|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | PCA 1 | PCA 2 | PCA 3 | PCA 4 | PCA 5 | PCA 6 | PCA 7 | PCA 8 | PCA 9 | PCA 10 | PCA 11 | PCA 12 |
| NO3- | -0.2868  |  0.0489  |  0.4531  |  0.0606 | -0.1826  | -0.5870 | -0.2442  |  0.5059 | -0.0923  | -0.0553  |  0.0351 | -0.0045 |
| NH4+ | -0.2139  | -0.0318  |  0.3226  |  0.5824 |  0.6937  |  0.0854  |  0.1199  | -0.0688 |  0.0182 | -0.0299 | -0.0147 | -0.0295 |
| Total N | -0.4095  |  0.0946  |  0.1955  | -0.1578 | -0.1660  |  0.2251  |  0.1462  | -0.0908 |  0.0266  | -0.2224 | -0.7729  |  0.0698 |
| Total C | -0.3784  |  0.1614  |  0.1637 | -0.1762 | -0.1401  |  0.3975  |  0.3684  |  0.1322 | -0.2460  | -0.1637  |  0.5082 | -0.3106 |
| C:N |  0.2040  | -0.2149  |  0.4749  | -0.3804 |  0.2005  |  0.4446  | -0.3557  |  0.1802 | -0.1530  |  0.2966 | -0.0127  |  0.1833 |
| pH |  0.2836  |  0.3791  |  0.2380  | -0.0789 |  0.0676 | -0.1017  | -0.3522  | -0.4549 | -0.3160  | -0.4643  |  0.0173 | -0.2267 |
| Ca |  0.1517  |  0.4719  |  0.3565  | -0.0430 | -0.1008  |  0.0388  |  0.0833  | -0.0747 |  0.7286  |  0.2207  |  0.0846 | -0.1201 |
| K | -0.0501  |  0.5790  | -0.0492  |  0.0050 |  0.0505  | -0.1194  |  0.1949  | -0.0865 | -0.4481  |  0.5124 | -0.0447  |  0.3636 |
| Mg |  0.1059  |  0.4443  | -0.3747 | -0.0603 |  0.3270  |  0.1950  | -0.1707  |  0.6151 |  0.0796 | -0.2695 | -0.1240 | -0.0238 |
| Mn | -0.4004  |  0.0227  | -0.0842  | -0.3574 |  0.2466 | -0.1199  | -0.1426 | -0.2276 |  0.2581  | -0.2578  |  0.3130  |  0.5709 |
| P | -0.3078  |  0.1256 | -0.1371  |  0.4627 | -0.3561  |  0.3685 | -0.5936 | -0.0946 |  0.0301  |  0.1216  |  0.1050  |  0.0775 |
| Zn | -0.3838  | -0.0039 | -0.2183 | -0.3209 |  0.2936  | -0.1657  | -0.2676  | -0.1487 |  0.0331  |  0.3887 | -0.0942 | -0.5776 |

**S1 Table. Loadings of the 12 soil nutrient variables on the 12 PCA axes.**