Characteristics of places selected for every-day restoration (results descriptive part)

Sample description

A table about the housing situation of N1, N2, N3, whole sample:

- Single house; apartment; ev. owner/tenant, apartment floor

```
   RESTYPE      1     2      3
  01_House 47.5% 31.2% 21.3%
 02_GFApart 43.7% 36.6% 19.7% # ground floor
 03_AGApart 24.9% 35.6% 39.6%


        RESOWN     1     2      3
Owner/co-owner 47.6% 32.8% 19.6%
         Rent 32.1% 30.5% 37.4%



APTFLOOR      1      2      3
        1 34.4%  34.4%  31.2%
        2 22.2%  36.1%  41.7%
        3 17.1%  37.1%  45.7%
        4 18.2%  36.4%  45.5%
        5  0.0%  20.0%  80.0%
        6  0.0%   0.0% 100.0%
        7  0.0% 100.0%   0.0%
```

- Balcony/terrace; garden

```
 RESTERR     1     2      3
     No 32.2% 28.4% 39.3%
    Yes 45.5% 32.5% 22.0%

 RESGARD     1     2      3
     No 24.5% 36.7% 38.8%
    Yes 46.7% 31.3% 22.0%
```

- Noise level (mean + SD or median?)
- NDVI (mean + SD or median)

	DISTKM	HM_NDVI	HM_NOISE	JNYTIME	NDVI250	NOISE250
Mean	3.53	0.53	48.24	19.94	0.64	41.27
Std.Dev	5.34	0.11	9.98	23.29	0.20	9.12
Min	0.00	0.11	30.00	0.00	-0.42	30.00
Q1	0.58	0.46	41.00	5.00	0.55	30.90
Median	1.38	0.53	46.40	12.00	0.69	41.34
Q3	3.90	0.60	54.45	25.00	0.80	48.63
Max	33.41	0.83	74.40	200.00	0.88	66.52

MAD	1.65	0.10	9.19	11.86	0.17	12.46
IQR	3.32	0.14	13.42	20.00	0.25	17.72
CV	1.51	0.21	0.21	1.17	0.31	0.22
Skewness	2.76	-0.42	0.49	3.08	-1.37	0.23
SE.Skewness	0.06	0.06	0.06	0.07	0.06	0.06
Kurtosis	8.64	0.50	-0.56	13.59	2.17	-1.06
N.Valid	1464.00	1464.00	1464.00	1380.00	1464.00	1464.00
Pct.Valid	100.00	100.00	100.00	94.26	100.00	100.00

– Perceived availability of restorative places in neighbourhood (ranking 1–5)

```
OSRELAX     1      2      3
        1 60.0%   0.0% 40.0%
        2 16.7%  50.0% 33.3%
        3 35.1%  29.7% 35.1%
        4 33.2%  37.6% 29.2%
        5 47.5%  30.6% 21.9%
```
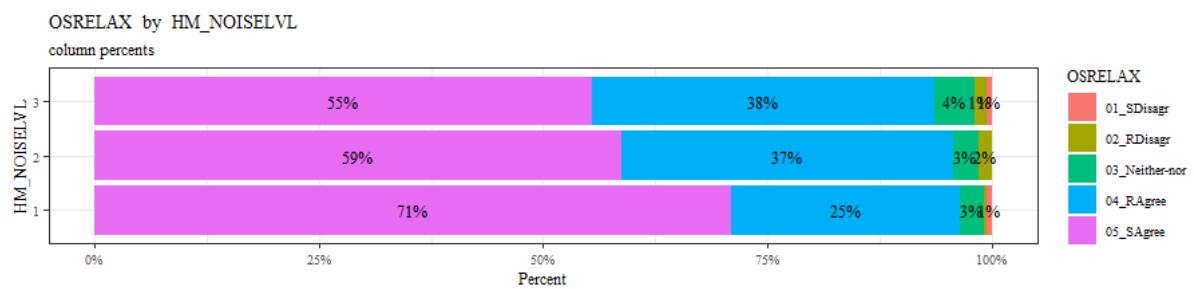

Landscape description of RL

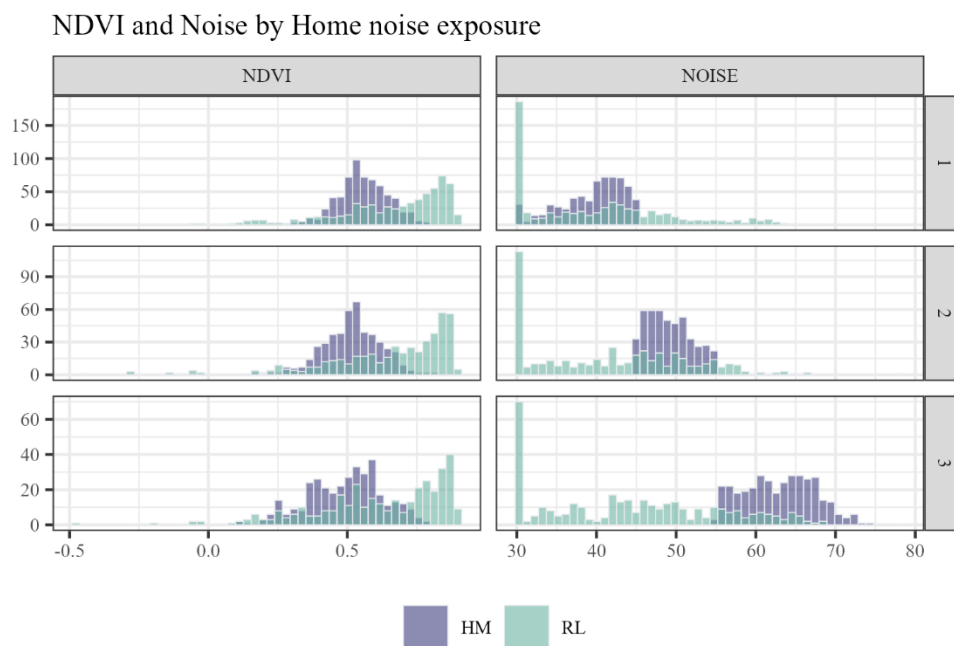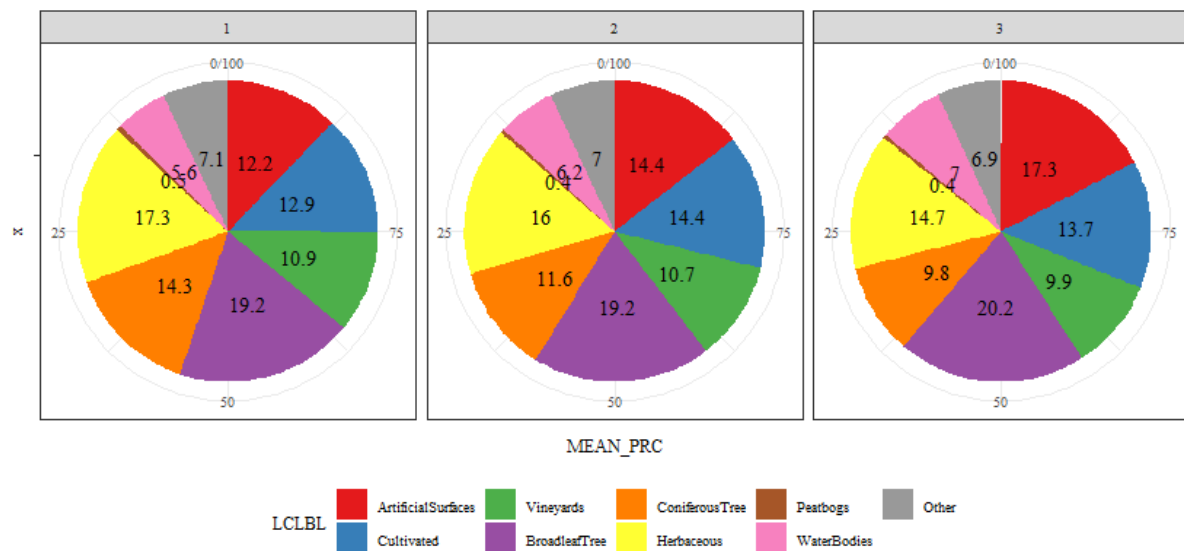– Bar-charts / Histograms of NDVI and noise level for N1, N2, N3 (from manuscript)

Fig. xxx. Distribution of NDVI and noise at home and restorative locations by noise group

MEAN_PRC

| LCLBL	N1	N2	N3
1 ArtificialSurfaces	12.2	14.4	17.3
2 Cultivated	12.9	14.4	13.7
3 Vineyards	10.9	10.7	9.9
4 BroadleafTree	19.2	19.2	20.2
5 ConiferousTree	14.3	11.6	9.8
6 Herbaceous	17.3	16	14.7
7 Peatbogs	0.5	0.4	0.4
8 WaterBodies	5.6	6.2	7
9 Other	7.1	7	6.9

Soundscape description of RL

```
    variable
lbl
1  LDOMAUD1                    Nature sounds (birds, wind, leaves and water
noise)
2  LDOMAUD2                      Human sounds (voices, children
playing)
3  LDOMAUD3                       Traffic sounds (cars, trains,
airplanes)
4  LDOMAUD4 Other technical noises (construction sites, forestry work, drones,
music)
5  LSOUNDS1
Pleasant
6  LSOUNDS2
Chaotic
7  LSOUNDS3
Vibrant
8  LSOUNDS4
Uneventful
9  LSOUNDS5
Tranquil
```

```
10 LSOUNDS6
Bothering
11 LSOUNDS7
Eventful
12 LSOUNDS8
Monotone
13 LSOUNDS9
Loud
14 LSANNOY1
RoadTraffic
15 LSANNOY2
PublicTransport
16 LSANNOY3
Train
17 LSANNOY4
Plane
18 LSANNOY5
Freetime
19 LSANNOY6                                                          Music of
others
20 LSANNOY7
Works
```

    –   Spider-diagrams of dominating sounds for N1, N2, N3 (0–5): LDOMAUD 1-4

```
[1] "Variables: LDOMAUD"
    LDOMAUD1 LDOMAUD2 LDOMAUD3 LDOMAUD4
Min        1        1        1        1
Max        5        5        5        5
N1         4        2        1        1
N2         4        1        1        1
N3         4        2        1        1
```
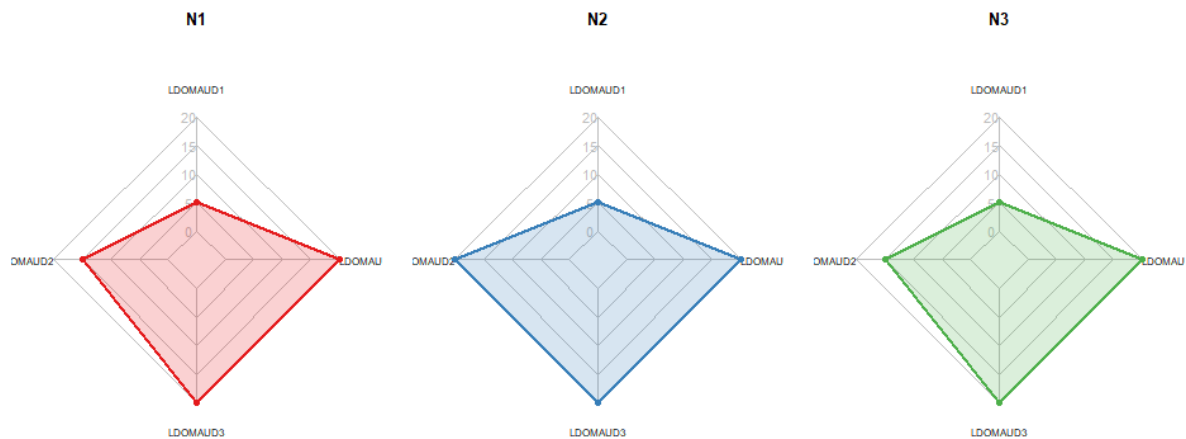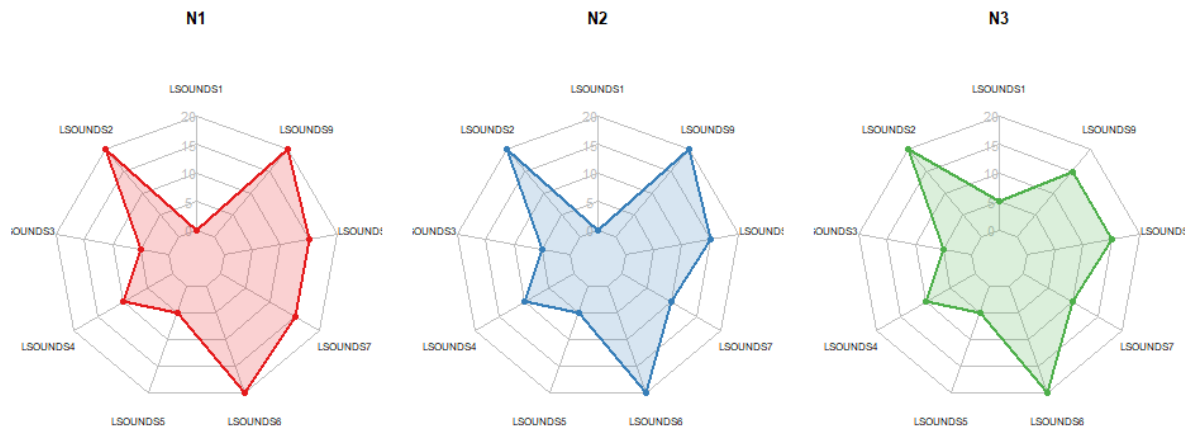

    –   Spider-diagrams of ISO-soundscape attributes for N1, N2, N3 (1–5): LSOUNDS 1-9

```
[1] "Variables: LSOUNDS"
    LSOUNDS1 LSOUNDS2 LSOUNDS3 LSOUNDS4 LSOUNDS5 LSOUNDS6 LSOUNDS7 LSOUNDS8
LSOUNDS9
Min        1        1        1        1        1        1        1        1
1
```
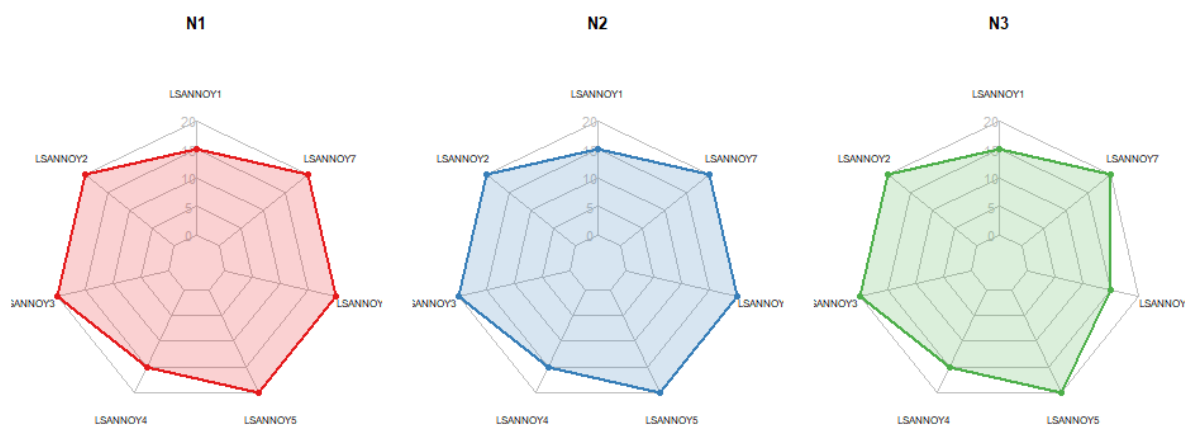
Max	5	5	5	5	5	5	5	5	5
N1	5	1	4	3	4	1	2	2	1
N2	5	1	4	3	4	1	3	2	1
N3	4	1	4	3	4	1	3	2	2

– Spider-diagrams of noise annoyance for N1, N2, N3 (0–10): LSANNOY 1-7

```
[1] "Variables: LSANNOY"
    LSANNOY1 LSANNOY2 LSANNOY3 LSANNOY4 LSANNOY5 LSANNOY6 LSANNOY7
Min        1        1        1        1        1        1        1
Max        5        5        5        5        5        5        5
N1         2        1        1        2        1        1        1
N2         2        1        1        2        1        1        1
N3         2        1        1        2        1        2        1
```
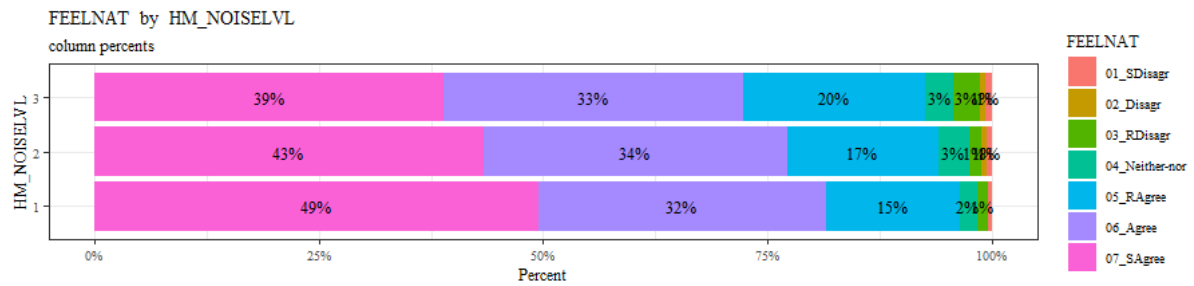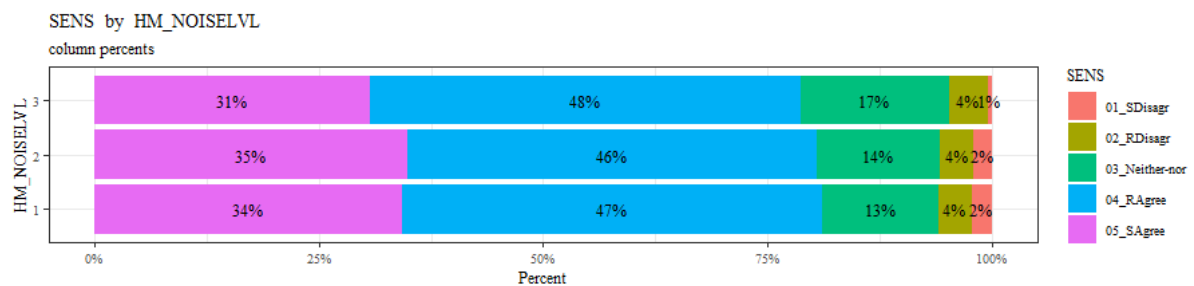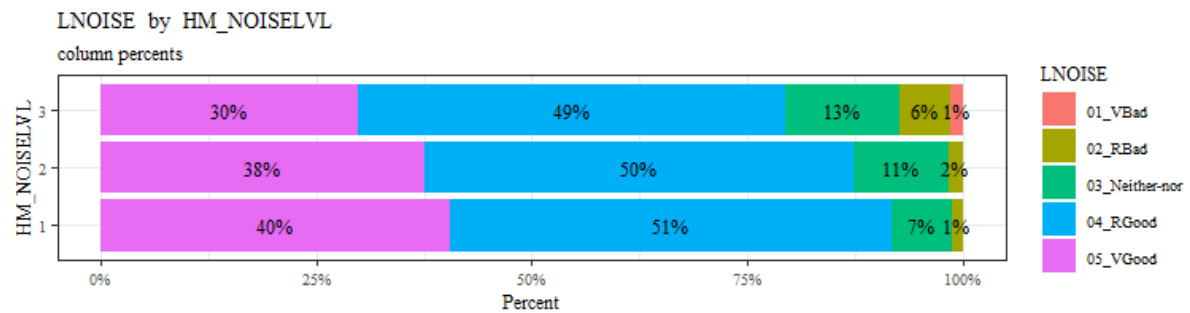
Perceived restorativeness of RL

- – Bar-charts FEELNAT for N1, N2, N3 (from manus but with 7-point scale from questionnaire)

FEELNAT by HM_NOISELVL
column percents

HM_NOISELVL						
3	39%	33%	20%	3% 3% 1%		
2	43%	34%	17%	3% 1% 1%		
1	49%	32%	15%	2% 1%		

FEELNAT
01_SDisagr
02_Disagr
03_RDisagr
04_Neither-nor
05_RAgree
06_Agree
07_SAgree

- – Bar-charts SENS for N1, N2, N3

SENS by HM_NOISELVL
column percents

HM_NOISELVL				
3	31%	48%	17%	4% 1%
2	35%	46%	14%	4% 2%
1	34%	47%	13%	4% 2%

SENS
01_SDisagr
02_RDisagr
03_Neither-nor
04_RAgree
05_SAgree

- – Bar-charts LNOISE for N1, N2, N3 (from manus)

LNOISE by HM_NOISELVL
column percents

HM_NOISELVL				
3	30%	49%	13%	6% 1%
2	38%	50%	11%	2%
1	40%	51%	7% 1%	

LNOISE
01_VBad
02_RBad
03_Neither-nor
04_RGood
05_VGood

- – Spider-diagrams of PRS-factors for N1, N2, N3

|	PRS_FA	PRS_BA	PRS_EC	PRS_ES
Min	1	1	1	1
Max	7	7	7	7
N1	5	5	4	5
N2	5	5	4	5
N3	5	5	4	5
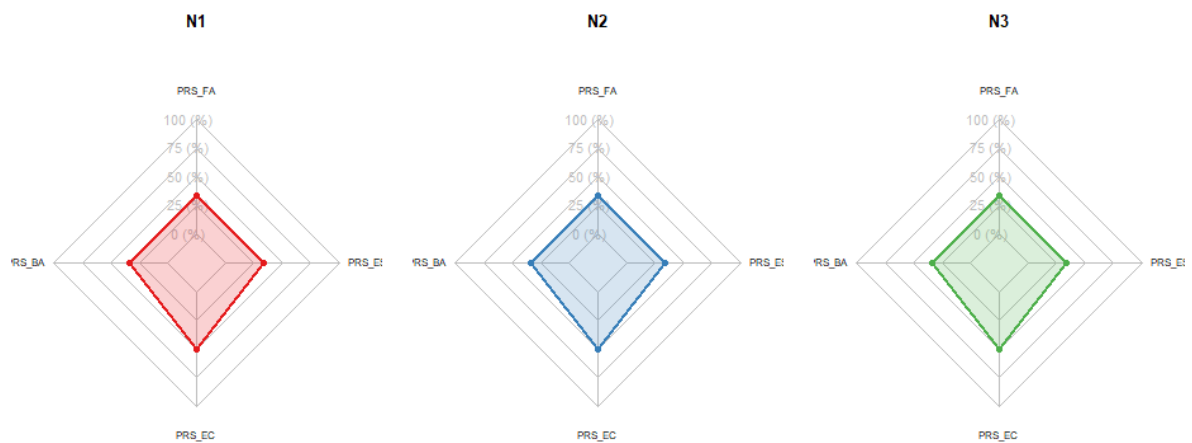
Frequency of visits and activities (not so important for our research questions; tables and figures ev. in supplementary material)

- Table on activities, NDVI, noise level (from manus)

Activity	Count	Frequency of visits (most common answer)	Frequency of visits (median)	Frequency of visits (q75)	Noise mean (L_day in dBA)	Greenness mean	Distance mean (km)	Travel time mean (minutes)	Noise median (L_day in dBA)	Greenness median	Distance median (km)	Travel time median (minutes)
Walk To_Be_There	531	2-3xMonth	1xWeek	More1xWeek	40.8	0.68	3.0	19.1	41.0	0.73	1.2	10.0
Meet_people	135	Less1xMonth	2-3xMonth	1xWeek	41.8	0.59	4.6	24.1	42.3	0.65	1.6	15.0
Do_sports_jog	100	Less1xMonth	2-3xMonth	More1xWeek	42.7	0.59	4.9	19.0	42.4	0.61	1.9	15.0
Play_sports_facility	301	Less1xMonth	1xWeek	More1xWeek	38.7	0.65	4.3	27.9	36.7	0.72	2.8	20.0
Gardening	101	1xWeek	More1xWeek	More1xWeek	42.7	0.59	3.3	11.2	44.8	0.64	1.2	6.0
	296	More1xWeek	More1xWeek	7xWeek	43.4	0.63	2.9	13.8	44.4	0.66	0.7	8.0

- Bar-charts dominant land-cover and frequency (from manus)
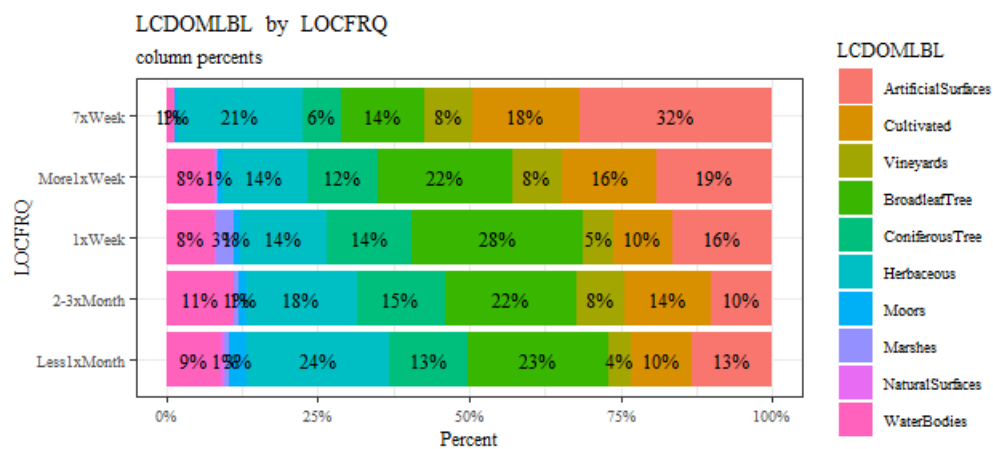
- Table on frequency, distance, noise level for N1, N2, N3)

Noise	Count	Frequency of	Frequency of	Frequency of	Noise	Greenness	Distance	Travel	Noise	Greenness	Distance	Travel

| group	nt	visits (most common answer)	visits (median)	visits (q75)	mean (L_{day} in dBA)	ess mean	e mean (km)	time mean (minutes)	median (L_{day} in dBA)	ess median	e median (km)	time median (minutes)
1	642	Less1xMonth	1xWeek	More1xWeek	40	0.662	3.4	20	39	0.717	1.3	15
2	468	2-3xMonth	1xWeek	More1xWeek	42	0.641	3.8	20	42	0.675	1.5	10
3	354	2-3xMonth	1xWeek	More1xWeek	44	0.619	3.5	19	46	0.649	1.4	10

Predicting restorativeness of places selected for every-day restoration (results modelling part)
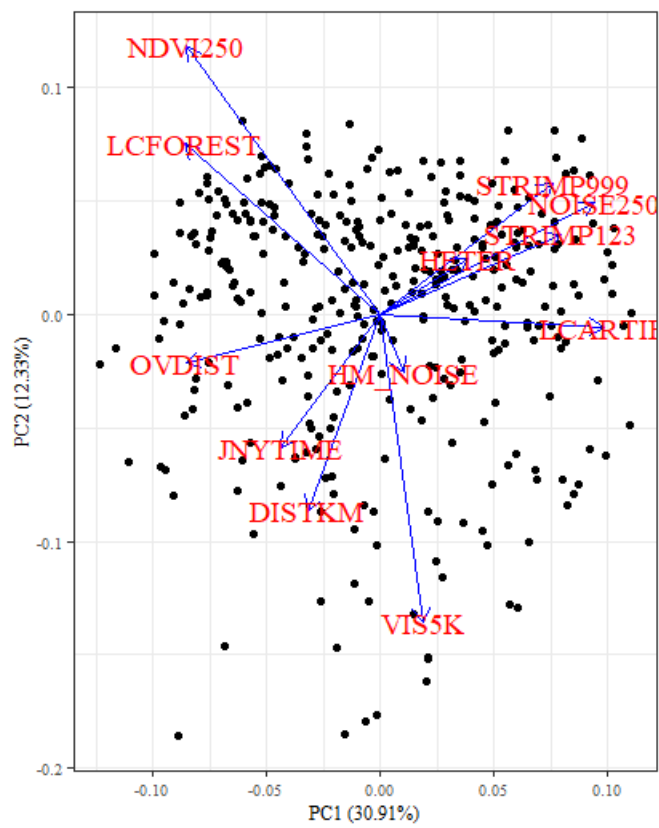
PCA analysis

N1
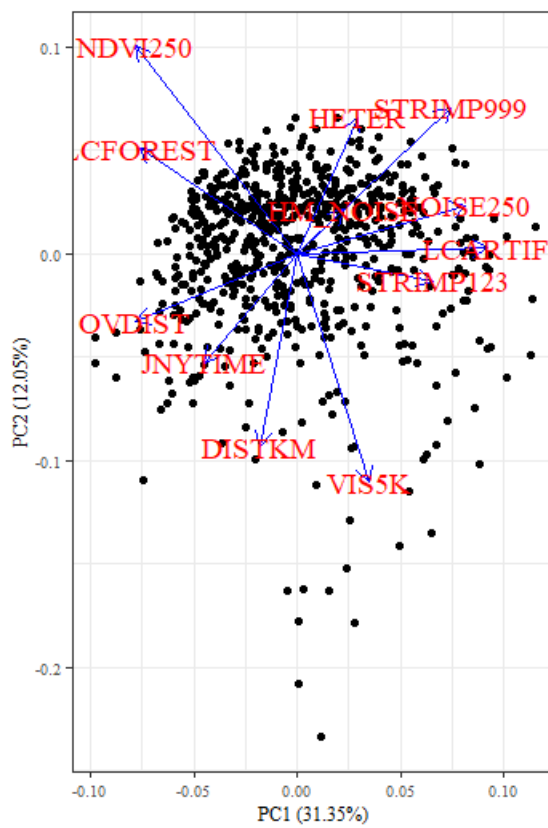
N2
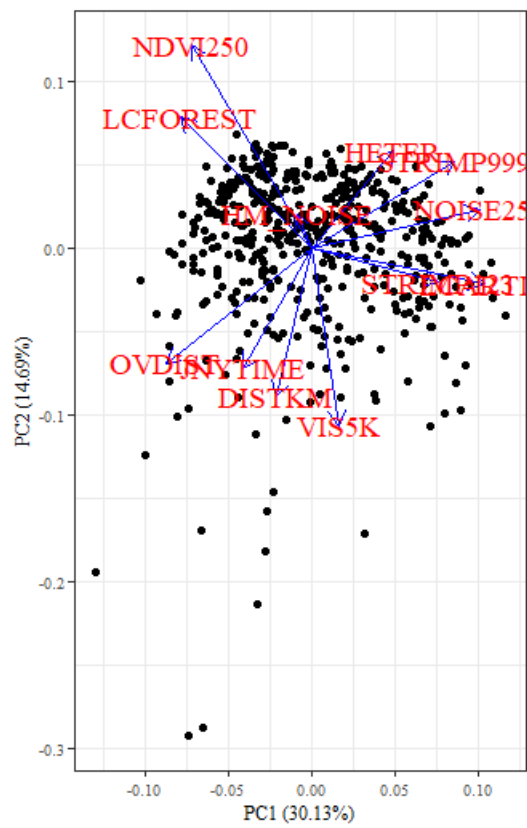
N3

Multiple regression for FEELNAT and LNOISE

- SENS = Y(LN) +x*NDVI + y*noiselvl + z*LCartif + p*???
- FEELNAT = Y(FN) + a*NDVI + b*noiselvl + c*LCartif + d*???
- LNOISE = Y(LN) +x*NDVI + y*noiselvl + z*LCartif + p*???

N1

```
        mv    r2       p p_stars
1      PRS 0.021  0.413       -
2   PRS_FA 0.040  0.021       *
3   PRS_BA 0.025  0.243       -
4   PRS_EC 0.021  0.464       -
5   PRS_ES 0.042  0.028       *
6      ROS 0.045  0.011       *
7     SENS 0.046  0.006      **
8  FEELNAT 0.112 <0.001     ***
9   LNOISE 0.151 <0.001     ***
```

```
-------  SENS  -------

Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-3.2446 -0.2725 -0.0310  0.7641  1.3919

Coefficients:
              Estimate  Std. Error t value            Pr(>|t|)
(Intercept)  4.37686527  0.47227273   9.268 < 0.0000000000000002 ***
NDVI250      0.37005652  0.30208646   1.225             0.22106
NOISE250    -0.01831323  0.00608863  -3.008             0.00274 **
HM_NOISE     0.00157455  0.00939963   0.168             0.86702
DISTKM      -0.00122018  0.00748065  -0.163             0.87049
JNYTIME     -0.00116501  0.00185489  -0.628             0.53020
LCARTIF     -0.12563756  0.36303615  -0.346             0.72941
LCFOREST    -0.00258825  0.16767550  -0.015             0.98769
HETER        0.16971828  0.10694073   1.587             0.11304
VIS5K       -0.00007571  0.00362948  -0.021             0.98336
OVDIST      -0.00003199  0.00008512  -0.376             0.70722
STRIMP123    0.00010237  0.00020390   0.502             0.61580
STRIMP999   -0.00002371  0.00005063  -0.468             0.63969
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.8955 on 589 degrees of freedom
  (40 observations deleted due to missingness)
Multiple R-squared:  0.04583,    Adjusted R-squared:  0.02639
F-statistic: 2.357 on 12 and 589 DF,  p-value: 0.005794

              VIF
LCARTIF   3.571859
NDVI250   2.660818
STRIMP999 2.636170
LCFOREST  2.267916
NOISE250  2.045859
STRIMP123 1.853476
OVDIST    1.606950
VIS5K     1.426783
HETER     1.380261
JNYTIME   1.304454
DISTKM    1.168932
```

```
HM_NOISE  1.045235

 -------  FEELNAT  -------

Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-5.1544 -0.4561  0.3212  0.6189  1.5076

Coefficients:
              Estimate  Std. Error t value            Pr(>|t|)
(Intercept)  6.39394816  0.47952948  13.334 < 0.0000000000000002 ***
NDVI250      0.91890775  0.30951318   2.969             0.00311 **
NOISE250    -0.00776653  0.00615277  -1.262             0.20735
HM_NOISE    -0.00963159  0.00953649  -1.010             0.31293
DISTKM      -0.01011429  0.00756202  -1.338             0.18158
JNYTIME     -0.00113525  0.00187389  -0.606             0.54487
LCARTIF     -0.01898017  0.36665364  -0.052             0.95873
LCFOREST     0.08491018  0.16978606   0.500             0.61719
HETER        0.14729784  0.10810334   1.363             0.17354
VIS5K        0.00026866  0.00369409   0.073             0.94205
OVDIST       0.00004994  0.00008604   0.580             0.56185
STRIMP123   -0.00003112  0.00020710  -0.150             0.88062
STRIMP999   -0.00011080  0.00005108  -2.169             0.03047 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.903 on 585 degrees of freedom
  (44 observations deleted due to missingness)
Multiple R-squared:  0.1123,    Adjusted R-squared:  0.09413
F-statistic: 6.169 on 12 and 585 DF,  p-value: 0.0000000002818

               VIF
LCARTIF   3.570144
NDVI250   2.719523
STRIMP999 2.627838
LCFOREST  2.281473
NOISE250  2.044010
STRIMP123 1.855031
OVDIST    1.610449
VIS5K     1.447747
HETER     1.387049
JNYTIME   1.305321
DISTKM    1.168986
HM_NOISE  1.047897

 -------  LNOISE  -------

Call:
lm(formula = ff, data = data)

Residuals:
     Min       1Q   Median       3Q      Max
-2.29158 -0.35878 -0.04966  0.49959  1.30541

Coefficients:
              Estimate  Std. Error t value            Pr(>|t|)
(Intercept)  4.22916522  0.36511653  11.583 < 0.0000000000000002 ***
NDVI250      0.39673782  0.24502163   1.619             0.10607
NOISE250    -0.00896458  0.00472458  -1.897             0.05837 .
HM_NOISE    -0.00002752  0.00735140  -0.004             0.99701
DISTKM       0.00667253  0.00570010   1.171             0.24235
JNYTIME     -0.00017454  0.00137813  -0.127             0.89927
LCARTIF      0.37545890  0.28801566   1.304             0.19300
```

```
LCFOREST     0.33525514  0.12818458   2.615              0.00919 **
HETER        0.10655517  0.08259767   1.290              0.19766
VIS5K       -0.00077599  0.00274837  -0.282              0.77780
OVDIST       0.00003172  0.00006558   0.484              0.62889
STRIMP123   -0.00042097  0.00016096  -2.615              0.00920 **
STRIMP999   -0.00005481  0.00003983  -1.376              0.16940
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.6206 on 477 degrees of freedom
  (152 observations deleted due to missingness)
Multiple R-squared:  0.1513,     Adjusted R-squared:   0.13
F-statistic: 7.087 on 12 and 477 DF,  p-value: 0.000000000006208

            VIF
LCARTIF   3.804453
NDVI250   2.810786
STRIMP999 2.684176
LCFOREST  2.327473
NOISE250  2.061079
STRIMP123 1.890263
OVDIST    1.591332
HETER     1.384447
VIS5K     1.376006
JNYTIME   1.270931
DISTKM    1.181467
HM_NOISE  1.057935
```

N2

```
      mv    r2       p p_stars
1    PRS 0.023  0.638       -
2 PRS_FA 0.032  0.316       -
3 PRS_BA 0.024  0.604       -
4 PRS_EC 0.047  0.078       -
5 PRS_ES 0.077  0.002      **
6    ROS 0.032  0.386       -
7   SENS 0.049  0.044       *
8 FEELNAT 0.197 <0.001    ***
9  LNOISE 0.124 <0.001    ***

-------  SENS  -------

Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median     3Q     Max
-3.2975 -0.2695 -0.0503  0.8080  1.4806

Coefficients:
             Estimate  Std. Error t value Pr(>|t|)
(Intercept)  2.95302185  0.91016006   3.245  0.00127 **
NDVI250      0.61413096  0.33997612   1.806  0.07157 .
NOISE250     0.00442835  0.00748494   0.592  0.55441
HM_NOISE    -0.00036846  0.01596138  -0.023  0.98159
DISTKM      -0.00670367  0.00909778  -0.737  0.46163
JNYTIME      0.00085816  0.00203456   0.422  0.67339
LCARTIF     -0.42663826  0.39242056  -1.087  0.27757
LCFOREST     0.06987138  0.18817984   0.371  0.71060
HETER        0.26998511  0.12378976   2.181  0.02974 *
```

```
VIS5K         0.00489295  0.00385469   1.269  0.20502
OVDIST        0.00001760  0.00010307   0.171  0.86447
STRIMP123    -0.00006159  0.00018330  -0.336  0.73705
STRIMP999     0.00006826  0.00005884   1.160  0.24671
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.9029 on 422 degrees of freedom
  (33 observations deleted due to missingness)
Multiple R-squared:  0.0491,    Adjusted R-squared:  0.02206
F-statistic: 1.816 on 12 and 422 DF,  p-value: 0.04359

              VIF
LCARTIF   3.455980
STRIMP999 2.566369
NDVI250   2.475101
NOISE250  2.469287
LCFOREST  2.020335
OVDIST    1.846394
STRIMP123 1.818787
HETER     1.332715
JNYTIME   1.330578
VIS5K     1.295841
DISTKM    1.215527
HM_NOISE  1.019665


  ------- FEELNAT -------


Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-4.1645 -0.4899  0.2323  0.6323  2.2238

Coefficients:
              Estimate  Std. Error t value        Pr(>|t|)
(Intercept)  7.26965467  0.97226037   7.477 0.000000000000445 ***
NDVI250      0.59041365  0.36431385   1.621         0.10585
NOISE250    -0.00014389  0.00803344  -0.018         0.98572
HM_NOISE    -0.03281358  0.01705529  -1.924         0.05503 .
DISTKM       0.00883865  0.00944005   0.936         0.34966
JNYTIME      0.00027122  0.00217581   0.125         0.90086
LCARTIF     -1.24707222  0.42164053  -2.958         0.00327 **
LCFOREST     0.19487549  0.20214964   0.964         0.33559
HETER        0.14194572  0.13325363   1.065         0.28738
VIS5K        0.00020278  0.00414122   0.049         0.96097
OVDIST       0.00014220  0.00011082   1.283         0.20014
STRIMP123   -0.00015729  0.00019702  -0.798         0.42510
STRIMP999   -0.00004731  0.00006308  -0.750         0.45373
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.9691 on 421 degrees of freedom
  (34 observations deleted due to missingness)
Multiple R-squared:  0.1974,    Adjusted R-squared:  0.1745
F-statistic:  8.63 on 12 and 421 DF,  p-value: 0.000000000000009608

              VIF
LCARTIF   3.454287
STRIMP999 2.556225
NDVI250   2.471559
NOISE250  2.461066
LCFOREST  2.020568
OVDIST    1.848855
STRIMP123 1.816853
```

```
HETER     1.336149
JNYTIME   1.319379
VIS5K     1.298774
DISTKM    1.199165
HM_NOISE  1.018581
```

  ------- LNOISE -------

Call:
lm(formula = ff, data = data)

Residuals:
    Min   1Q Median   3Q   Max
-2.3320 -0.3803 -0.0896 0.5563 1.2797

Coefficients:
               Estimate Std. Error t value   Pr(>|t|)
(Intercept) 5.85227585 0.72487139   8.074 0.0000000000000119 ***
NDVI250   -0.10217721 0.26836196 -0.381   0.7036
NOISE250   -0.01075715 0.00619633 -1.736   0.0835 .
HM_NOISE   -0.02327136 0.01261152 -1.845   0.0659 .
DISTKM   -0.01022972 0.00735548 -1.391   0.1652
JNYTIME   0.00251280 0.00165617   1.517   0.1301
LCARTIF   -0.71784694 0.31647584 -2.268   0.0239 *
LCFOREST   0.04031522 0.15175591   0.266   0.7907
HETER   0.06783078 0.09831060   0.690   0.4907
VIS5K   -0.00191533 0.00299794 -0.639   0.5233
OVDIST   0.00004781 0.00008345   0.573   0.5670
STRIMP123   -0.00004944 0.00014643 -0.338   0.7359
STRIMP999   0.00001863 0.00004613   0.404   0.6866

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.6562 on 341 degrees of freedom
  (114 observations deleted due to missingness)
Multiple R-squared: 0.124,   Adjusted R-squared: 0.09317
F-statistic: 4.022 on 12 and 341 DF, p-value: 0.000007518

              VIF
LCARTIF   3.345898
NDVI250   2.550223
NOISE250 2.550088
STRIMP999 2.439555
LCFOREST 2.052620
OVDIST   1.903837
STRIMP123 1.901858
JNYTIME   1.414259
HETER   1.378722
VIS5K   1.319958
DISTKM   1.242010
HM_NOISE 1.019489
```

## N3

```
      mv    r2      p p_stars
1     PRS 0.054  0.121       -
2  PRS_FA 0.050  0.177       -
3  PRS_BA 0.039  0.386       -
4  PRS_EC 0.069  0.038       *
5  PRS_ES 0.094  0.004      **
6     ROS 0.076  0.022       *
```

```
7    SENS 0.086  0.003       **
8 FEELNAT 0.159 <0.001       ***
9  LNOISE 0.118  0.002       **




-------  SENS  -------

Call:
lm(formula = ff, data = data)

Residuals:
     Min      1Q   Median      3Q      Max
-2.77515 -0.31305 -0.04892  0.72340  1.57730

Coefficients:
              Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  3.44730638  0.77601410   4.442 0.0000123 ***
NDVI250      0.24663590  0.35873554   0.688    0.4923
NOISE250    -0.00624185  0.00698424  -0.894    0.3721
HM_NOISE     0.00596787  0.01033863   0.577    0.5642
DISTKM      -0.00082769  0.00924429  -0.090    0.9287
JNYTIME     -0.00030031  0.00208269  -0.144    0.8854
LCARTIF     -0.53909632  0.37789009  -1.427    0.1547
LCFOREST     0.04145507  0.20912099   0.198    0.8430
HETER        0.20776727  0.12910261   1.609    0.1085
VIS5K       -0.00196433  0.00447209  -0.439    0.6608
OVDIST       0.00021973  0.00011875   1.850    0.0652 .
STRIMP123    0.00019413  0.00019658   0.987    0.3241
STRIMP999    0.00001644  0.00005736   0.287    0.7746
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.8138 on 322 degrees of freedom
  (19 observations deleted due to missingness)
Multiple R-squared:  0.08638,    Adjusted R-squared:  0.05234
F-statistic: 2.537 on 12 and 322 DF,  p-value: 0.003276

             VIF
LCARTIF   4.045408
STRIMP999 2.822882
NDVI250   2.807238
LCFOREST  2.456635
NOISE250  2.250990
STRIMP123 1.871165
OVDIST    1.573801
HETER     1.543628
VIS5K     1.369755
JNYTIME   1.176820
DISTKM    1.167878
HM_NOISE  1.050373

 -------  FEELNAT  -------

Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-5.1479 -0.4490  0.0669  0.7347  2.3530

Coefficients:
              Estimate  Std. Error t value    Pr(>|t|)
(Intercept)  5.65497594  0.97550353   5.797 0.0000000161 ***
NDVI250      0.14710814  0.45154472   0.326      0.74480
NOISE250     0.00931949  0.00878881   1.060      0.28977
```

```
HM_NOISE     -0.00096828  0.01297446  -0.075       0.94056
DISTKM       -0.01013974  0.01163282  -0.872       0.38405
JNYTIME       0.00303549  0.00262026   1.158       0.24753
LCARTIF      -1.28903412  0.47497783  -2.714       0.00701 **
LCFOREST     -0.11440068  0.26457951  -0.432       0.66575
HETER         0.08991748  0.16264259   0.553       0.58075
VIS5K        -0.00790278  0.00562882  -1.404       0.16129
OVDIST        0.00031539  0.00014936   2.112       0.03550 *
STRIMP123    -0.00041913  0.00024757  -1.693       0.09143 .
STRIMP999     0.00001769  0.00007216   0.245       0.80646
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.024 on 321 degrees of freedom
  (20 observations deleted due to missingness)
Multiple R-squared:  0.1591,     Adjusted R-squared:  0.1277
F-statistic: 5.061 on 12 and 321 DF,  p-value: 0.00000009854

             VIF
LCARTIF   4.038316
STRIMP999 2.821814
NDVI250   2.806004
LCFOREST  2.461583
NOISE250  2.252683
STRIMP123 1.873614
OVDIST    1.576658
HETER     1.552059
VIS5K     1.368883
JNYTIME   1.175772
DISTKM    1.166856
HM_NOISE  1.051143

  -------  LNOISE  -------

Call:
lm(formula = ff, data = data)

Residuals:
     Min       1Q   Median       3Q      Max
-2.77376 -0.36981  0.06998  0.61200  1.53770

Coefficients:
              Estimate  Std. Error t value     Pr(>|t|)
(Intercept)  5.25098058  0.89209770   5.886 0.0000000128 ***
NDVI250     -0.21080075  0.46705061  -0.451       0.6521
NOISE250    -0.01925925  0.00825965  -2.332       0.0205 *
HM_NOISE    -0.00474484  0.01208523  -0.393       0.6949
DISTKM      -0.00900202  0.01200634  -0.750       0.4541
JNYTIME     -0.00005584  0.00247613  -0.023       0.9820
LCARTIF      0.10634946  0.44879699   0.237       0.8129
LCFOREST     0.02774535  0.24601630   0.113       0.9103
HETER        0.22057151  0.15459100   1.427       0.1549
VIS5K       -0.00181553  0.00527091  -0.344       0.7308
OVDIST       0.00013249  0.00013622   0.973       0.3317
STRIMP123   -0.00032184  0.00022748  -1.415       0.1584
STRIMP999   -0.00007566  0.00006835  -1.107       0.2694
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.8403 on 247 degrees of freedom
  (94 observations deleted due to missingness)
Multiple R-squared:  0.1181,     Adjusted R-squared:  0.0753
F-statistic: 2.758 on 12 and 247 DF,  p-value: 0.001553

             VIF
LCARTIF   4.458273
```

```
NDVI250   3.077176
STRIMP999 2.892858
LCFOREST  2.479992
NOISE250  2.210285
STRIMP123 1.844666
HETER     1.627856
OVDIST    1.554371
VIS5K     1.363682
JNYTIME   1.251325
DISTKM    1.222659
HM_NOISE  1.036861
```

Multiple regression for PRS factors

- FA = Y(FA) + a*SENS + b*LNOISE
- BA = Y(BA) + a* SENS + b*LNOISE
- EC = Y(EC) + a* SENS + b*LNOISE
- ES = Y(ES) + a* SENS + b*LNOISE

	mv	r2	p	p stars
N1	PRS_FA	0.194	<0.001	***
	PRS_BA	0.066	<0.001	***
	PRS_EC	0.016	0.021	*
	PRS_ES	0.112	<0.001	***
N2	PRS_FA	0.194	<0.001	***
	PRS_BA	0.133	<0.001	***
	PRS_EC	0.008	0.223	-
	PRS_ES	0.133	<0.001	***
N3	PRS_FA	0.103	<0.001	***
	PRS_BA	0.121	<0.001	***
	PRS_EC	0.018	0.100	-
	PRS_ES	0.078	<0.001	***

N1

------- N1: PRS_FA -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-3.7462 -0.5622  0.0583  0.8744  2.8050

Coefficients:
            Estimate Std. Error t value           Pr(>|t|)
(Intercept)  1.86125    0.34105   5.457 0.00000007588703854 ***
SENS         0.43666    0.05332   8.189 0.00000000000000218 ***
LNOISE       0.37942    0.07343   5.167 0.00000034285868226 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.051 on 504 degrees of freedom
  (135 observations deleted due to missingness)
Multiple R-squared:  0.1941,   Adjusted R-squared:  0.1909
F-statistic:  60.7 on 2 and 504 DF,  p-value: < 0.00000000000000022
```

```
           VIF
SENS   1.062414
LNOISE 1.062414
```

------- N1: PRS_BA -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median     3Q     Max
-4.5939 -0.5939 -0.0421  0.9480  2.5097

Coefficients:
            Estimate Std. Error t value        Pr(>|t|)
(Intercept)  2.88435    0.41094   7.019 0.00000000000725 ***
SENS         0.27590    0.06406   4.307 0.00001993439517 ***
LNOISE       0.26601    0.08826   3.014          0.00271 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.265 on 504 degrees of freedom
  (135 observations deleted due to missingness)
Multiple R-squared:  0.06636,    Adjusted R-squared:  0.06266
F-statistic: 17.91 on 2 and 504 DF,  p-value: 0.00000003056

           VIF
SENS   1.059853
LNOISE 1.059853
```

------- N1: PRS_EC -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median     3Q     Max
-3.6285 -0.5759 -0.2065  1.1628  3.2154

Coefficients:
            Estimate Std. Error t value        Pr(>|t|)
(Intercept)  3.44189    0.46579   7.389 0.000000000000632 ***
SENS         0.18466    0.07292   2.532           0.0116 *
LNOISE       0.05267    0.10039   0.525           0.6001
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.427 on 495 degrees of freedom
  (144 observations deleted due to missingness)
Multiple R-squared:  0.01552,    Adjusted R-squared:  0.01154
F-statistic: 3.901 on 2 and 495 DF,  p-value: 0.02084

           VIF
SENS   1.063354
LNOISE 1.063354
```

------- N1: PRS_ES -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median     3Q     Max
-4.5561 -0.7107  0.2893  1.1232  2.9802
```

```
Coefficients:
            Estimate Std. Error t value      Pr(>|t|)
(Intercept) 1.32883    0.46329   2.868        0.00431 **
SENS        0.22644    0.07269   3.115        0.00195 **
LNOISE      0.61902    0.10029   6.173 0.00000000142 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.412 on 483 degrees of freedom
  (156 observations deleted due to missingness)
Multiple R-squared:  0.1124,    Adjusted R-squared:  0.1088
F-statistic: 30.59 on 2 and 483 DF,  p-value: 0.0000000000003088

            VIF
SENS   1.066227
LNOISE 1.066227
```

N2

------- N2: PRS_FA -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-4.3087 -0.7025  0.1109  0.8779  3.4324

Coefficients:
            Estimate Std. Error t value             Pr(>|t|)
(Intercept) 2.05421    0.40576   5.063 0.0000006564822703 ***
SENS        0.58037    0.07304   7.946 0.0000000000000241 ***
LNOISE      0.18661    0.09084   2.054             0.0407 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.156 on 366 degrees of freedom
  (99 observations deleted due to missingness)
Multiple R-squared:  0.1943,    Adjusted R-squared:  0.1899
F-statistic: 44.12 on 2 and 366 DF,  p-value: < 0.00000000000000022

            VIF
SENS   1.126875
LNOISE 1.126875
```

------- N2: PRS_BA -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-4.4937 -0.6278 -0.0608  0.9392  3.0253

Coefficients:
            Estimate Std. Error t value     Pr(>|t|)
(Intercept) 2.47771    0.40788   6.075 0.00000000313 ***
SENS        0.43296    0.07321   5.914 0.00000000770 ***
LNOISE      0.21280    0.09144   2.327        0.0205 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.158 on 365 degrees of freedom
  (100 observations deleted due to missingness)
Multiple R-squared:  0.133,    Adjusted R-squared:  0.1282
```

```
F-statistic: 27.99 on 2 and 365 DF,  p-value: 0.000000000004922

            VIF
SENS   1.127508
LNOISE 1.127508
```

------- N2: PRS_EC -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median     3Q    Max
-3.6449 -0.6449 -0.2925  1.3551  2.9927

Coefficients:
            Estimate Std. Error t value        Pr(>|t|)
(Intercept) 3.76389    0.52350   7.190 0.00000000000381 ***
SENS        0.14258    0.09378   1.520           0.129
LNOISE      0.03361    0.11729   0.287           0.775
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.478 on 358 degrees of freedom
  (107 observations deleted due to missingness)
Multiple R-squared:  0.008357,  Adjusted R-squared:  0.002817
F-statistic: 1.508 on 2 and 358 DF,  p-value: 0.2226

            VIF
SENS   1.124374
LNOISE 1.124374
```

------- N2: PRS_ES -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median     3Q    Max
-4.6356 -0.8464  0.1536  1.0442  3.1457

Coefficients:
            Estimate Std. Error t value   Pr(>|t|)
(Intercept) 1.68954    0.48276   3.500   0.000526 ***
SENS        0.44532    0.08587   5.186 0.000000364 ***
LNOISE      0.34389    0.10815   3.180   0.001606 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.349 on 350 degrees of freedom
  (115 observations deleted due to missingness)
Multiple R-squared:  0.1328,    Adjusted R-squared:  0.1278
F-statistic:  26.8 on 2 and 350 DF,  p-value: 0.00000000001487

            VIF
SENS   1.12054
LNOISE 1.12054
```

N3

------- N3: PRS_FA -------

```
Call:
lm(formula = ff, data = data)
```

```
Residuals:
    Min     1Q  Median      3Q     Max
-4.7184 -0.7184  0.1938  0.8310  2.4006

Coefficients:
            Estimate Std. Error t value         Pr(>|t|)
(Intercept)  2.97169    0.41940   7.086 0.0000000000129 ***
SENS         0.37299    0.09044   4.124 0.0000500223055 ***
LNOISE       0.17634    0.08719   2.023          0.0441 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.182 on 261 degrees of freedom
  (90 observations deleted due to missingness)
Multiple R-squared:  0.1033,     Adjusted R-squared:  0.09642
F-statistic: 15.03 on 2 and 261 DF,  p-value: 0.000000662

            VIF
SENS   1.126454
LNOISE 1.126454
```

------- N3: PRS_BA -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median      3Q     Max
-4.5359 -0.8069  0.0814  0.9697  2.7098

Coefficients:
            Estimate Std. Error t value    Pr(>|t|)
(Intercept)  2.44953    0.45116   5.429 0.000000129 ***
SENS         0.50557    0.09788   5.165 0.000000477 ***
LNOISE       0.11170    0.09237   1.209       0.228
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.282 on 262 degrees of freedom
  (89 observations deleted due to missingness)
Multiple R-squared:  0.1212,     Adjusted R-squared:  0.1145
F-statistic: 18.07 on 2 and 262 DF,  p-value: 0.00000004431

            VIF
SENS   1.121124
LNOISE 1.121124
```

------- N3: PRS_EC -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min     1Q  Median      3Q     Max
-3.6314 -0.5529 -0.1078  0.8138  2.8138

Coefficients:
            Estimate Std. Error t value         Pr(>|t|)
(Intercept)  3.32242    0.51084   6.504 0.000000000404 ***
SENS         0.18334    0.11015   1.664         0.0972 .
LNOISE       0.07845    0.10589   0.741         0.4595
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.433 on 258 degrees of freedom
  (93 observations deleted due to missingness)
```

```
Multiple R-squared:  0.01773,    Adjusted R-squared:  0.01011
F-statistic: 2.328 on 2 and 258 DF,  p-value: 0.09956

          VIF
SENS   1.124556
LNOISE 1.124556
```

------- N3: PRS_ES -------

```
Call:
lm(formula = ff, data = data)

Residuals:
    Min      1Q  Median      3Q     Max
-4.2602 -0.9858  0.0971  1.2886  3.7179

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)   2.1015     0.5659   3.714 0.000251 ***
SENS          0.2744     0.1228   2.235 0.026282 *
LNOISE        0.3573     0.1167   3.062 0.002438 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.564 on 252 degrees of freedom
  (99 observations deleted due to missingness)
Multiple R-squared:  0.07789,    Adjusted R-squared:  0.07057
F-statistic: 10.64 on 2 and 252 DF,  p-value: 0.00003655

          VIF
SENS   1.124609
LNOISE 1.124609
```

Mediation analysis

geodata → SENS /LNOISE → PRS factors???

>> Lukas

Short explanation of failure of random forest models