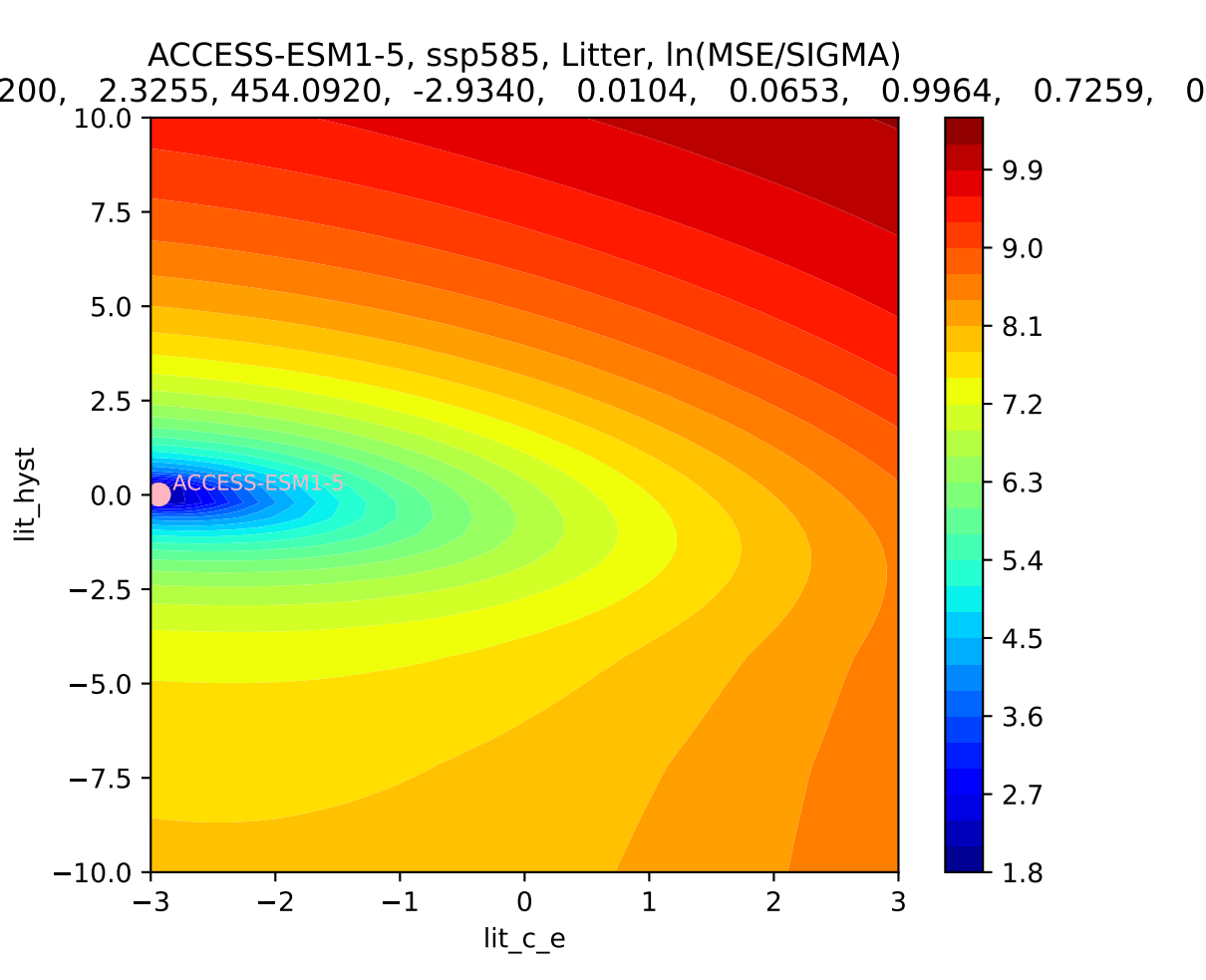

ACCESS-ESM1-5, ssp585, Litter
ESM-Fit
Litter, ESM - FIT
ΔT


ACCESS-ESM1-5, ssp585, Litter
ESM
Fit
Litter
c_atm


ACCESS-ESM1-5, ssp585, Litter
ESM-Fit
Litter, ESM - FIT
c_atm


ACCESS-ESM1-5, ssp585, Litter, ln(MSE/SIGMA)
200, 2.3255, 454.0920, -2.9340, 0.0104, 0.0653, 0.9964, 0.7259, 0
ACCESS-ESM1-5
lit_t_e
lit_t_l
11.00
10.25
9.50
8.75
8.00
7.25
6.50
5.75
5.00
4.25


ACCESS-ESM1-5, ssp585, Litter, ln(MSE/SIGMA)
200, 2.3255, 454.0920, -2.9340, 0.0104, 0.0653, 0.9964, 0.7259, 0
lit_c_half
lit_c_l
ACCESS-ESM1-
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
7.50
6.75
6.00
5.25
4.50
3.75
3.00
2.25
1.50
0.75


ACCESS-ESM1-5, ssp585, Litter, ln(MSE/SIGMA)
200, 2.3255, 454.0920, -2.9340, 0.0104, 0.0653, 0.9964, 0.7259, 0
ACCESS-ESM1-5
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
9.9
9.0
8.1
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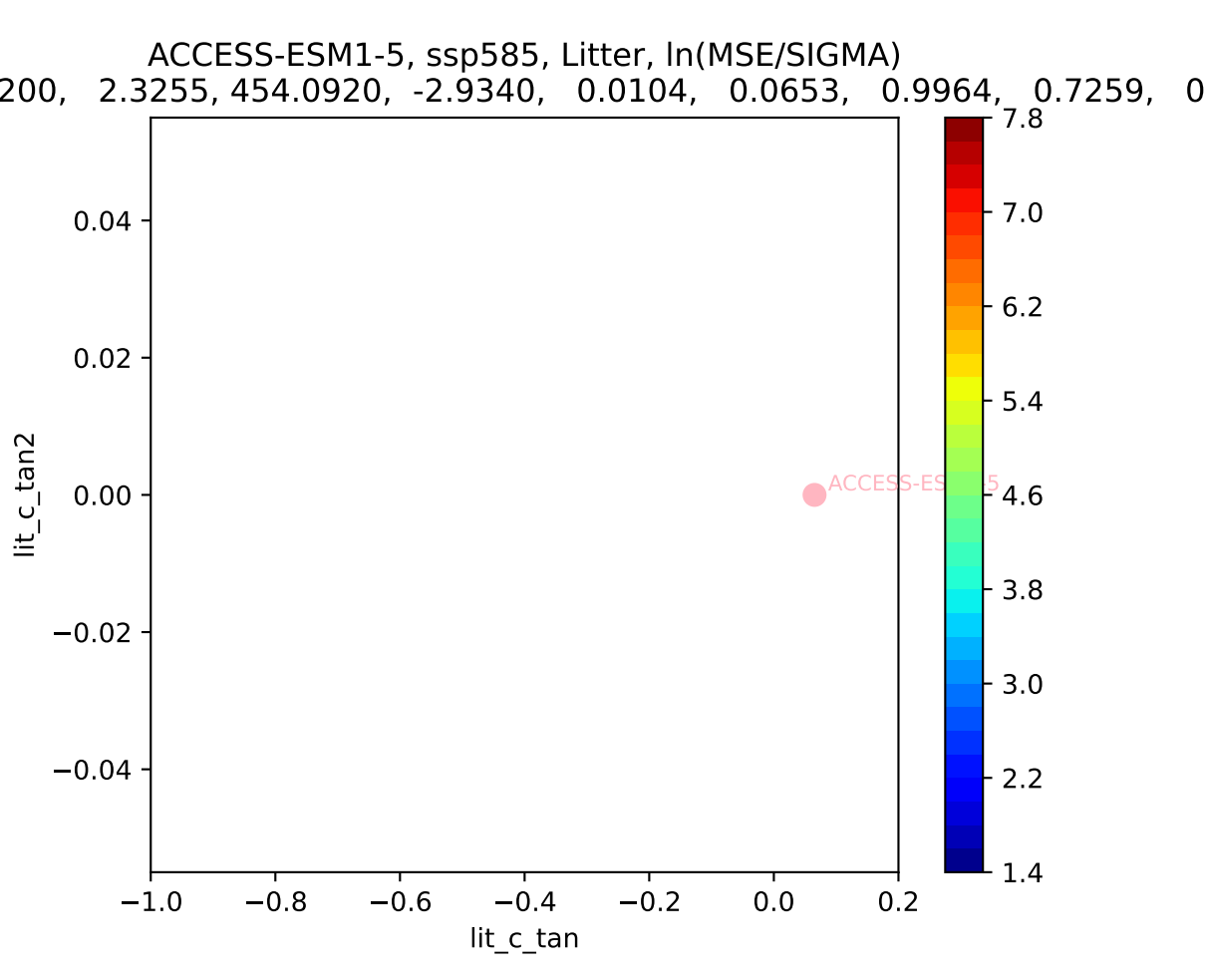
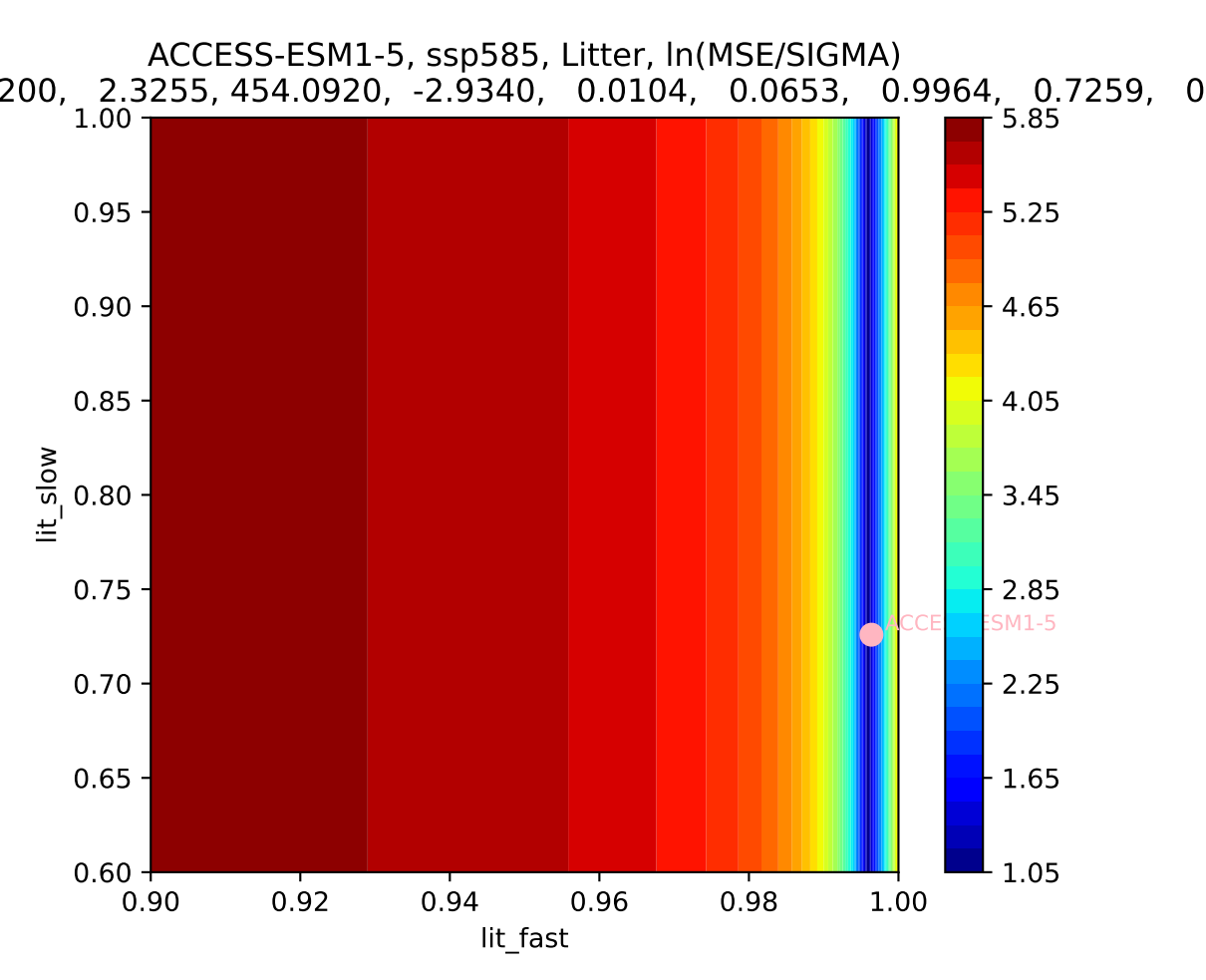
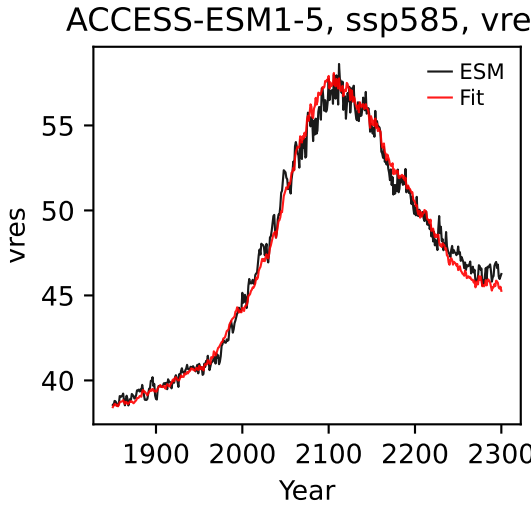
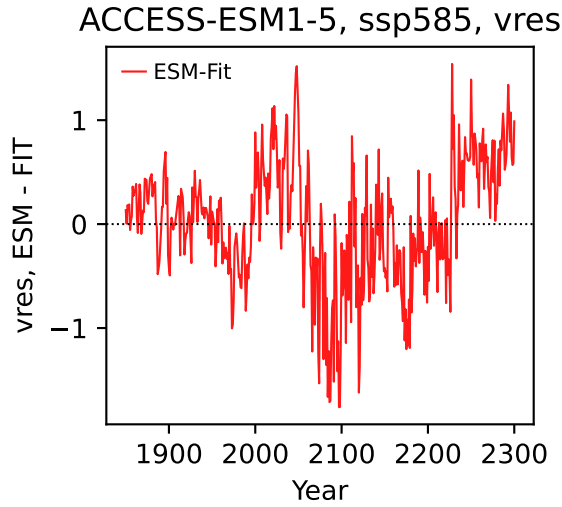
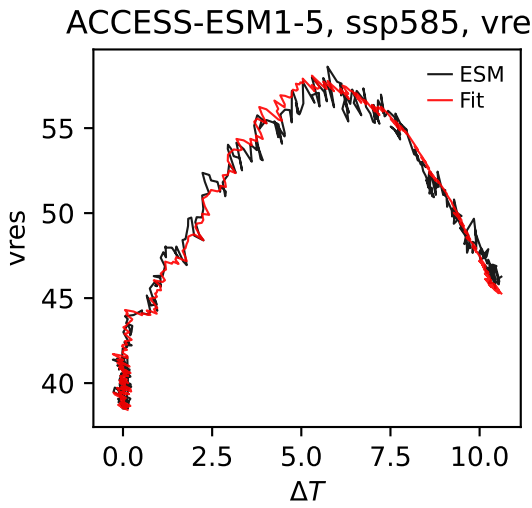
2.7
1.8

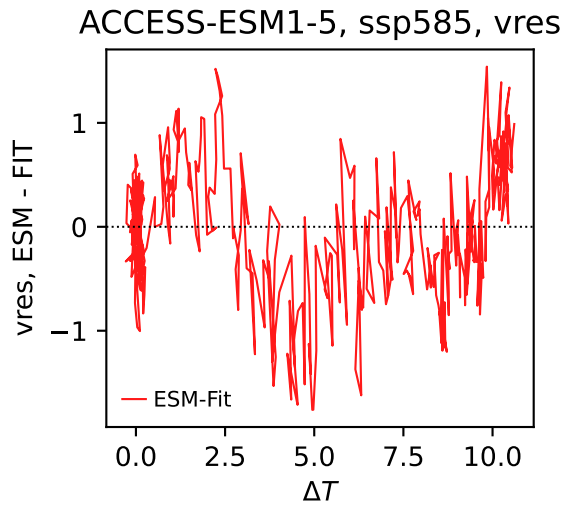

ACCESS-ESM1-5, ssp585, Litter, ln(MSE/SIGMA)
200, 2.3255, 454.0920, -2.9340, 0.0104, 0.0653, 0.9964, 0.7259, 0
lit_c_tan2
lit_c_tan
0.04
0.02
0.00
−0.02
−0.04
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
7.8
7.0
6.2
5.4
4.6
3.8
3.0
2.2
1.4

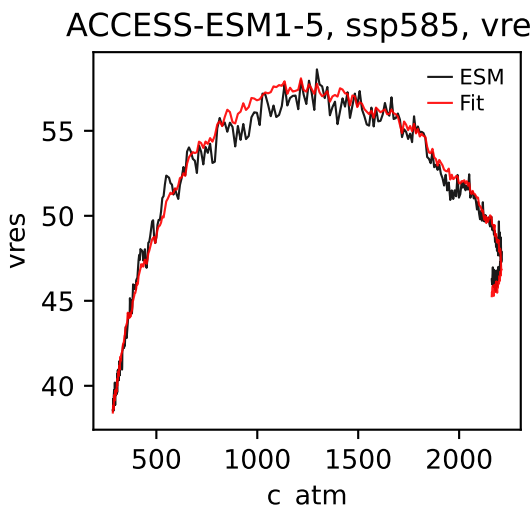

ACCESS-ESM1-5, ssp585, Litter, ln(MSE/SIGMA)
200, 2.3255, 454.0920, -2.9340, 0.0104, 0.0653, 0.9964, 0.7259, 0
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
lit_slow
0.90
0.92
0.94
0.96
0.98
1.00
lit_fast
5.85
5.25
4.65
4.05
3.45
2.85
2.25
1.65
1.05

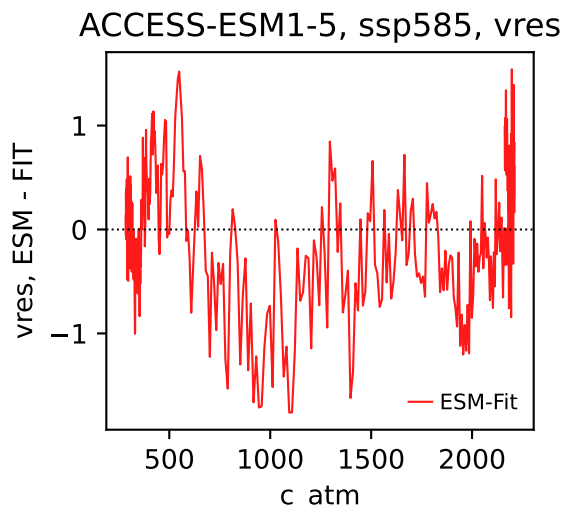

ACCESS-ESM1-5, ssp585, vres
ESM
Fit
vres
55
50
45
40
1900
2000
2100
2200
2300
Year

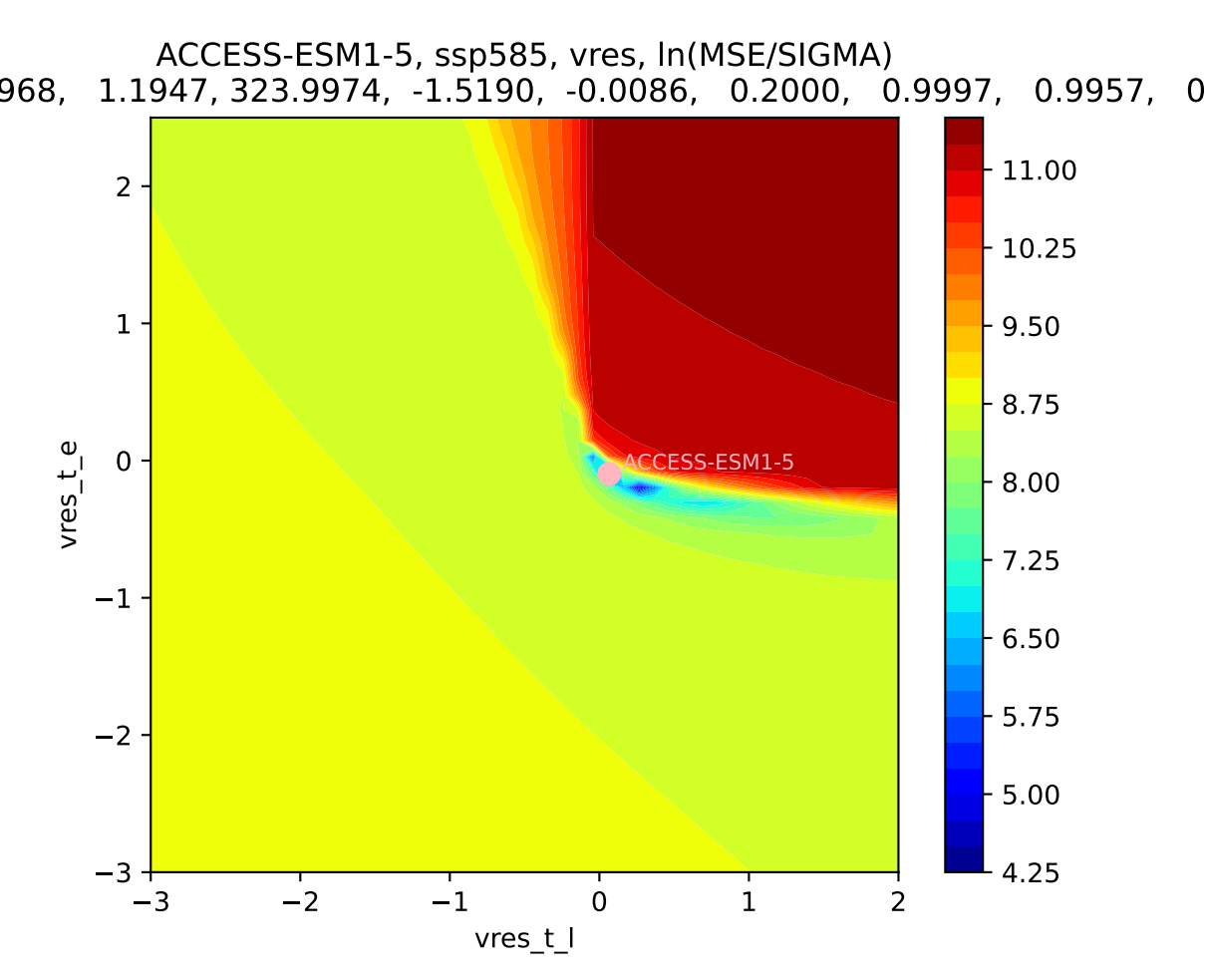

ACCESS-ESM1-5, ssp585, vres
ESM-Fit
vres, ESM - FIT
1
0
−1
1900
2000
2100
2200
2300
Year

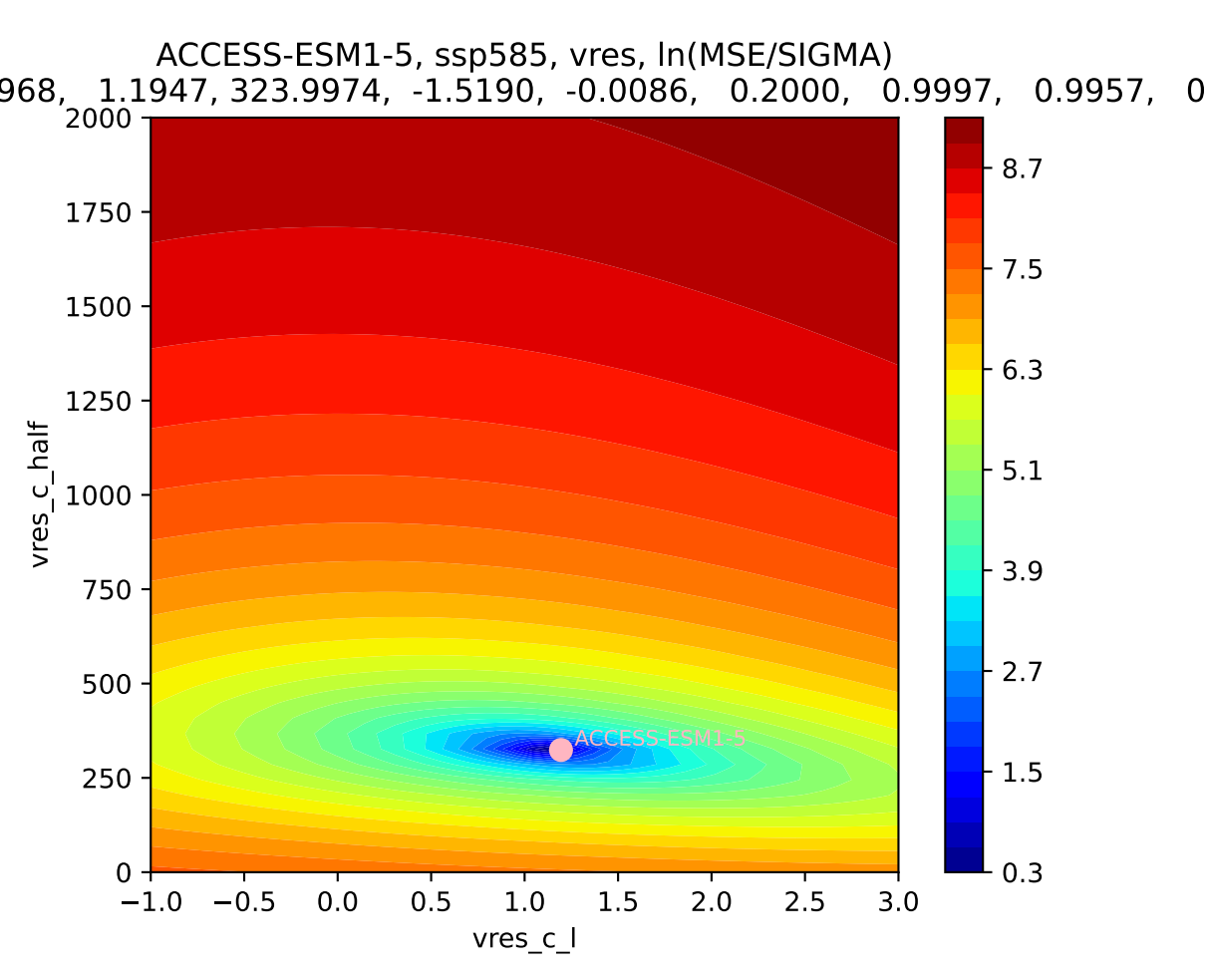

ACCESS-ESM1-5, ssp585, vres
ESM
Fit
vres
55
50
45
40
0.0
2.5
5.0
7.5
10.0
ΔT

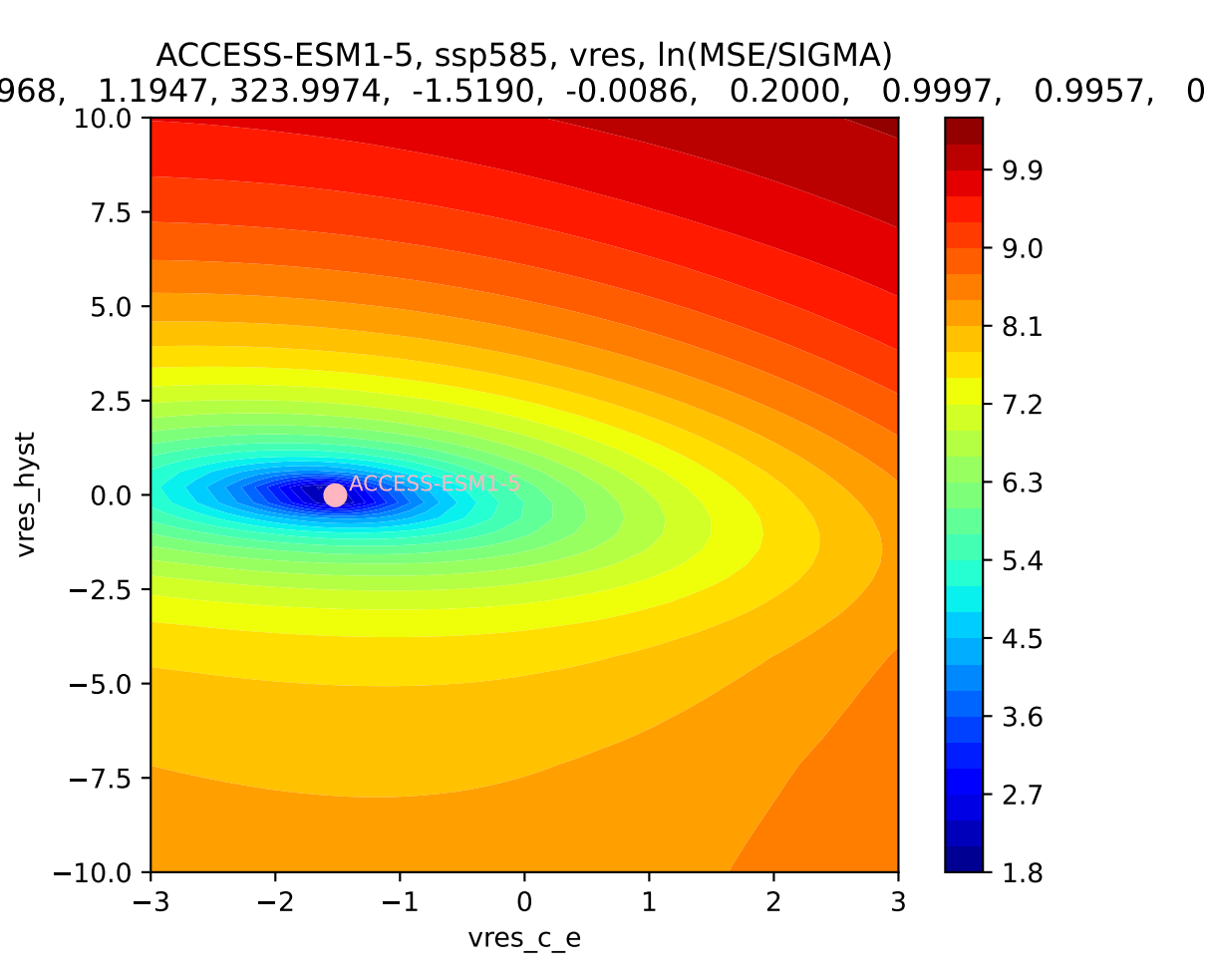

ACCESS-ESM1-5, ssp585, vres
ESM-Fit
vres, ESM - FIT
1
0
−1
0.0
2.5
5.0
7.5
10.0
ΔT

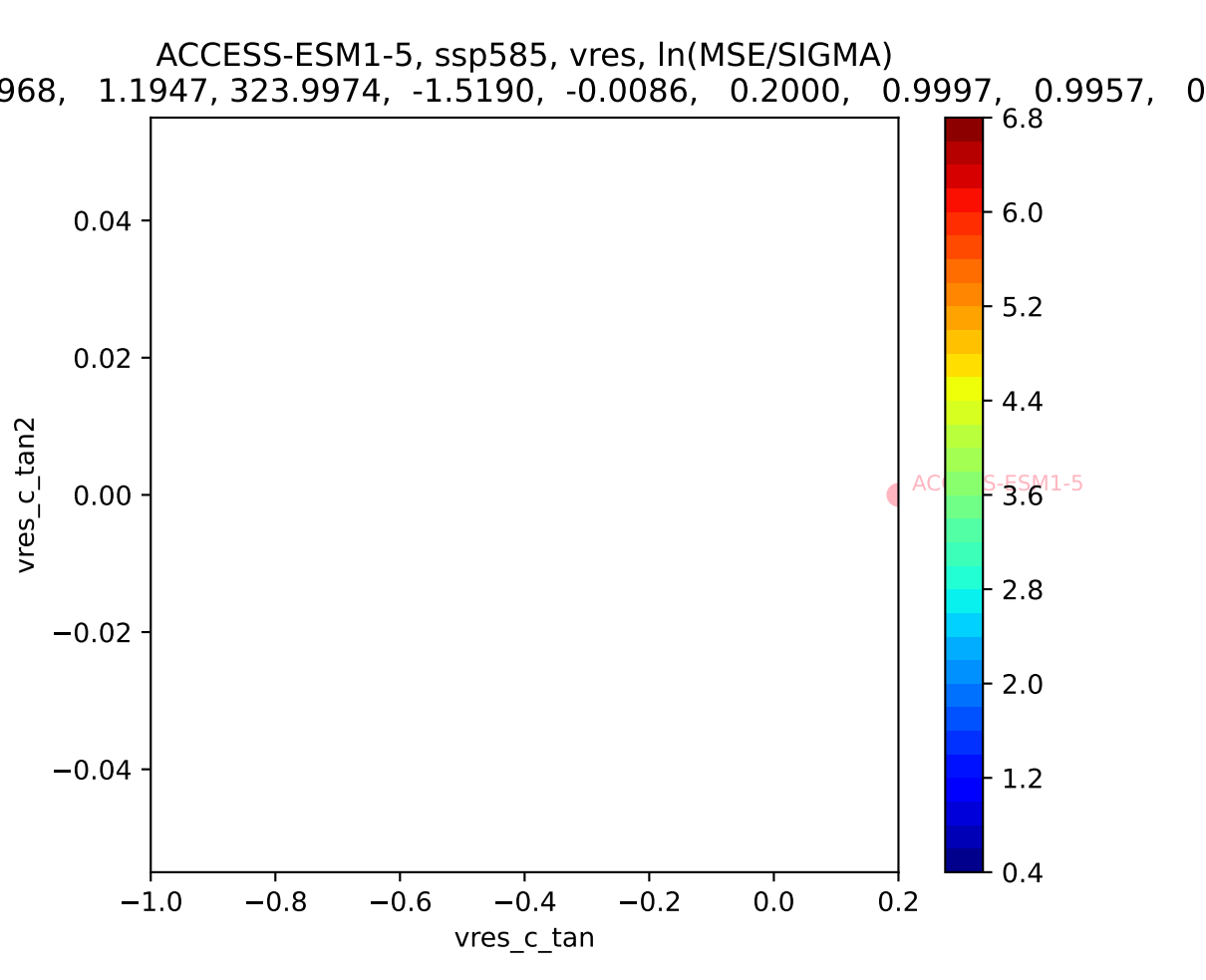

ACCESS-ESM1-5, ssp585, vres
ESM
Fit
vres
55
50
45
40
500
1000
1500
2000
c_atm

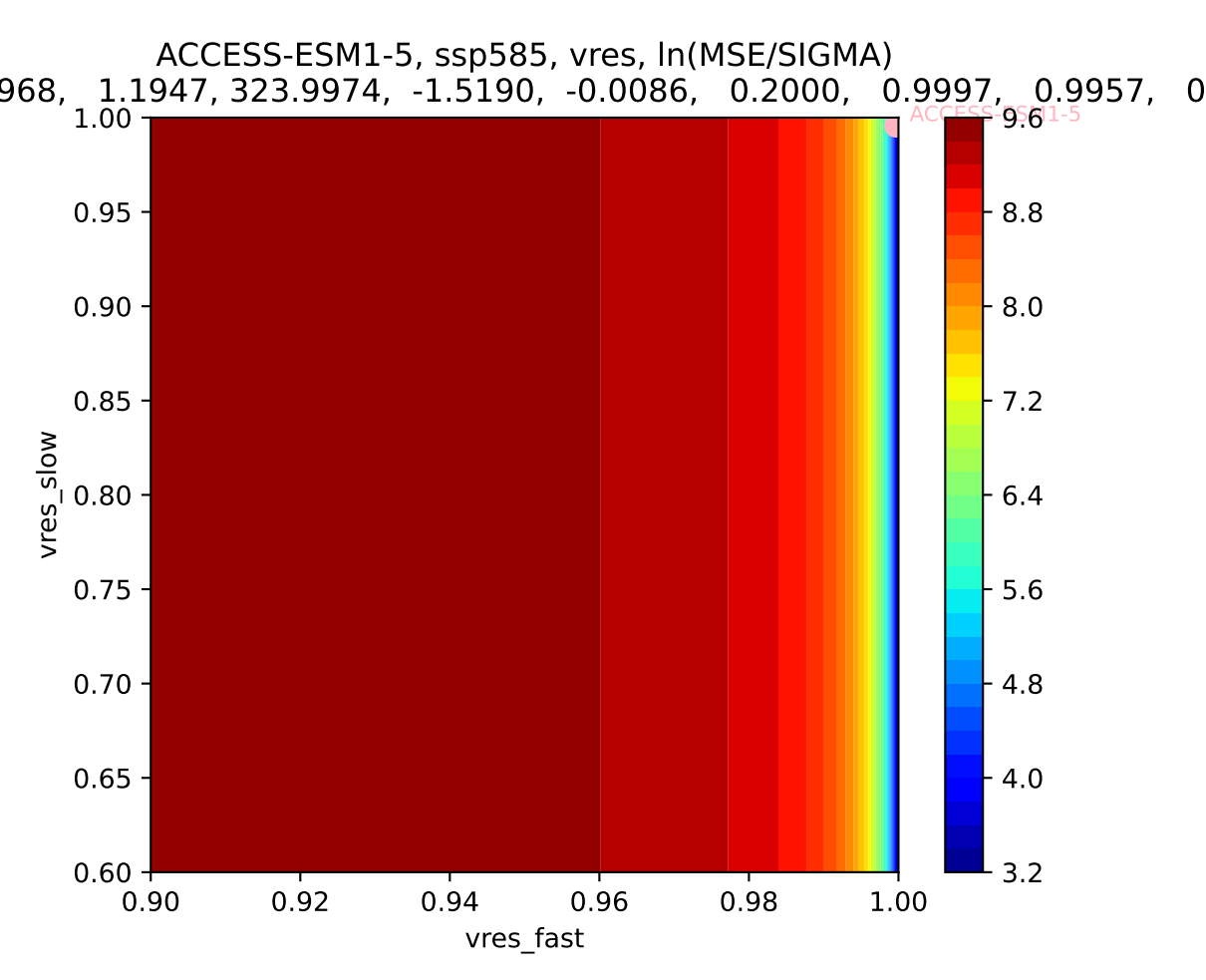

ACCESS-ESM1-5, ssp585, vres
ESM-Fit
vres, ESM - FIT
1
0
−1
500
1000
1500
2000
c_atm

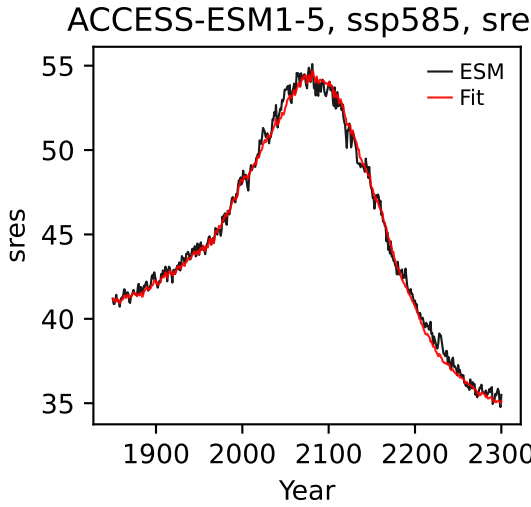

ACCESS-ESM1-5, ssp585, vres, ln(MSE/SIGMA)
968, 1.1947, 323.9974, -1.5190, -0.0086, 0.2000, 0.9997, 0.9957, 0
ACCESS-ESM1-5
vres_t_e
vres_t_l
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
11.00
10.25
9.50
8.75
8.00
7.25
6.50
5.75
5.00
4.25

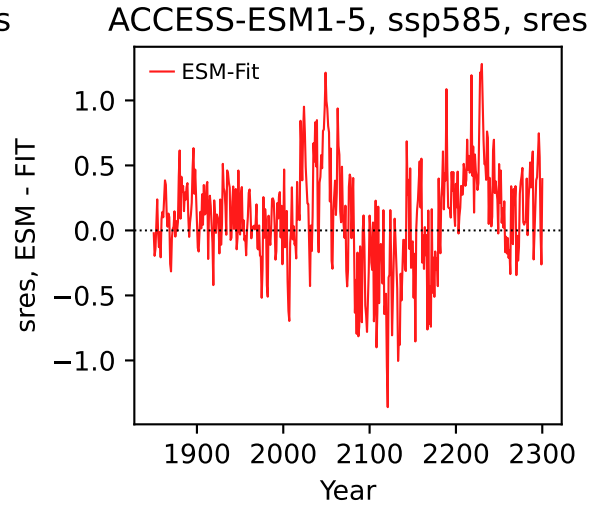

ACCESS-ESM1-5, ssp585, vres, ln(MSE/SIGMA)
968, 1.1947, 323.9974, -1.5190, -0.0086, 0.2000, 0.9997, 0.9957, 0
vres_c_half
vres_c_l
ACCESS-ESM1-5
2000
1750
1500
1250
1000
750
500
250
0
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
8.7
7.5
6.3
5.1
3.9
2.7
1.5
0.3

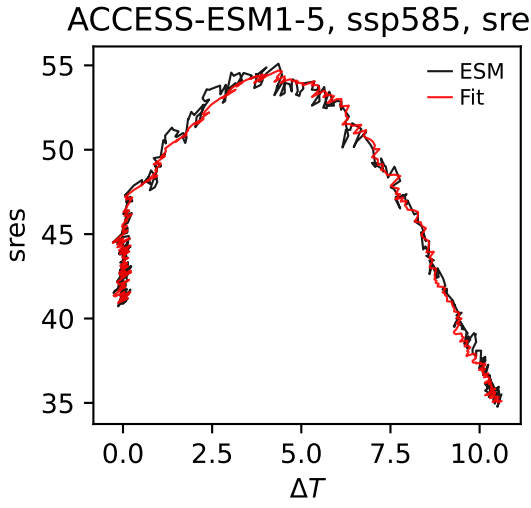

ACCESS-ESM1-5, ssp585, vres, ln(MSE/SIGMA)
968, 1.1947, 323.9974, -1.5190, -0.0086, 0.2000, 0.9997, 0.9957, 0
ACCESS-ESM1-5
vres_hyst
vres_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
9.9
9.0
8.1
7.2
6.3
5.4
4.5
3.6
2.7
1.8

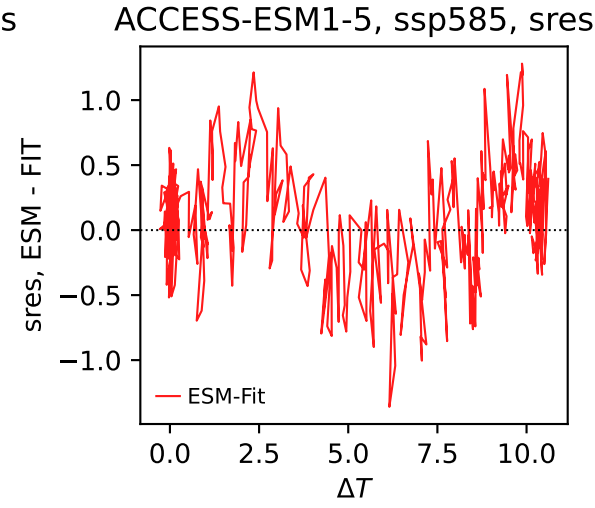

ACCESS-ESM1-5, ssp585, vres, ln(MSE/SIGMA)
968, 1.1947, 323.9974, -1.5190, -0.0086, 0.2000, 0.9997, 0.9957, 0
0.04
0.02
0.00
−0.02
−0.04
vres_c_tan2
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
vres_c_tan
6.8
6.0
5.2
4.4
3.6
2.8
2.0
1.2
0.4

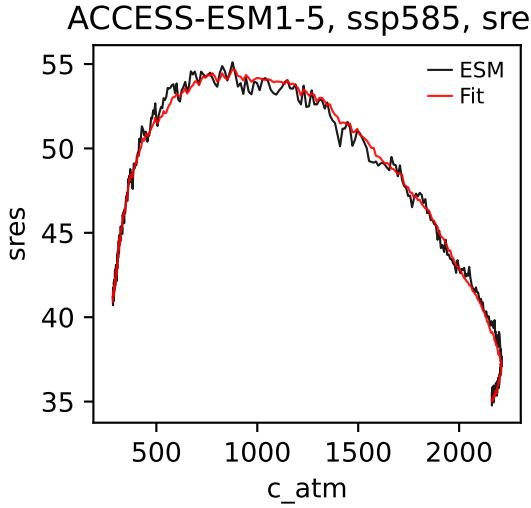

ACCESS-ESM1-5, ssp585, vres, ln(MSE/SIGMA)
968, 1.1947, 323.9974, -1.5190, -0.0086, 0.2000, 0.9997, 0.9957, 0
ACCESS-ESM1-5
vres_slow
vres_fast
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.90
0.92
0.94
0.96
0.98
1.00
9.6
8.8
8.0
7.2
6.4
5.6
4.8
4.0
3.2

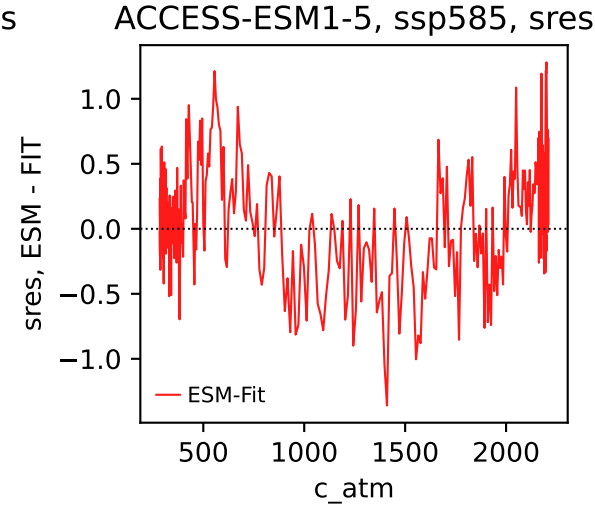

ACCESS-ESM1-5, ssp585, sres
ESM
Fit
sres
Year

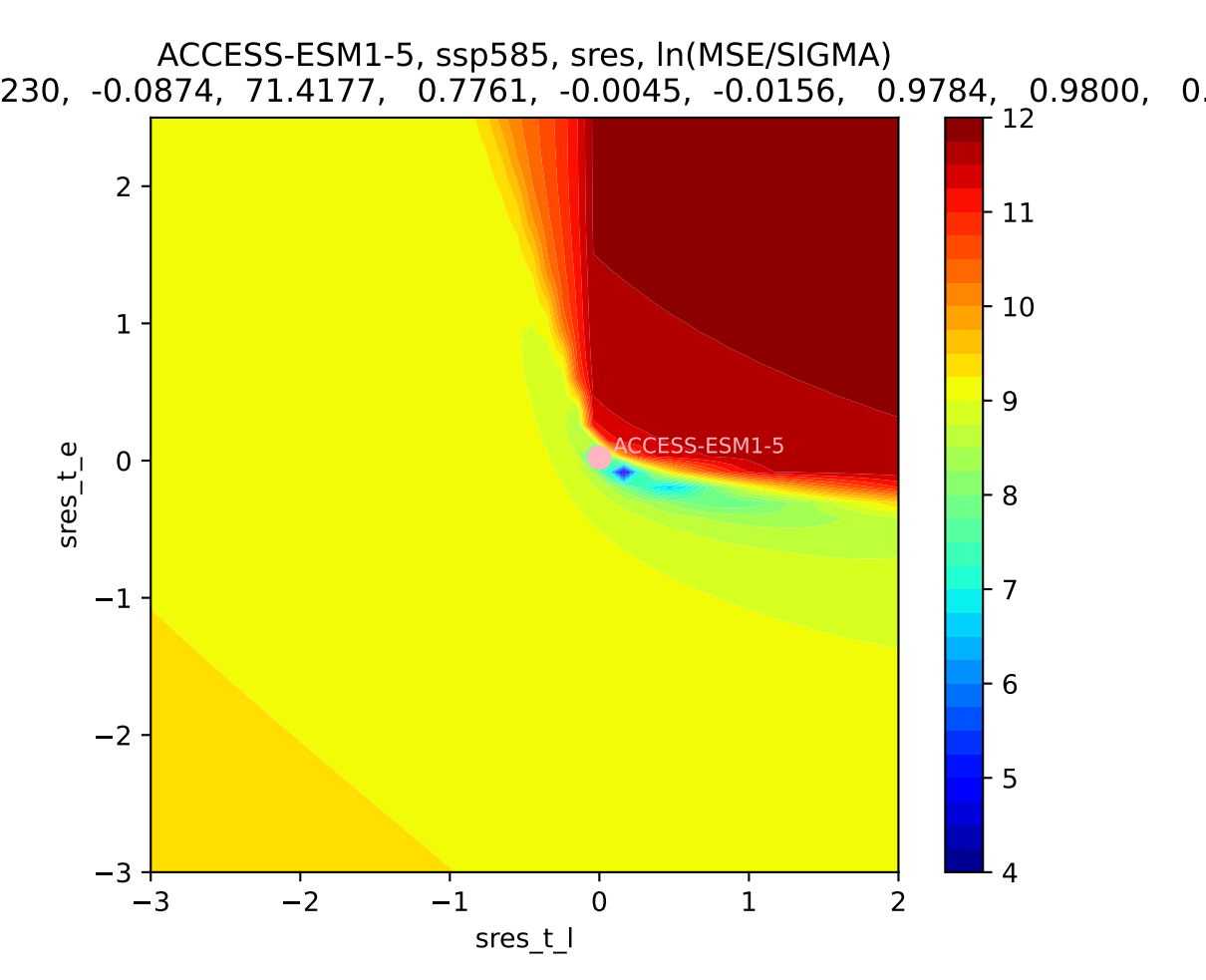

ACCESS-ESM1-5, ssp585, sres
ESM-Fit
sres, ESM - FIT
Year

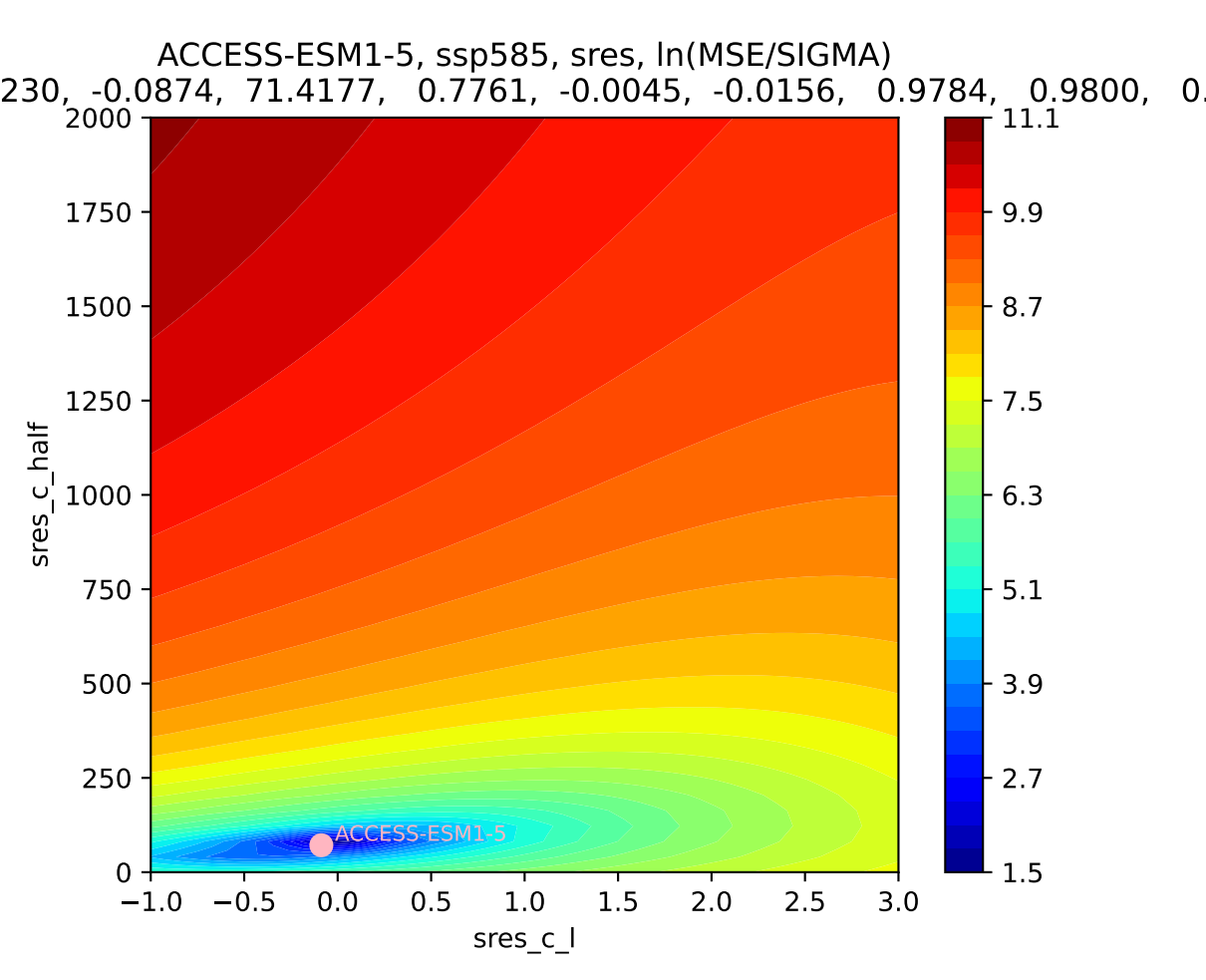

ACCESS-ESM1-5, ssp585, sres
ESM
Fit
sres
ΔT

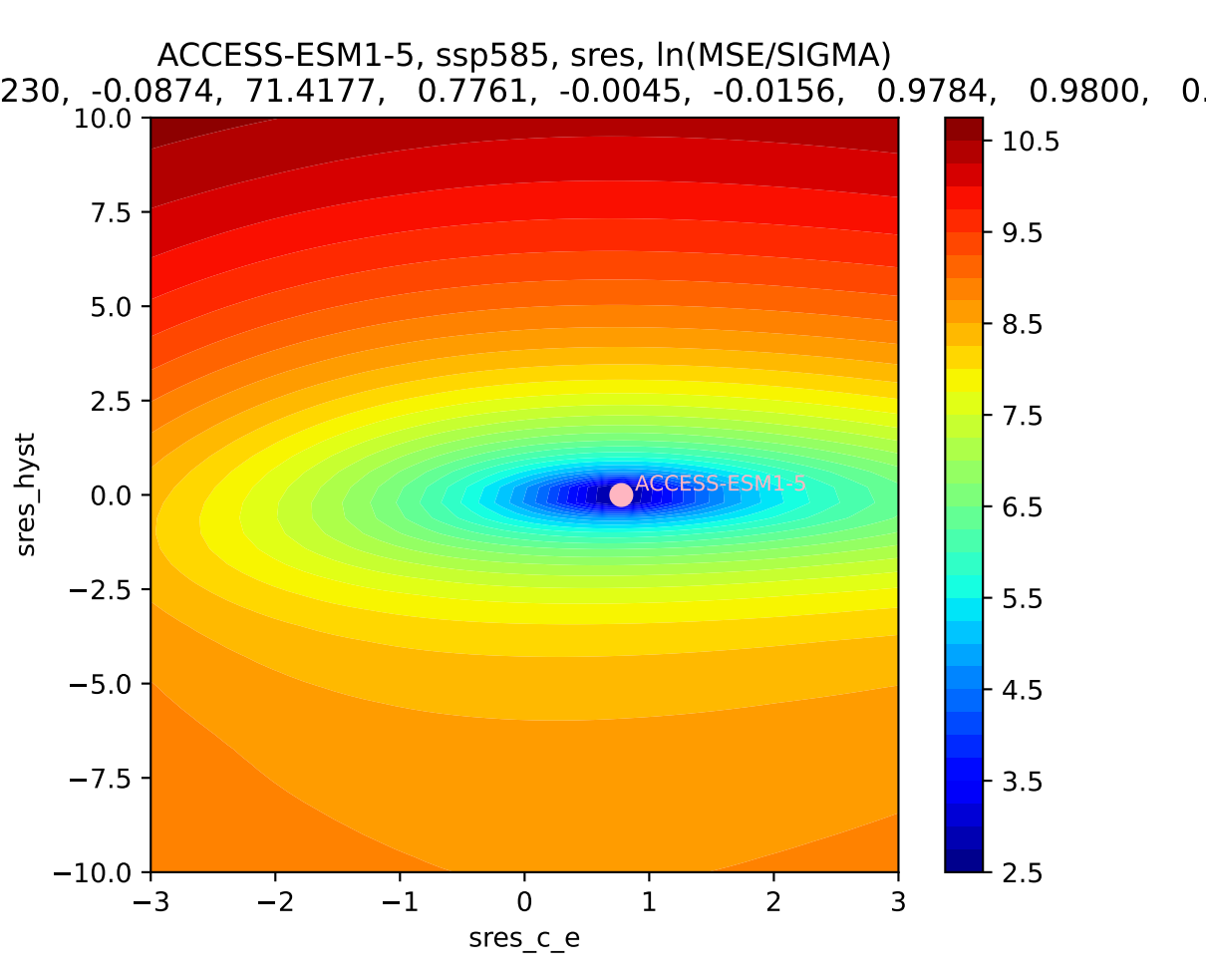

ACCESS-ESM1-5, ssp585, sres
ESM-Fit
sres, ESM - FIT
ΔT

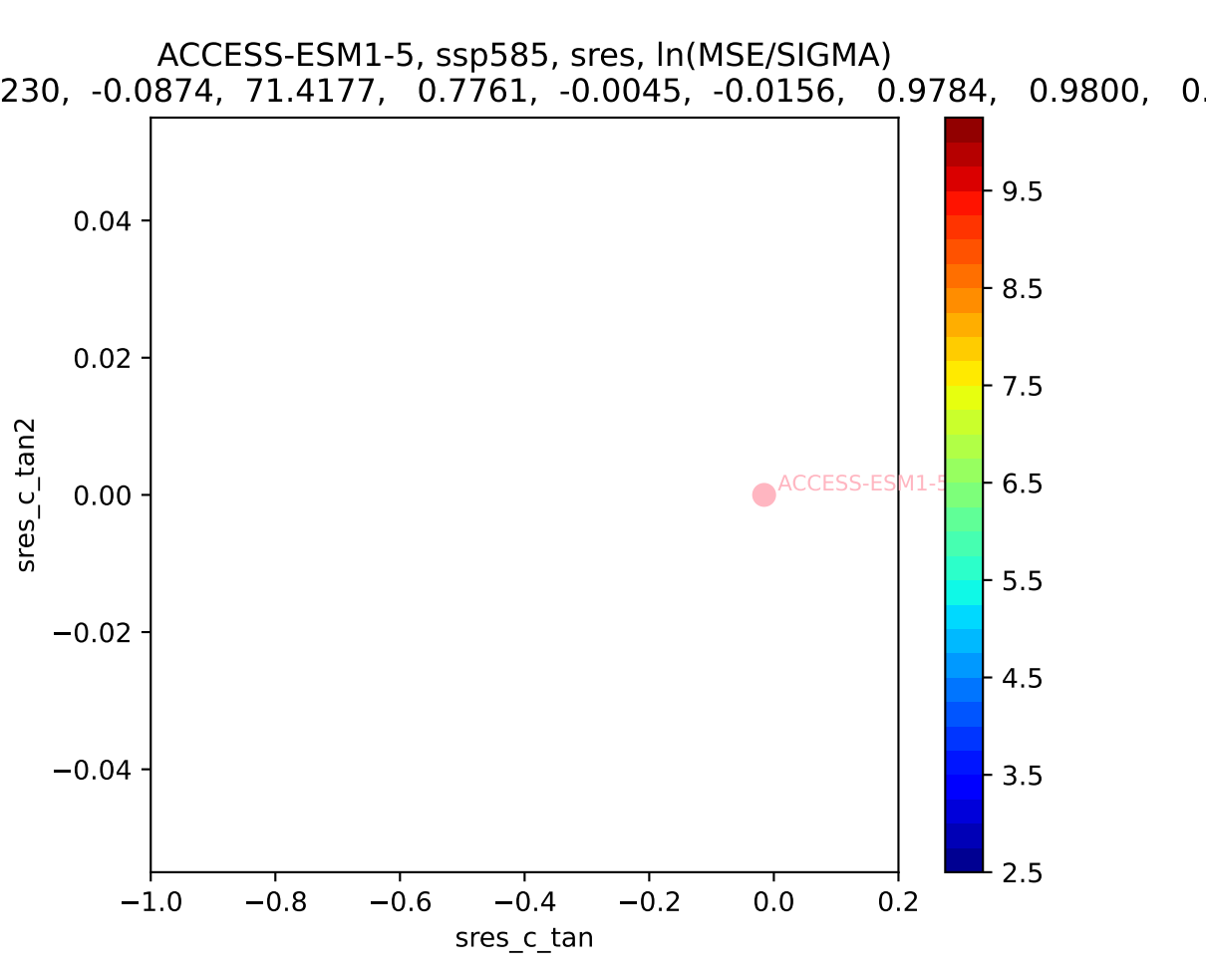

ACCESS-ESM1-5, ssp585, sres
ESM
Fit
sres
c_atm

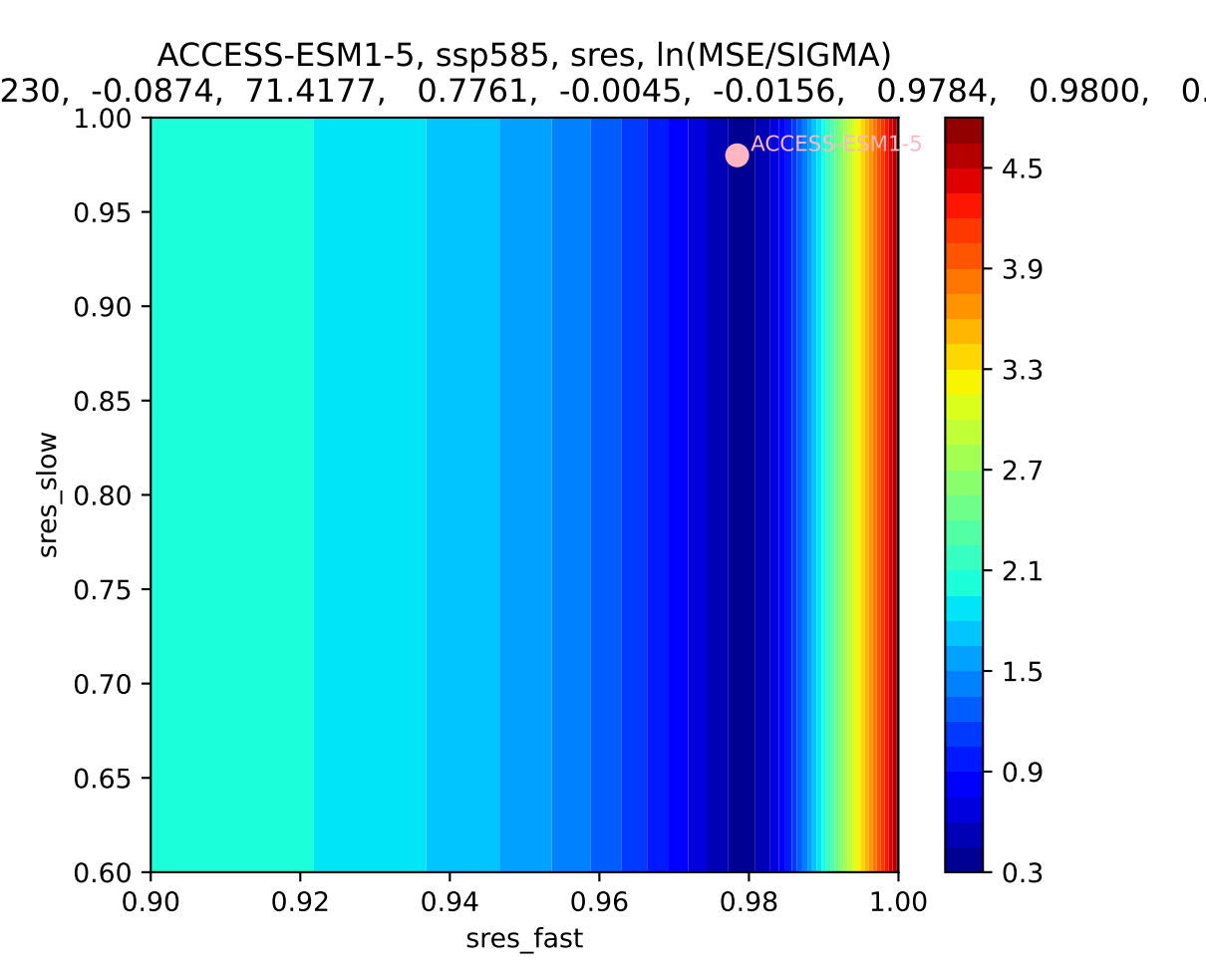

ACCESS-ESM1-5, ssp585, sres
ESM-Fit
sres, ESM - FIT
c_atm

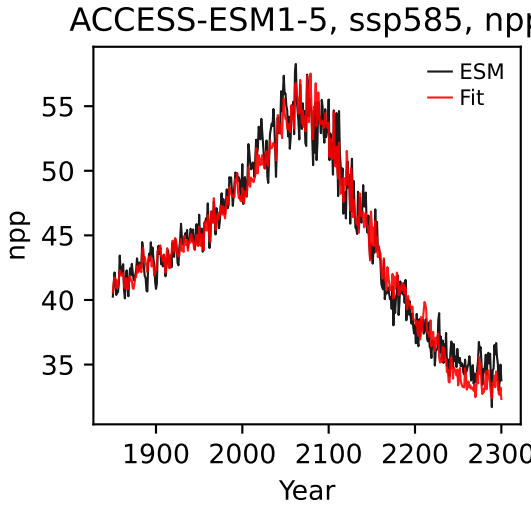

ACCESS-ESM1-5, ssp585, sres, ln(MSE/SIGMA)
230, -0.0874, 71.4177, 0.7761, -0.0045, -0.0156, 0.9784, 0.9800, 0.
ACCESS-ESM1-5
sres_t_e
sres_t_l
−3
−2
−1
0
1
2
12
11
10
9
8
7
6
5
4

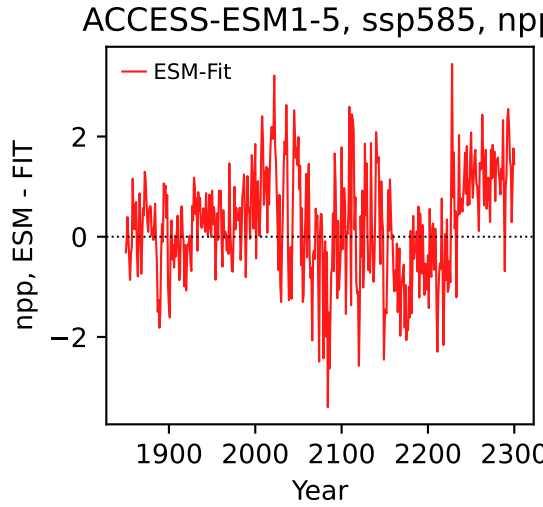

ACCESS-ESM1-5, ssp585, sres, ln(MSE/SIGMA)
230, -0.0874, 71.4177, 0.7761, -0.0045, -0.0156, 0.9784, 0.9800, 0.
sres_c_half
sres_c_l
ACCESS-ESM1-5
2000
1750
1500
1250
1000
750
500
250
0
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
11.1
9.9
8.7
7.5
6.3
5.1
3.9
2.7
1.5

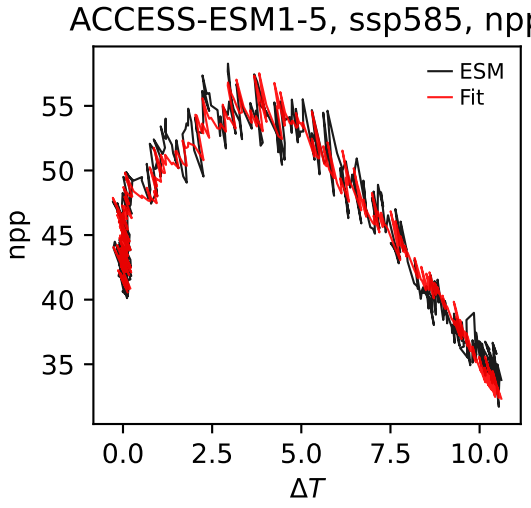

ACCESS-ESM1-5, ssp585, sres, ln(MSE/SIGMA)
230, -0.0874, 71.4177, 0.7761, -0.0045, -0.0156, 0.9784, 0.9800, 0.
ACCESS-ESM1-5
sres_hyst
sres_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
10.5
9.5
8.5
7.5
6.5
5.5
4.5
3.5
2.5

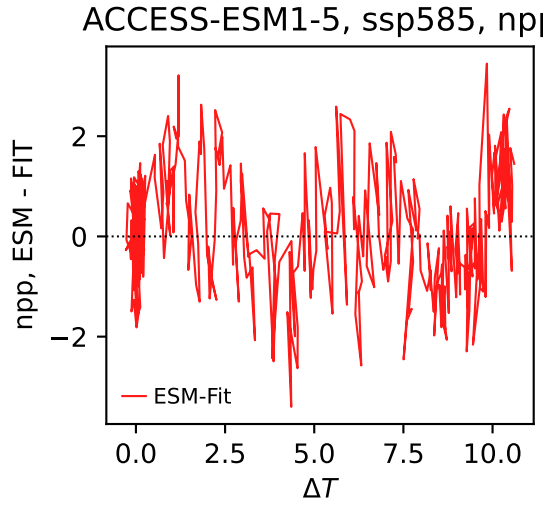

ACCESS-ESM1-5, ssp585, sres, ln(MSE/SIGMA)
230, -0.0874, 71.4177, 0.7761, -0.0045, -0.0156, 0.9784, 0.9800, 0.
ACCESS-ESM1-5
sres_c_tan2
sres_c_tan
0.04
0.02
0.00
−0.02
−0.04
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
9.5
8.5
7.5
6.5
5.5
4.5
3.5
2.5

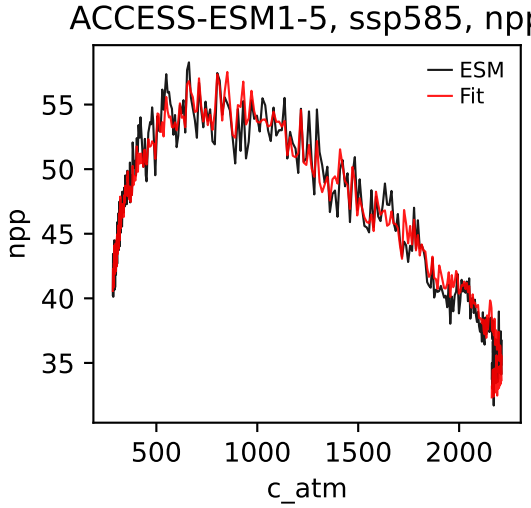

ACCESS-ESM1-5, ssp585, sres, ln(MSE/SIGMA)
230, -0.0874, 71.4177, 0.7761, -0.0045, -0.0156, 0.9784, 0.9800, 0.
ACCESS-ESM1-5
sres_slow
sres_fast
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.90
0.92
0.94
0.96
0.98
1.00
4.5
3.9
3.3
2.7
2.1
1.5
0.9
0.3

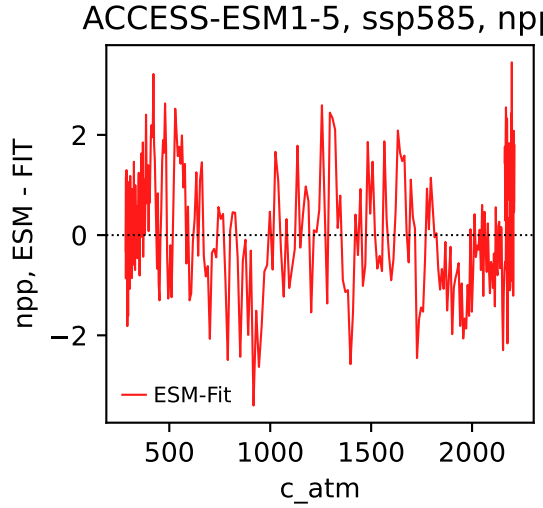

ACCESS-ESM1-5, ssp585, npp
ESM
Fit
npp
55
50
45
40
35
1900
2000
2100
2200
2300
Year

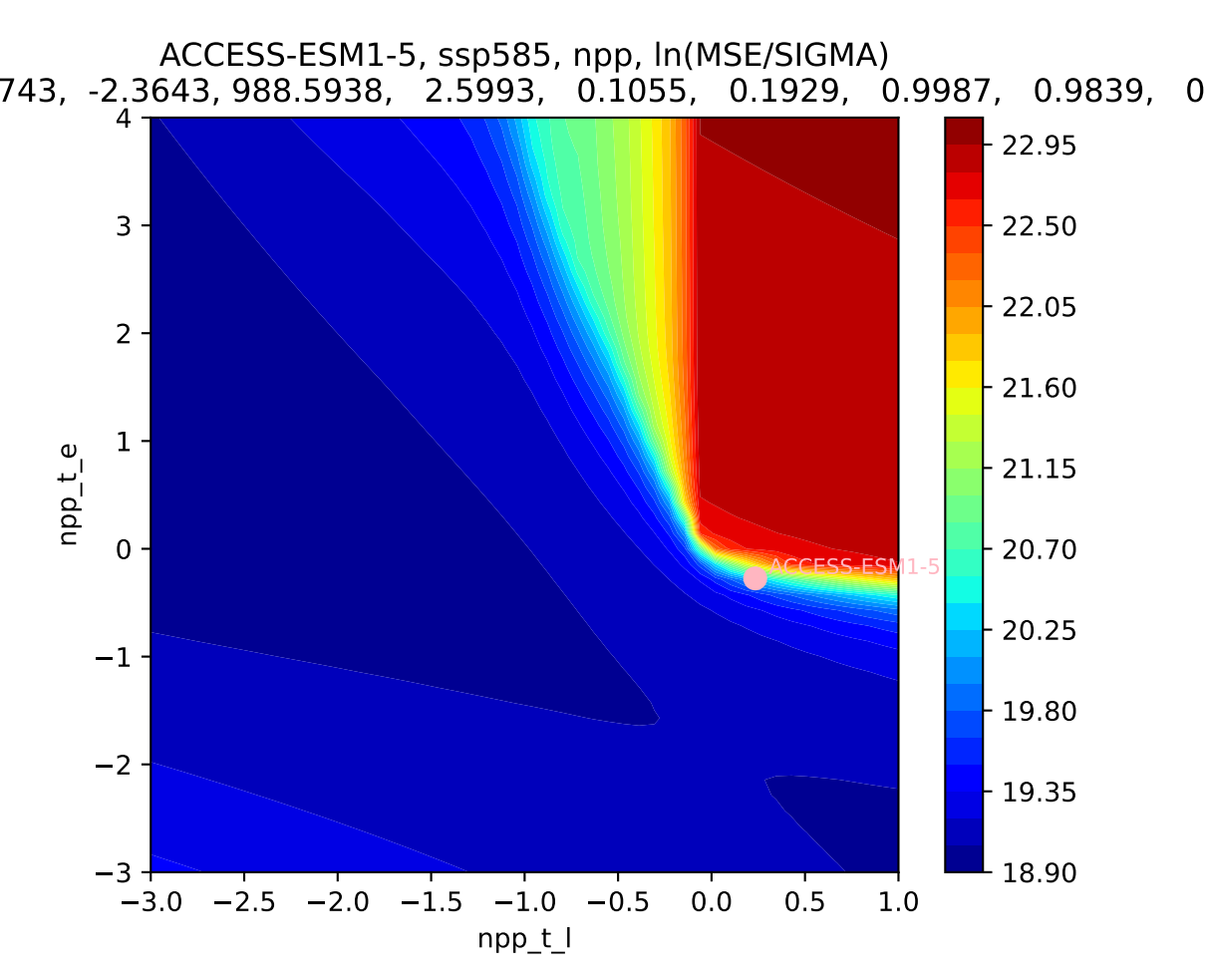

ACCESS-ESM1-5, ssp585, npp
ESM-Fit
npp, ESM - FIT
2
0
−2
1900
2000
2100
2200
2300
Year

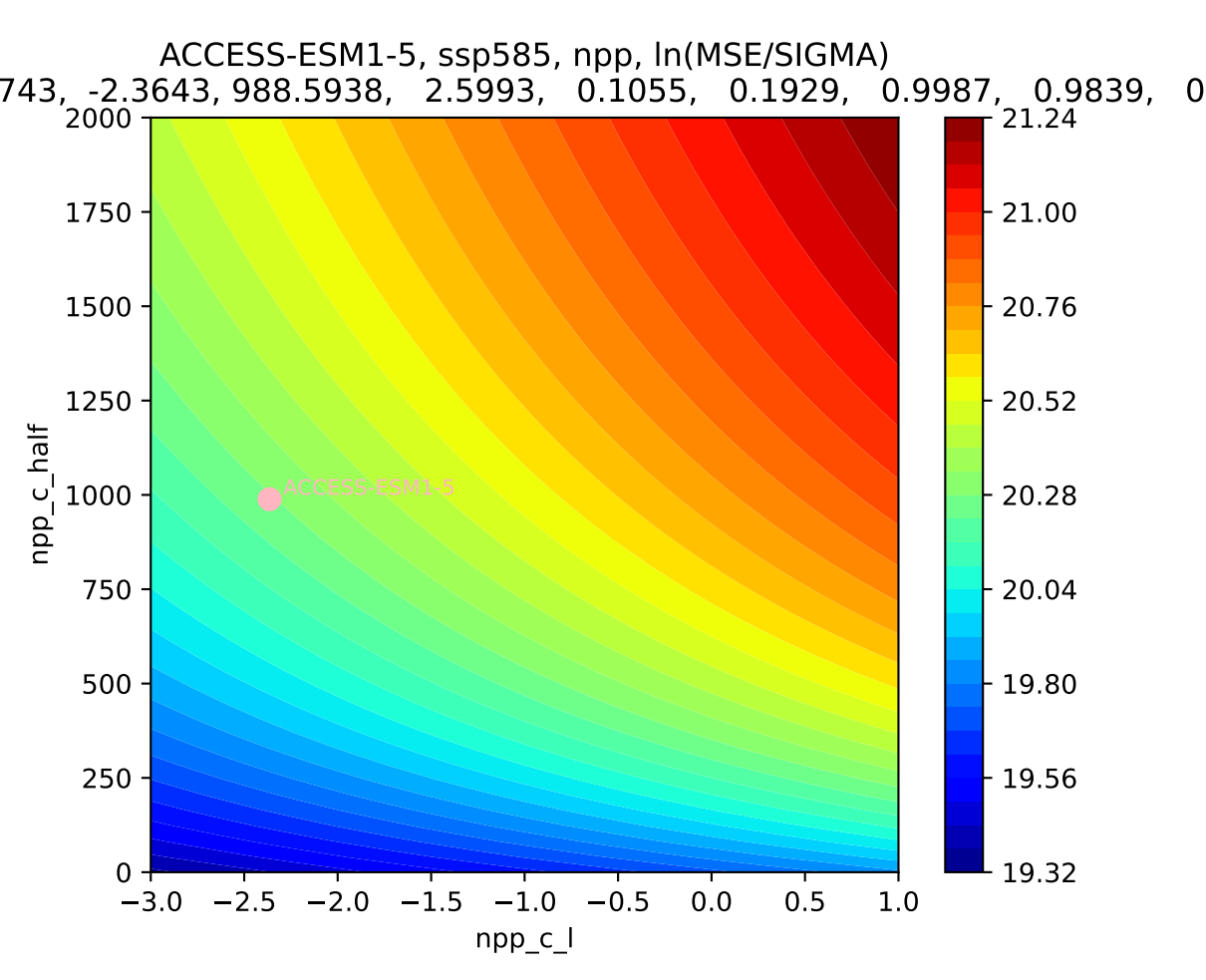

ACCESS-ESM1-5, ssp585, npp
ESM
Fit
npp
55
50
45
40
35
0.0
2.5
5.0
7.5
10.0
ΔT

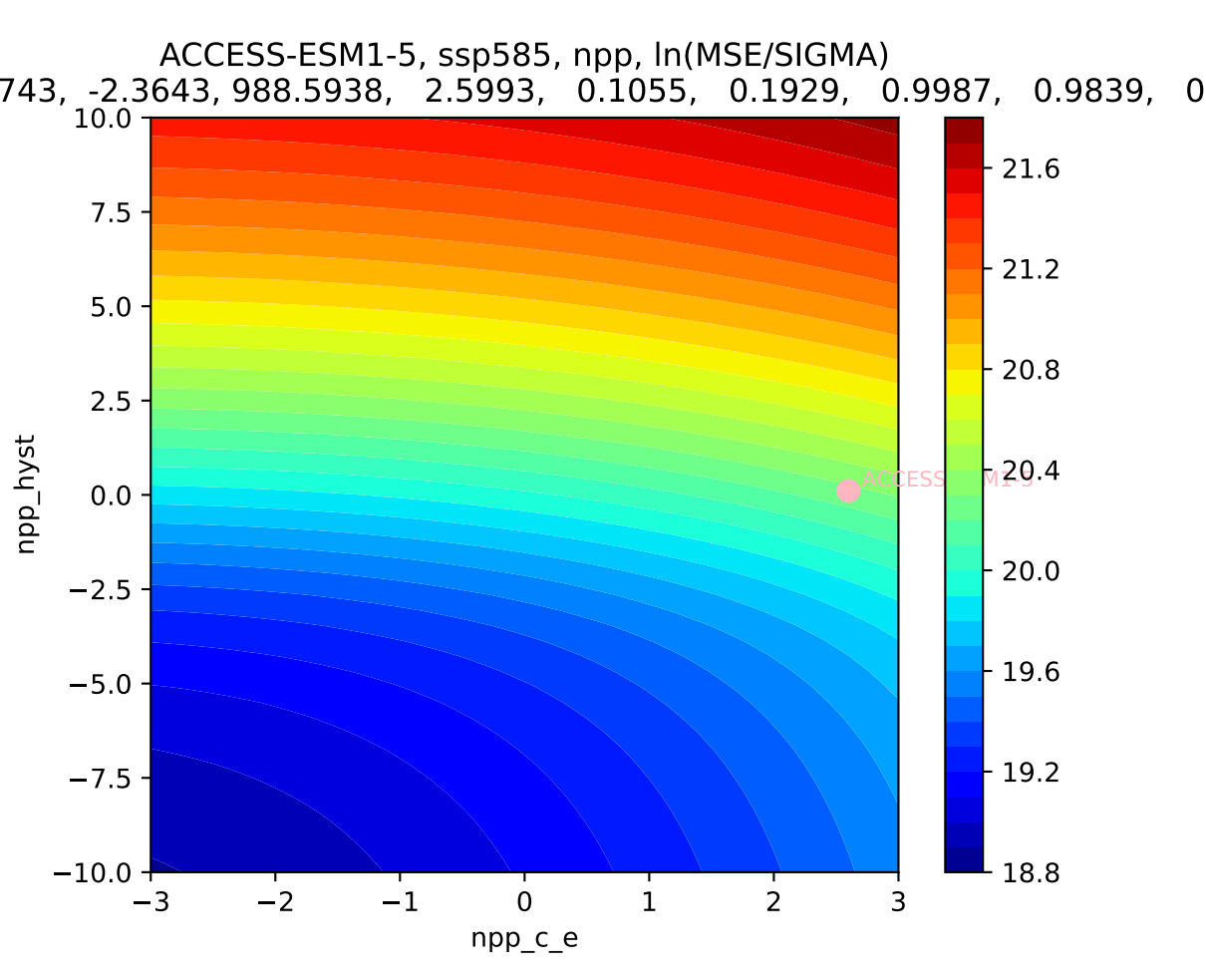

ACCESS-ESM1-5, ssp585, npp
ESM-Fit
npp, ESM - FIT
2
0
−2
0.0
2.5
5.0
7.5
10.0
ΔT

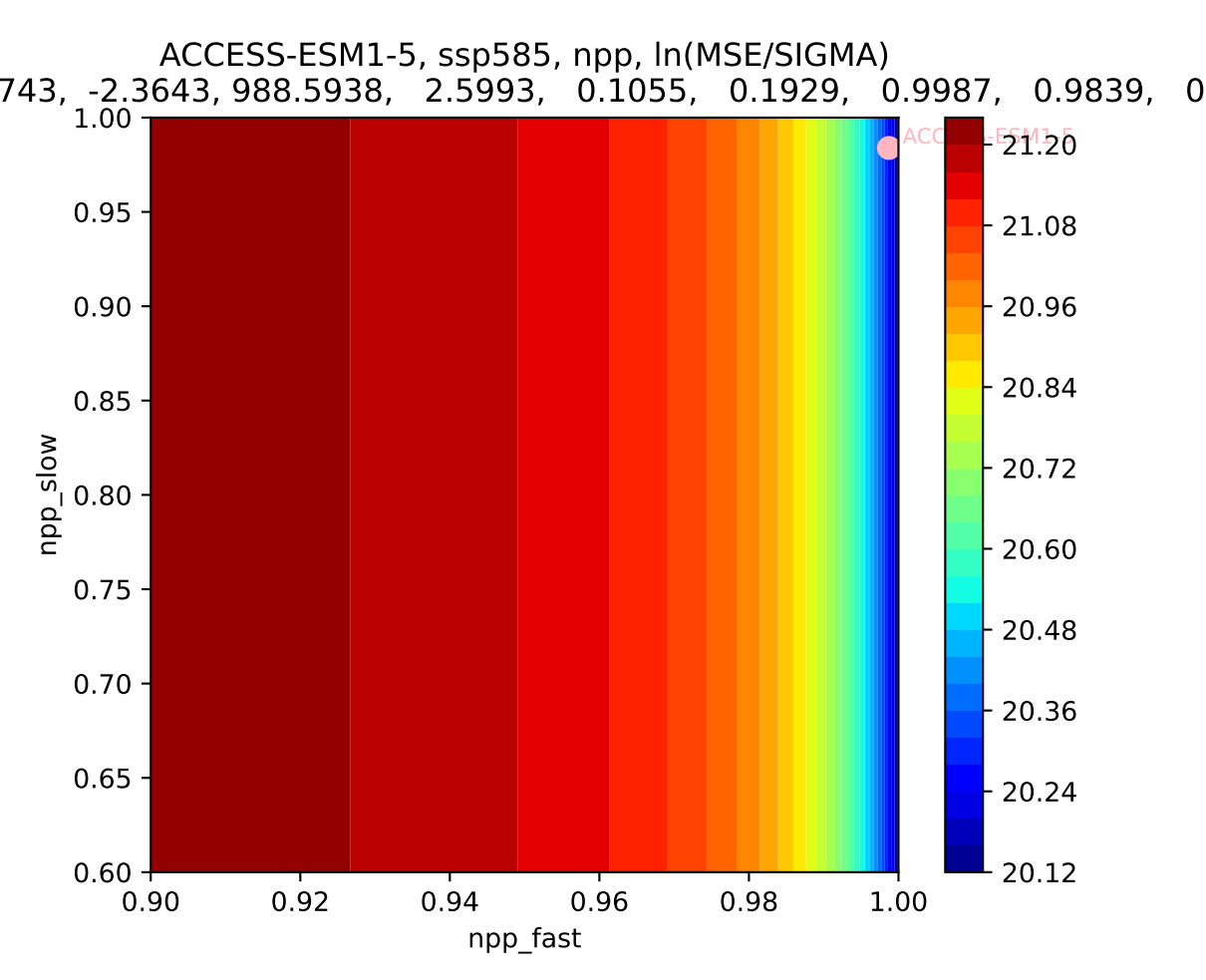

ACCESS-ESM1-5, ssp585, npp
ESM
Fit
npp
55
50
45
40
35
500
1000
1500
2000
c_atm

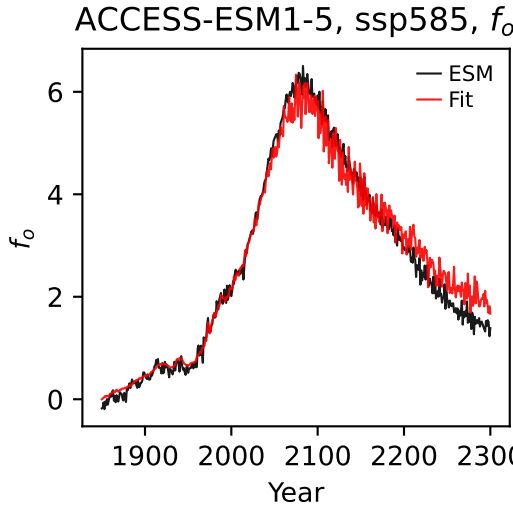

ACCESS-ESM1-5, ssp585, npp
ESM-Fit
npp, ESM - FIT
2
0
−2
500
1000
1500
2000
c_atm

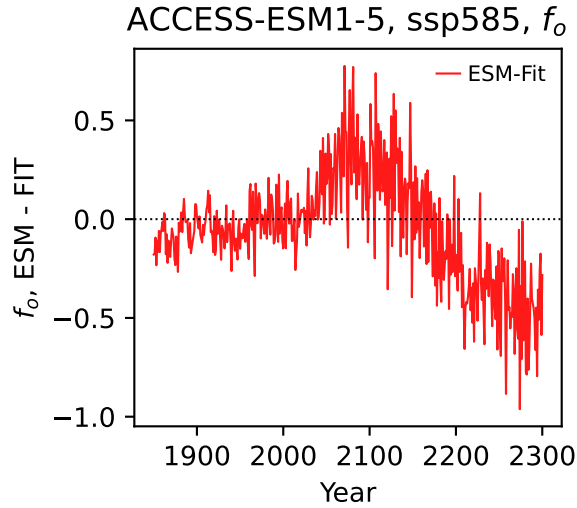

ACCESS-ESM1-5, ssp585, npp, ln(MSE/SIGMA)
743, -2.3643, 988.5938, 2.5993, 0.1055, 0.1929, 0.9987, 0.9839, 0
npp_t_e
npp_t_l
ACCESS-ESM1-5
22.95
22.50
22.05
21.60
21.15
20.70
20.25
19.80
19.35
18.90

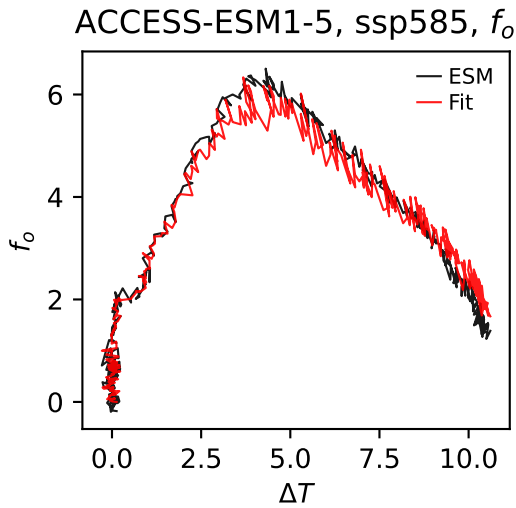

ACCESS-ESM1-5, ssp585, npp, ln(MSE/SIGMA)
743, -2.3643, 988.5938, 2.5993, 0.1055, 0.1929, 0.9987, 0.9839, 0
ACCESS-ESM1-5
npp_c_half
npp_c_l
2000
1750
1500
1250
1000
750
500
250
0
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
21.24
21.00
20.76
20.52
20.28
20.04
19.80
19.56
19.32

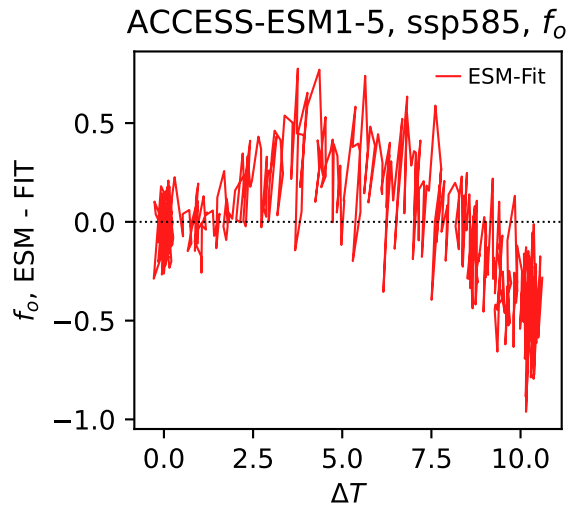

ACCESS-ESM1-5, ssp585, npp, ln(MSE/SIGMA)
743, -2.3643, 988.5938, 2.5993, 0.1055, 0.1929, 0.9987, 0.9839, 0
npp_hyst
npp_c_e
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−3
−2
−1
0
1
2
3
21.6
21.2
20.8
20.4
20.0
19.6
19.2
18.8

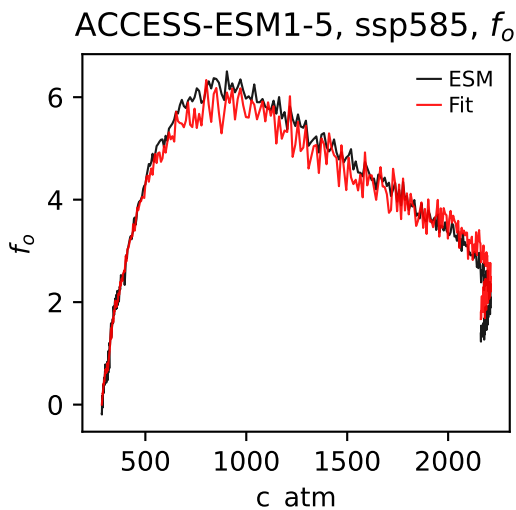

ACCESS-ESM1-5, ssp585, npp, ln(MSE/SIGMA)
743, -2.3643, 988.5938, 2.5993, 0.1055, 0.1929, 0.9987, 0.9839, 0
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
npp_slow
0.90
0.92
0.94
0.96
0.98
1.00
npp_fast
21.20
21.08
20.96
20.84
20.72
20.60
20.48
20.36
20.24
20.12

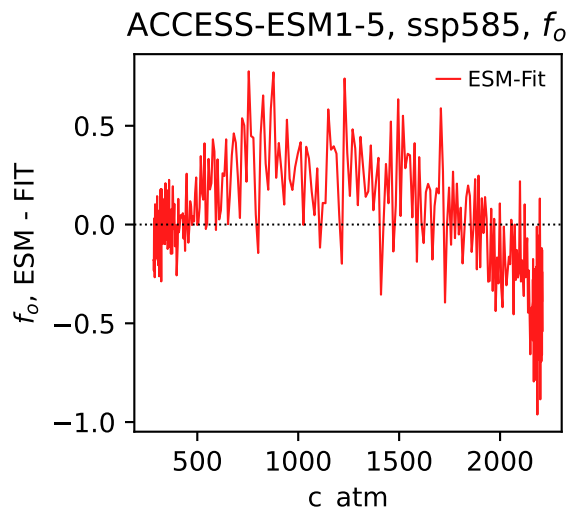

ACCESS-ESM1-5, ssp585, f_o
ESM
Fit
f_o
Year

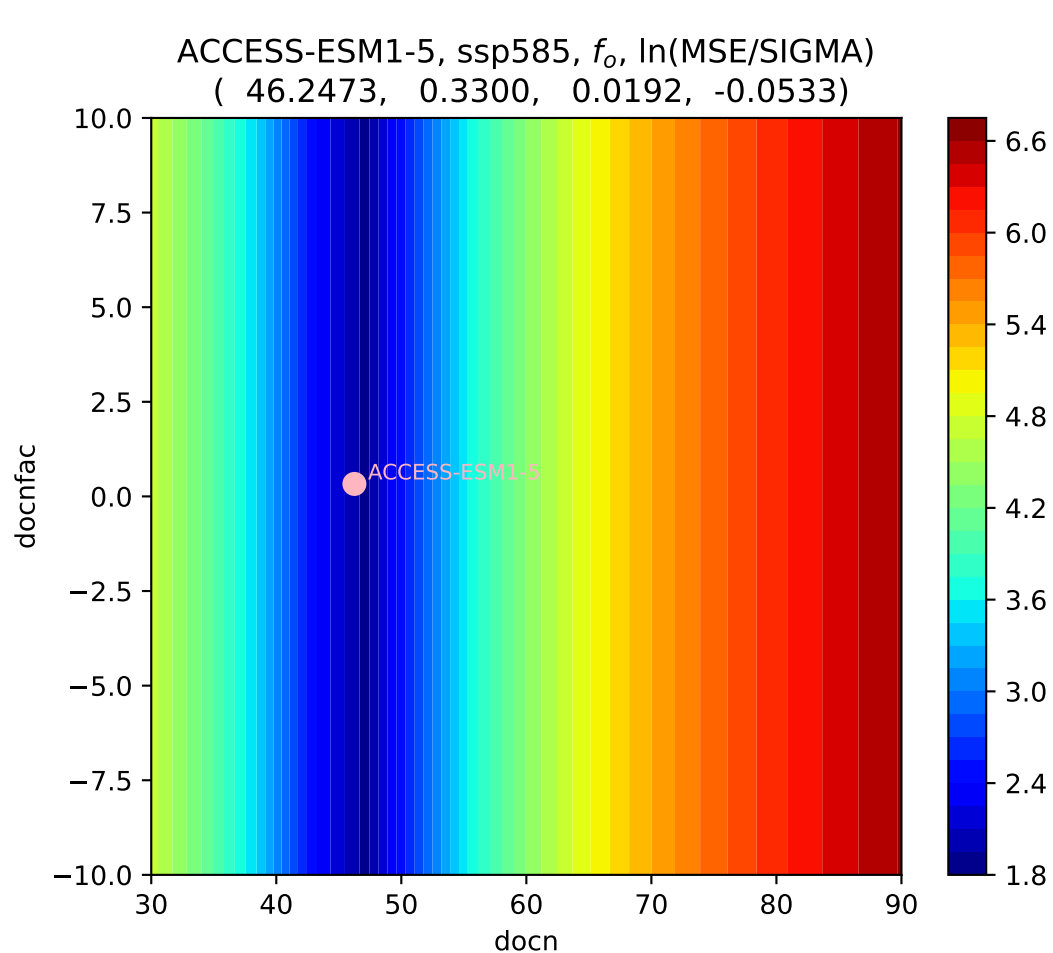

ACCESS-ESM1-5, ssp585, f_o
ESM-Fit
f_o, ESM - FIT
Year

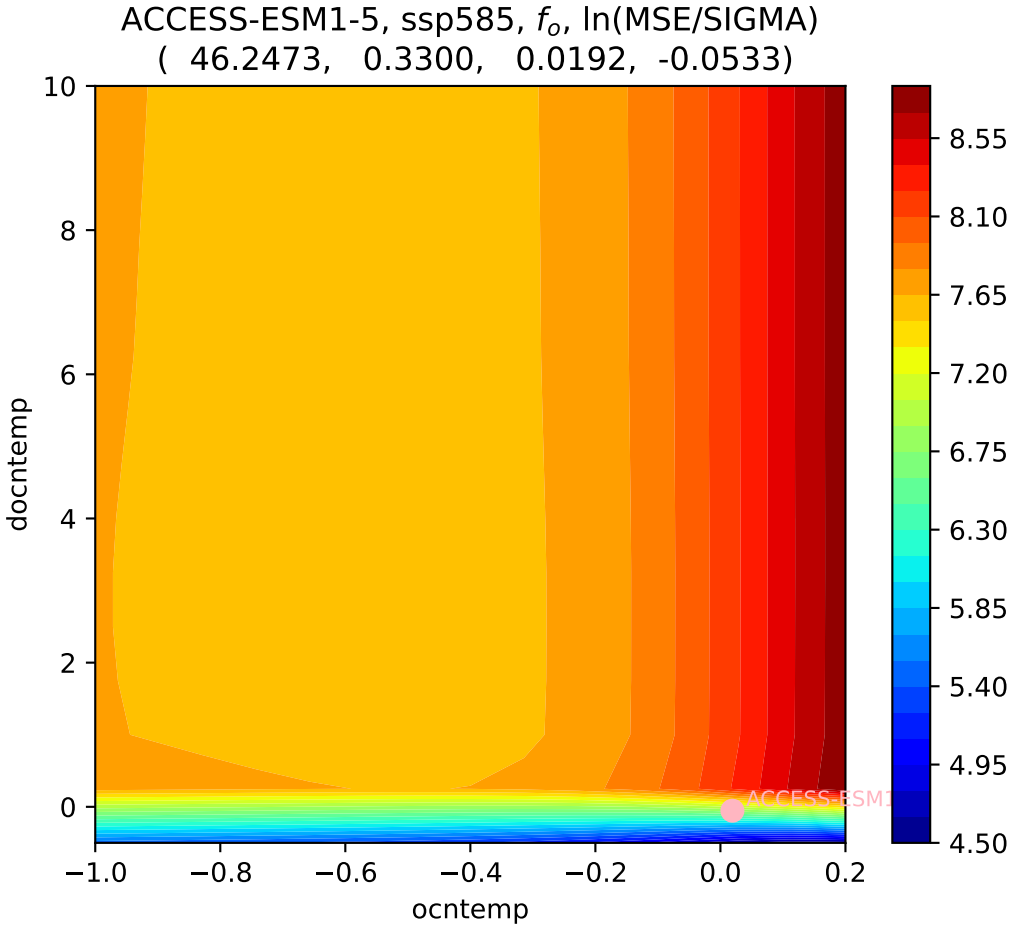

ACCESS-ESM1-5, ssp585, f_o
ESM
Fit
f_o
ΔT


ACCESS-ESM1-5, ssp585, f_o
ESM-Fit
f_o, ESM - FIT
ΔT


ACCESS-ESM1-5, ssp585, f_o
ESM
Fit
f_o
c_atm


ACCESS-ESM1-5, ssp585, f_o
ESM-Fit
f_o, ESM - FIT
c_atm


ACCESS-ESM1-5, ssp585, f_o, ln(MSE/SIGMA)
(46.2473, 0.3300, 0.0192, -0.0533)
ACCESS-ESM1-5
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
6.6
6.0
5.4
4.8
4.2
3.6
3.0
2.4
1.8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(46.2473, 0.3300, 0.0192, -0.0533)
docntemp
ocntemp
10
8
6
4
2
0
−1.0
−0.8
−0.6
−0.4
−0.2
0.0
0.2
8.55
8.10
7.65
7.20
6.75
6.30
5.85
5.40
4.95
4.50
ACCESS-ESM1