**Table S4. Analysis of variance of the linear mixed effects models for the soil organic carbon content (Corg), total nitrogen (Nt) and pH.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Corg** | **Nt** | **pH** |
| Fixed effectsa | Num df | denDFc | F-value or z - score | pb | denDF | F-value or z - score | p | denDF | F-value or z - score | p |
| exploratory | 2 | 3.99 | 4.295 | 0.101 | 3.99 | 8.523 | **0.036** | 4 | 28.05 | **0.004** |
| Hainich - Alb |  |  |  |  |  | -3.536 | **0.001** |  | -1.57 | 0.351 |
| Schorfheide – Alb |  |  |  |  |  | -3.615 | **0.001** |  | -7.13 | **<.001** |
| Schorfheide - Hainich |  |  |  |  |  | -0.079 | 1.000 |  | -5.56 | **<.001** |
| management | 2 | 3.99 | 1.284 | 0.371 | 3.99 | 0.997 | 0.445 | 4 | 3.505 | **0.023** |
| managed - intensive |  |  |  |  |  |  |  |  |  |  |
| unmanaged - intensive |  |  |  |  |  |  |  |  |  |  |
| unmanaged - managed |  |  |  |  |  |  |  |  |  |  |
| treatment | 1 | 33.0 | 0.001 | 0.971 | 33.1 | 0.192 | 0.664 | 60 | 0.457 | 0.502 |
| precipitation reduction - control |  |  |  |  |  |  |  |  |  |  |
| management : treatment | 2 | 33.0 | 11.26 | **<.001** | 33.1 | 12.057 | **<.001** | 60 | 11.3 | **0.036** |
| cm\_r - cm\_c |  |  | -0.016 | 1.000 |  | -0.578 | 1.000 |  | 5.128 | **<.001** |
| bm\_c - cm\_c |  |  | 2.013 | 0.662 |  | 2.986 | **0.042** |  | 3.093 | **0.013** |
| bm\_r - cm\_c |  |  | 1.125 | 1.000 |  | 1.670 | 1.000 |  | 3.335 | **0.011** |
| bu\_c - cm\_c |  |  | 1.565 | 1.000 |  | 2.277 | 0.342 |  | 3.380 | **0.008** |
| bu\_r - cm\_c |  |  | 0.786 | 1.000 |  | 1.533 | 1.000 |  | 3.448 | 1.000 |
| bm\_c - cm\_r |  |  | 2.020 | 0.651 |  | 3.239 | **0.018** |  | 0.694 | 1.000 |
| bm\_r - cm\_r |  |  | 1.132 | 1.000 |  | 1.923 | 0.817 |  | 0.936 | 1.000 |
| bu\_c - cm\_r |  |  | 1.572 | 1.000 |  | 2.530 | 0.171 |  | 0.981 | 1.000 |
| bu\_r - cm\_r |  |  | 0.793 | 1.000 |  | 1.781 | 1.000 |  | 1.049 | 1.000 |
| bm\_r - bm\_c |  |  | -2.016 | 0.658 |  | -3.004 | **0.040** |  | 0.516 | 1.000 |
| bu\_c - bm\_c |  |  | -0.448 | 1.000 |  | -0.708 | 1.000 |  | 0.287 | 1.000 |
| bu\_r - bm\_c |  |  | -1.184 | 1.000 |  | -1.389 | 1.000 |  | 0.355 | 1.000 |
| bu\_c - bm\_r |  |  | 0.440 | 1.000 |  | 0.607 | 1.000 |  | 0.045 | 1.000 |
| bu\_r - bm\_r |  |  | -0.315 | 1.000 |  | -0.101 | 1.000 |  | 0.113 | 1.000 |
| bu\_r - bu\_c |  |  | -1.562 | 1.000 |  | -1.463 | 1.000 |  | 0.145 | 1.000 |

a Linear mixed effects models were conducted for soil parameters as a function of exploratory, management intensity and treatment (precipitation reduction). Results of multiple comparisons of means (Tukey contrasts) were calculated for each parameter per factor of the linear mixed effects models. P values were adjusted by the Bonferroni method. Thus, since tested parameters were affected by an interaction of management and treatment, post-hoc tests were applied for treatment within management and not for management and treatment alone.

b Significant probabilities (< 0.05) are shown in bold.

c denDF is the number of degrees of freedom associated with the model errors.
cm = intensive conifer managed, bm = beech managed, bu = beech unmanaged,
r = precipitation reduction subplot, c = control subplot