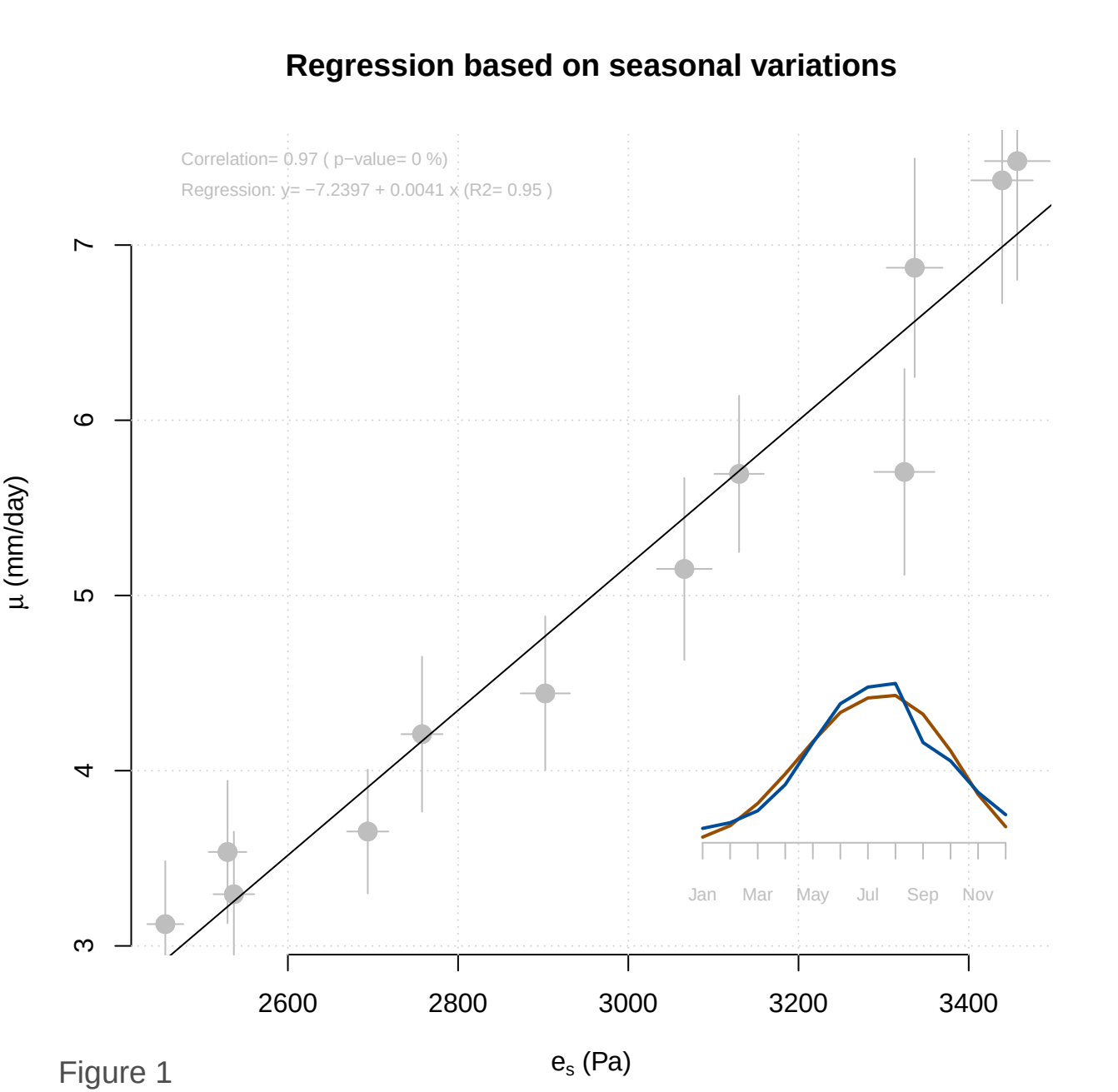


Figure 1

VELIKIE LUKI (30.62E/56.35N; 97m.a.s.l.)

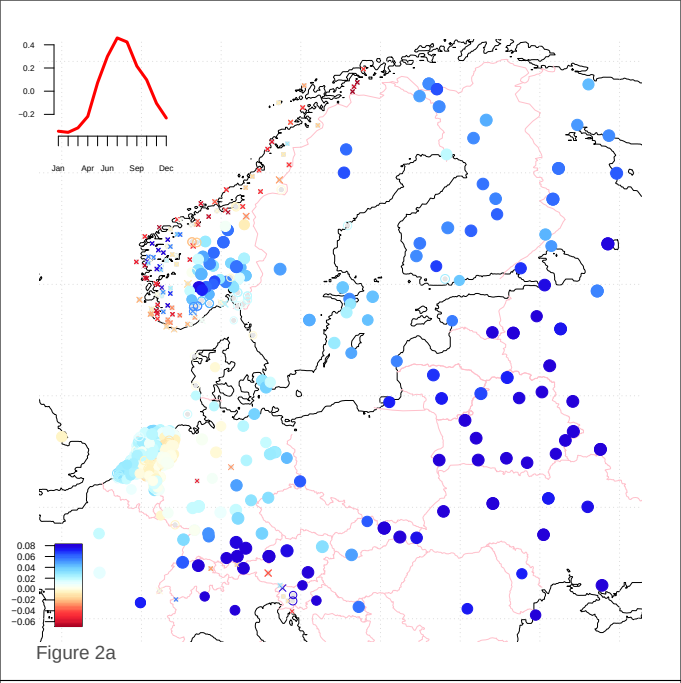


Figure 2a

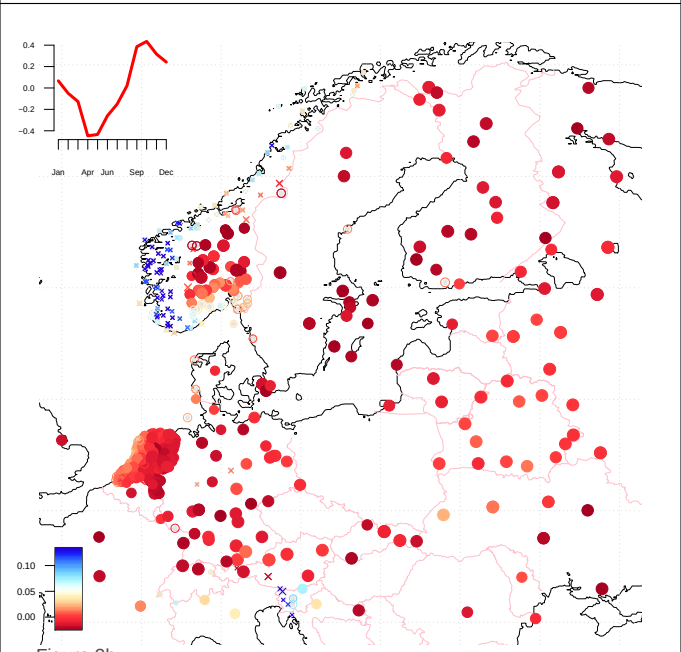


Figure 2b

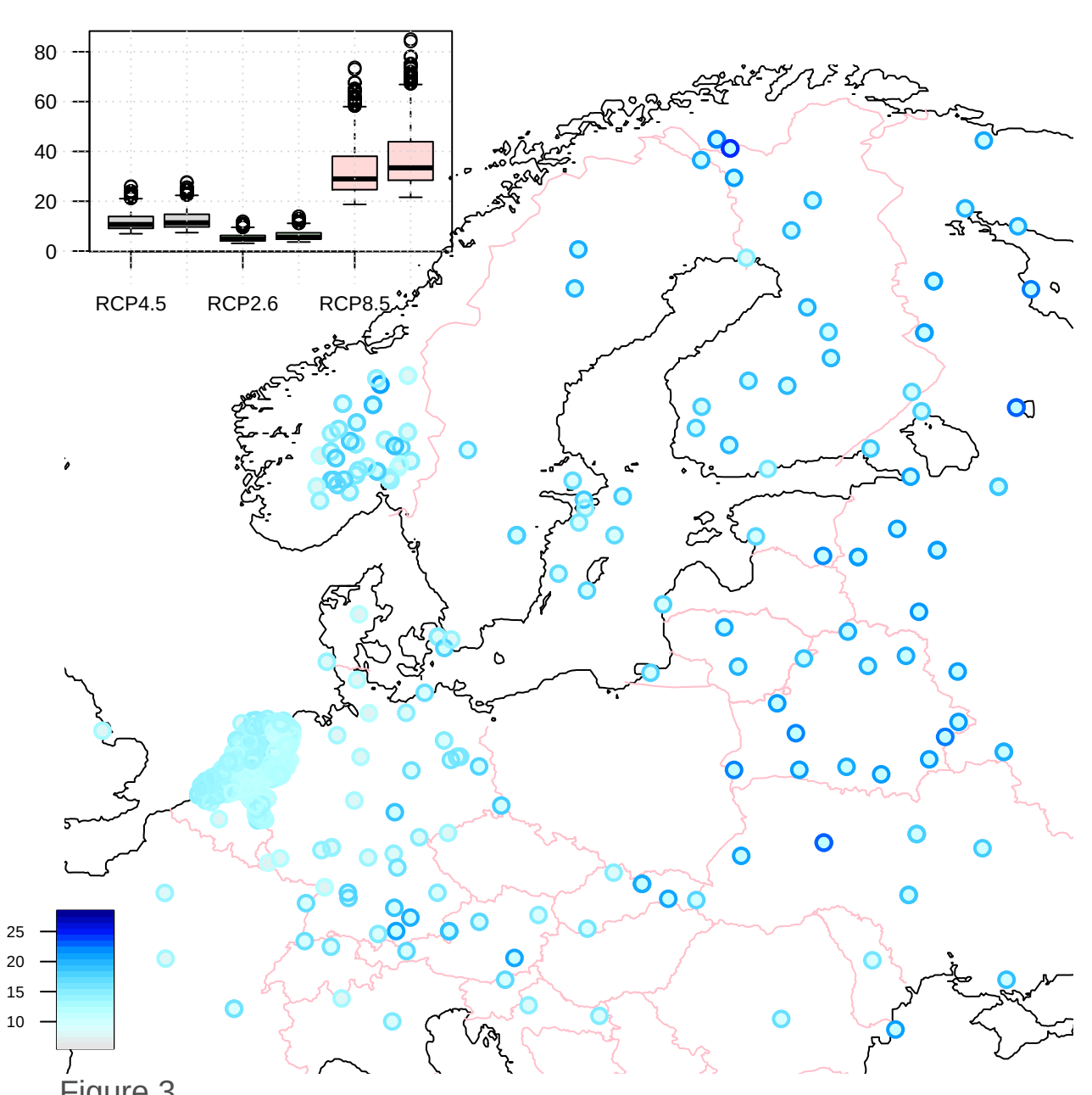


Figure 3

Supporting figures

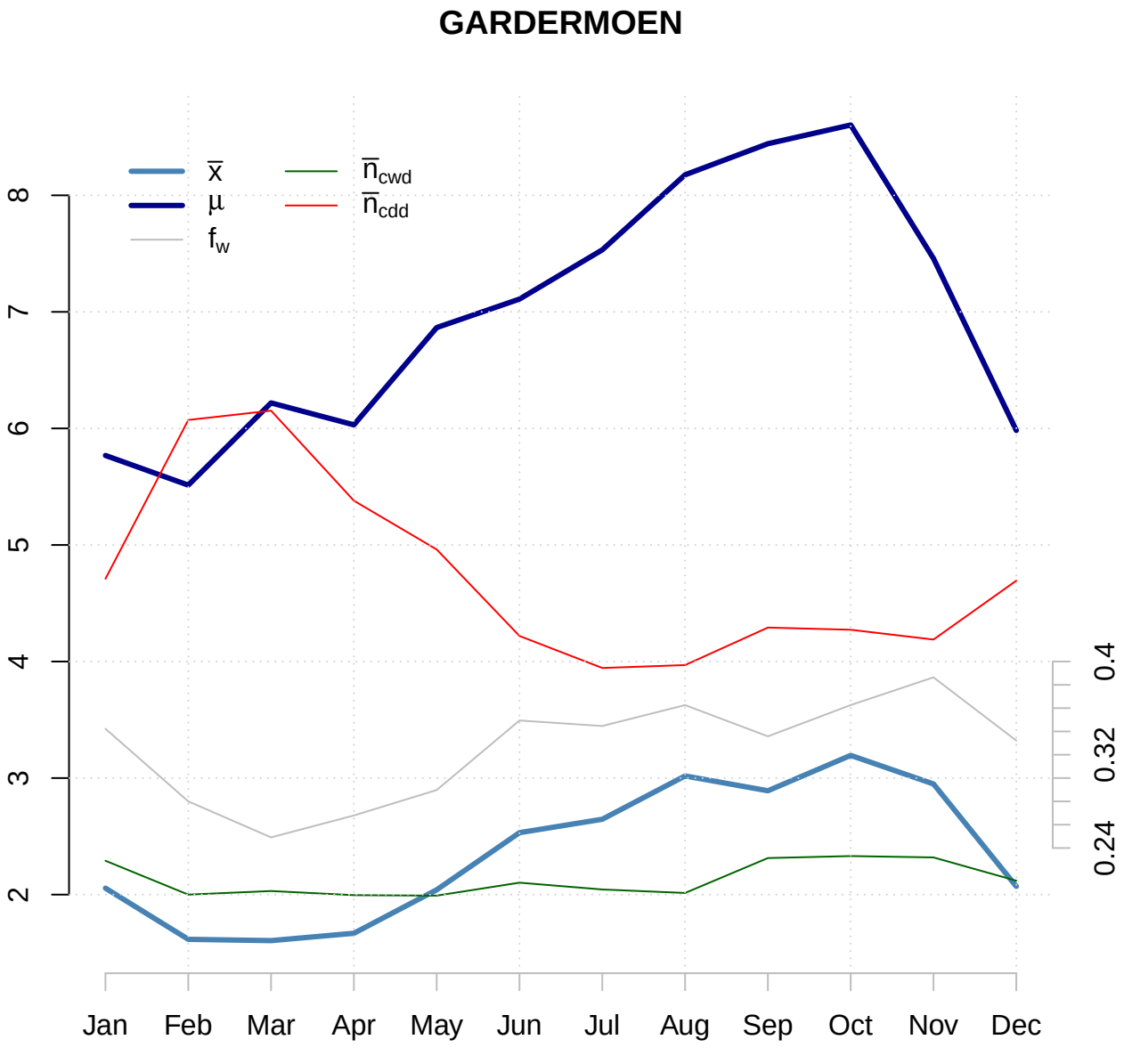

GARDERMOEN
x̄
μ
f_w
n̄_cwd
n̄_cdd
8
7
6
5
4
3
2
0.4
0.32
0.24
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Calendar month

Figure SM1

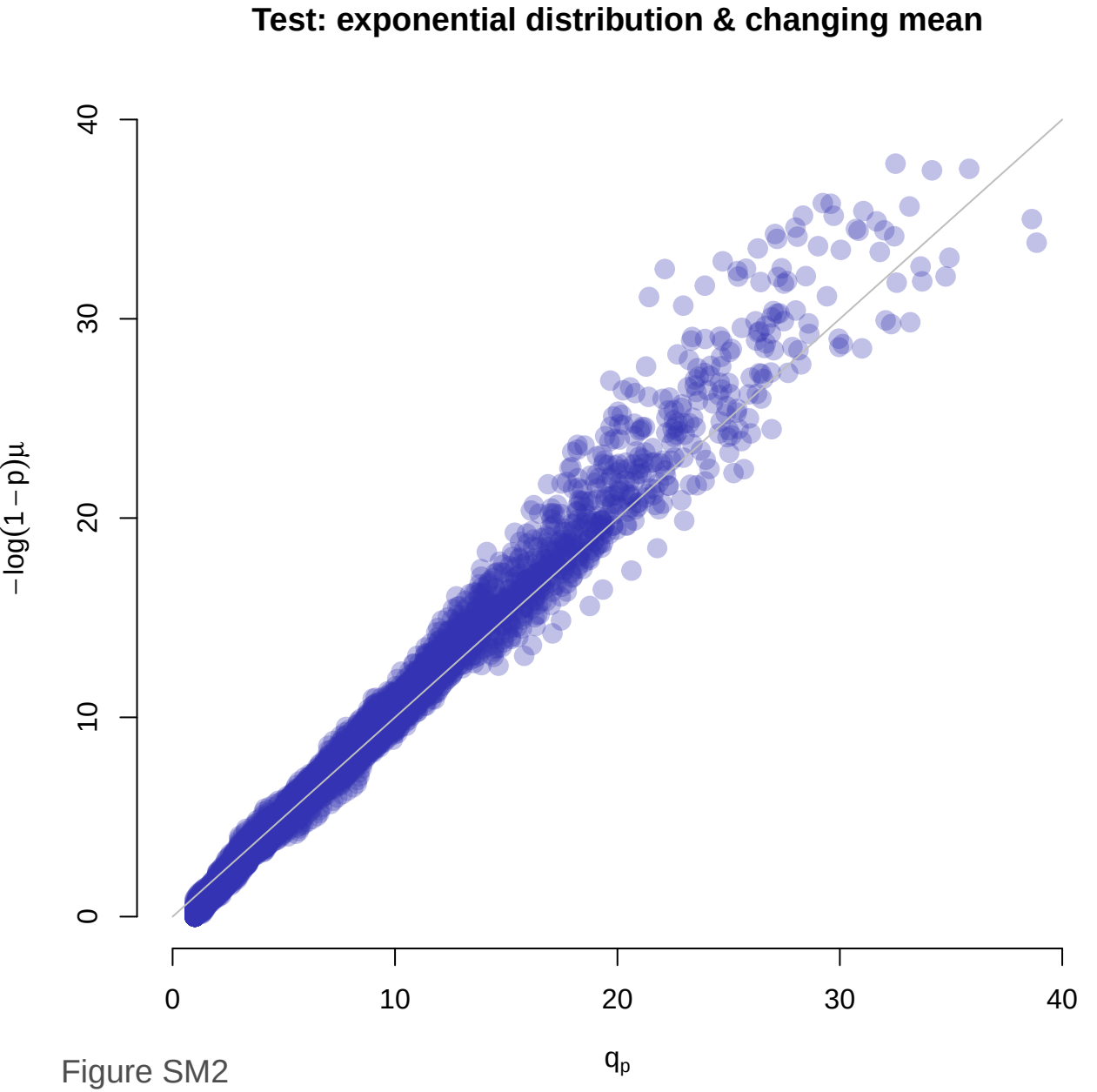
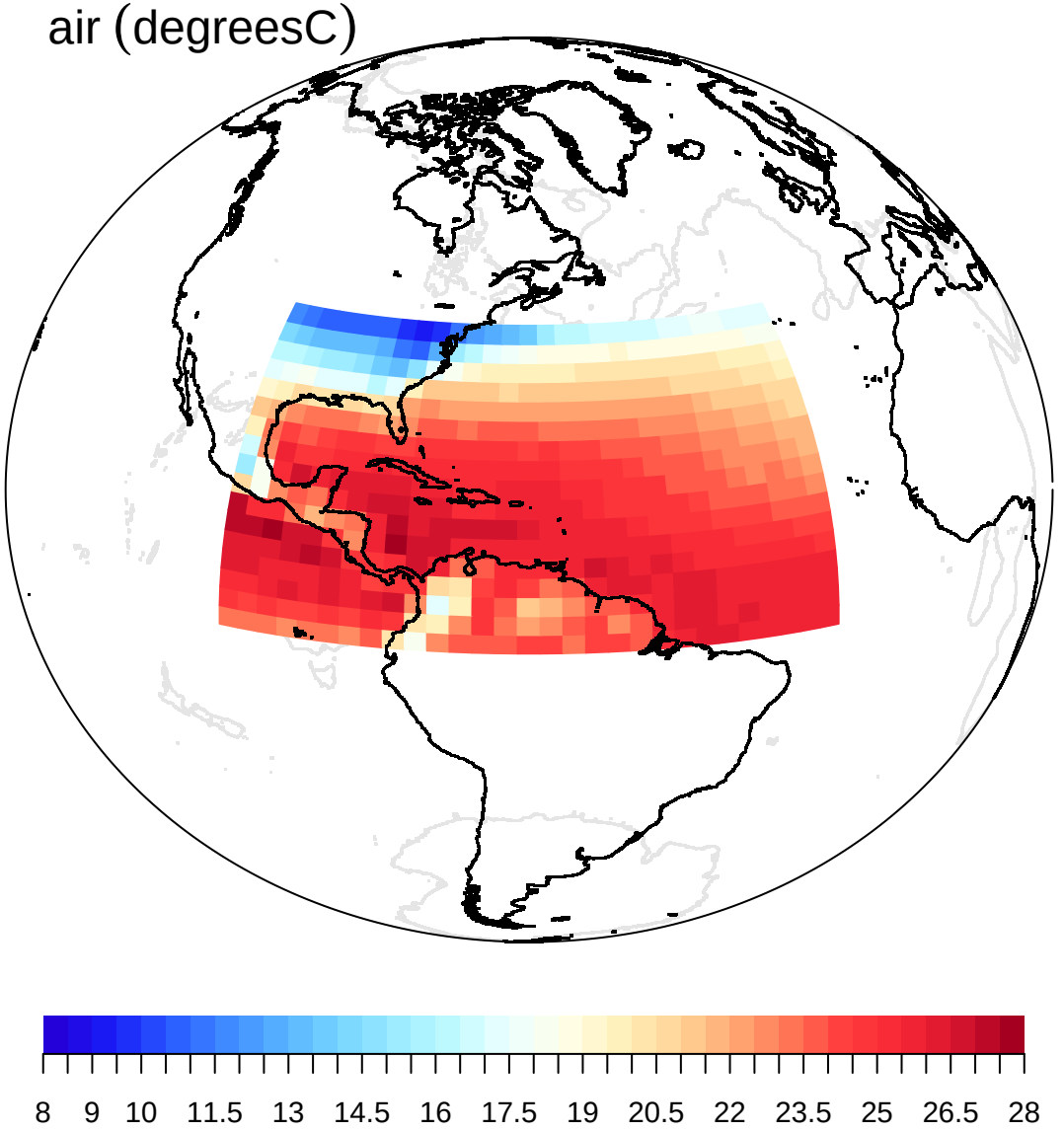

Test: exponential distribution & changing mean
−log(1 − p)μ
0
10
20
30
40
0
10
20
30
40
qp

Figure SM2


air (degreesC)
8
9
10
11.5
13
14.5
16
17.5
19
20.5
22
23.5
25
26.5
28

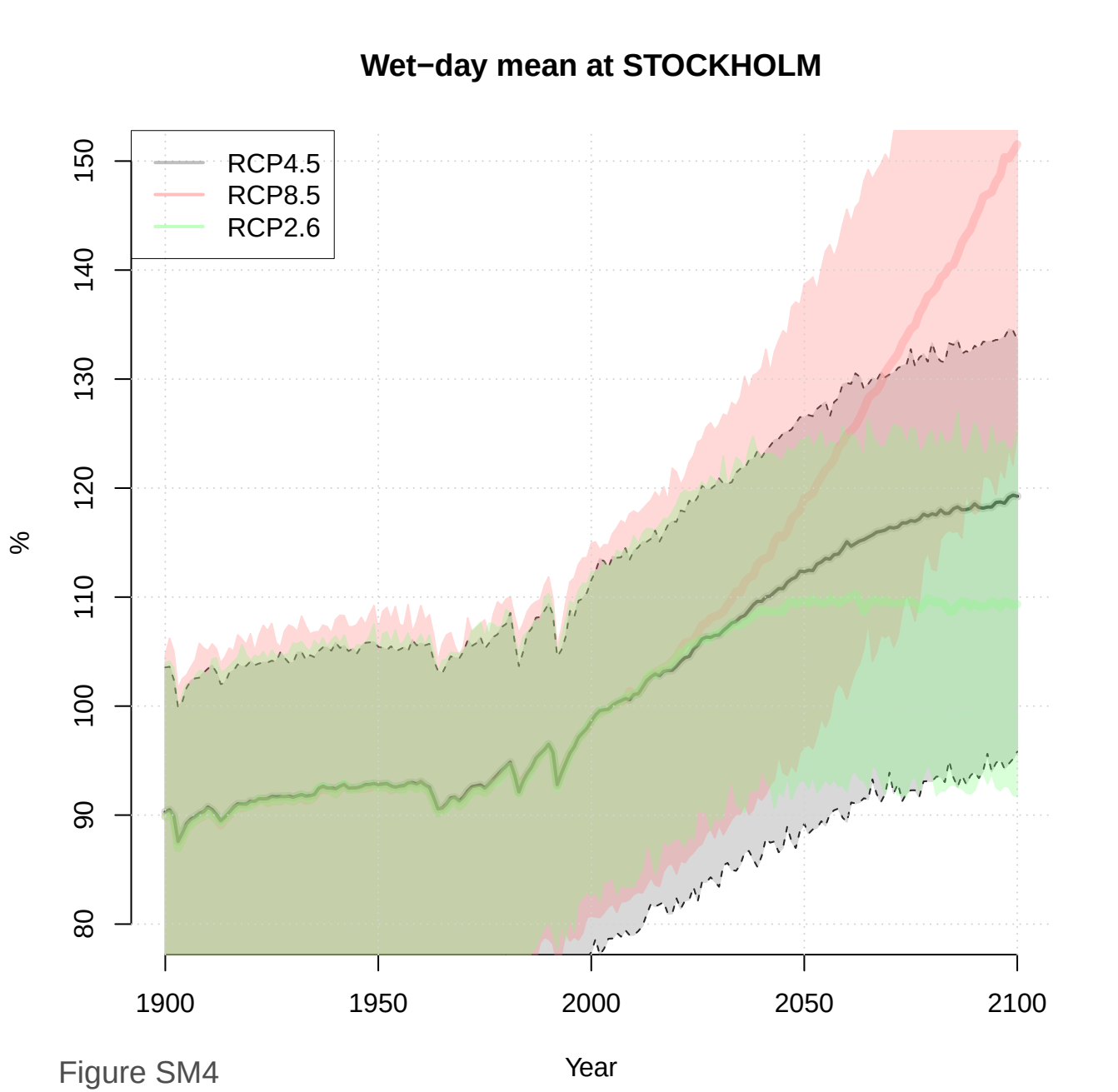

Wet−day mean at STOCKHOLM
RCP4.5
RCP8.5
RCP2.6
%
80
90
100
110
120
130
140
150
1900
1950
2000
2050
2100
Year

Figure SM4

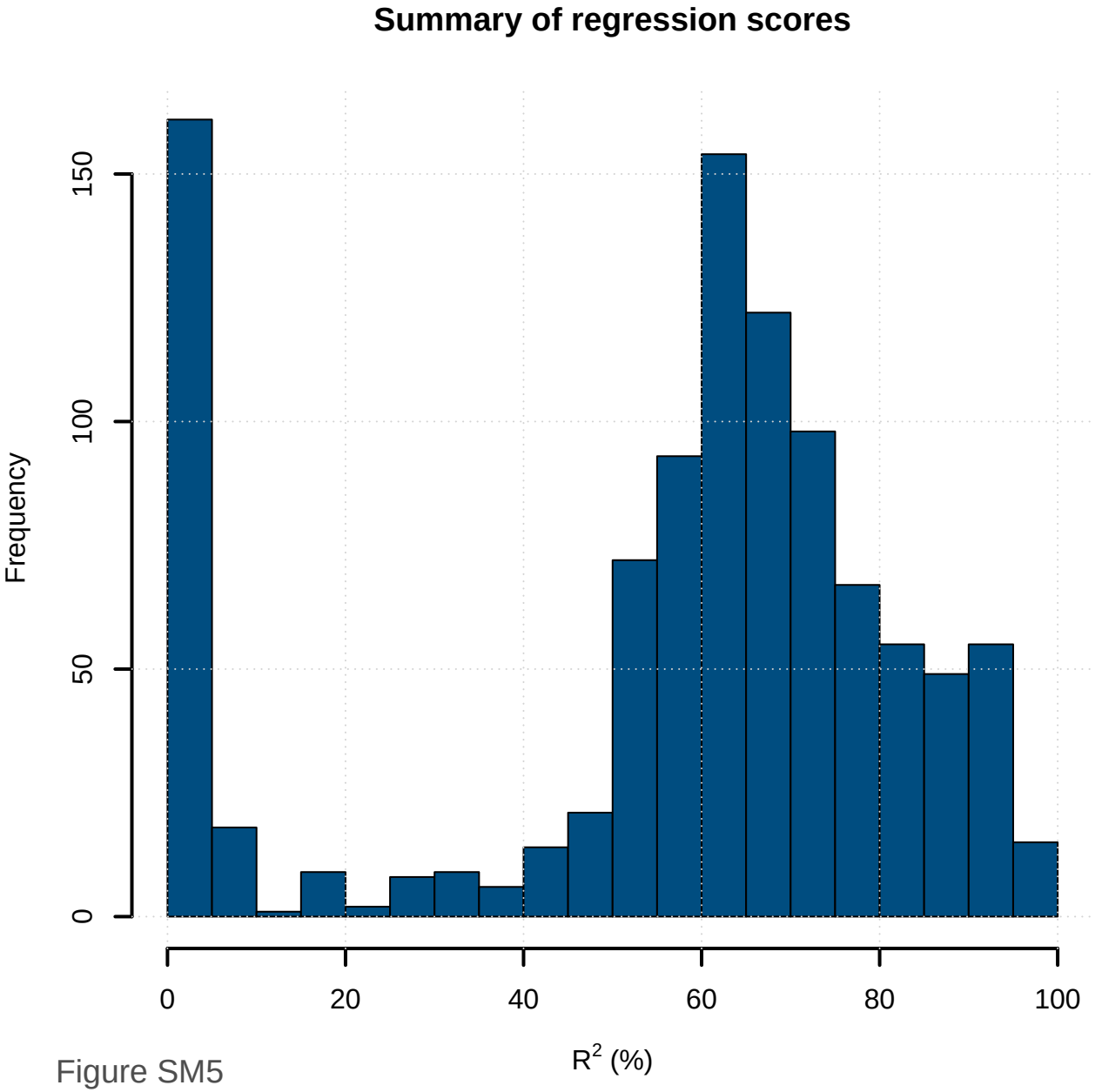

Summary of regression scores
Frequency
0
50
100
150
0
20
40
60
80
100
R2 (%)

Figure SM5

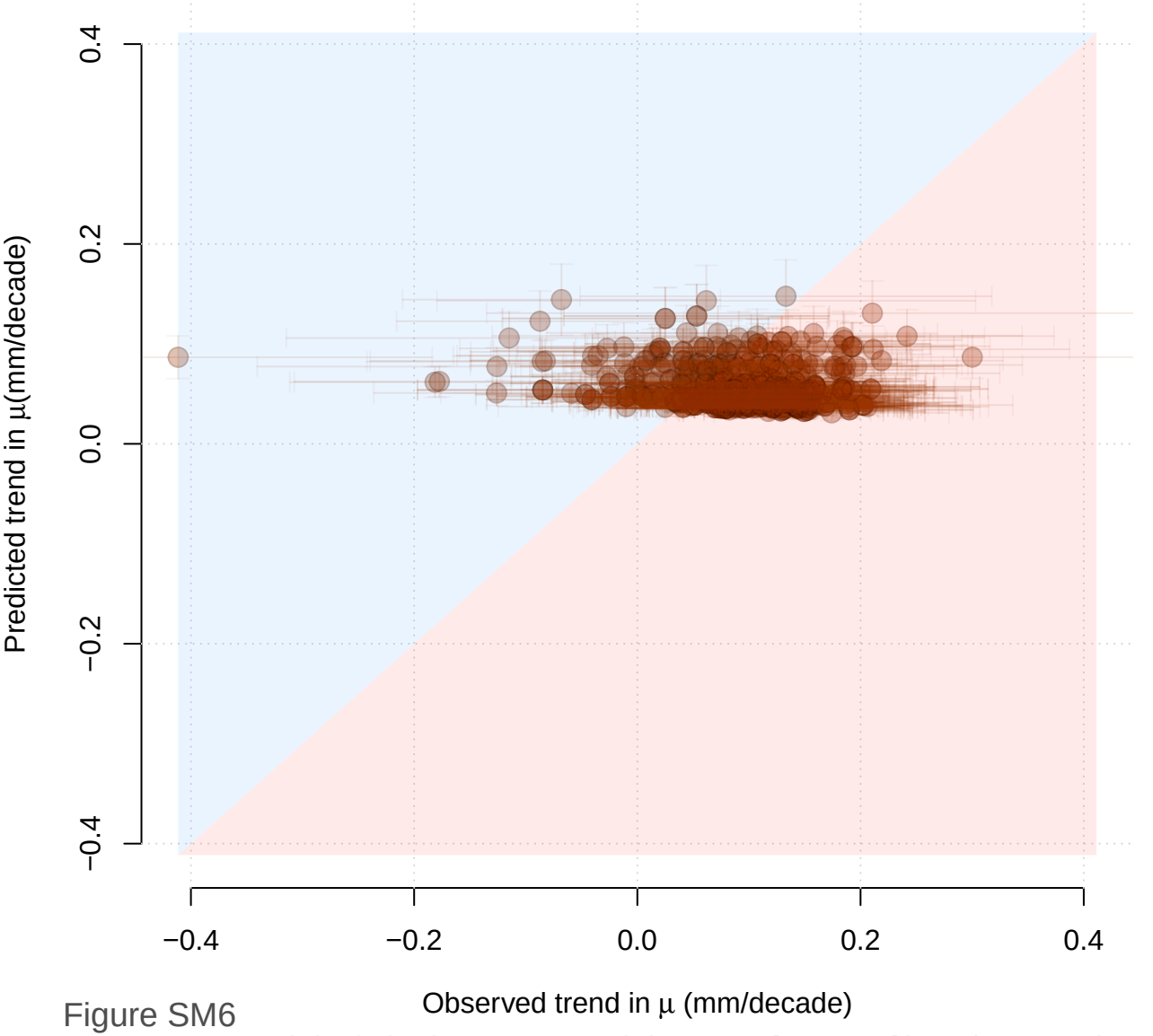


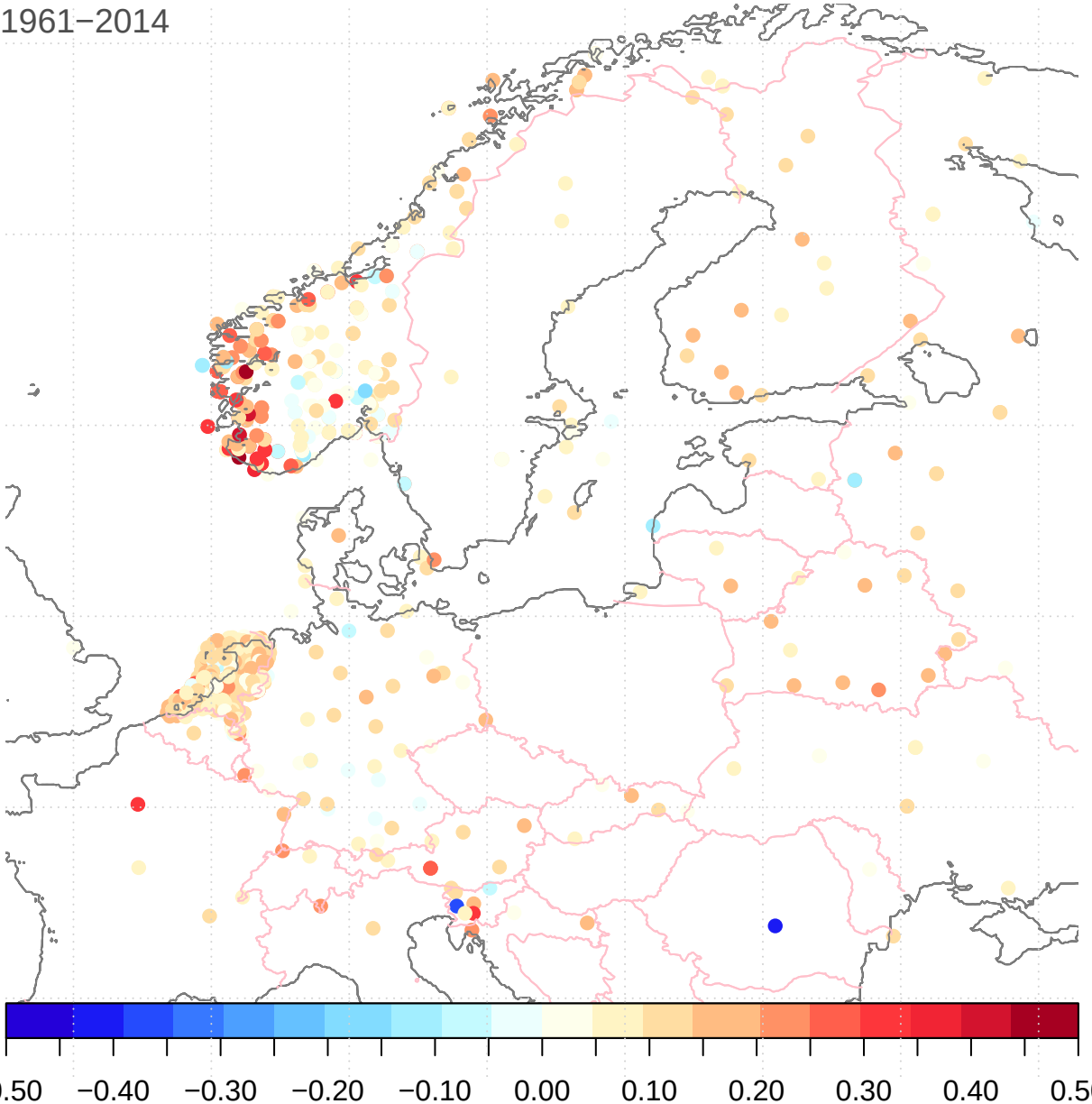
Figure SM6

Mean correlation for local year−to−year variations over t=[1961,2014] is 0.2 (−0.04, 0.41)

Trend in μ (mm/day per decade)

1961−2014

Figure SM7



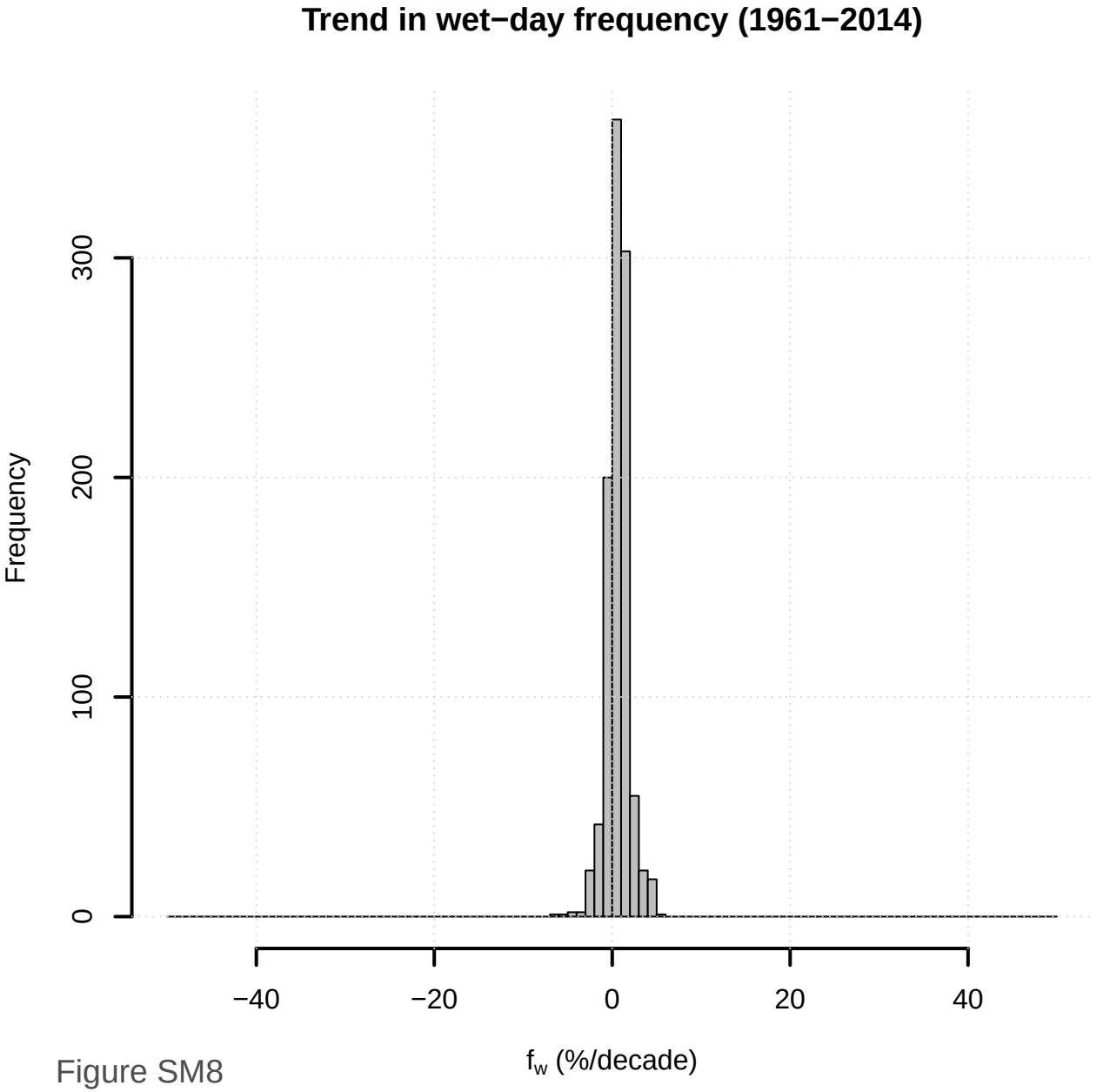
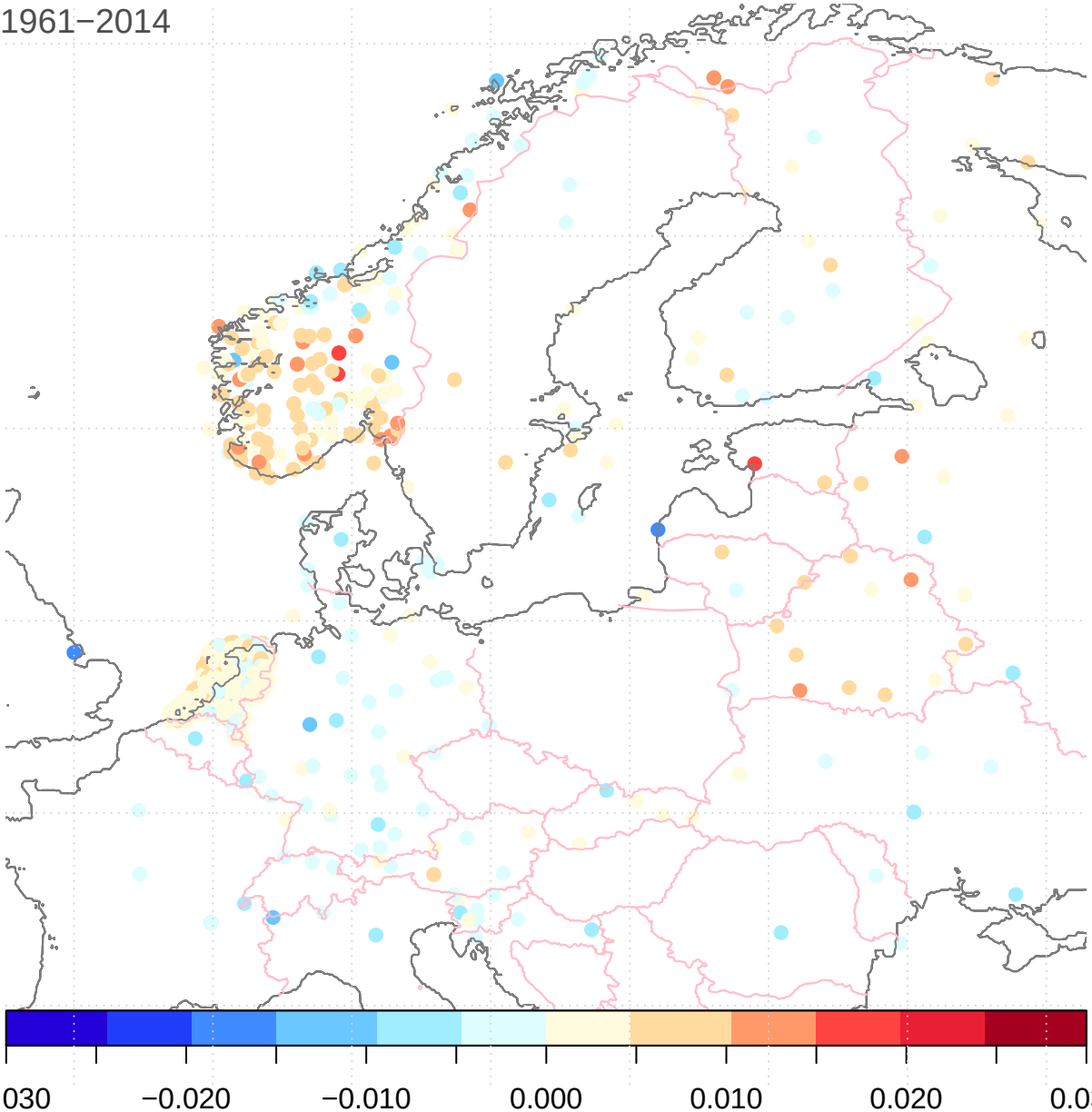

Trend in wet−day frequency (1961−2014)
Frequency
0
100
200
300
−40
−20
0
20
40
f_w (%/decade)

Figure SM8

Trend in f_w (fraction per decade)

1961−2014

Figure SM9



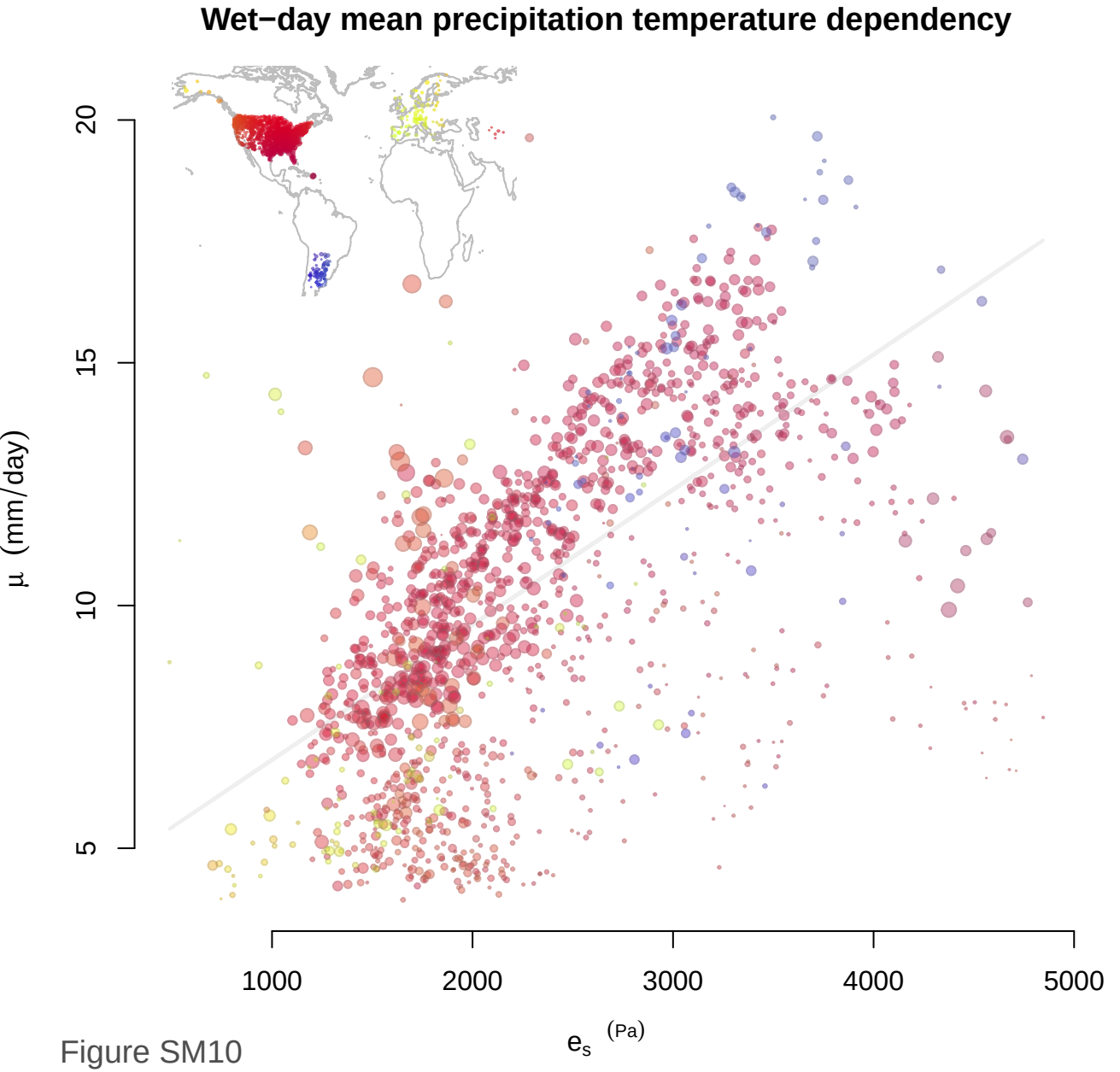

Wet−day mean precipitation temperature dependency
μ (mm/day)
5
10
15
20
1000
2000
3000
4000
5000
e_s (Pa)

Figure SM10

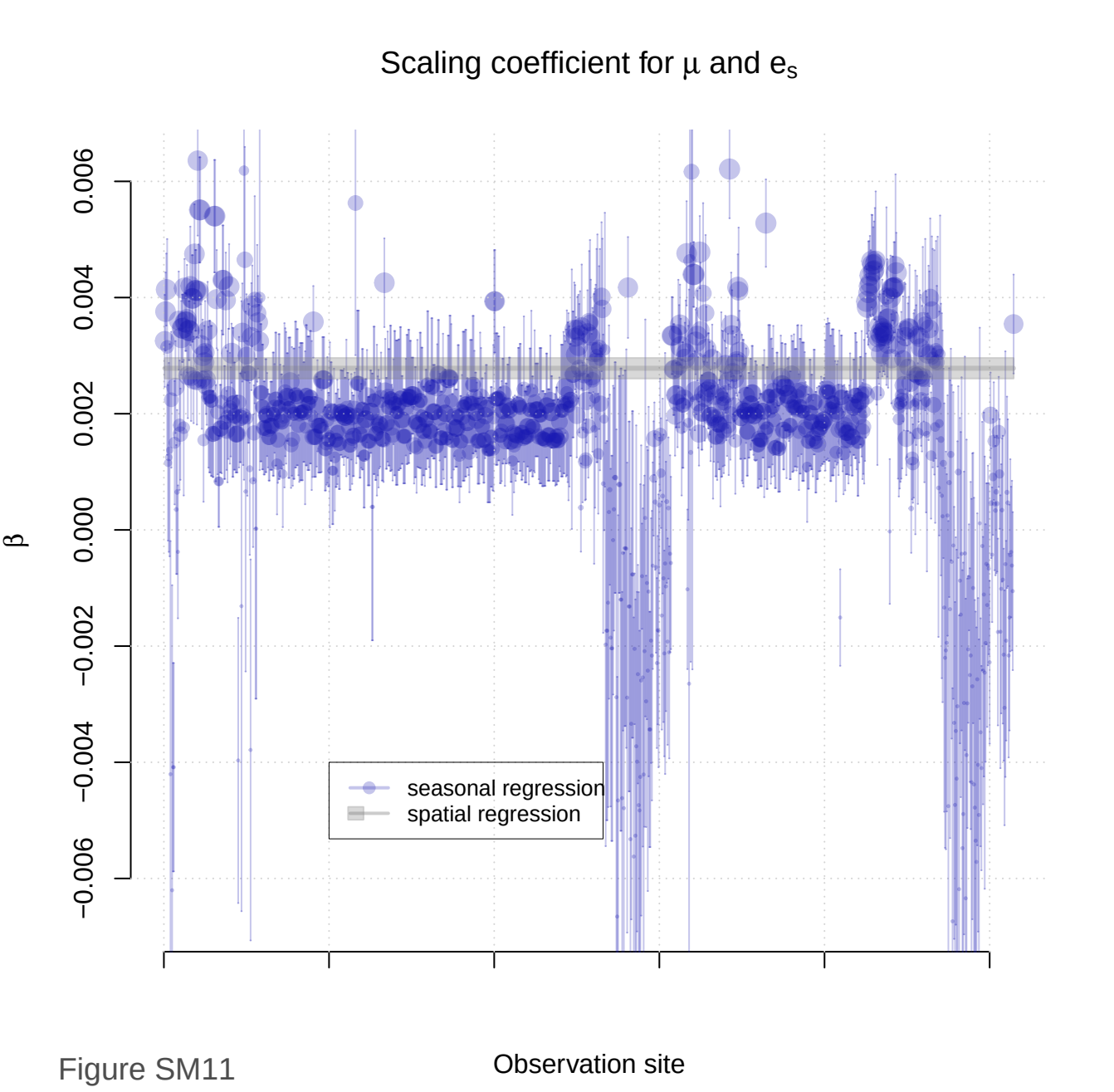

Scaling coefficient for μ and e_s
β
0.006
0.004
0.002
0.000
−0.002
−0.004
−0.006
seasonal regression
spatial regression
Observation site

Figure SM11