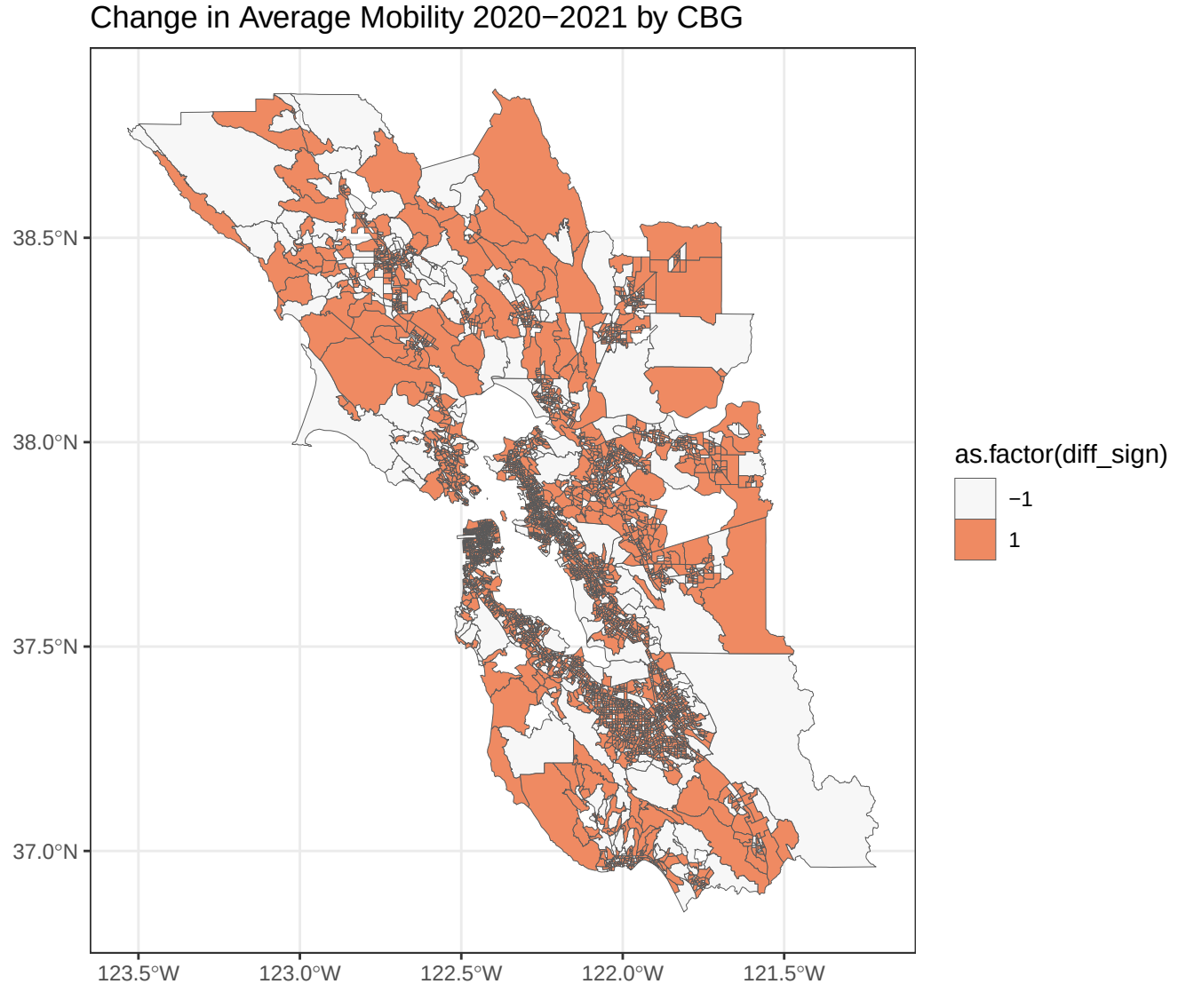
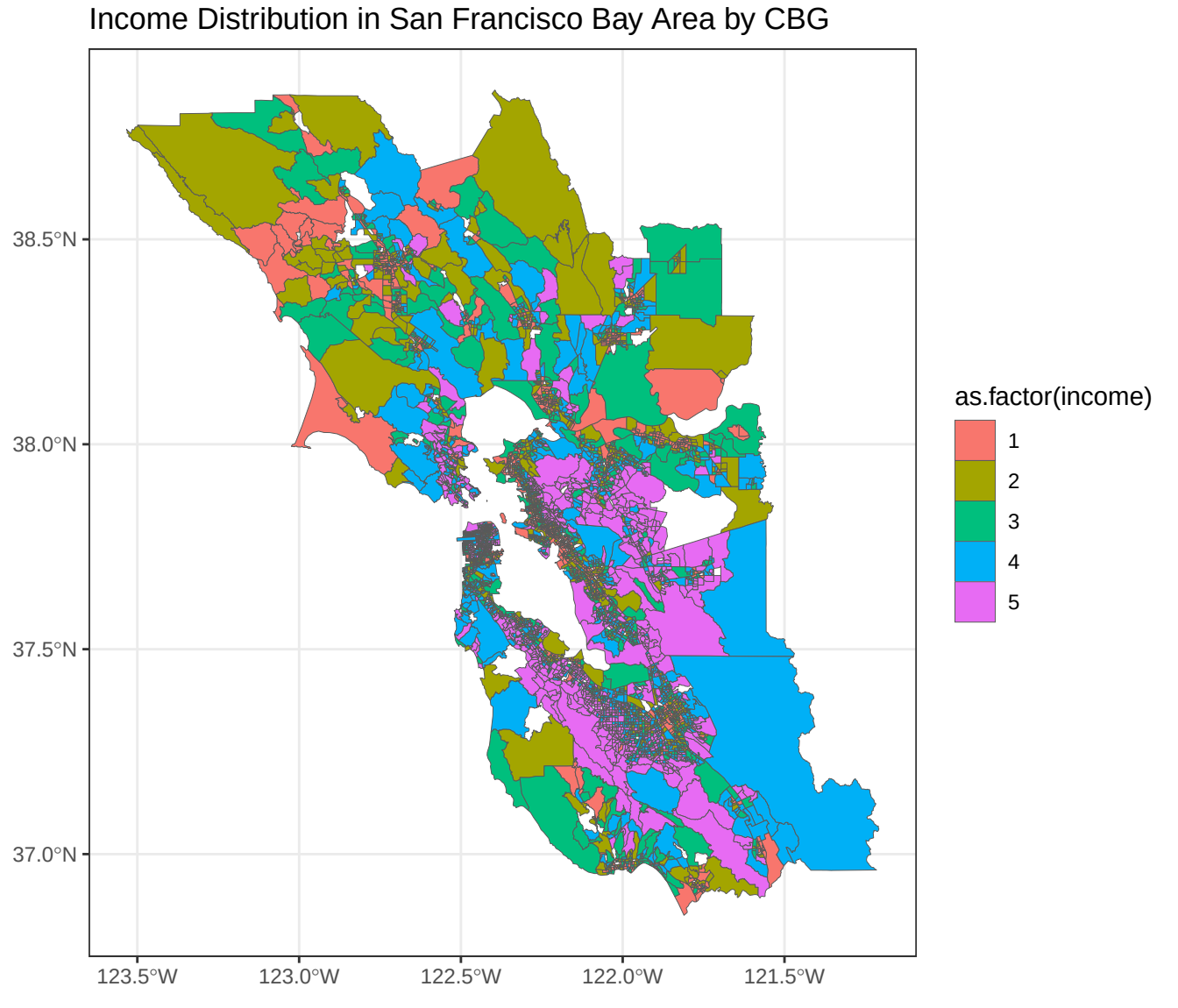
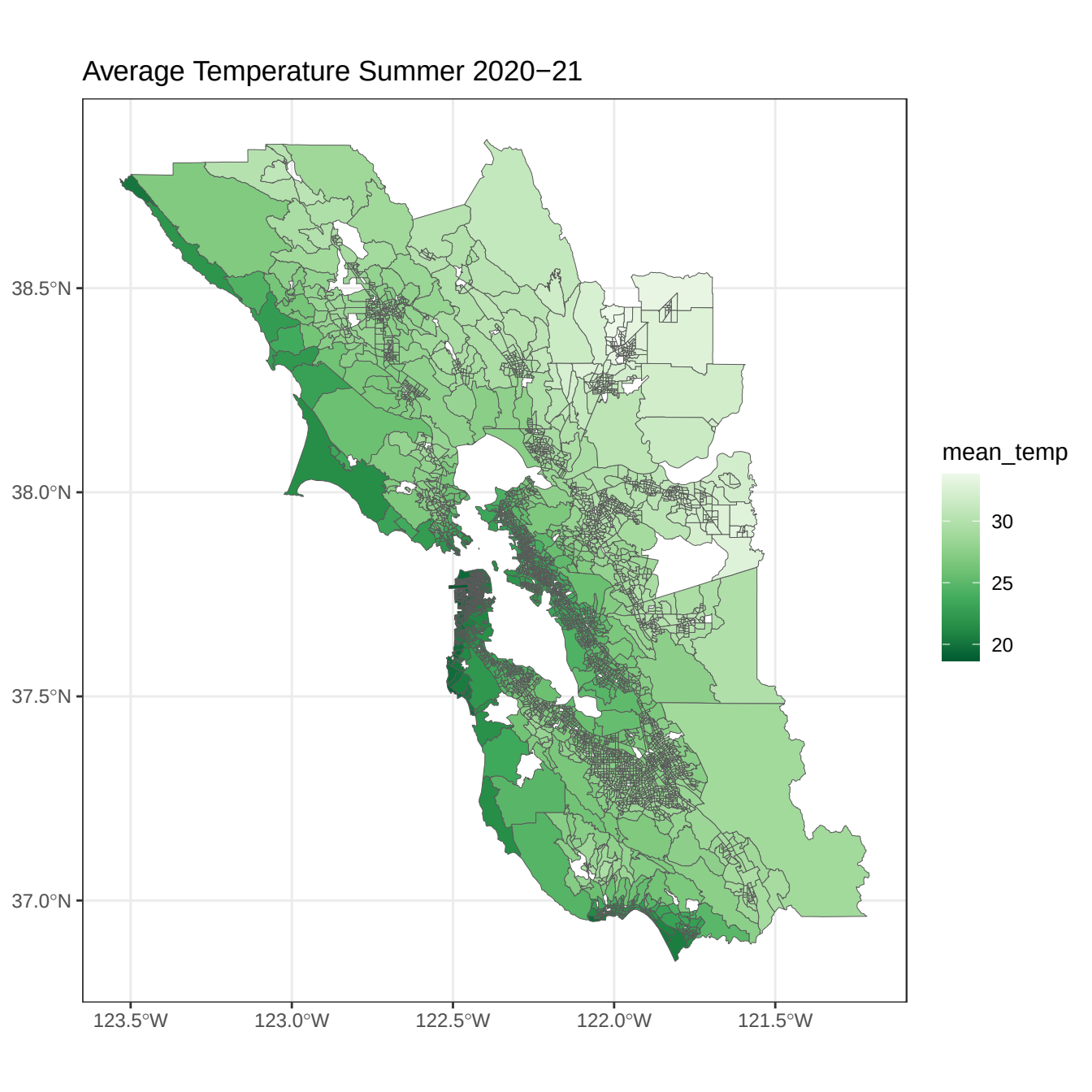
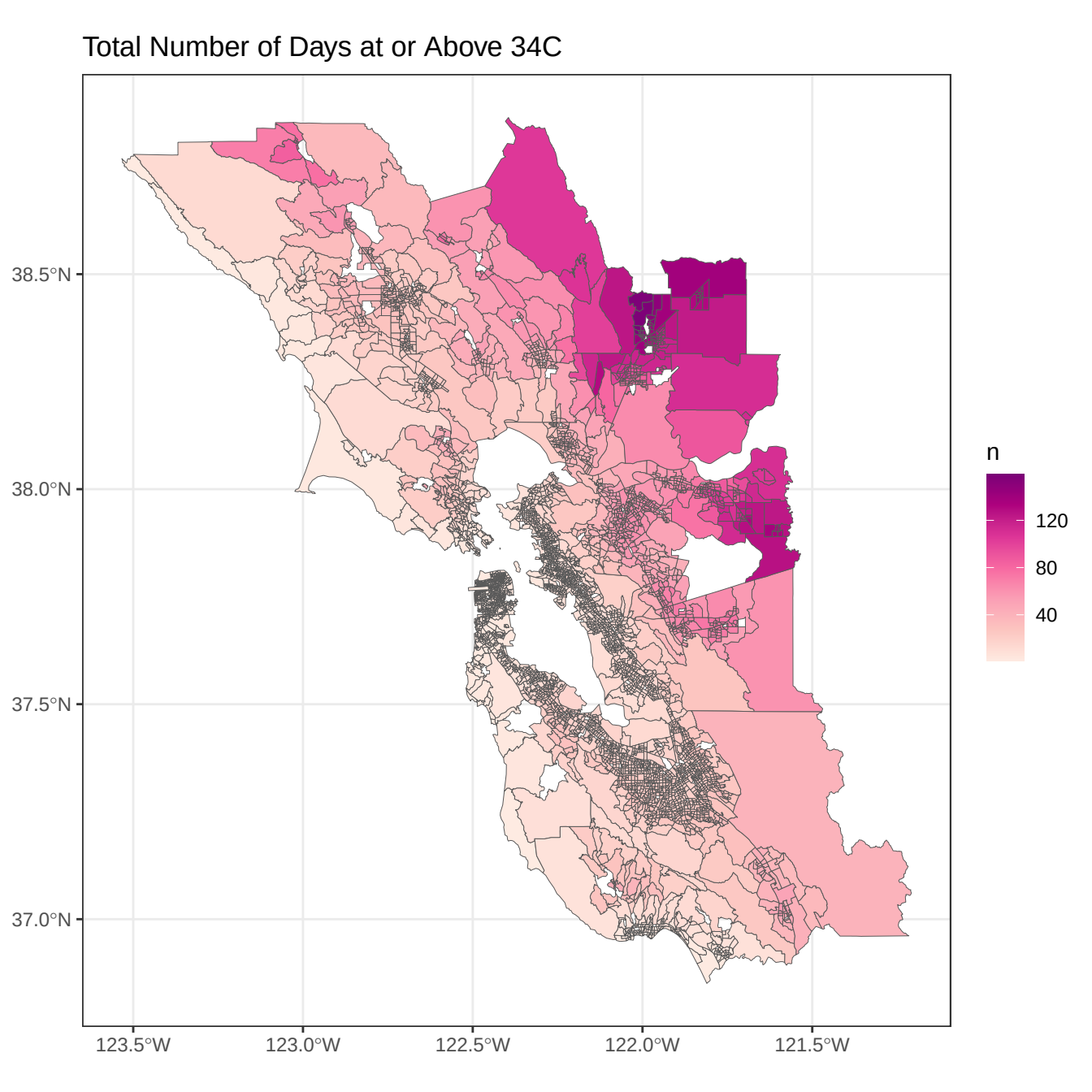
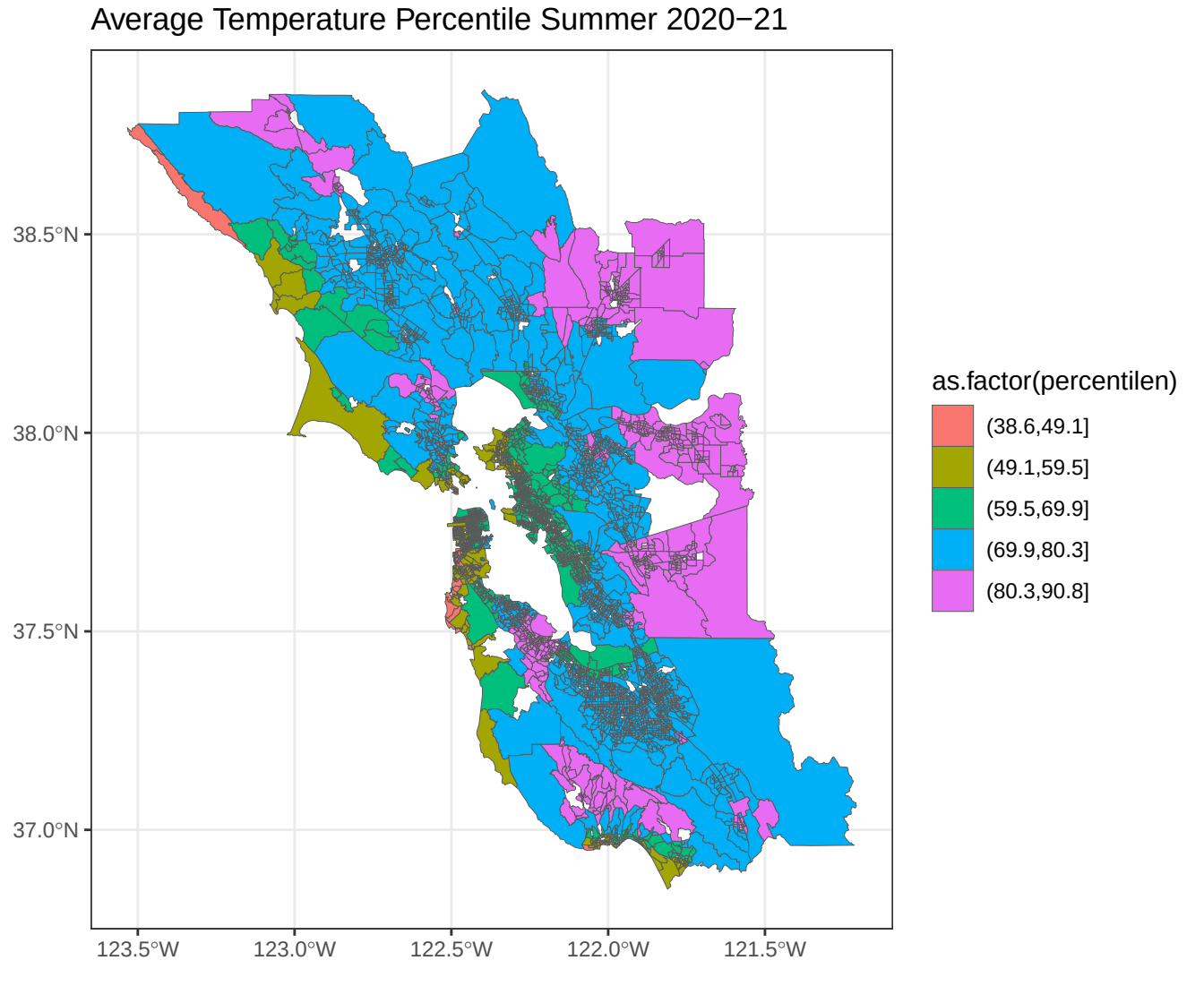
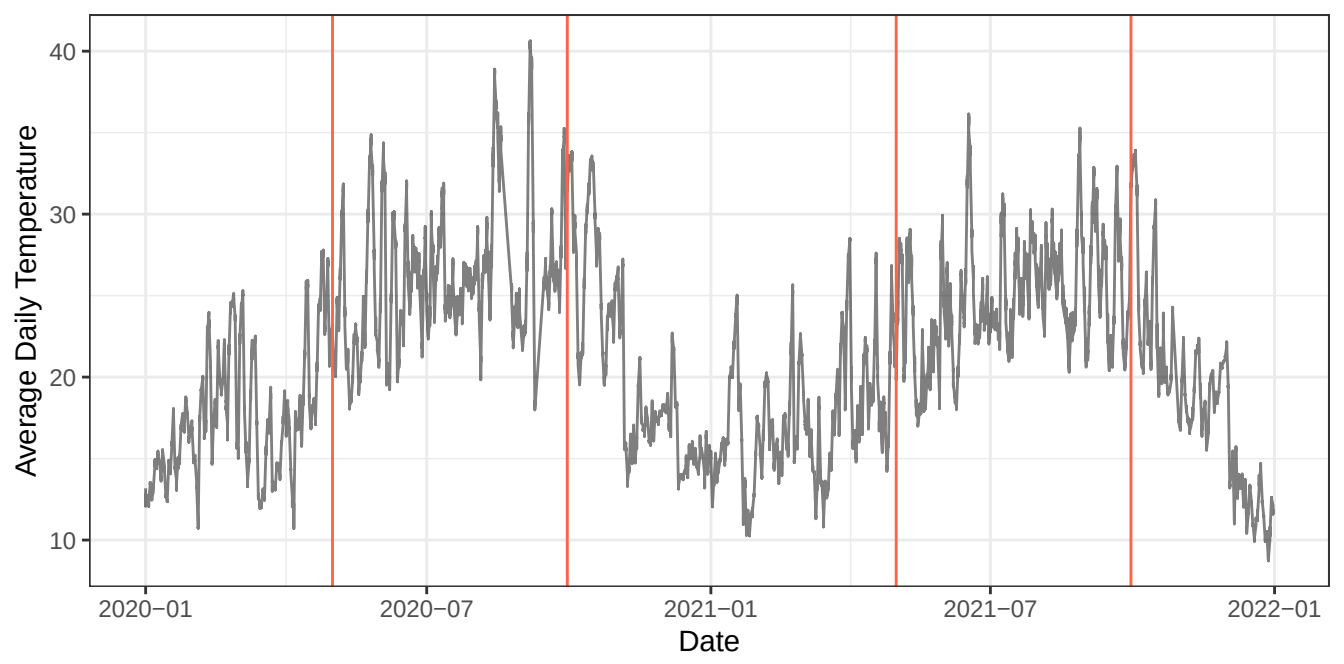

Change in Average Mobility 2020−2021 by CBG
38.5°N
38.0°N
37.5°N
37.0°N
123.5°W
123.0°W
122.5°W
122.0°W
121.5°W
as.factor(diff_sign)
−1
1

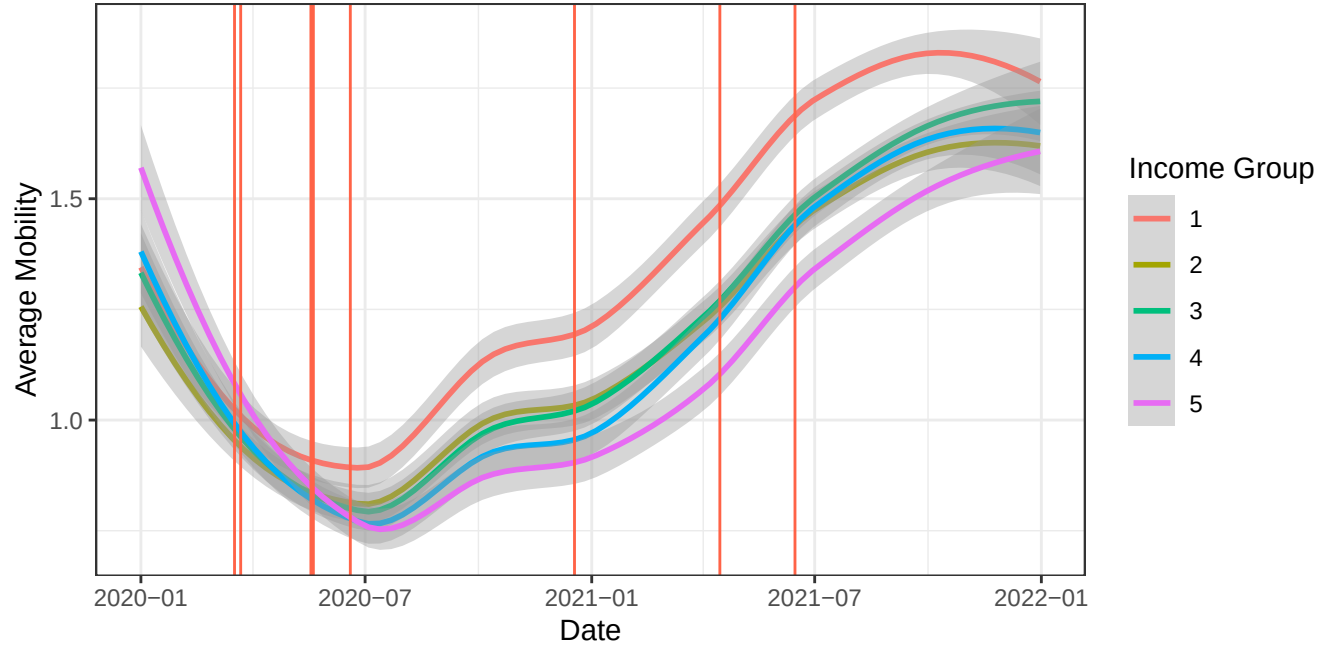

Income Distribution in San Francisco Bay Area by CBG
38.5°N
38.0°N
37.5°N
37.0°N
123.5°W
123.0°W
122.5°W
122.0°W
121.5°W
as.factor(income)
1
2
3
4
5

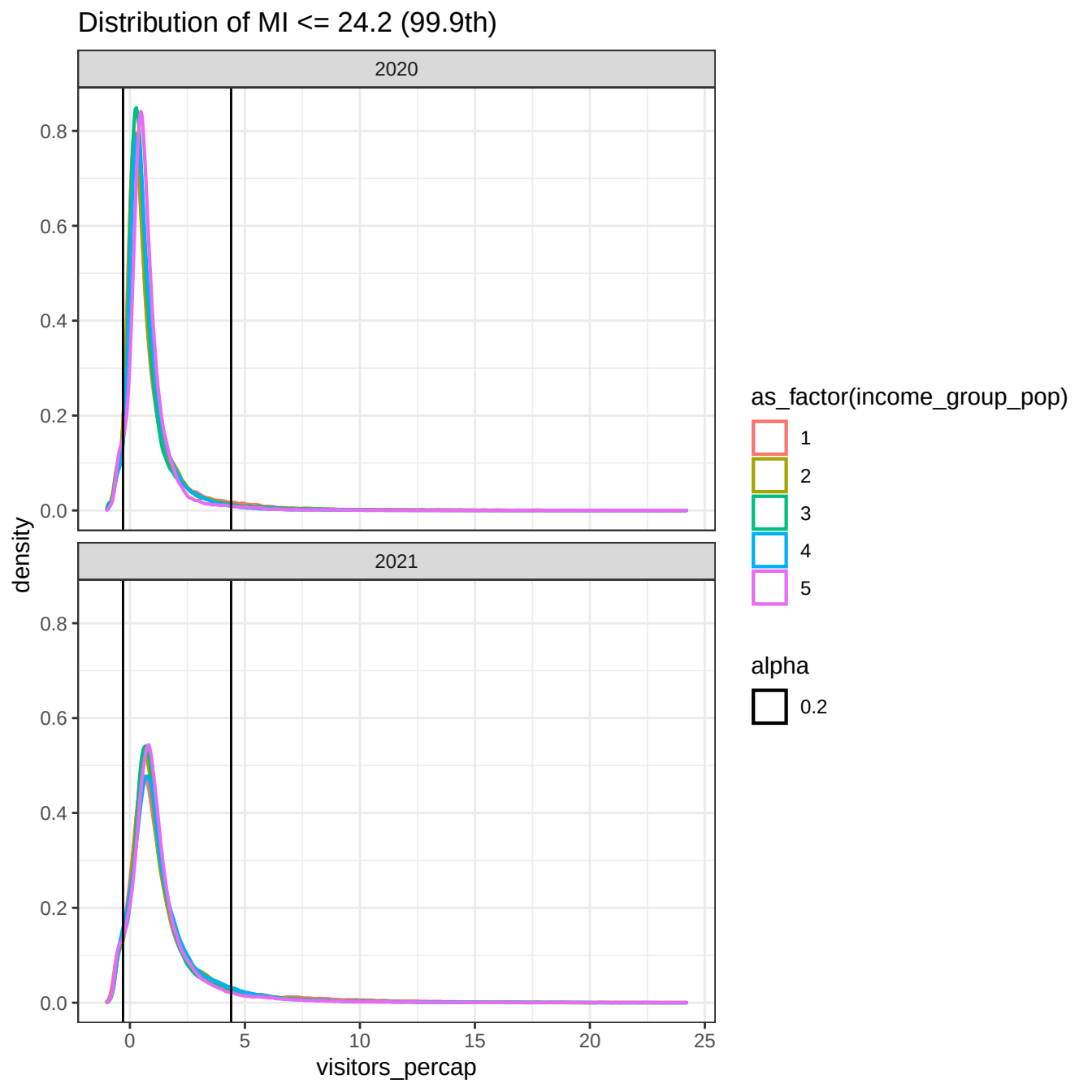

Average Temperature Summer 2020−21
38.5°N
38.0°N
37.5°N
37.0°N
123.5°W
123.0°W
122.5°W
122.0°W
121.5°W
mean_temp
30
25
20

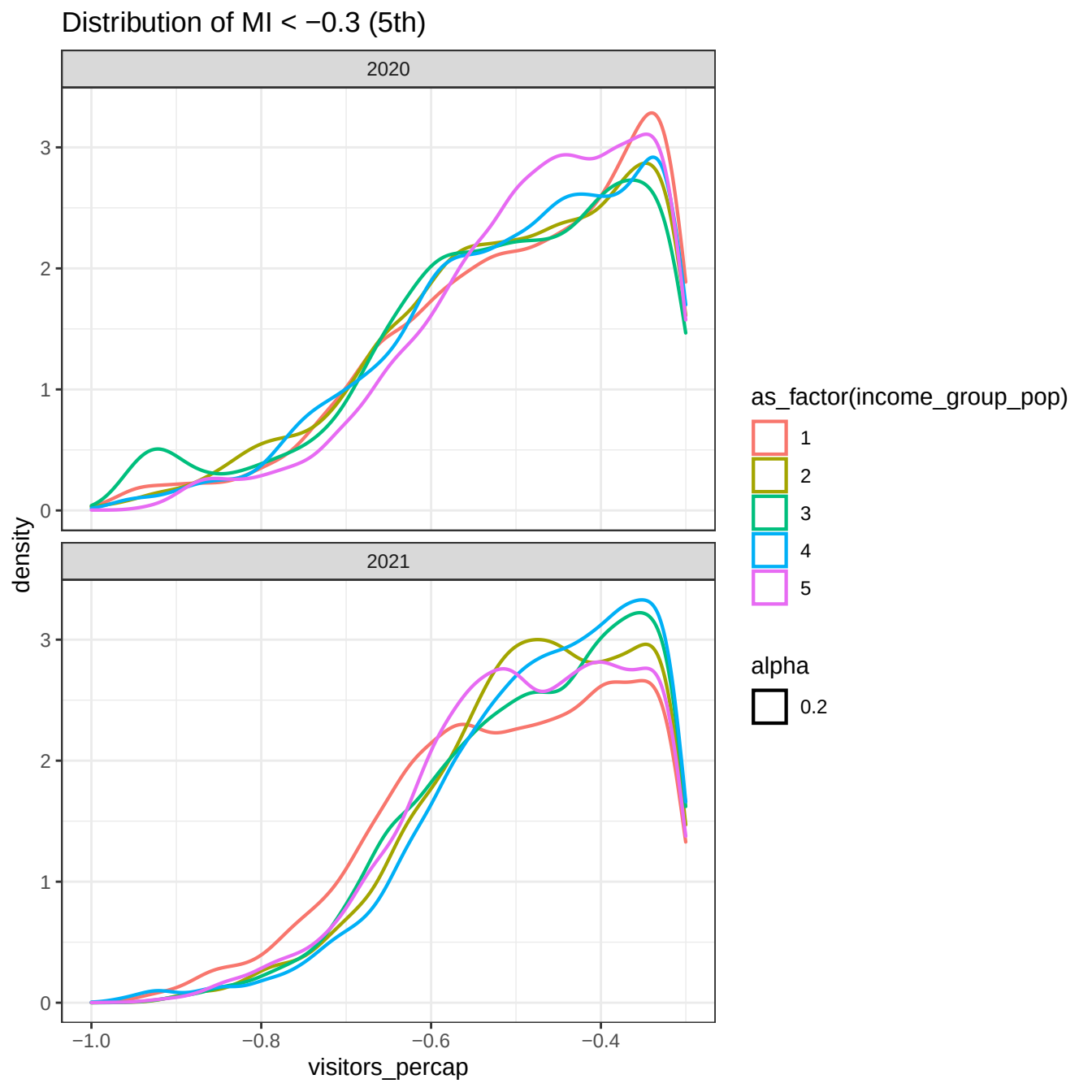

Total Number of Days at or Above 34C
38.5°N
38.0°N
37.5°N
37.0°N
123.5°W
123.0°W
122.5°W
122.0°W
121.5°W
n
120
80
40

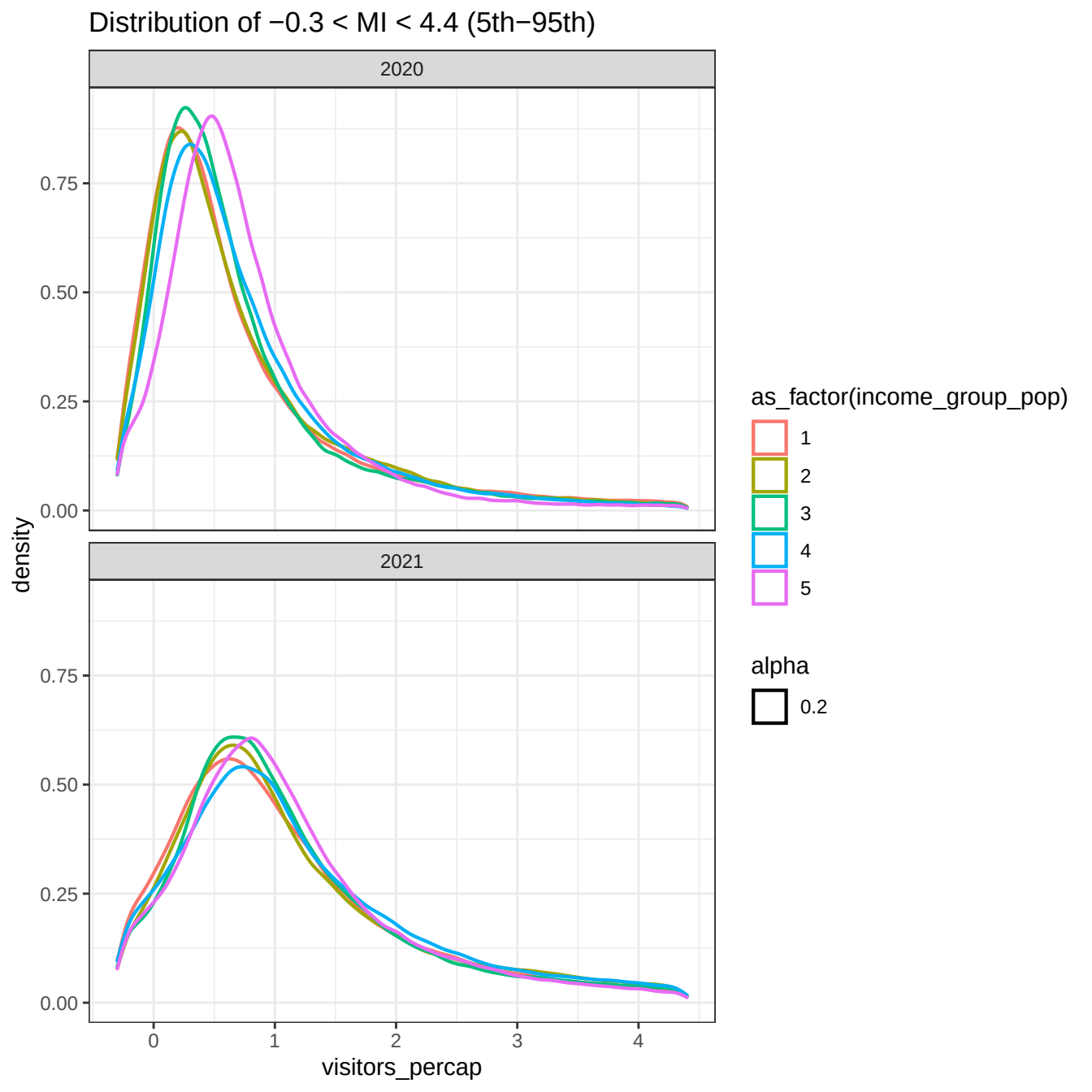

Average Temperature Percentile Summer 2020−21
38.5°N
38.0°N
37.5°N
37.0°N
123.5°W
123.0°W
122.5°W
122.0°W
121.5°W
as.factor(percentilen)
(38.6,49.1]
(49.1,59.5]
(59.5,69.9]
(69.9,80.3]
(80.3,90.8]

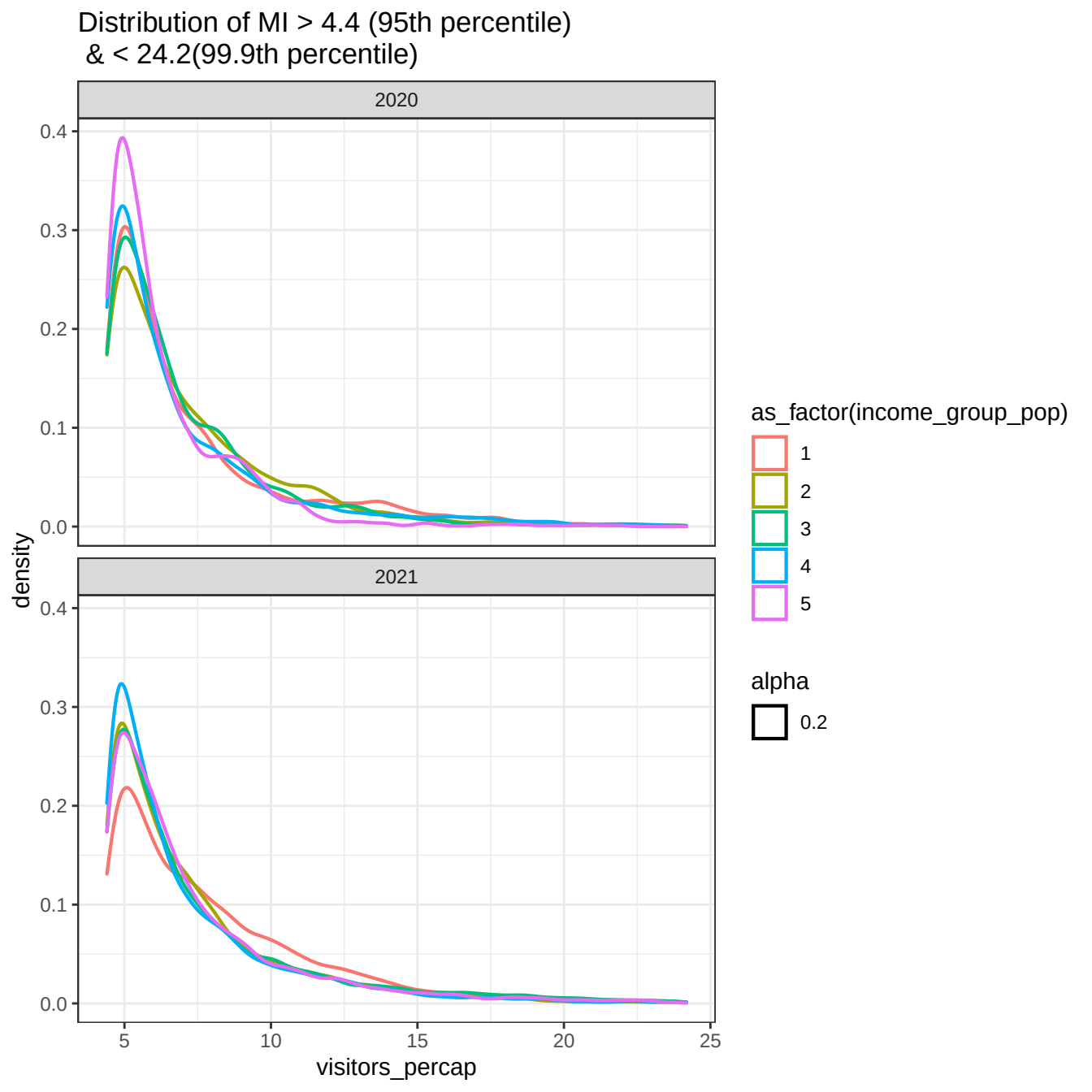

Average Daily Temperature
40
30
20
10
2020−01
2020−07
2021−01
2021−07
2022−01
Date


Average Mobility
1.5
1.0
2020−01
2020−07
2021−01
2021−07
2022−01
Date
Income Group
1
2
3
4
5


Distribution of MI <= 24.2 (99.9th)
2020
2021
density
0.0
0.2
0.4
0.6
0.8
0
5
10
15
20
25
visitors_percap
as_factor(income_group_pop)
1
2
3
4
5
alpha
0.2

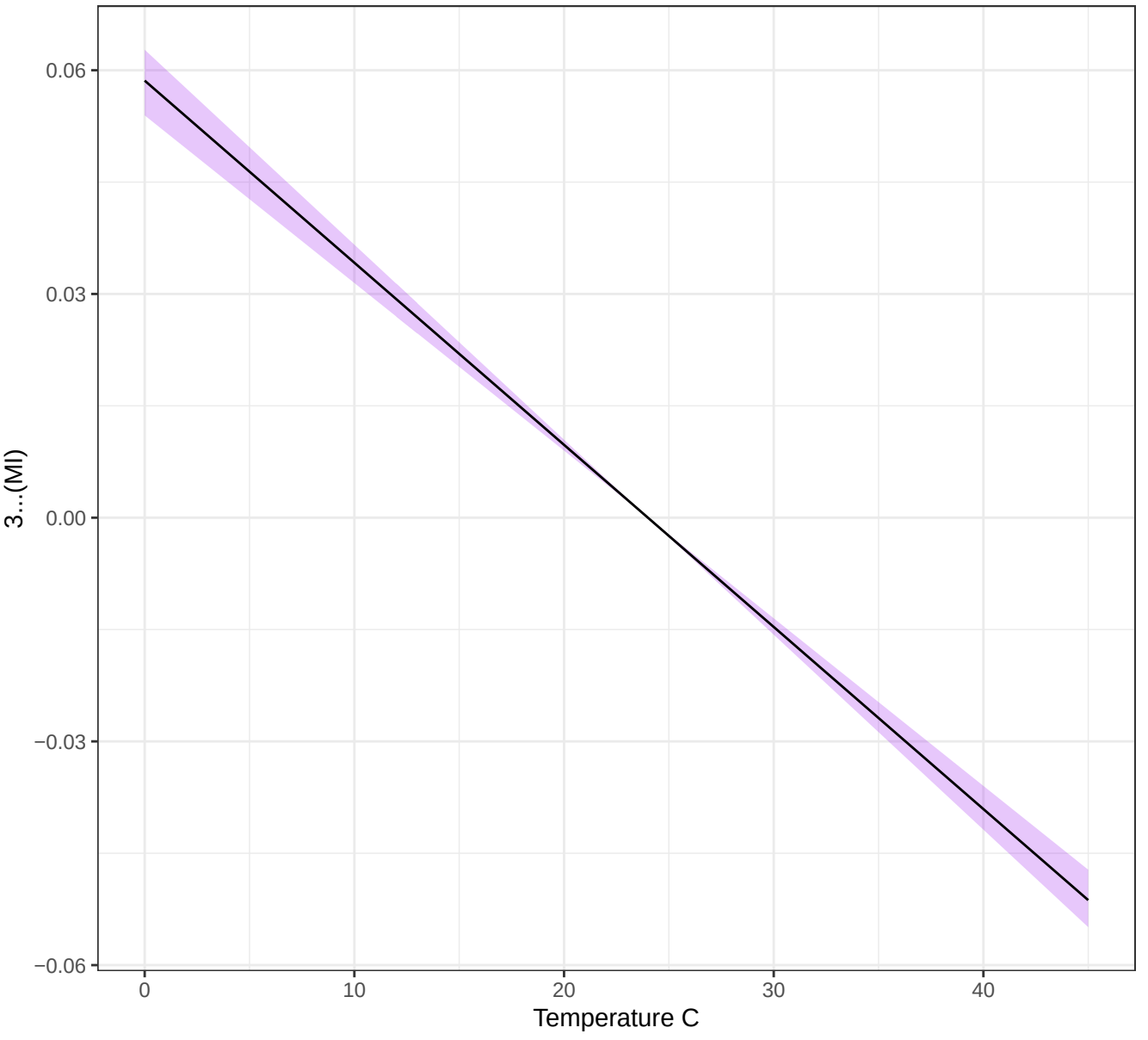

Distribution of MI < −0.3 (5th)
2020
2021
density
visitors_percap
−1.0
−0.8
−0.6
−0.4
0
1
2
3
as_factor(income_group_pop)
1
2
3
4
5
alpha
0.2

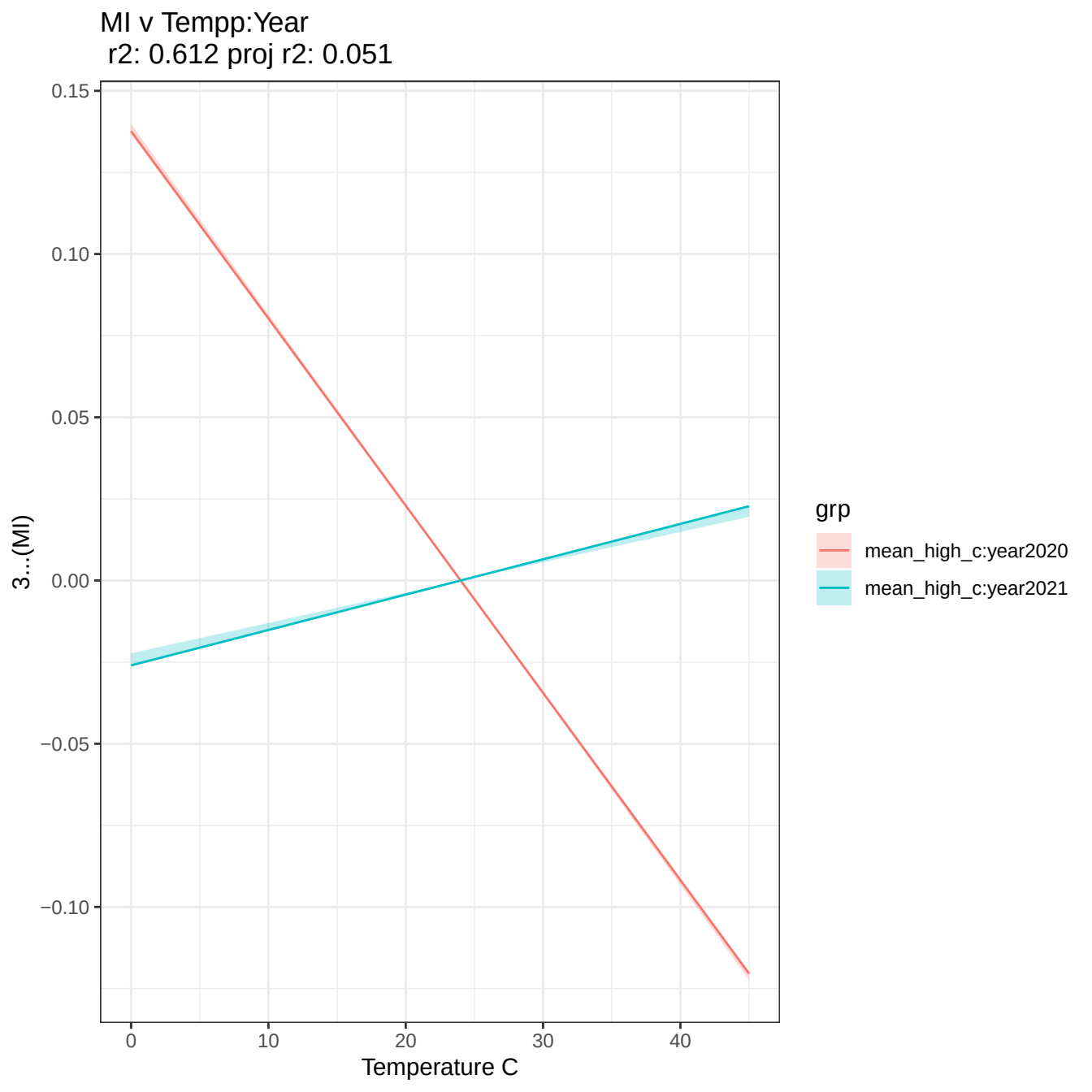

Distribution of −0.3 < MI < 4.4 (5th−95th)
2020
2021
density
0.00
0.25
0.50
0.75
0
1
2
3
4
visitors_percap
as_factor(income_group_pop)
1
2
3
4
5
alpha
0.2

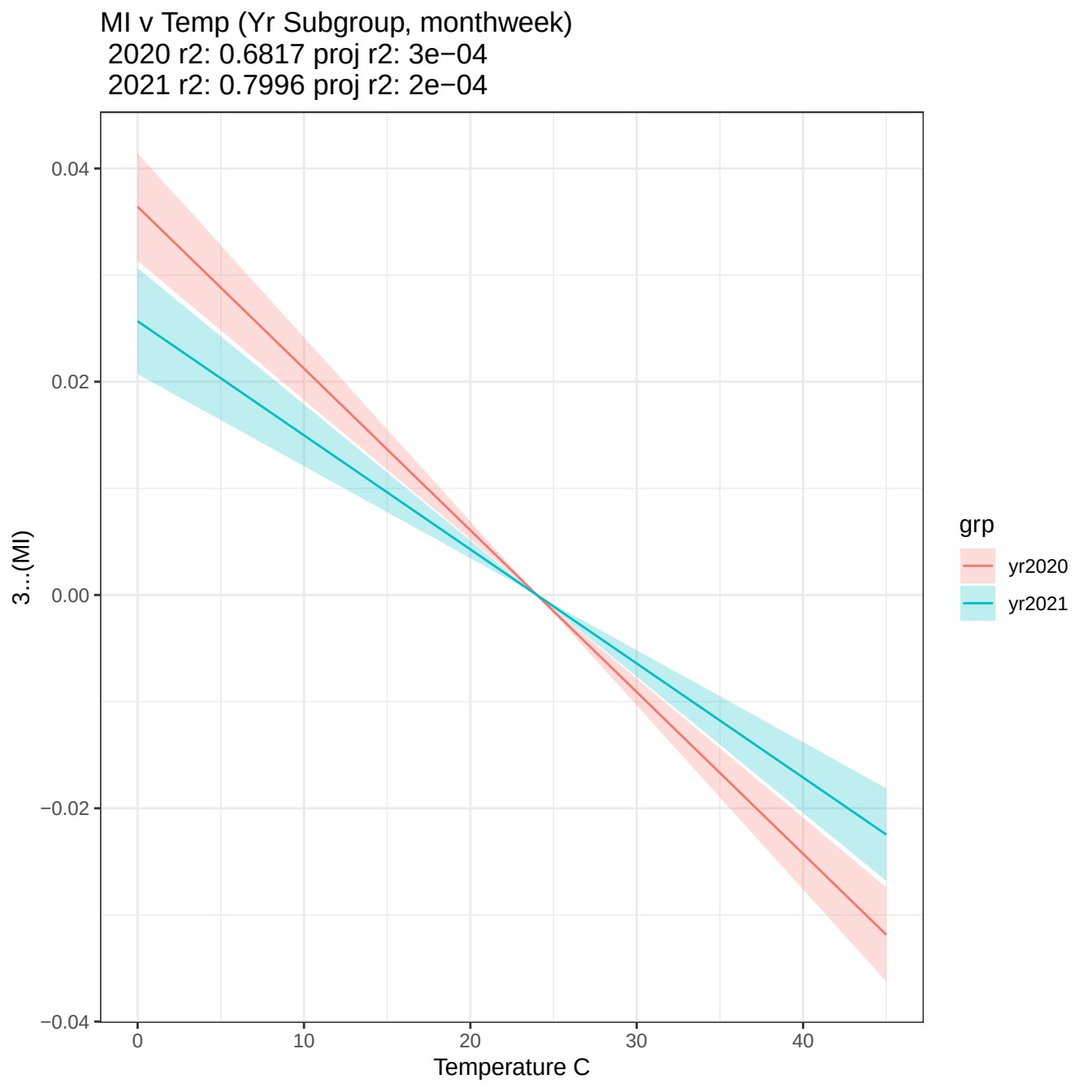

Distribution of MI > 4.4 (95th percentile)
& < 24.2(99.9th percentile)
2020
2021
density
0.0
0.1
0.2
0.3
0.4
5
10
15
20
25
visitors_percap
as_factor(income_group_pop)
1
2
3
4
5
alpha
0.2

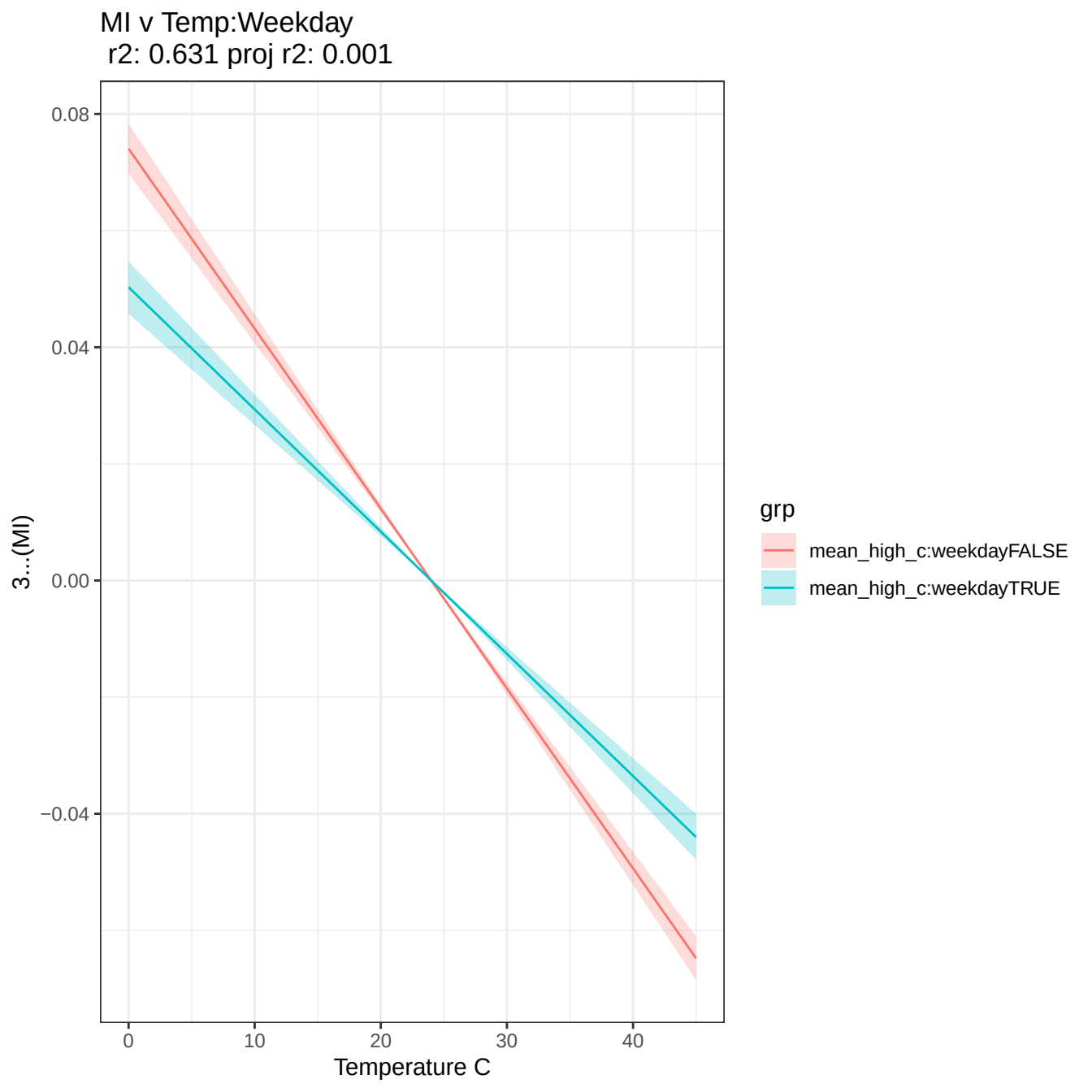
MI v Temp

r2: 0.6309 proj r2: 5e−04

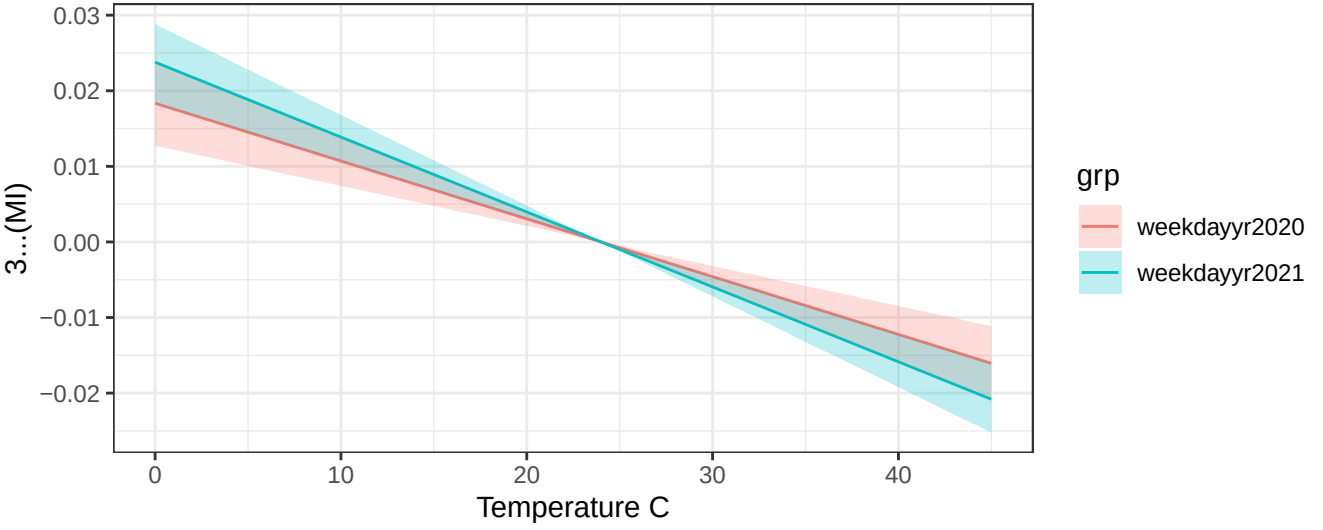



MI v Tempp:Year
r2: 0.612 proj r2: 0.051
0.15
0.10
0.05
0.00
−0.05
−0.10
3...(MI)
0
10
20
30
40
Temperature C
grp
mean_high_c:year2020
mean_high_c:year2021

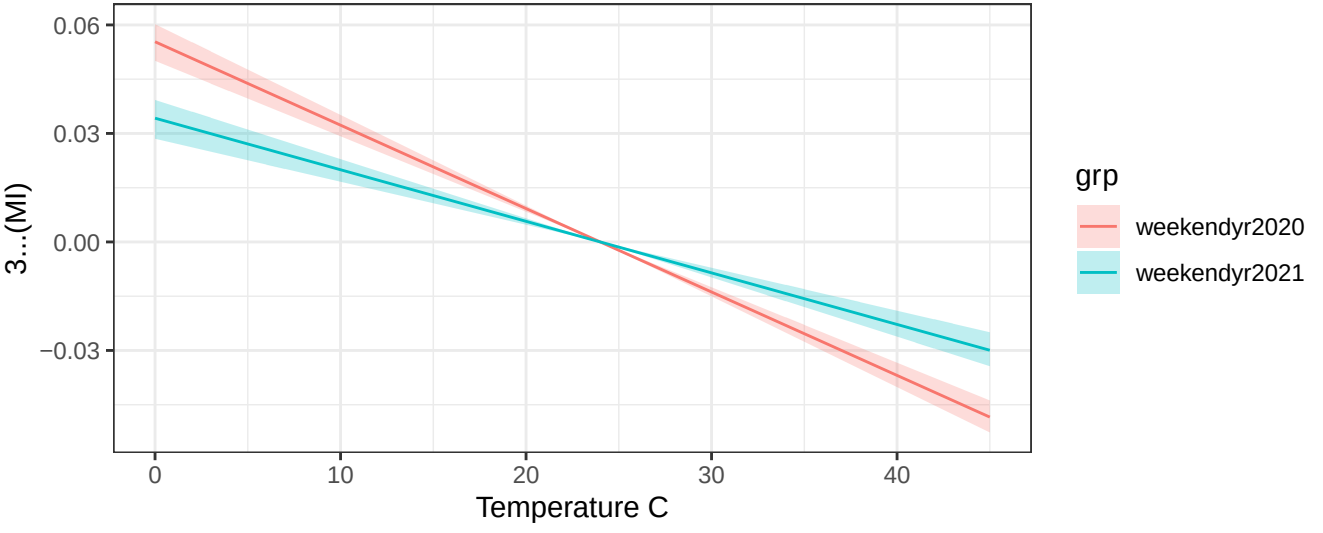

MI v Temp (Yr Subgroup, monthweek)
2020 r2: 0.6817 proj r2: 3e−04
2021 r2: 0.7996 proj r2: 2e−04
0.04
0.02
0.00
−0.02
−0.04
3...(MI)
0
10
20
30
40
Temperature C
grp
yr2020
yr2021

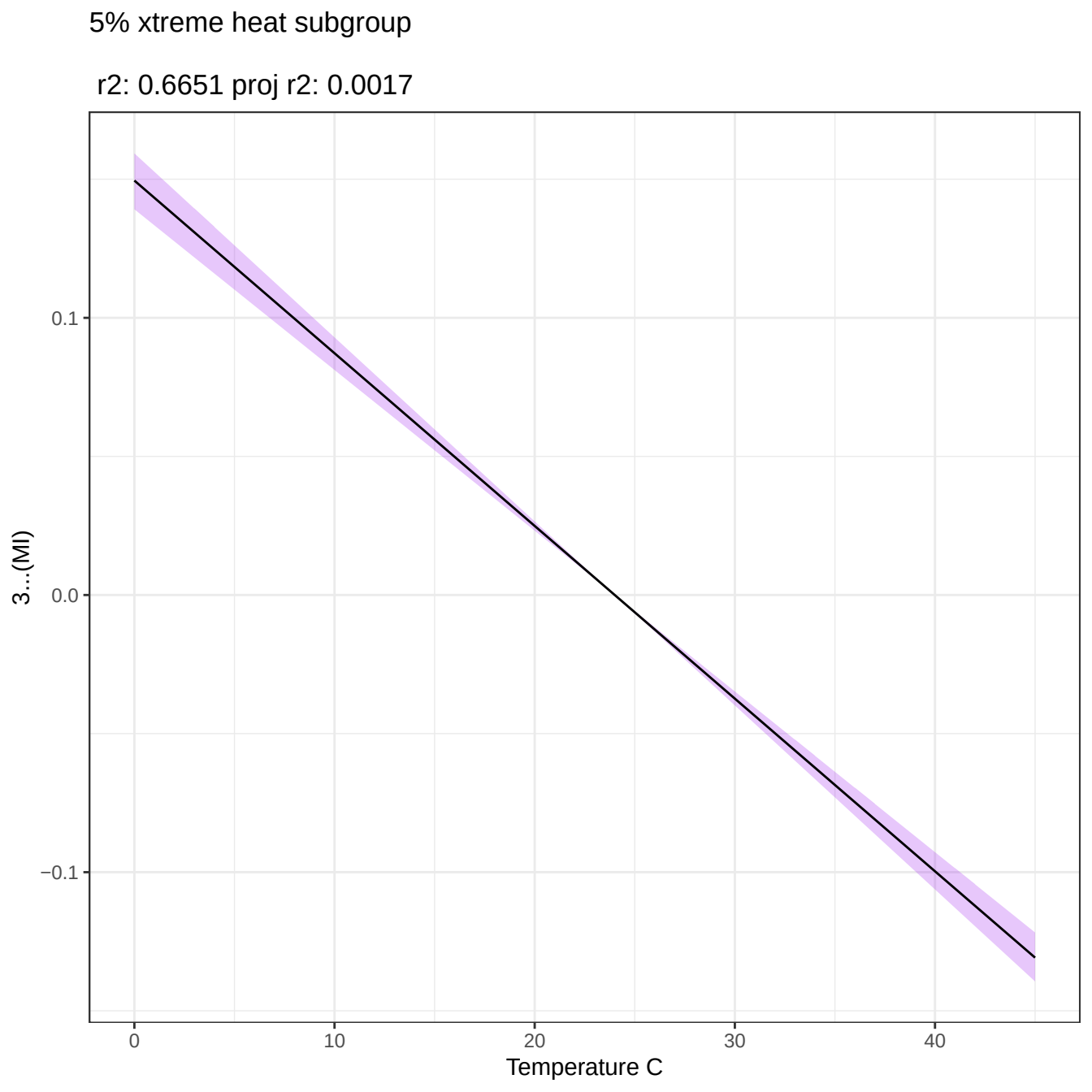

MI v Temp:Weekday
r2: 0.631 proj r2: 0.001
0.08
0.04
0.00
−0.04
3...(MI)
0
10
20
30
40
Temperature C
grp
mean_high_c:weekdayFALSE
mean_high_c:weekdayTRUE

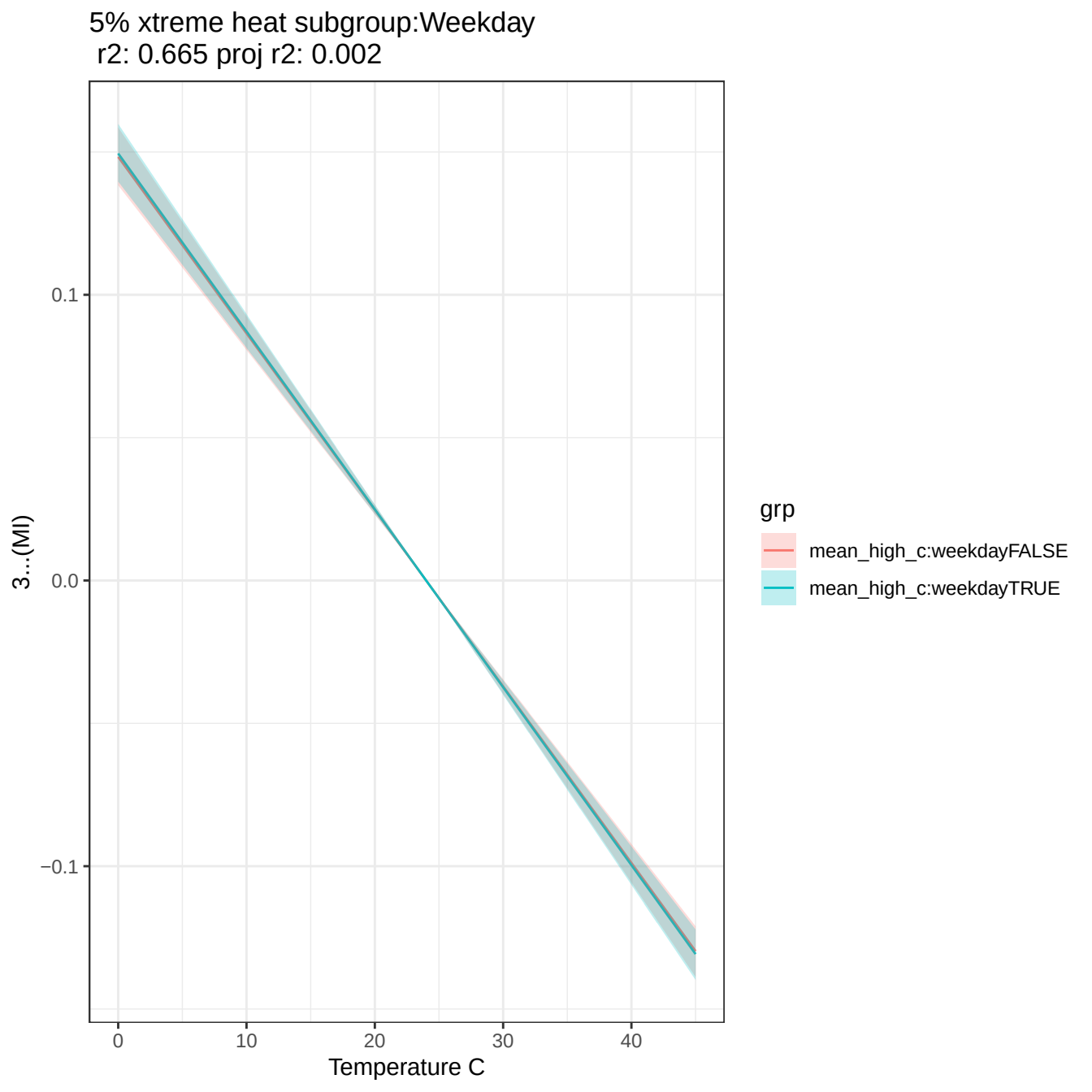
MI v Temp:Weeend+Year (monthweek)
2020 r2: 0.6827 proj r2: 0.0034
2021 r2: 0.7997 proj r2: 5e−04




MI v Temp:Weekday+Year (monthweek)
2020 r2: 0.6827 proj r2: 0.0034
2021 r2: 0.7997 proj r2: 5e−04

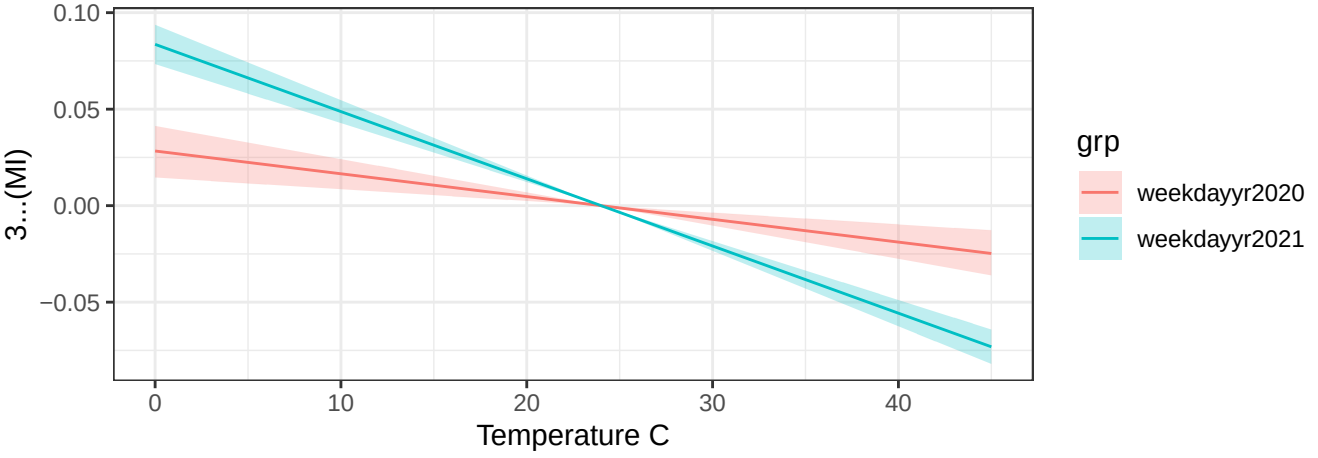



5% xtreme heat subgroup
r2: 0.6651 proj r2: 0.0017
3...(MI)
0.1
0.0
−0.1
0
10
20
30
40
Temperature C

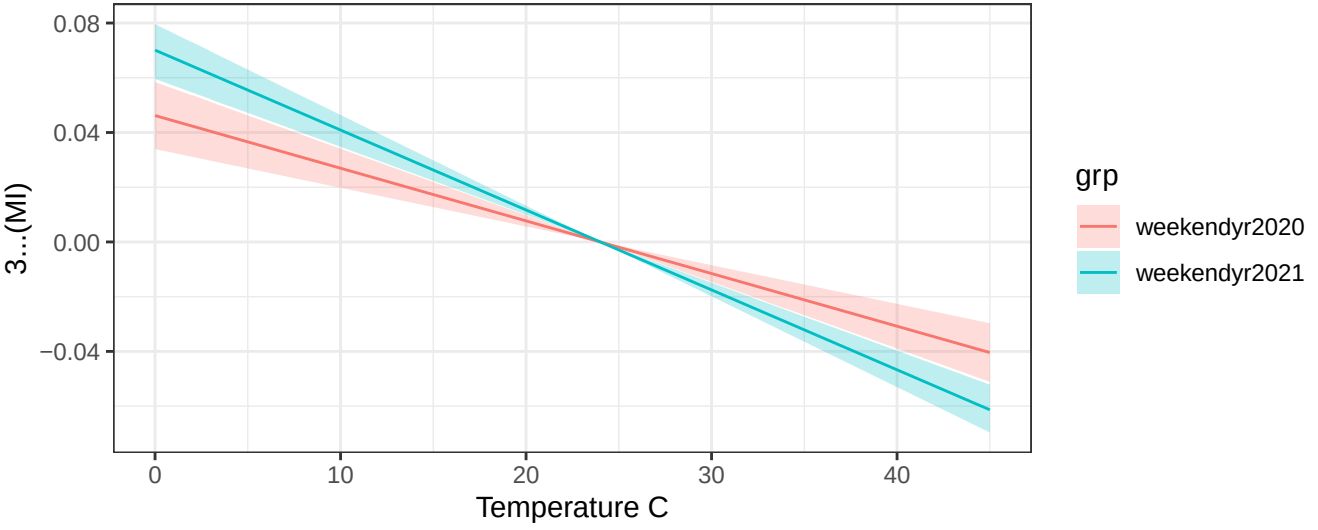

5% xtreme heat subgroup:Weekday
r2: 0.665 proj r2: 0.002
0.1
0.0
−0.1
3...(MI)
0
10
20
30
40
Temperature C
grp
mean_high_c:weekdayFALSE
mean_high_c:weekdayTRUE

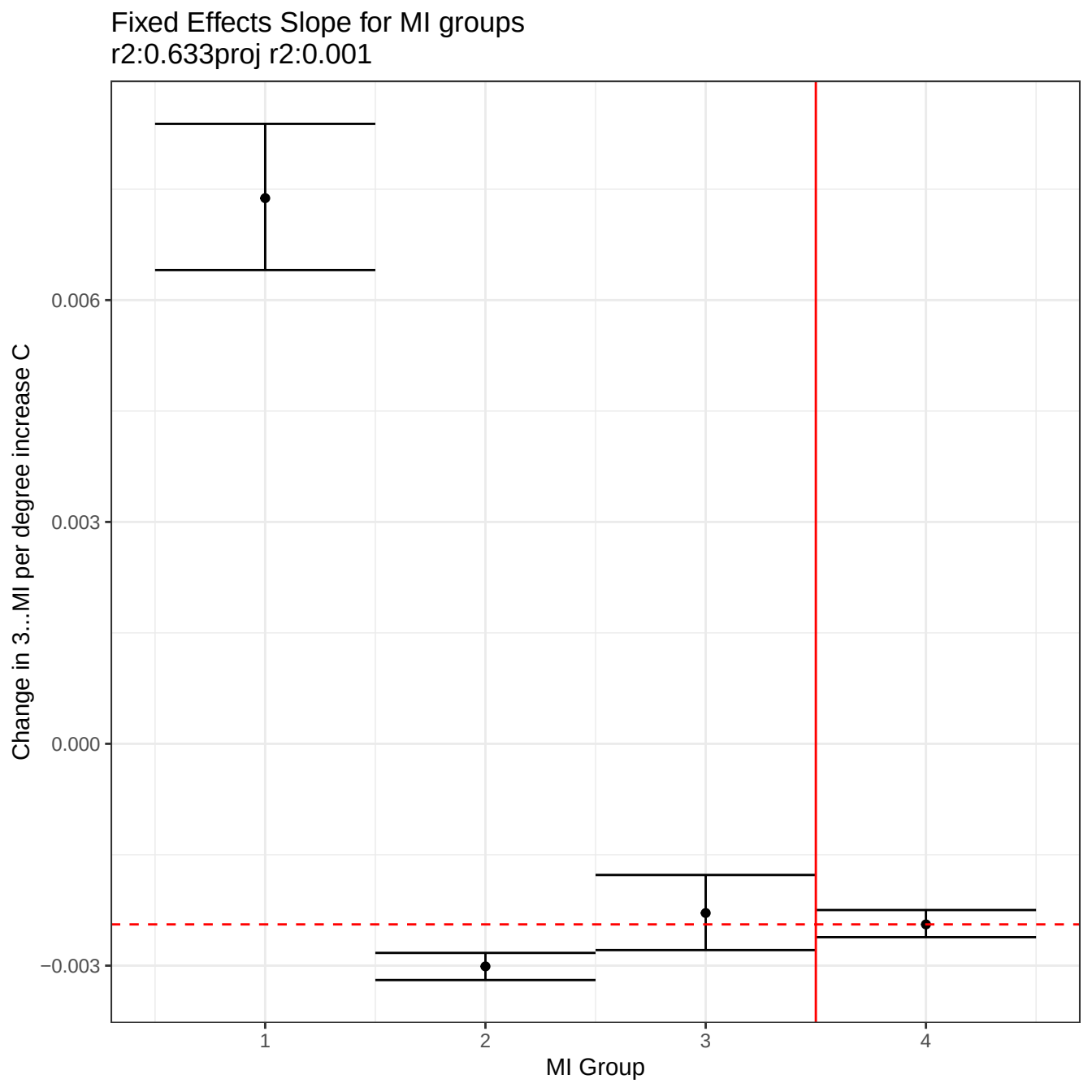
5% extreme heat:Weekend+Year

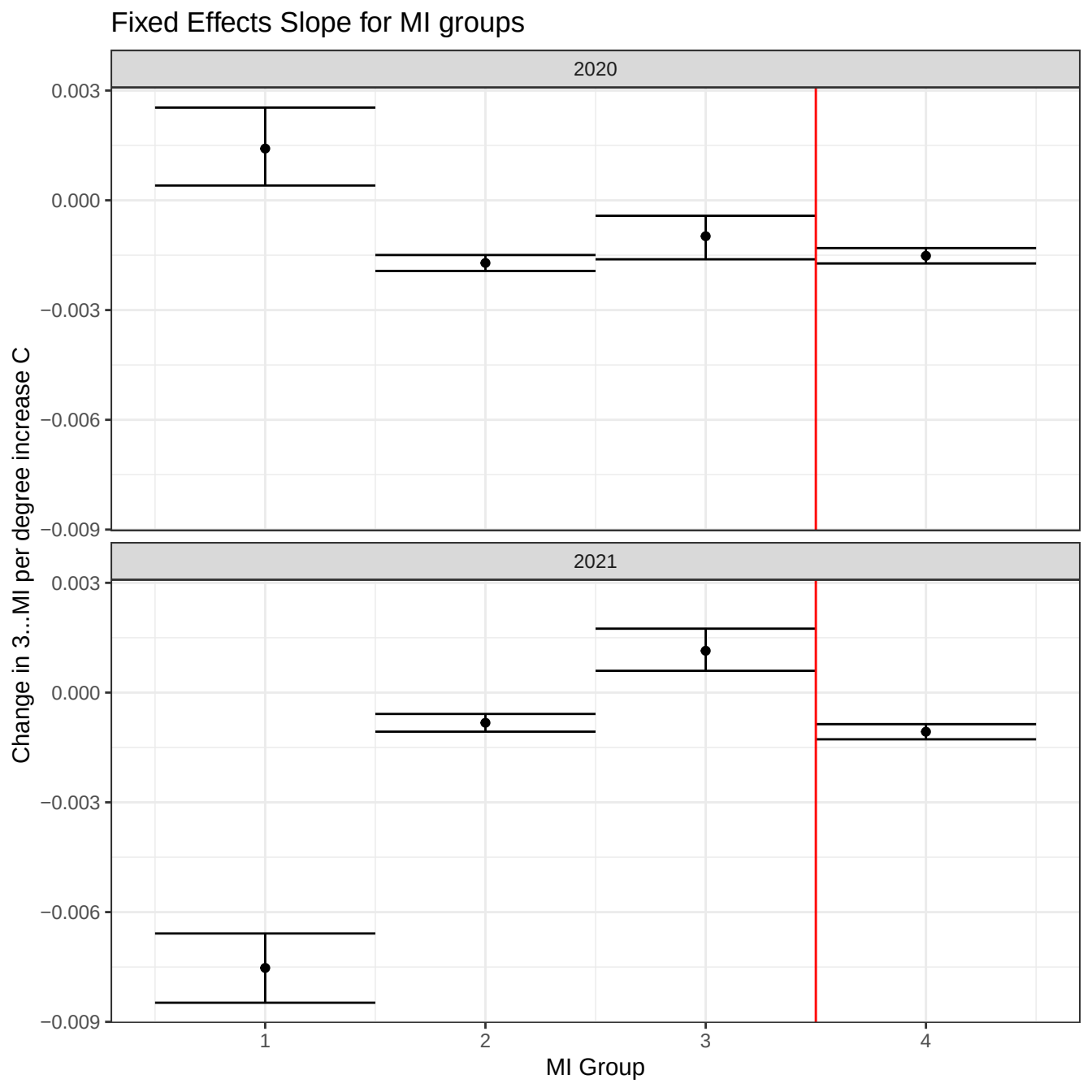
census_block_group + monthweek)
2020 r2: 0.7377 proj r2: 0.0011
2021 r2: 0.8014 proj r2: 0.0014

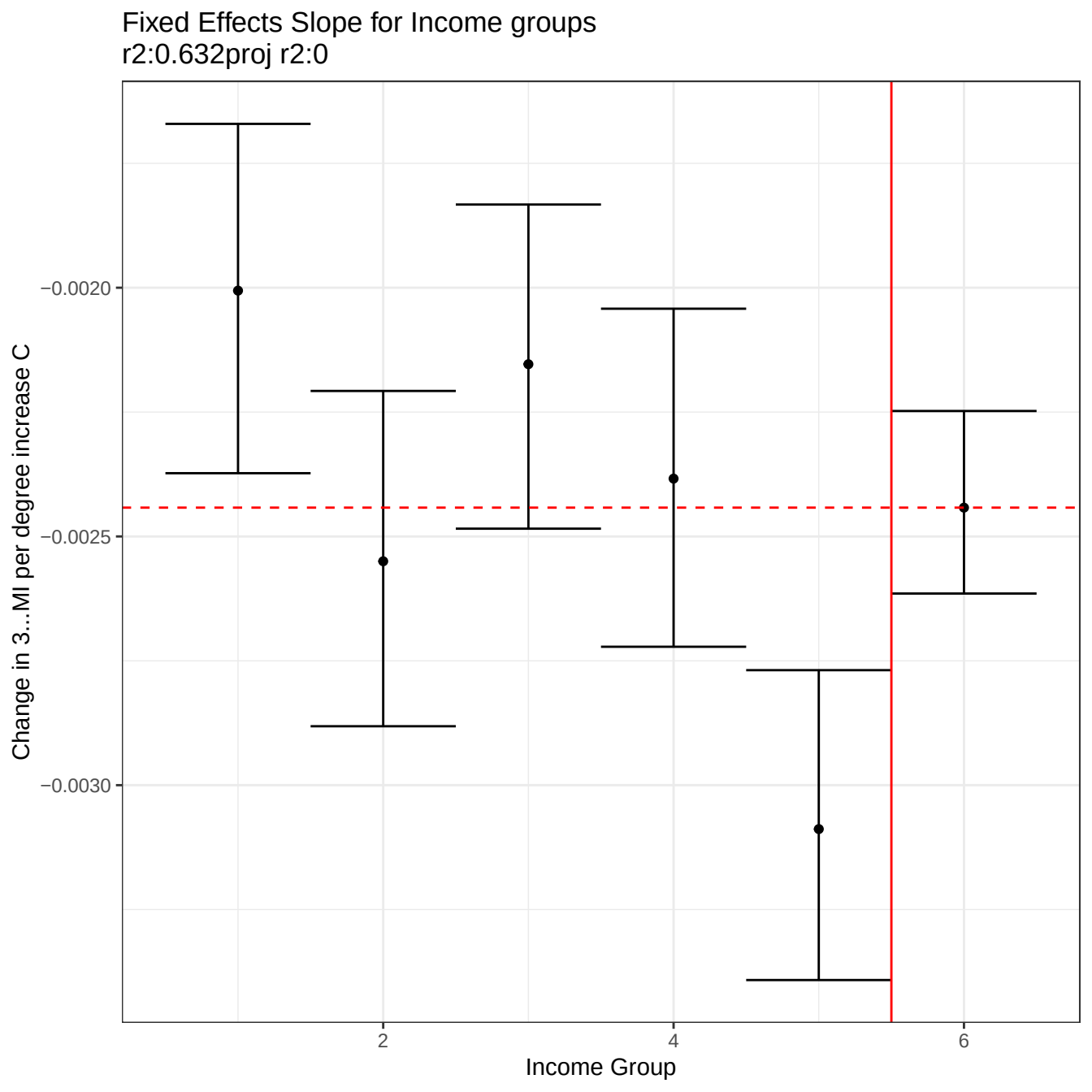


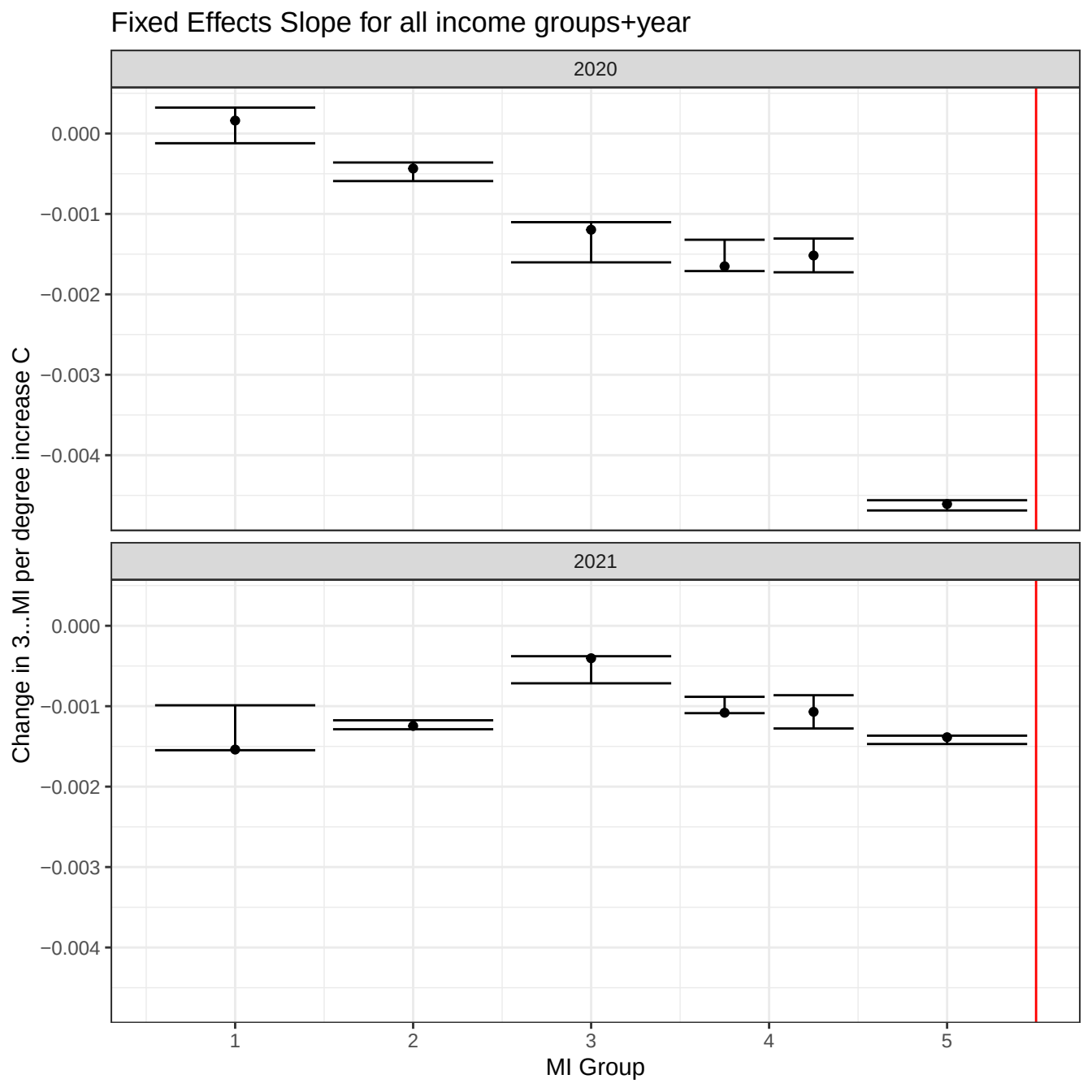

5% extreme heat:Weekday+Year
2020 r2: 0.7377 proj r2: 0.0011
2021 r2: 0.8014 proj r2: 0.0014

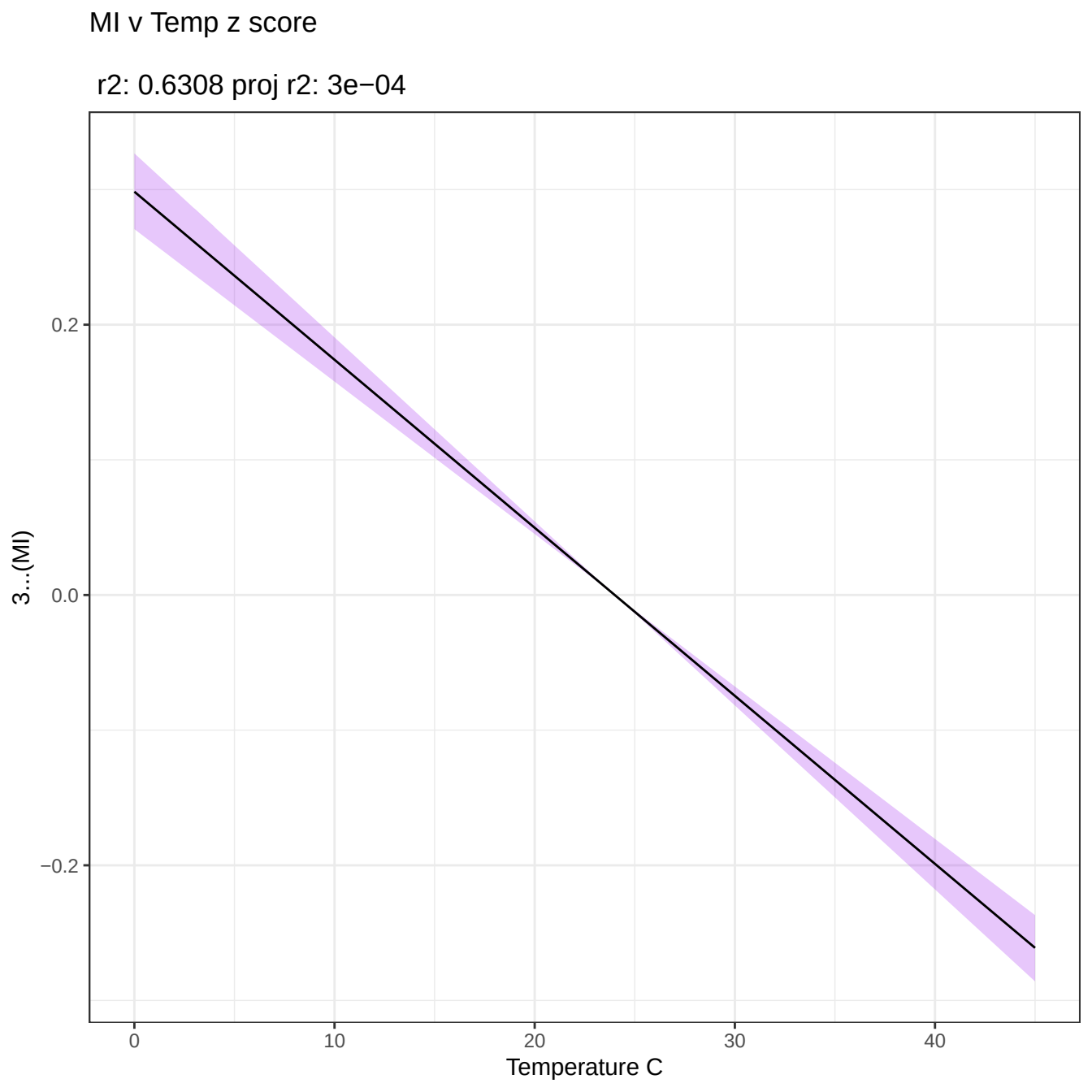


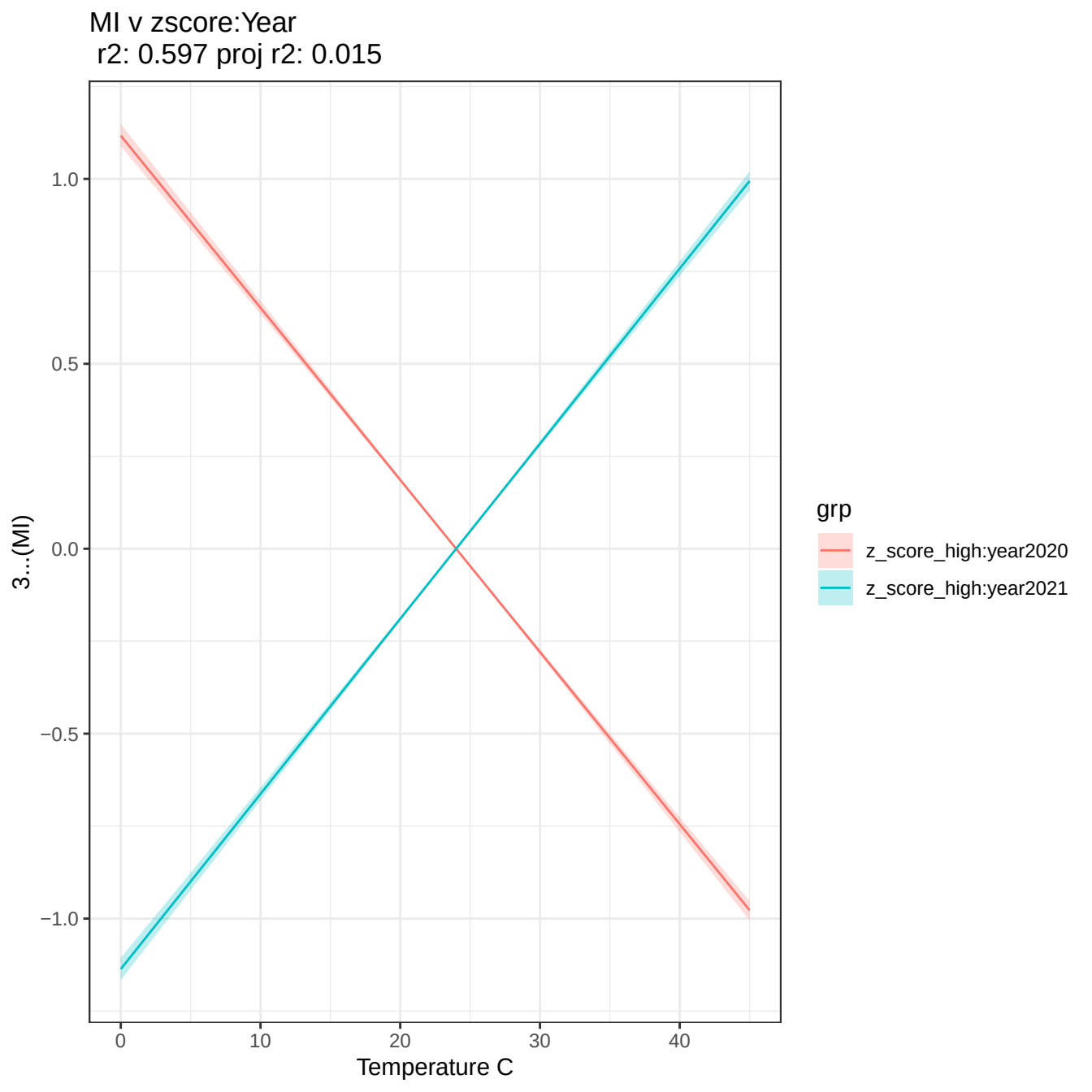

Fixed Effects Slope for MI groups
r2:0.633proj r2:0.001
Change in 3...MI per degree increase C
0.006
0.003
0.000
−0.003
1
2
3
4
MI Group

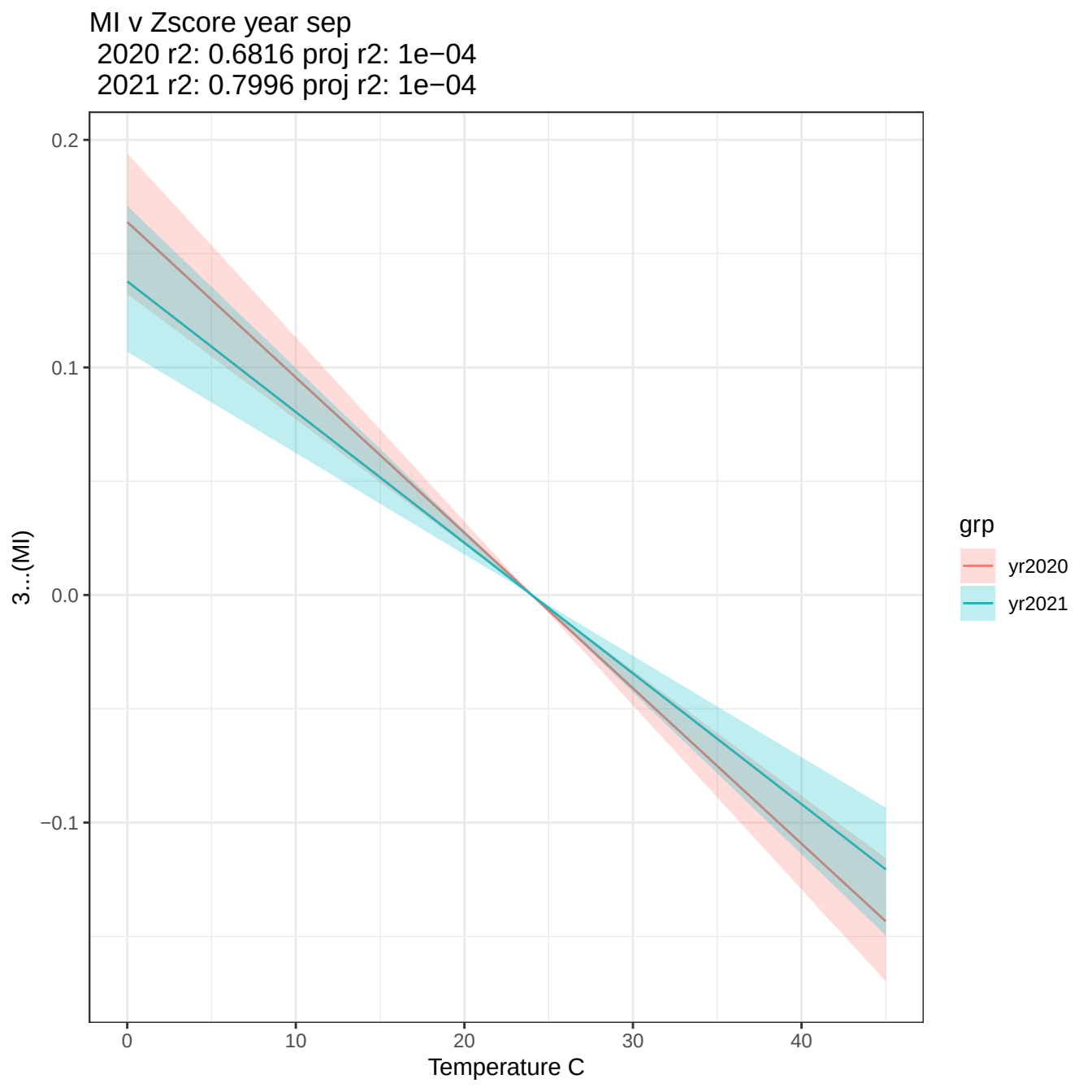

Fixed Effects Slope for MI groups
2020
2021
0.003
0.000
−0.003
−0.006
−0.009
Change in 3...MI per degree increase C
1
2
3
4
MI Group


Fixed Effects Slope for Income groups
r2:0.632proj r2:0
−0.0020
−0.0025
−0.0030
Change in 3...MI per degree increase C
2
4
6
Income Group


Fixed Effects Slope for all income groups+year
2020
2021
0.000
−0.001
−0.002
−0.003
−0.004
Change in 3...MI per degree increase C
1
2
3
4
5
MI Group

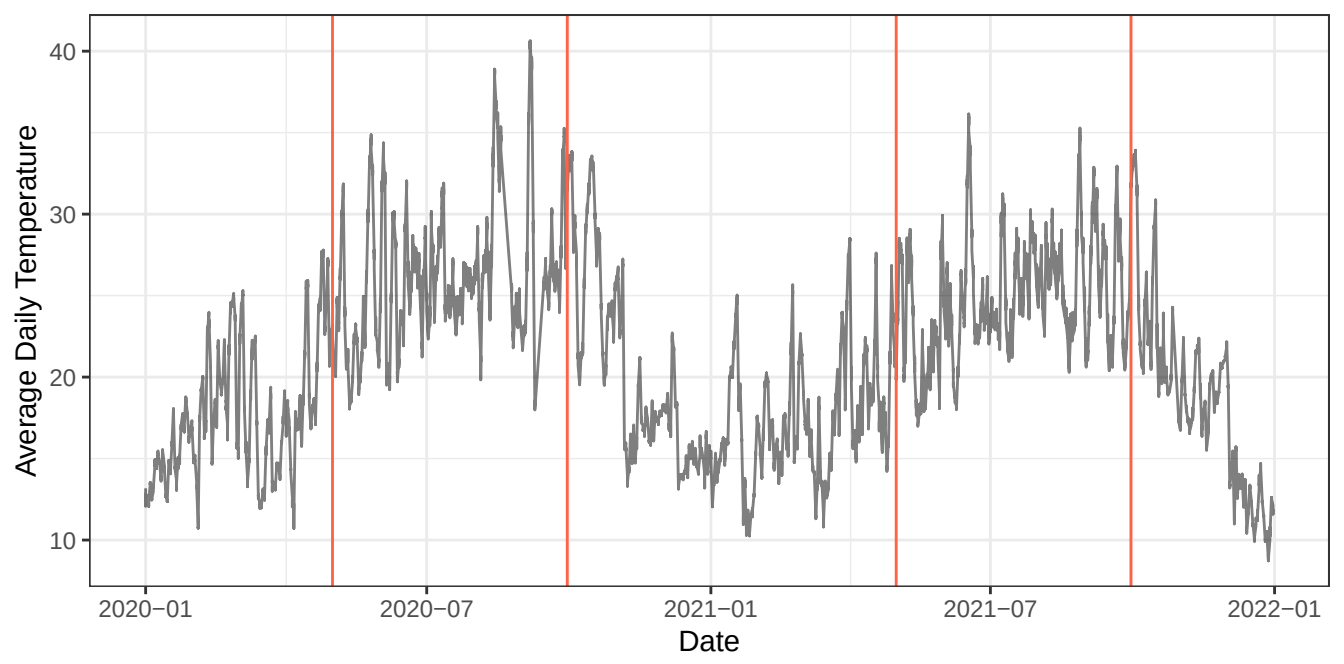

MI v Temp z score
r2: 0.6308 proj r2: 3e−04
3...(MI)
0.2
0.0
−0.2
0
10
20
30
40
Temperature C

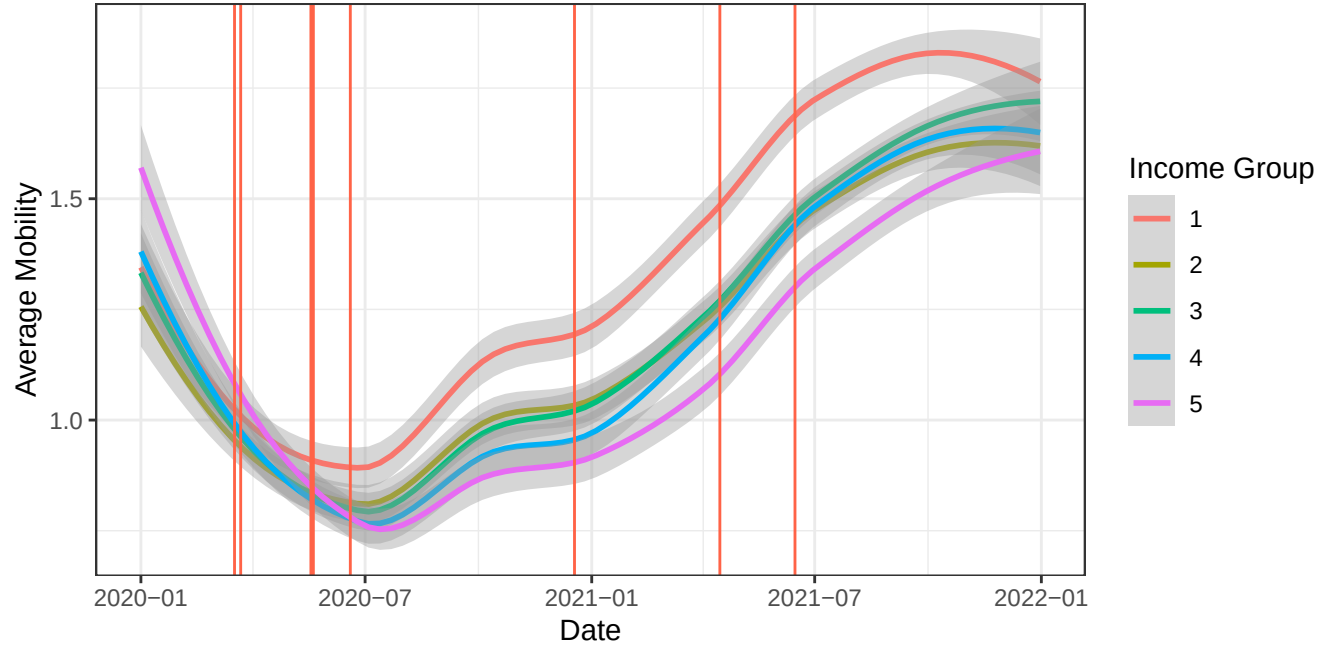

MI v zscore:Year
r2: 0.597 proj r2: 0.015
3...(MI)
1.0
0.5
0.0
−0.5
−1.0
0
10
20
30
40
Temperature C
grp
z_score_high:year2020
z_score_high:year2021

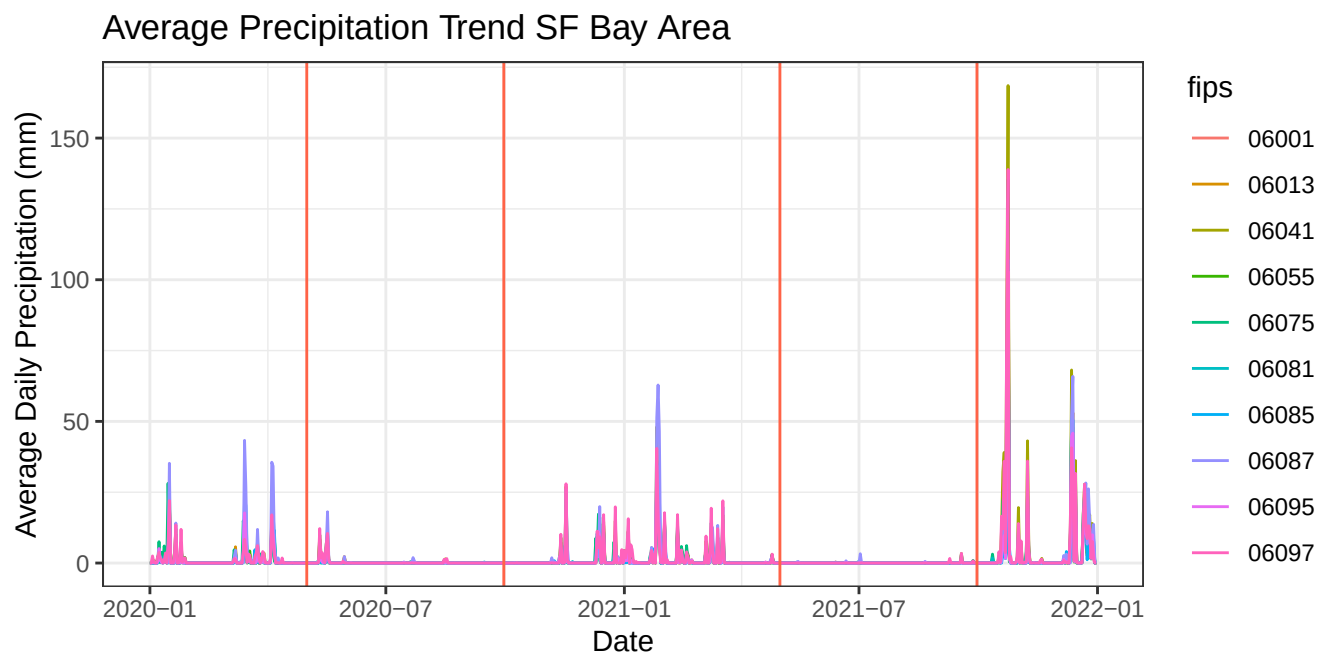

MI v Zscore year sep
2020 r2: 0.6816 proj r2: 1e−04
2021 r2: 0.7996 proj r2: 1e−04
0.2
0.1
0.0
−0.1
3...(MI)
0
10
20
30
40
Temperature C
grp
yr2020
yr2021

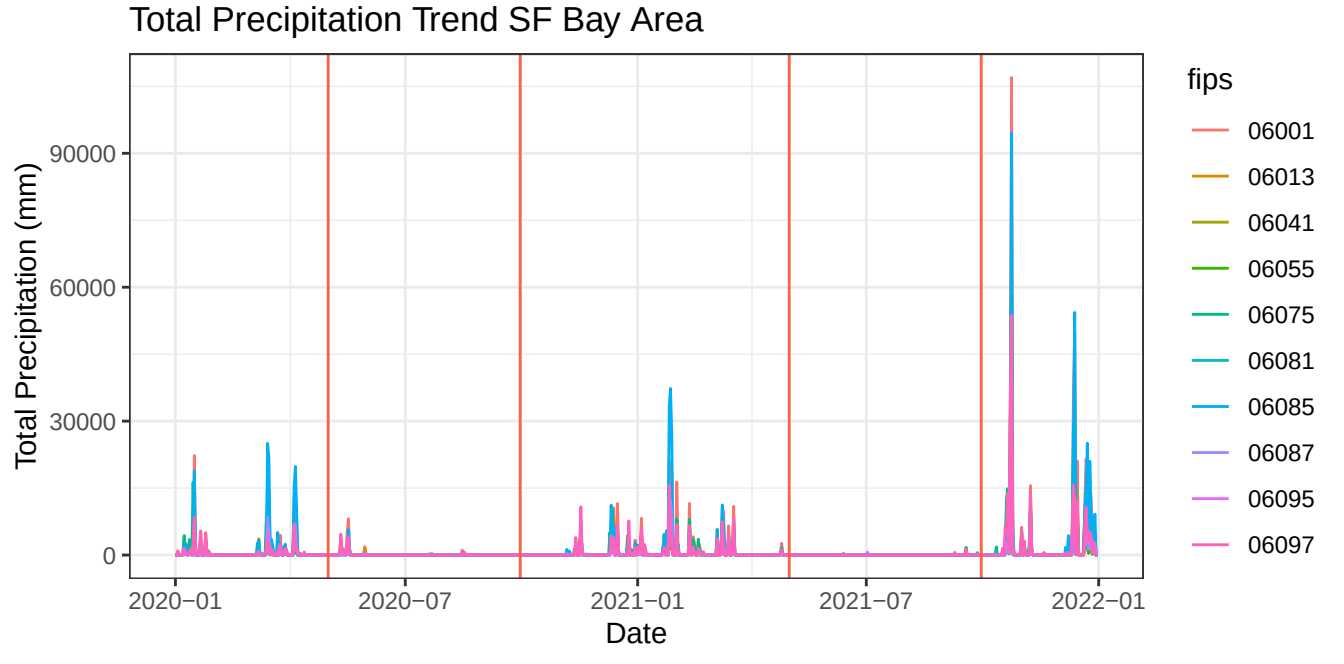
**Adding in precip mean_high_c + precip**
**−0.0025 mean_high_c**
**−0.00898 precip**
**0.63221 r2**
**7e−04 proj r**

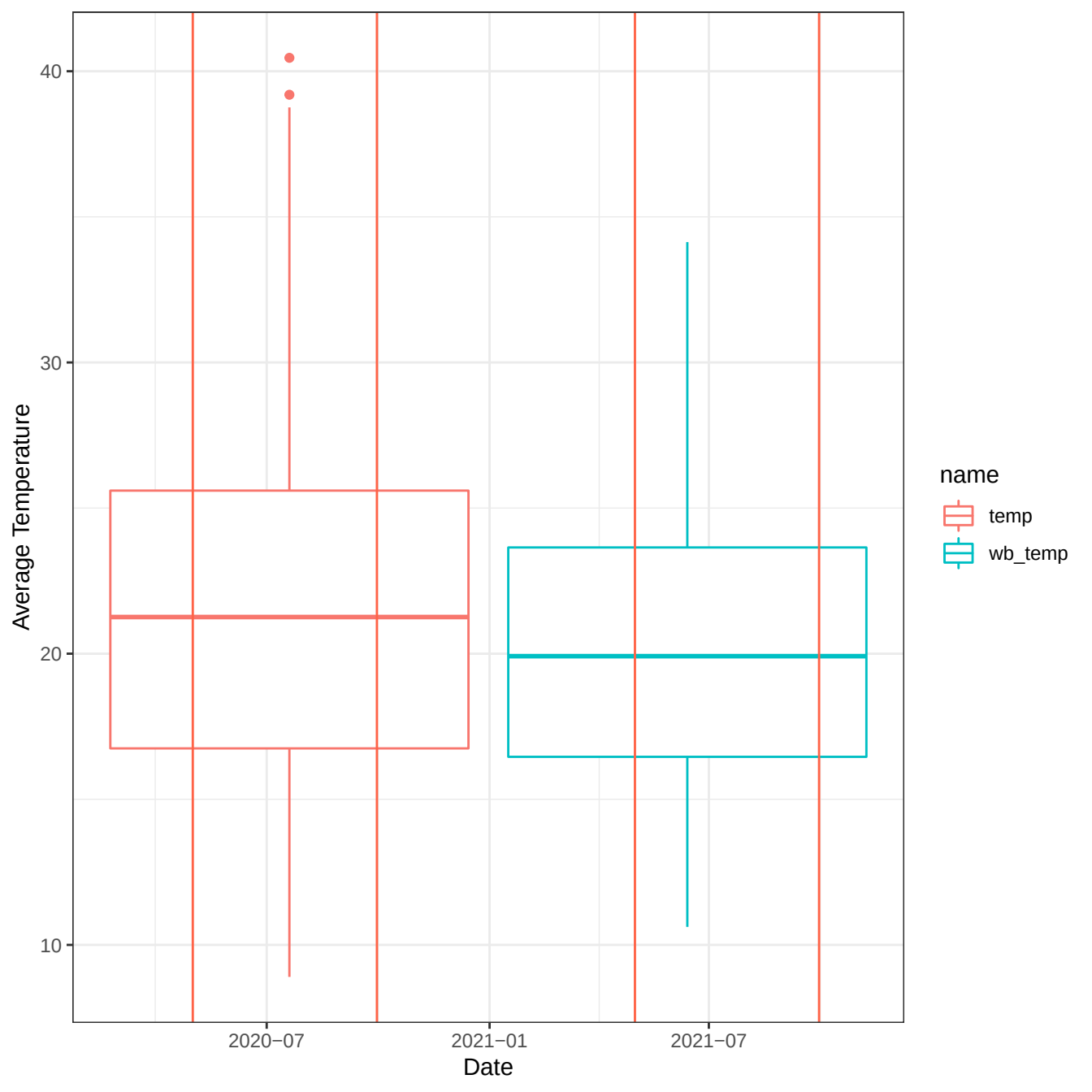
**Adding in precip mean_high_c + precip −0.00264 wb_temp**
**0.6321 r2**
**0.00041 proj r**


Average Daily Temperature
40
30
20
10
2020−01
2020−07
2021−01
2021−07
2022−01
Date


Average Mobility
1.5
1.0
2020−01
2020−07
2021−01
2021−07
2022−01
Date
Income Group
1
2
3
4
5


Average Precipitation Trend SF Bay Area
Average Daily Precipitation (mm)
150
100
50
0
2020−01
2020−07
2021−01
2021−07
2022−01
Date
fips
06001
06013
06041
06055
06075
06081
06085
06087
06095
06097


Total Precipitation Trend SF Bay Area
Total Precipitation (mm)
90000
60000
30000
0
2020−01
2020−07
2021−01
2021−07
2022−01
Date
fips
06001
06013
06041
06055
06075
06081
06085
06087
06095
06097


40
30
20
10
Average Temperature
2020−07
2021−01
2021−07
Date
name
temp
wb_temp