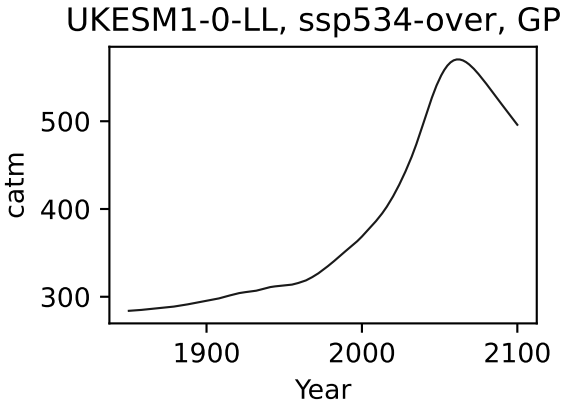
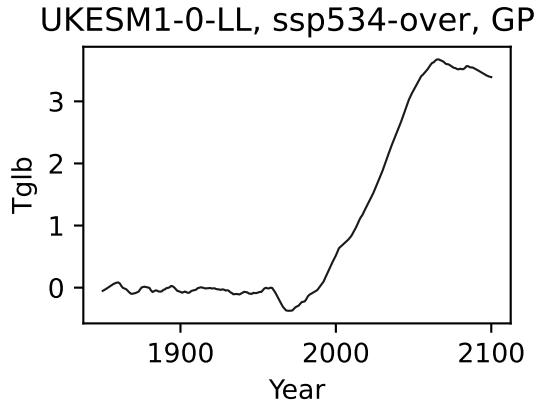
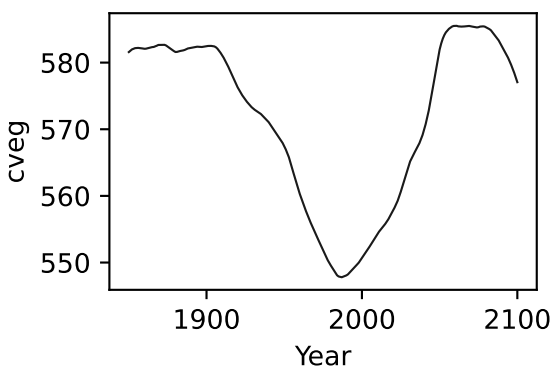
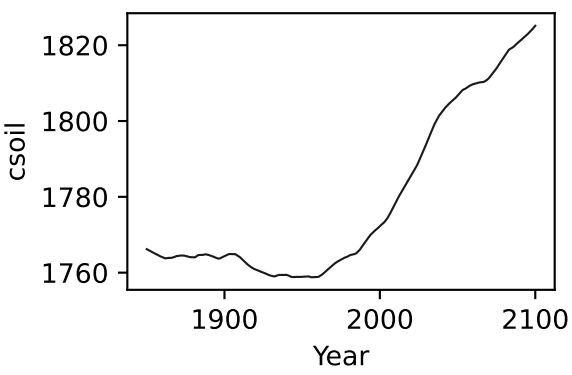
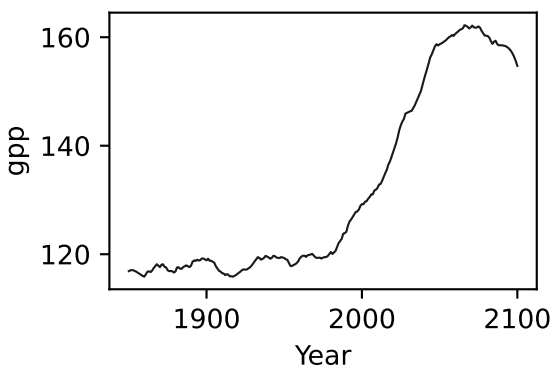
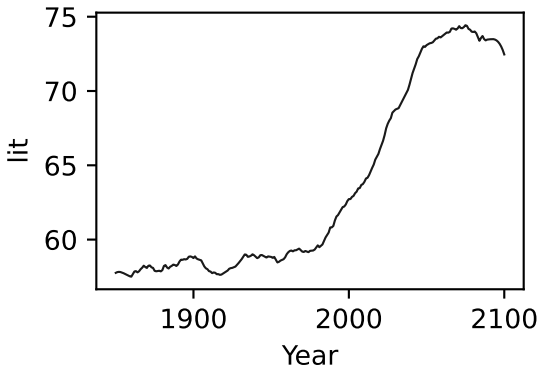

UKESM1-0-LL, ssp534-over, GPP
catm
500
400
300
1900
2000
2100
Year

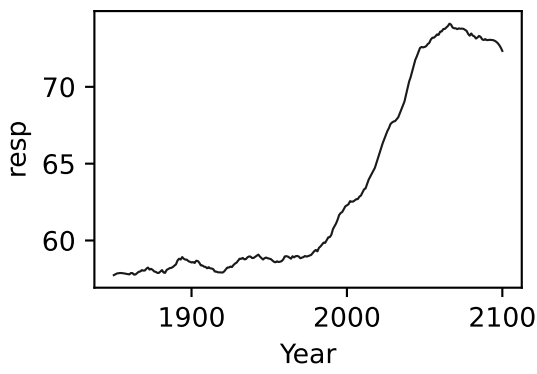

UKESM1-0-LL, ssp534-over, GPP
Tglb
3
2
1
0
1900
2000
2100
Year

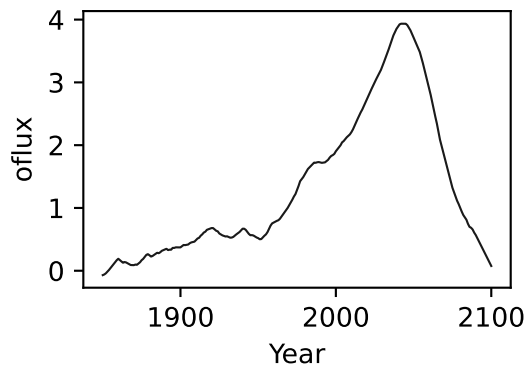

cveg
580
570
560
550
1900
2000
2100
Year

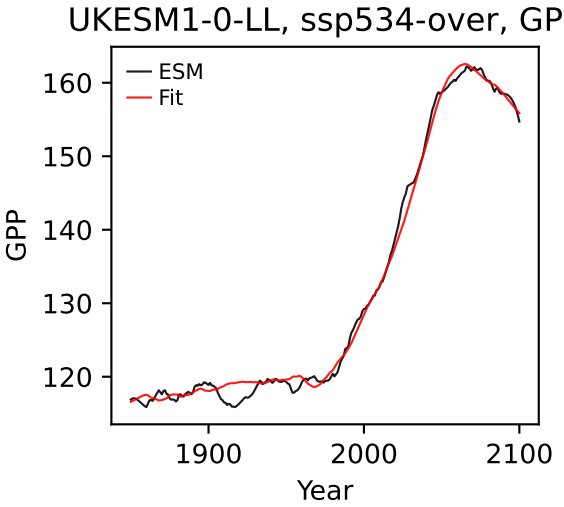

csoil
1820
1800
1780
1760
1900
2000
2100
Year

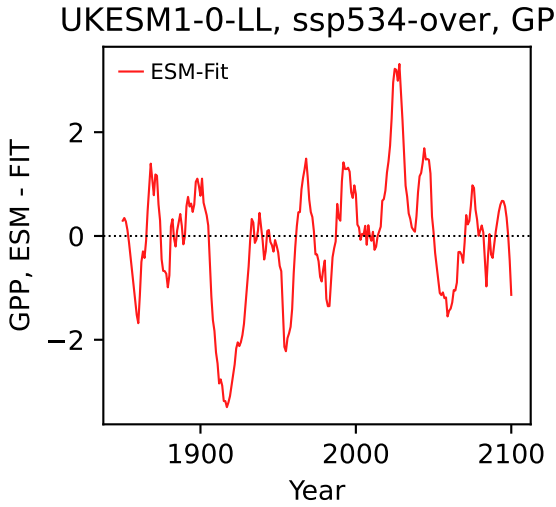

gpp
160
140
120
1900
2000
2100
Year

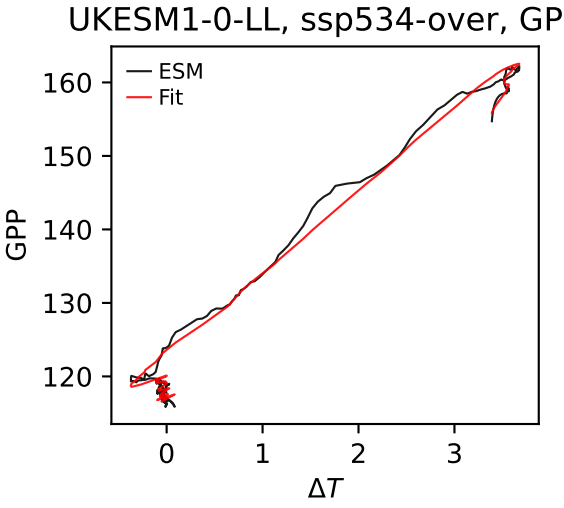

lit
75
70
65
60
1900
2000
2100
Year

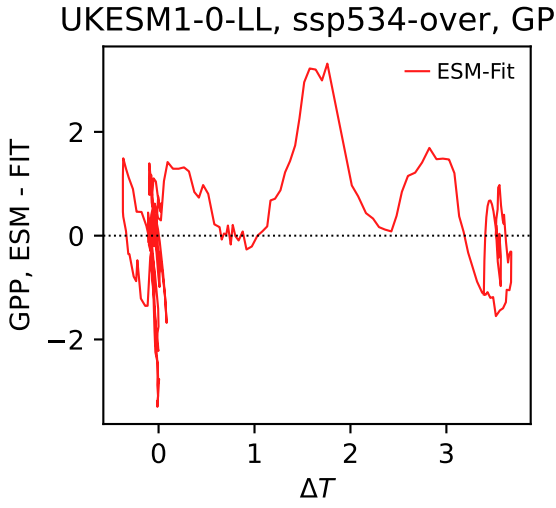

resp
70
65
60
1900
2000
2100
Year

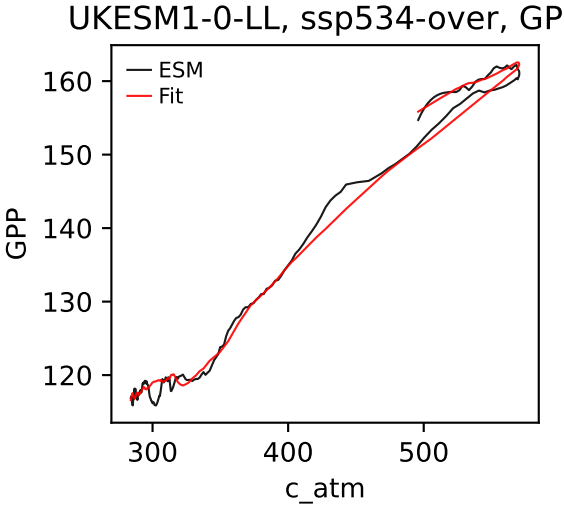

oflux
4
3
2
1
0
1900
2000
2100
Year

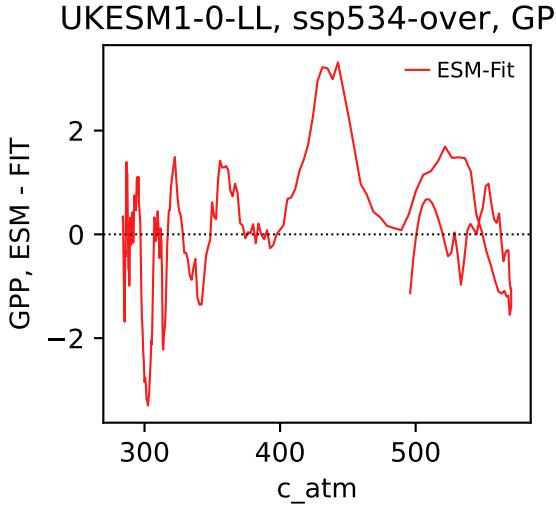

UKESM1-0-LL, ssp534-over, GPP
ESM
Fit
GPP
Year

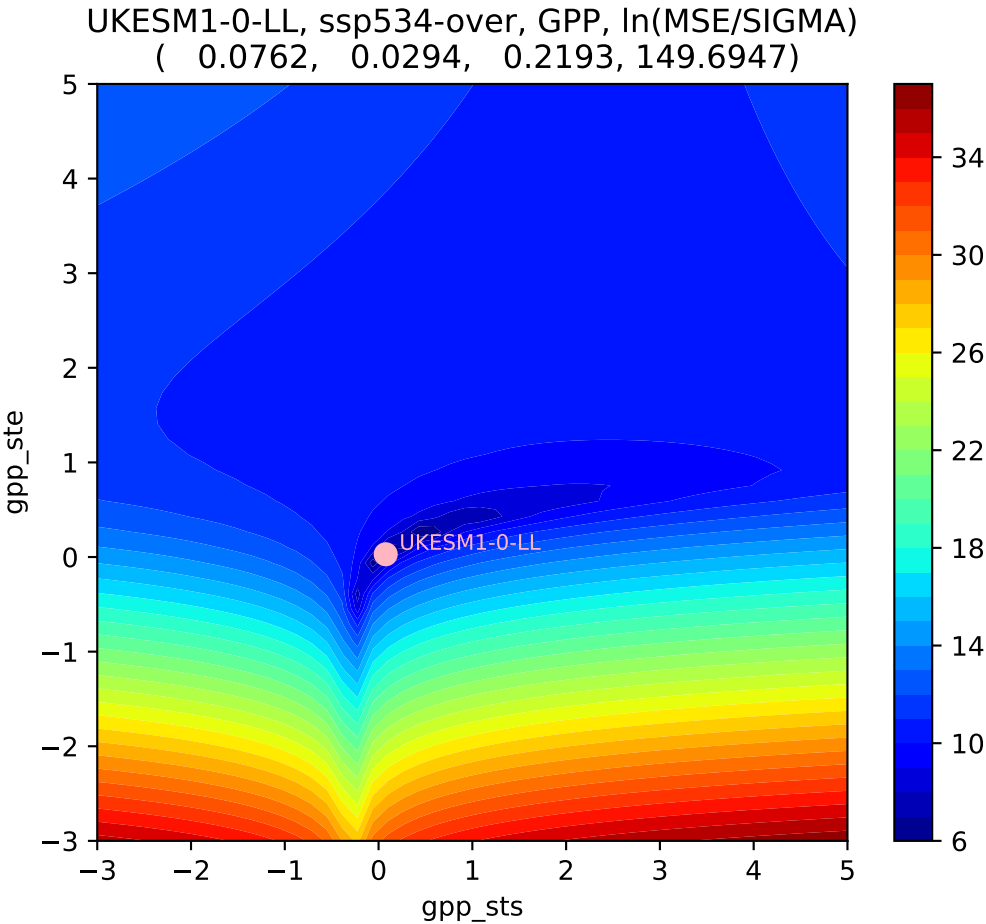

UKESM1-0-LL, ssp534-over, GPP
ESM-Fit
GPP, ESM - FIT
Year

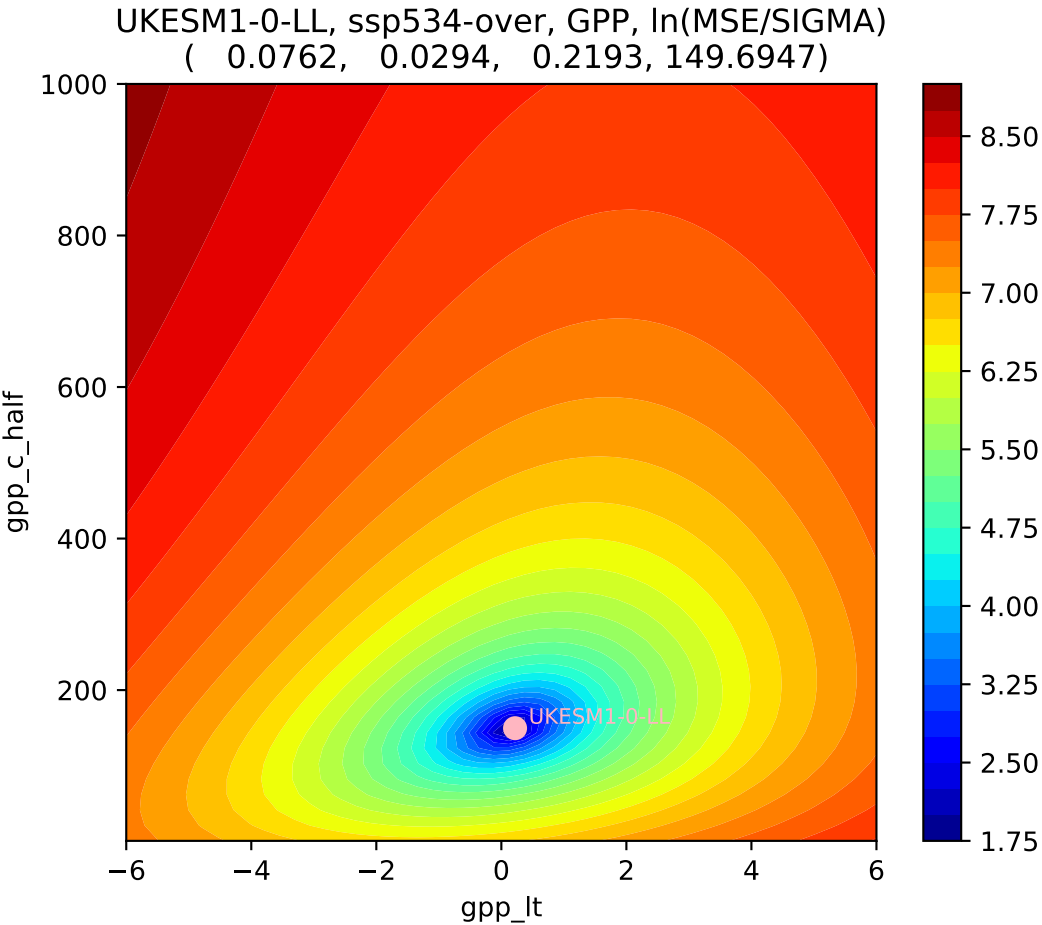

UKESM1-0-LL, ssp534-over, GPP
ESM
Fit
GPP
ΔT

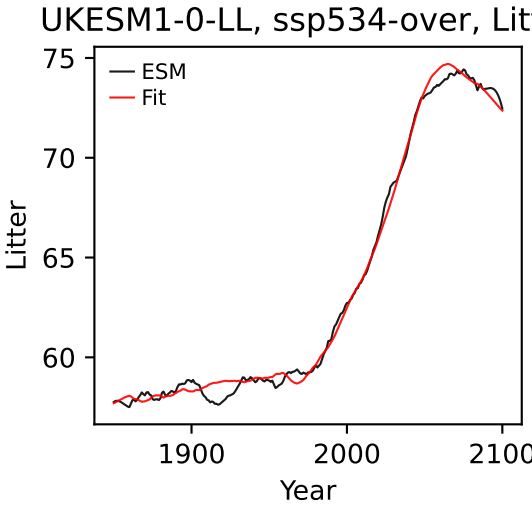

UKESM1-0-LL, ssp534-over, GPP
ESM-Fit
GPP, ESM - FIT
ΔT

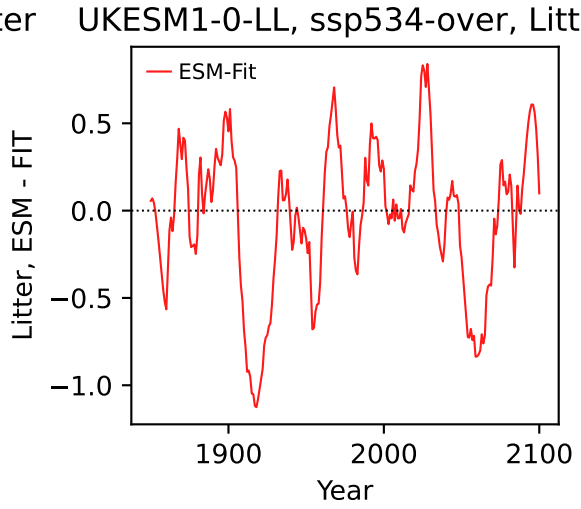

UKESM1-0-LL, ssp534-over, GPP
ESM
Fit
GPP
c_atm

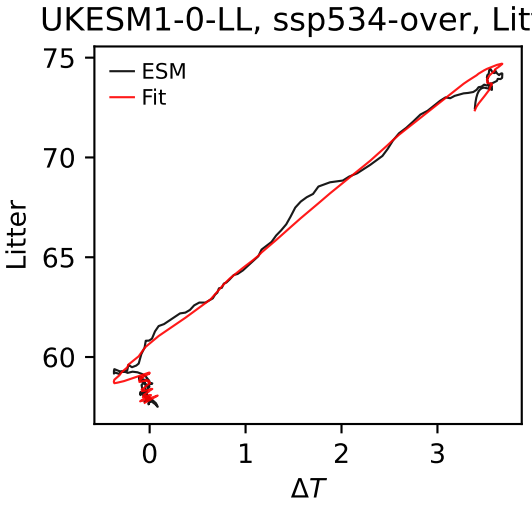

UKESM1-0-LL, ssp534-over, GPP
ESM-Fit
GPP, ESM - FIT
c_atm

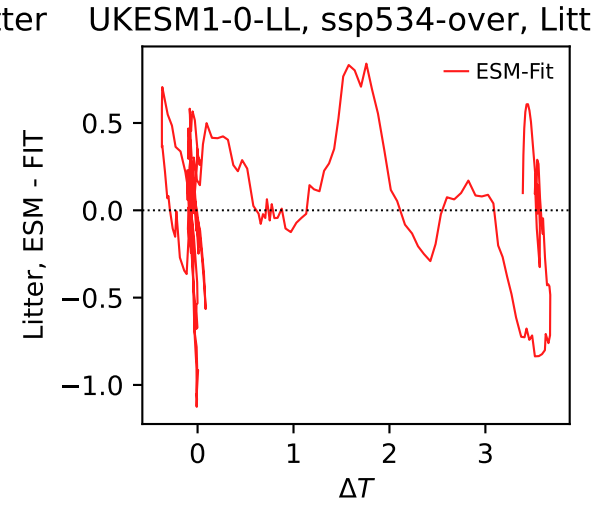

UKESM1-0-LL, ssp534-over, GPP, ln(MSE/SIGMA)
(0.0762, 0.0294, 0.2193, 149.6947)
UKESM1-0-LL
gpp_ste
gpp_sts
5
4
3
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
3
4
5
34
30
26
22
18
14
10
6

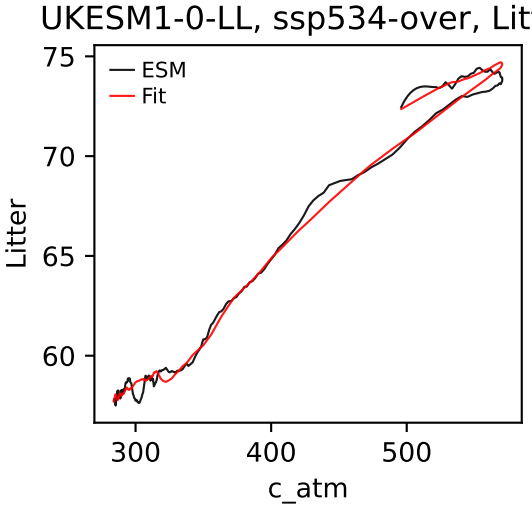

UKESM1-0-LL, ssp534-over, GPP, ln(MSE/SIGMA)
(0.0762, 0.0294, 0.2193, 149.6947)
gpp_c_half
gpp_lt
UKESM1-0-LL
1000
800
600
400
200
−6
−4
−2
0
2
4
6
8.50
7.75
7.00
6.25
5.50
4.75
4.00
3.25
2.50
1.75

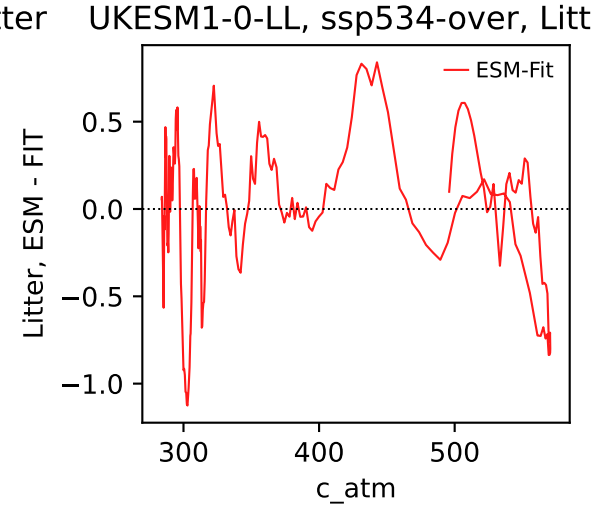

UKESM1-0-LL, ssp534-over, Litter
ESM
Fit
Litter
Year

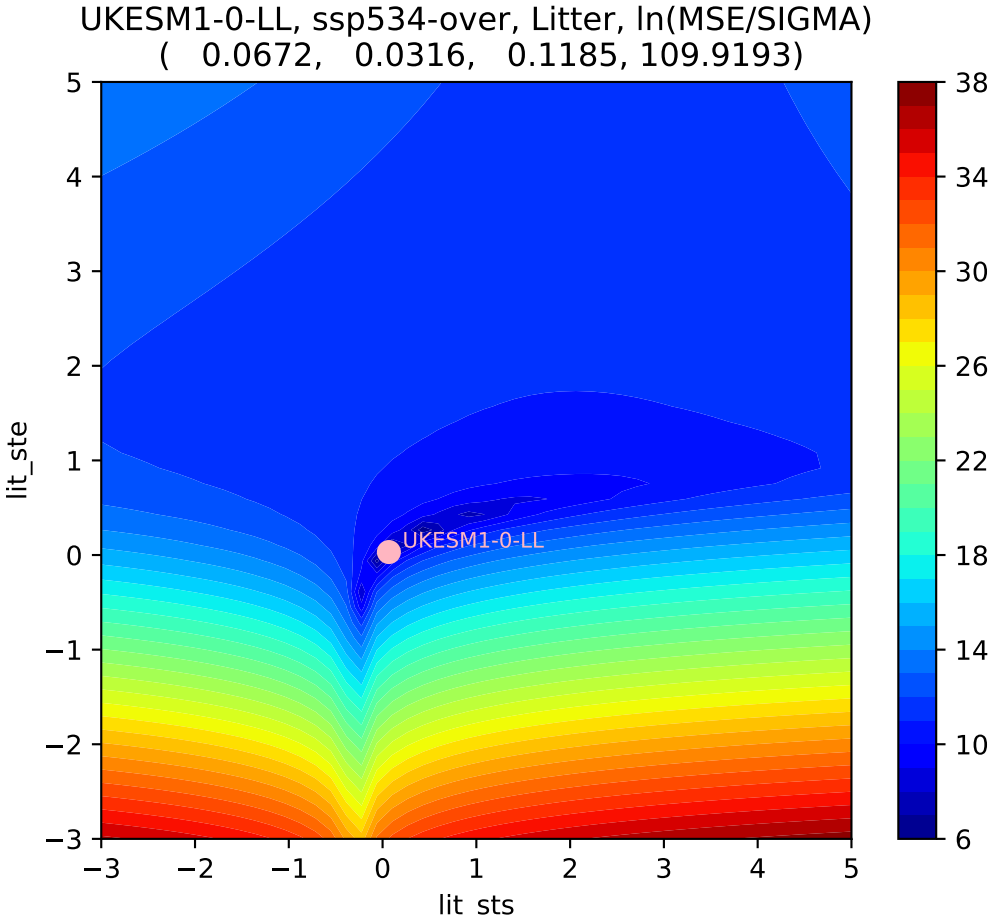

UKESM1-0-LL, ssp534-over, Litte
ESM-Fit
Litter, ESM - FIT
Year

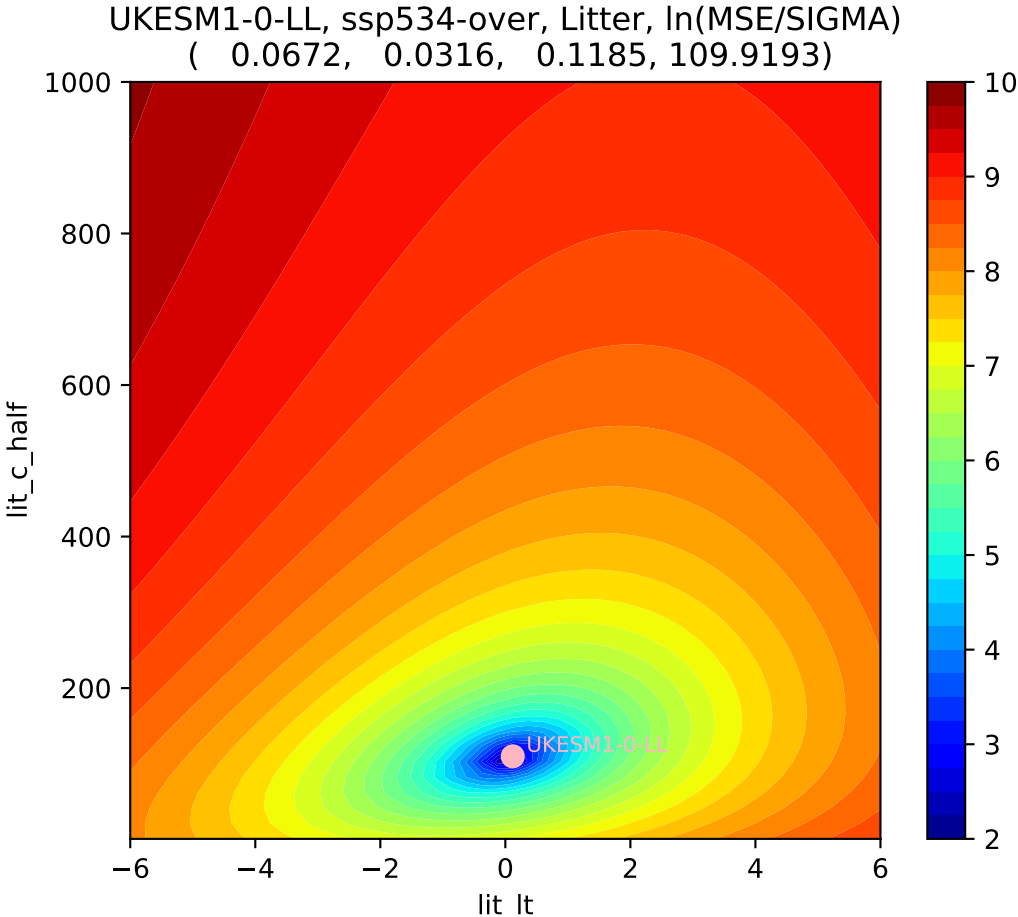

UKESM1-0-LL, ssp534-over, Litter
ESM
Fit
Litter
ΔT

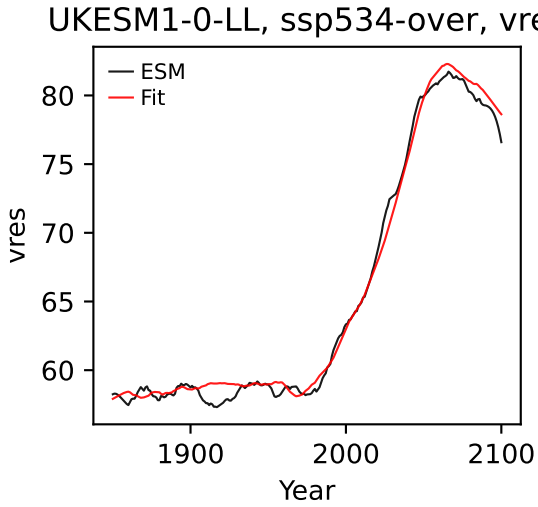

UKESM1-0-LL, ssp534-over, Litte
ESM-Fit
Litter, ESM - FIT
ΔT

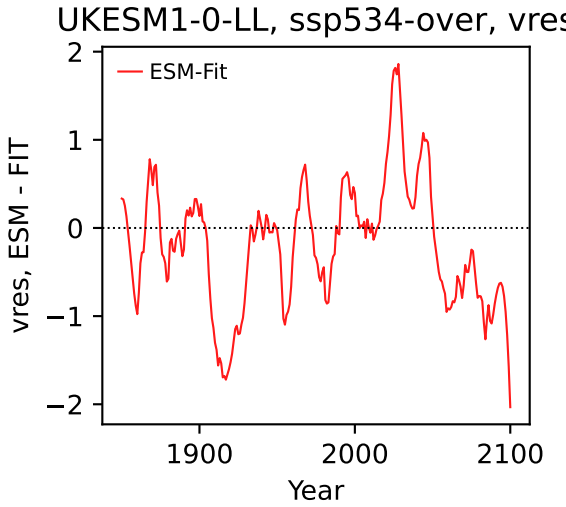

UKESM1-0-LL, ssp534-over, Litter
ESM
Fit
Litter
c_atm

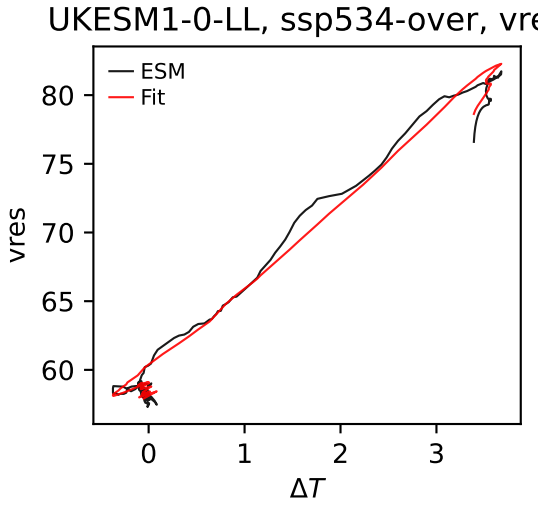

UKESM1-0-LL, ssp534-over, Litte
ESM-Fit
Litter, ESM - FIT
c_atm

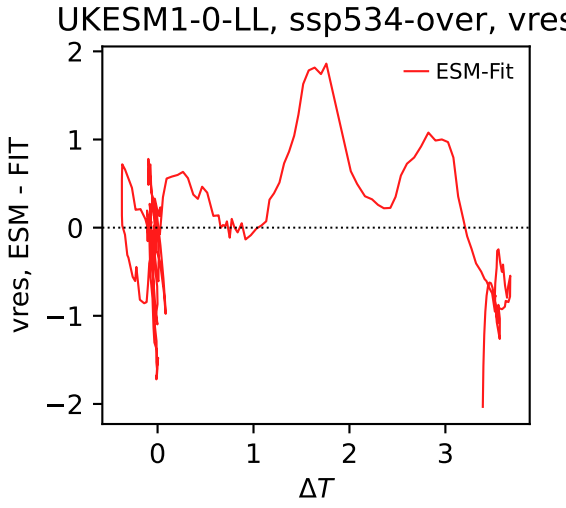

UKESM1-0-LL, ssp534-over, Litter, ln(MSE/SIGMA)
(0.0672, 0.0316, 0.1185, 109.9193)
lit_ste
lit_sts
UKESM1-0-LL
5
4
3
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
3
4
5
38
34
30
26
22
18
14
10
6

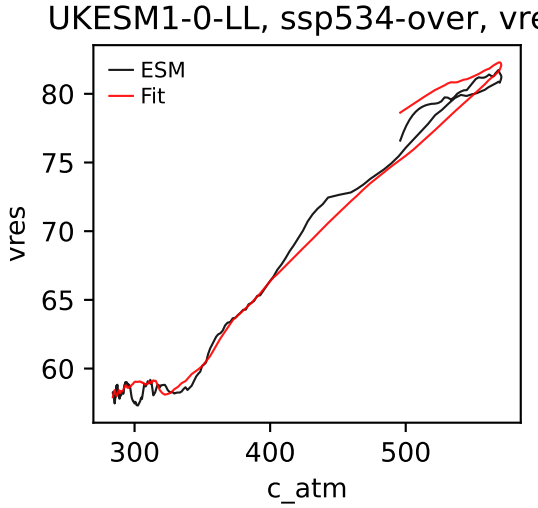

UKESM1-0-LL, ssp534-over, Litter, ln(MSE/SIGMA)
(0.0672, 0.0316, 0.1185, 109.9193)
lit_c_half
lit_lt
1000
800
600
400
200
−6
−4
−2
0
2
4
6
10
9
8
7
6
5
4
3
2
UKESM1-0-LL

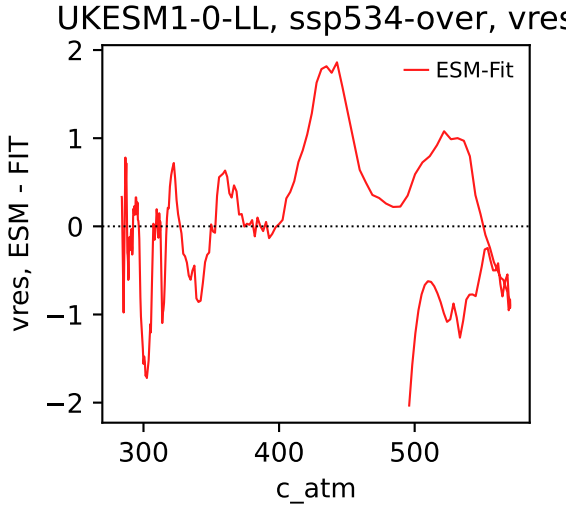

UKESM1-0-LL, ssp534-over, vres
ESM
Fit
vres
Year

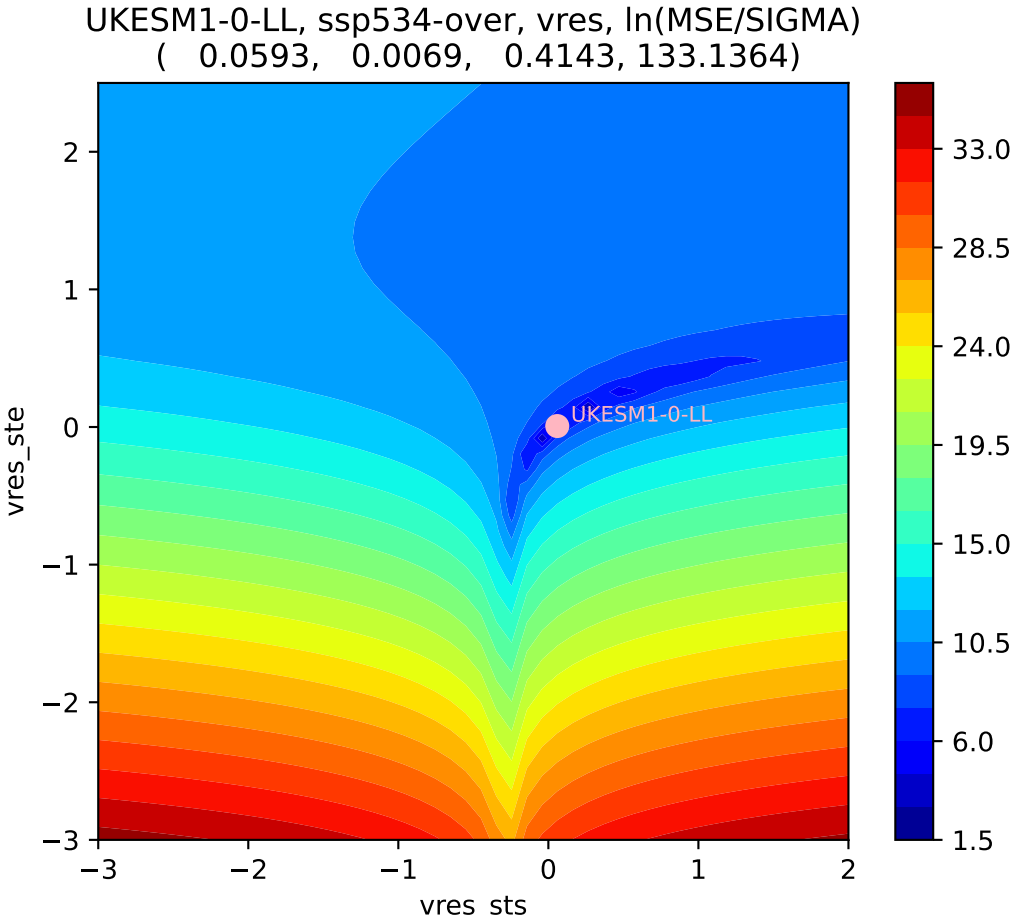

UKESM1-0-LL, ssp534-over, vres
ESM-Fit
vres, ESM - FIT
Year

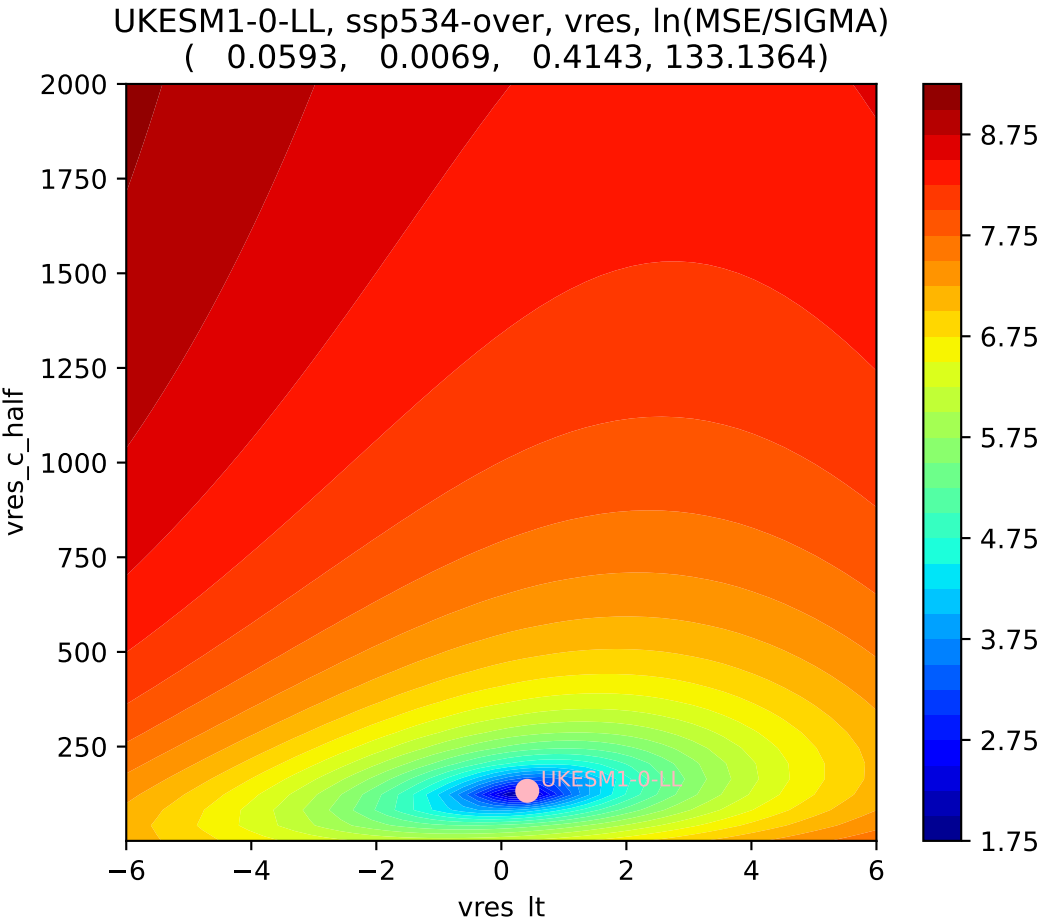

UKESM1-0-LL, ssp534-over, vres
ESM
Fit
vres
ΔT

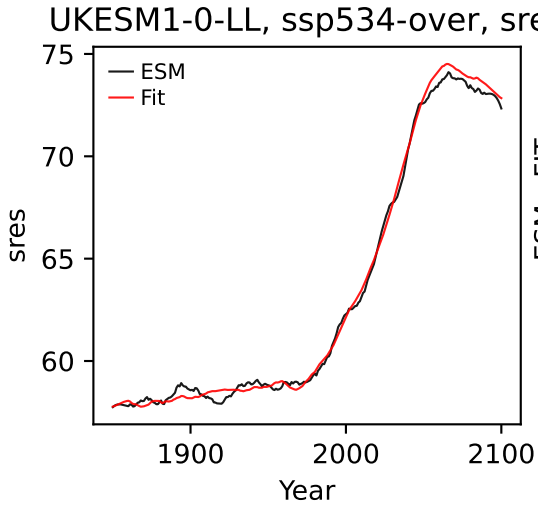

UKESM1-0-LL, ssp534-over, vres
ESM-Fit
vres, ESM - FIT
ΔT

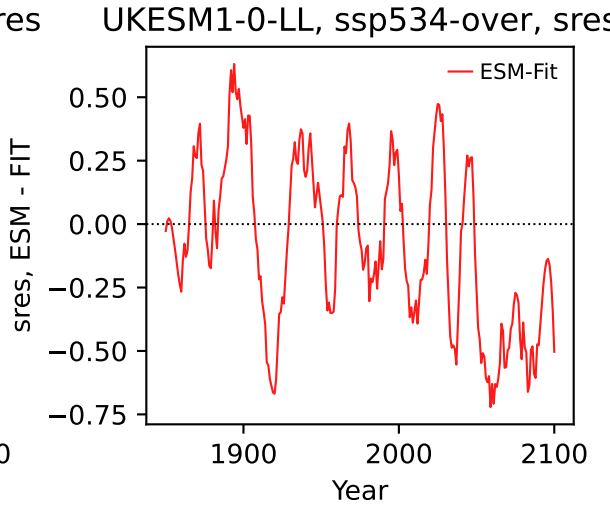

UKESM1-0-LL, ssp534-over, vres
ESM
Fit
vres
c_atm

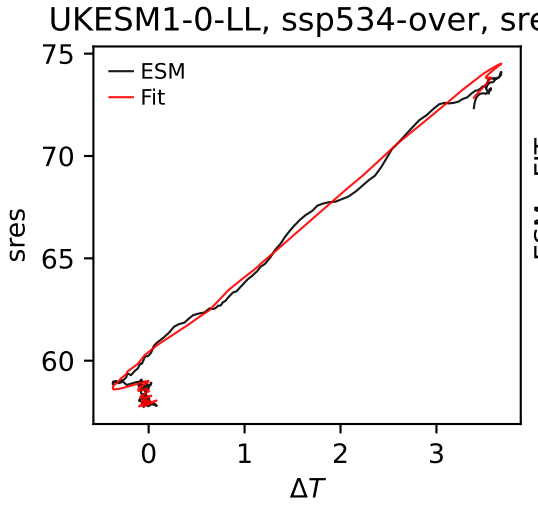

UKESM1-0-LL, ssp534-over, vres
ESM-Fit
vres, ESM - FIT
c_atm

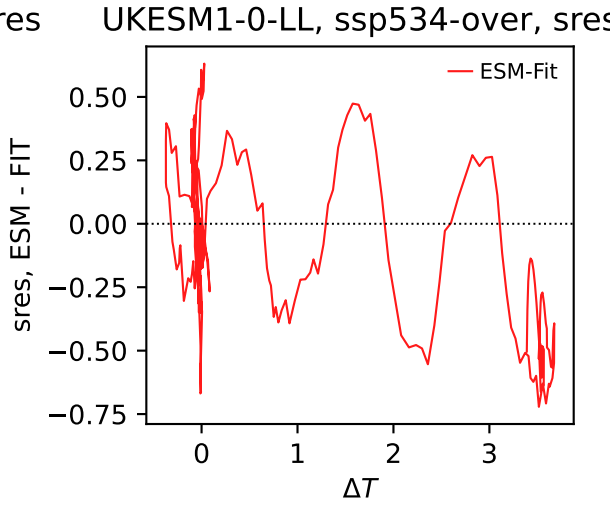

UKESM1-0-LL, ssp534-over, vres, ln(MSE/SIGMA)
(0.0593, 0.0069, 0.4143, 133.1364)
UKESM1-0-LL
vres_ste
vres_sts
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
33.0
28.5
24.0
19.5
15.0
10.5
6.0
1.5

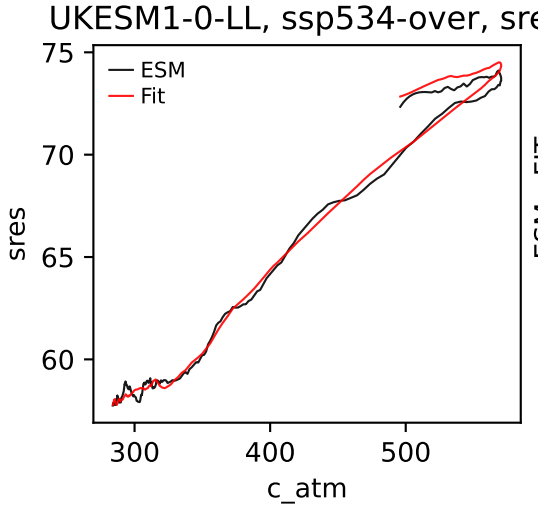

UKESM1-0-LL, ssp534-over, vres, ln(MSE/SIGMA)
(0.0593, 0.0069, 0.4143, 133.1364)
vres_c_half
vres_lt
2000
1750
1500
1250
1000
750
500
250
−6
−4
−2
0
2
4
6
8.75
7.75
6.75
5.75
4.75
3.75
2.75
1.75
UKESM1-0-LL

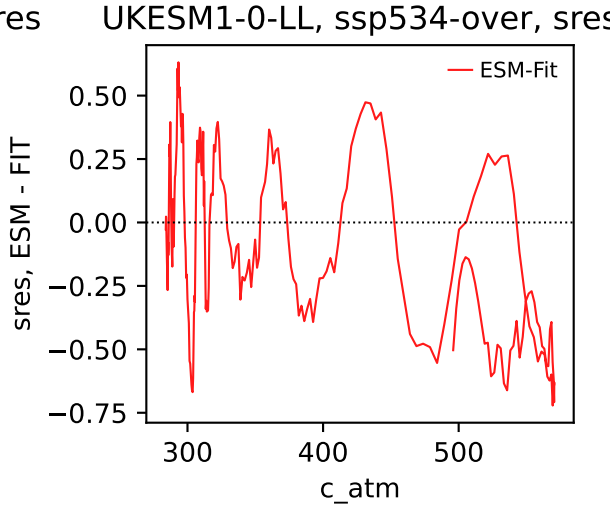

UKESM1-0-LL, ssp534-over, sres
ESM
Fit
sres
Year
75
70
65
60
1900
2000
2100

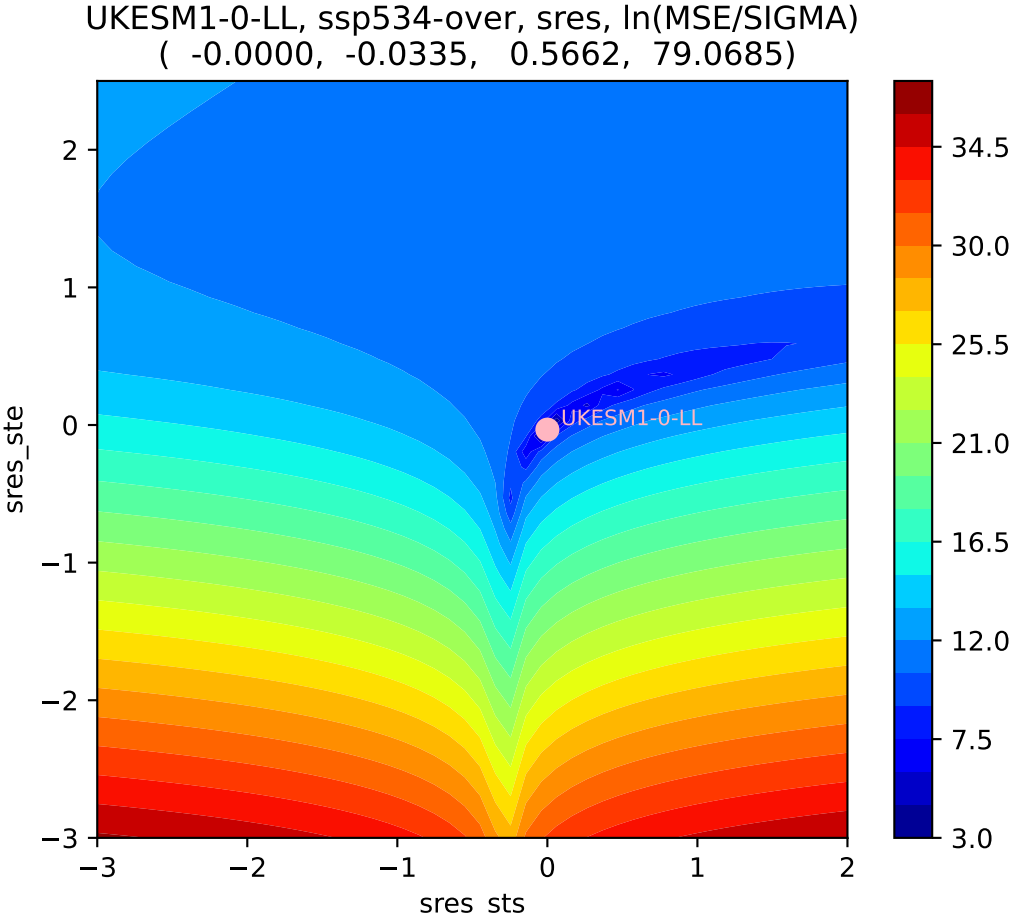

UKESM1-0-LL, ssp534-over, sres
ESM-Fit
sres, ESM - FIT
Year
0.50
0.25
0.00
−0.25
−0.50
−0.75
1900
2000
2100

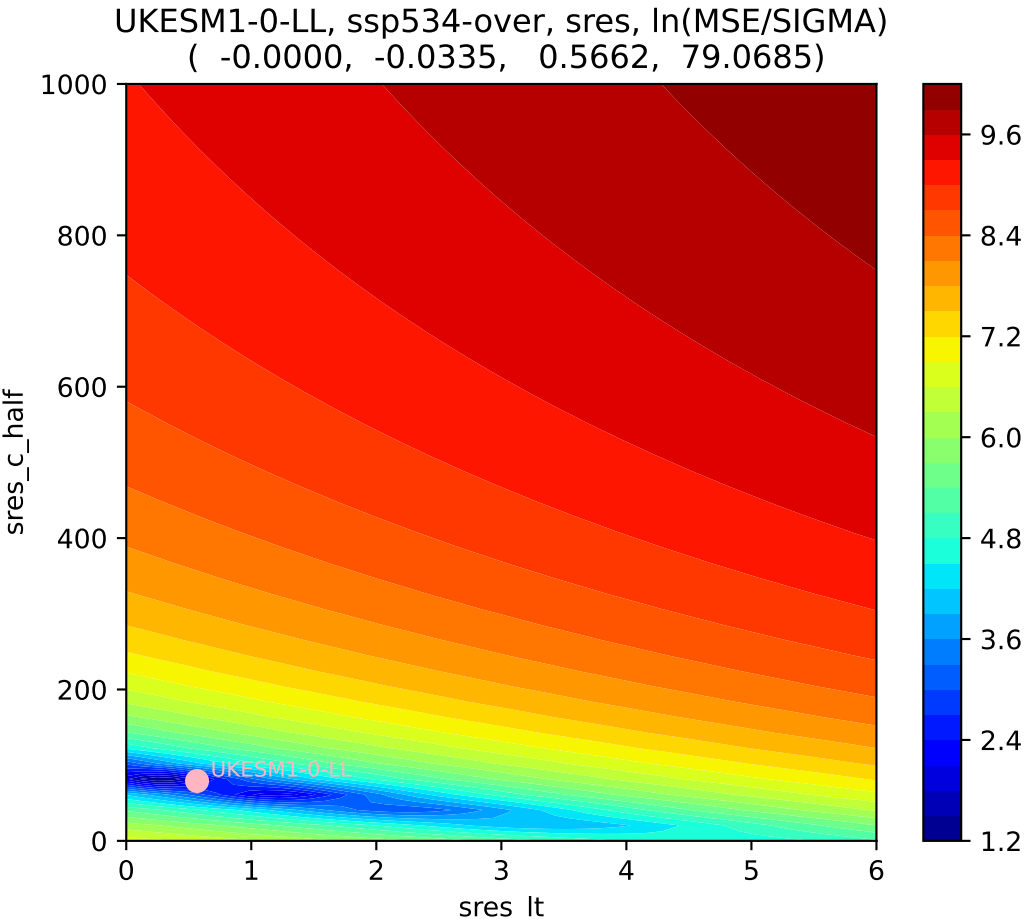

UKESM1-0-LL, ssp534-over, sres
ESM
Fit
sres
ΔT
75
70
65
60
0
1
2
3

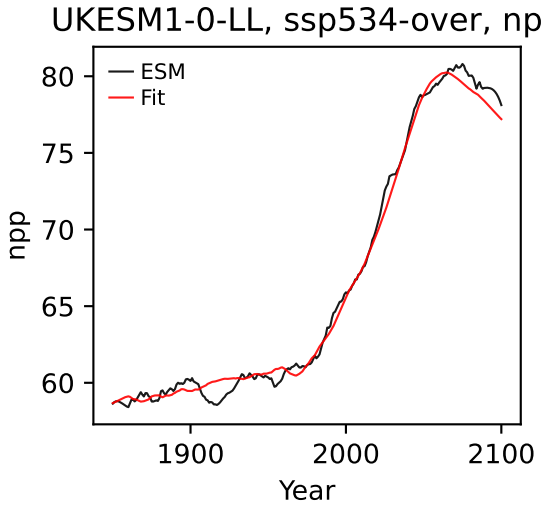

UKESM1-0-LL, ssp534-over, sres
ESM-Fit
sres, ESM - FIT
ΔT
0.50
0.25
0.00
−0.25
−0.50
−0.75
0
1
2
3

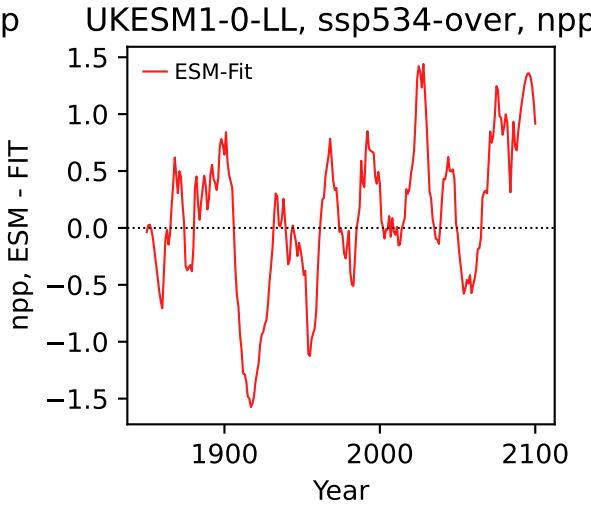

UKESM1-0-LL, ssp534-over, sres
ESM
Fit
sres
c_atm
75
70
65
60
300
400
500

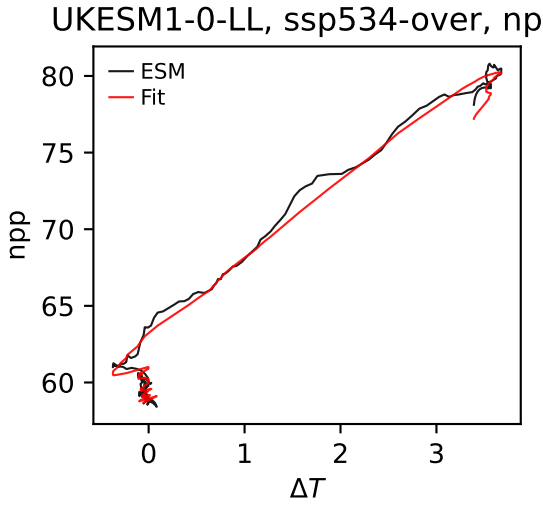

UKESM1-0-LL, ssp534-over, sres
ESM-Fit
sres, ESM - FIT
c_atm
0.50
0.25
0.00
−0.25
−0.50
−0.75
300
400
500

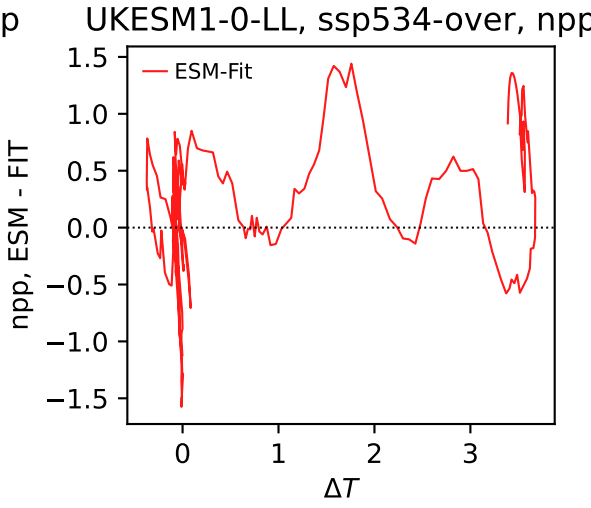

UKESM1-0-LL, ssp534-over, sres, ln(MSE/SIGMA)
(-0.0000, -0.0335, 0.5662, 79.0685)
UKESM1-0-LL
sres_ste
sres_sts
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
34.5
30.0
25.5
21.0
16.5
12.0
7.5
3.0

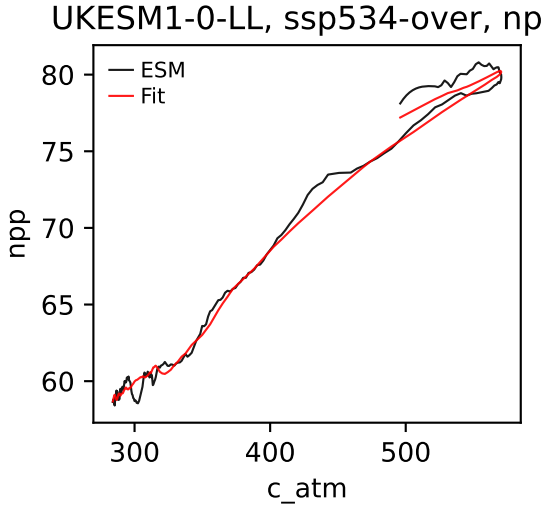

UKESM1-0-LL, ssp534-over, sres, ln(MSE/SIGMA)
(-0.0000, -0.0335, 0.5662, 79.0685)
1000
800
600
400
200
0
sres_c_half
0
1
2
3
4
5
6
sres_lt
UKESM1-0-LL
9.6
8.4
7.2
6.0
4.8
3.6
2.4
1.2

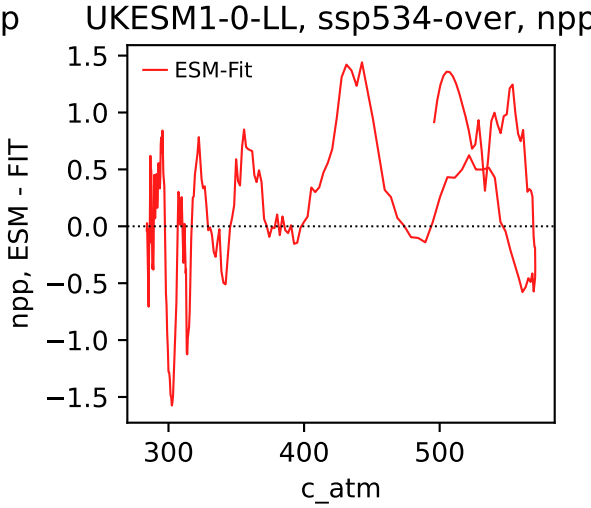

UKESM1-0-LL, ssp534-over, npp
ESM
Fit
npp
Year

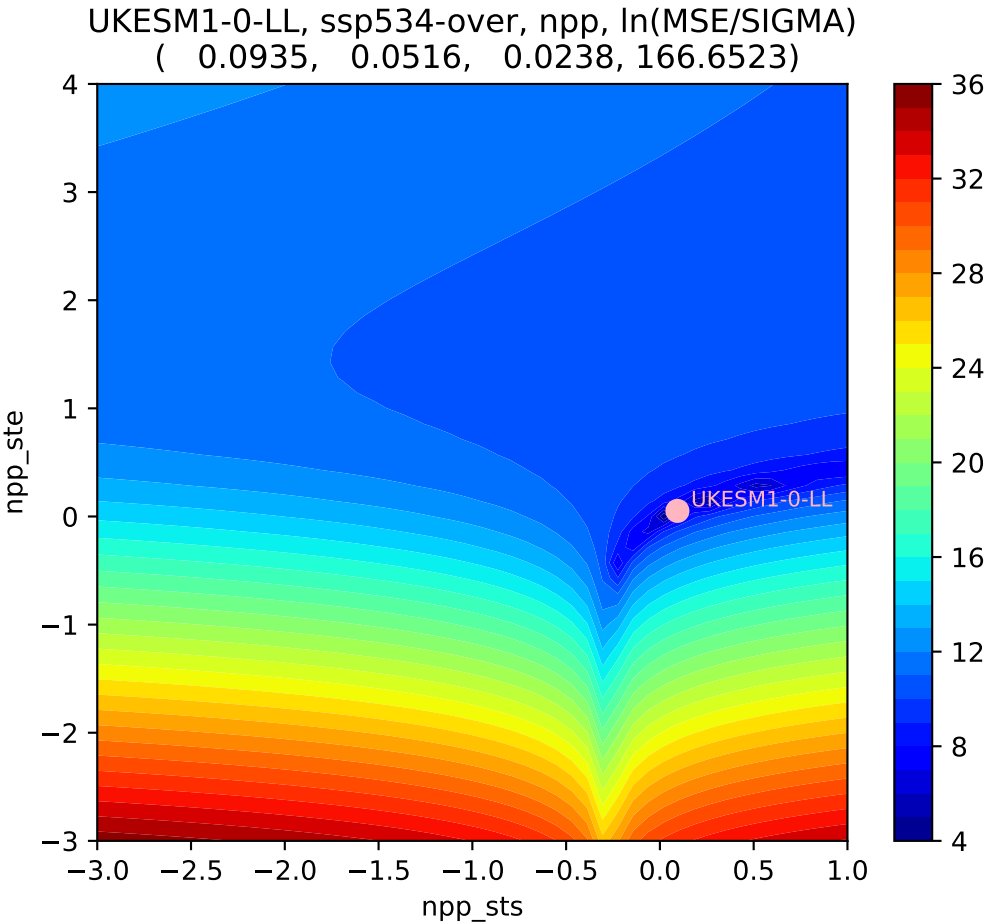

UKESM1-0-LL, ssp534-over, npp
ESM-Fit
npp, ESM - FIT
Year

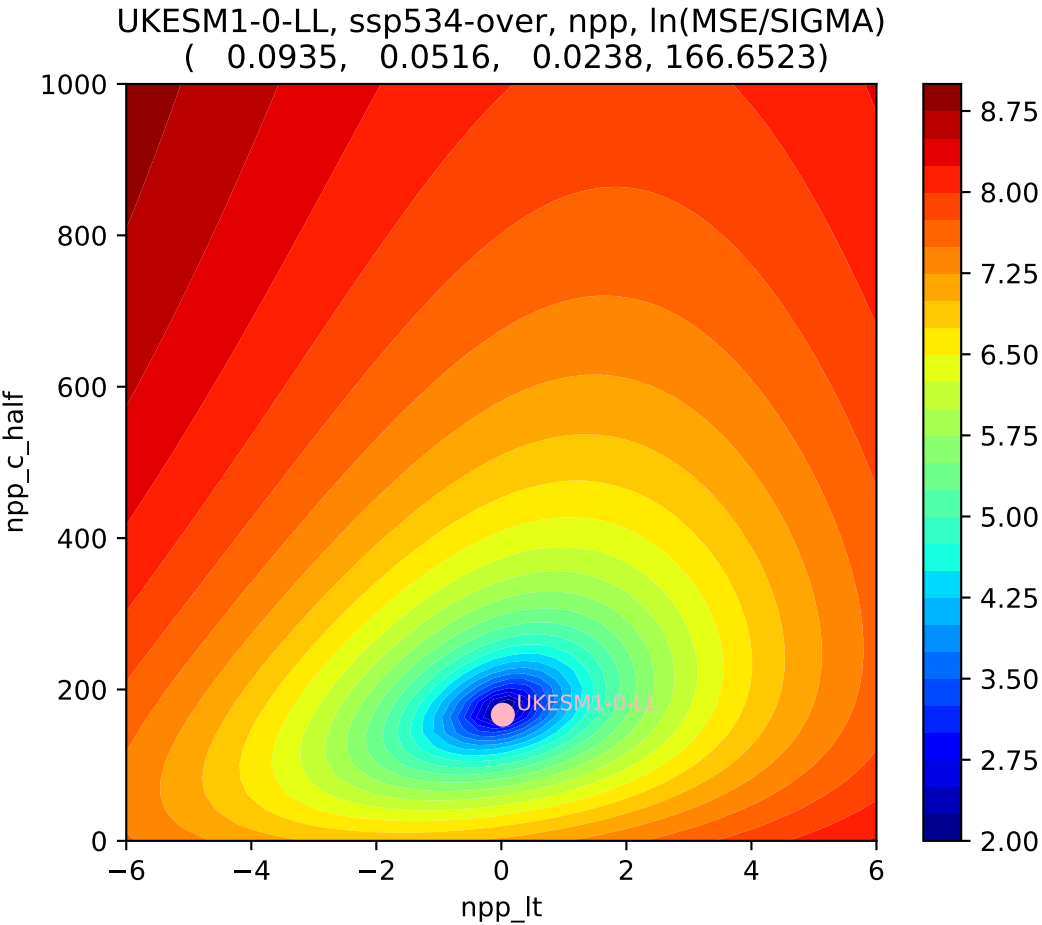

UKESM1-0-LL, ssp534-over, npp
ESM
Fit
npp
ΔT


UKESM1-0-LL, ssp534-over, npp
ESM-Fit
npp, ESM - FIT
ΔT


UKESM1-0-LL, ssp534-over, npp
ESM
Fit
npp
c_atm


UKESM1-0-LL, ssp534-over, npp
ESM-Fit
npp, ESM - FIT
c_atm


UKESM1-0-LL, ssp534-over, npp, ln(MSE/SIGMA)
(0.0935, 0.0516, 0.0238, 166.6523)
UKESM1-0-LL
npp_ste
npp_sts
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
36
32
28
24
20
16
12
8
4


UKESM1-0-LL, ssp534-over, npp, ln(MSE/SIGMA)
(0.0935, 0.0516, 0.0238, 166.6523)
1000
800
600
400
200
0
npp_c_half
−6
−4
−2
0
2
4
6
npp_lt
UKESM1-0-LL
8.75
8.00
7.25
6.50
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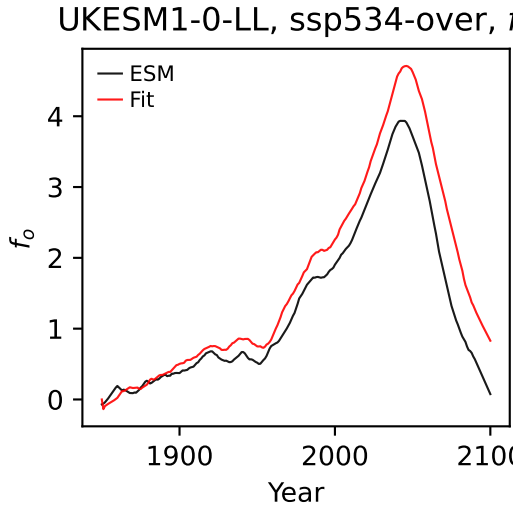
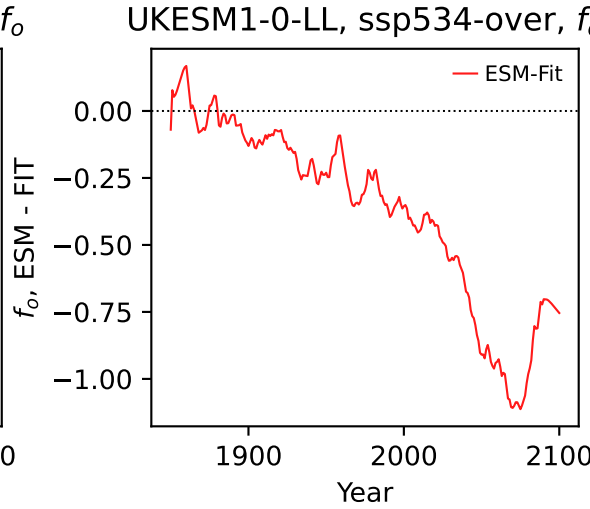
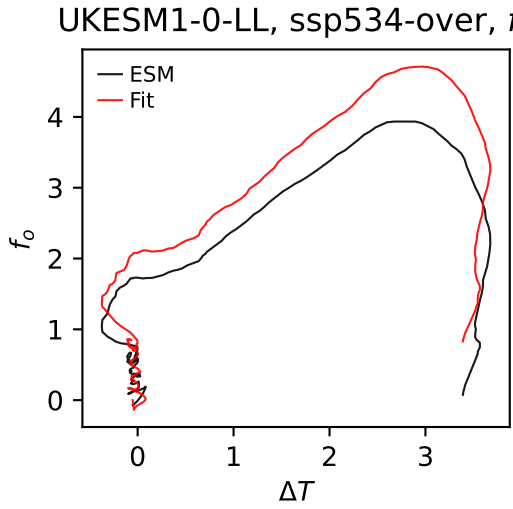
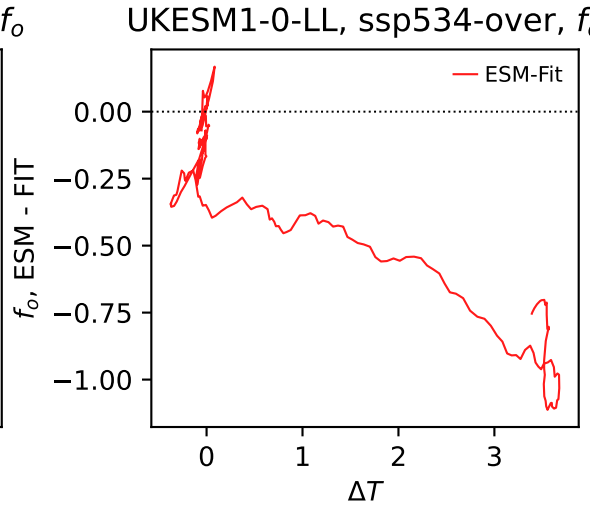
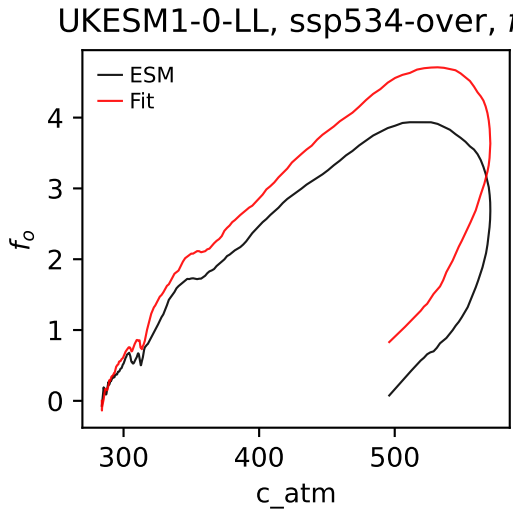
2.75
2.00

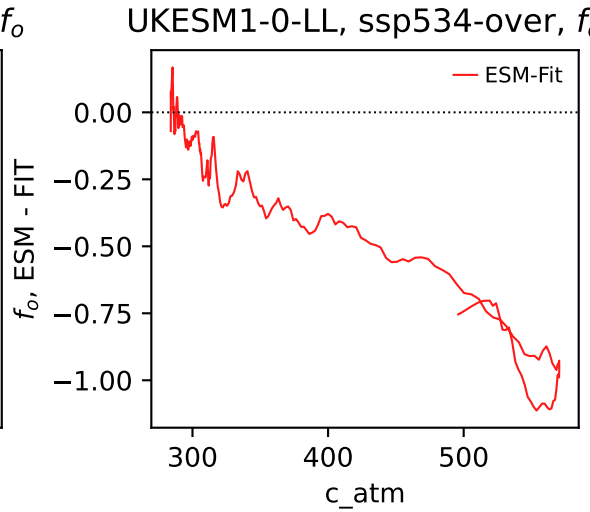

UKESM1-0-LL, ssp534-over, f_o
ESM
Fit
f_o
Year

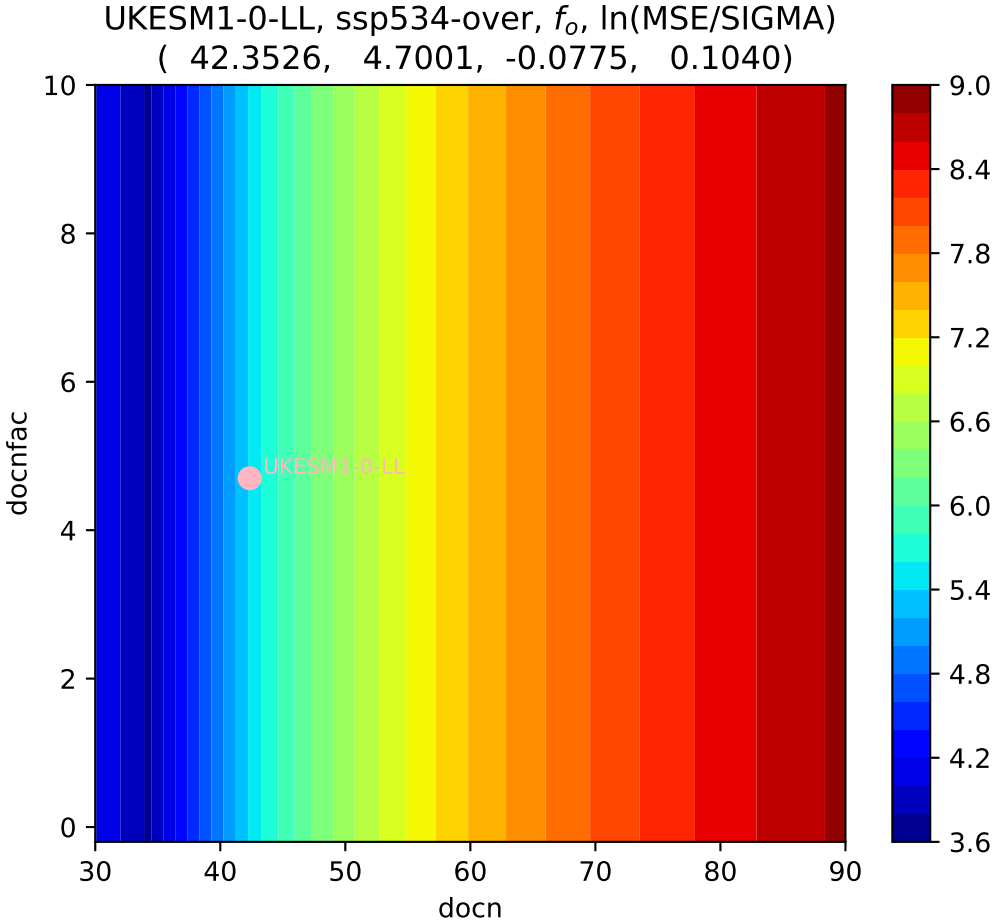

UKESM1-0-LL, ssp534-over, f_o
ESM-Fit
f_o, ESM - FIT
Year

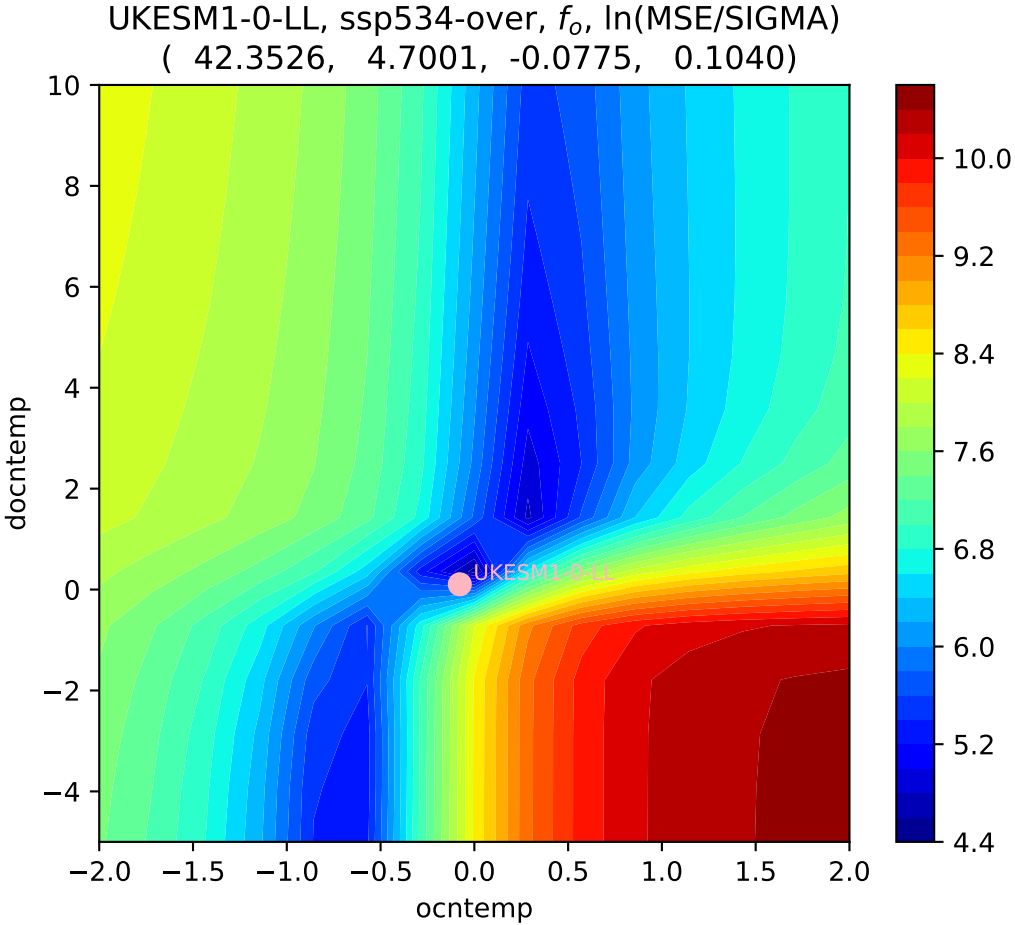

UKESM1-0-LL, ssp534-over, f_o
ESM
Fit
f_o
ΔT


UKESM1-0-LL, ssp534-over, f_o
ESM-Fit
f_o, ESM - FIT
ΔT


UKESM1-0-LL, ssp534-over, f_o
ESM
Fit
f_o
c_atm


UKESM1-0-LL, ssp534-over, f_o
ESM-Fit
f_o, ESM - FIT
c_atm


UKESM1-0-LL, ssp534-over, f_o, ln(MSE/SIGMA)
(42.3526, 4.7001, -0.0775, 0.1040)
UKESM1-0-LL
docnfac
docn
0
2
4
6
8
10
30
40
50
60
70
80
90
3.6
4.2
4.8
5.4
6.0
6.6
7.2
7.8
8.4
9.0


UKESM1-0-LL, ssp534-over, f_o, ln(MSE/SIGMA)
(42.3526, 4.7001, -0.0775, 0.1040)
UKESM1-0-LL
docntemp
ocntemp
10
8
6
4
2
0
−2
−4
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0
10.0
9.2
8.4
7.6
6.8
6.0
5.2
4.4