**Results summary**

Total and inorganic soil N analyses

*Bivariate relationship between % foliar and % total soil N*

- 23 sites to compare. 6=herb, 17=woody

-Relationship not significant

*Bivariate relationship between % root and % total soil N*

-22 sites to compare. 6=herb, 16=woody

-Relationship not significant, but close (P=0.074). Positive effect of soil N on root N (slope=0.79)

*Bivariate relationship between % foliar and % inorganic N*

-21 sites to compare. 6=herb,15=woody.

-Relationship not significant

*Bivariate relationship between % root and % inorganic N*

-22 sites to compare. 6=herb,16=woody.

-Relationship is moderately significant:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **rootNPercent** | | |
| *Predictors* | *Estimates* | *CI* | *p* |
| (Intercept) | 0.75 | 0.54 – 0.95 | **<0.001** |
| inorganicN | 0.36 | -0.00 – 0.71 | 0.050 |
| Observations | 22 | | |
| R2 / R2 adjusted | 0.178 / 0.137 | | |

*Mixed effects models of foliar N and inorganic N*

-52 herb observations for 6 herb sites

-188 woody observations for 21 woody sites

-Only significant main effect is inorganic N

-Conditional R-squared=0.68, marginal=0.20

*Mixed effects models of root N and inorganic N*

-24 herb observations for 6 herb sites

-88 woody observations for 22 woody sites

-Only significant effect is inorganic N.

-conditional R-squared is 0.59, marginal is 0.22

**Plant feedbacks to soil N**

*Bivariate relationship between % litter and inorganic soil N*

-12 sites to compare, all woody.

-One outlier removed, and the relationships is significant:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **inorganicN** | | |
| *Predictors* | *Estimates* | *CI* | *p* |
| (Intercept) | 0.03 | -0.18 – 0.25 | 0.739 |
| litterNPercent\_mean | 0.37 | 0.14 – 0.60 | **0.006** |
| Observations | 11 | | |
| R2 / R2 adjusted | 0.592 / 0.546 | | |

*Bivariate relationship between N resorption and inorganic soil N*

-9 sites to compare, all are woody

-not significant

*Bivariate relationship between % litter and total soil N*

-13 sites to compare, all are woody.

-not significant

*Bivariate relationship between N resorption and total soil N*

-9 sites to compare, all are woody

-not significant

Stopped t mixed effects models for plant feedbacks to soil N, line 379

**Summary**

-Total soil N bears little relationships to plant N pools across NEON sites

-Inorganic soil N shows stronger/clearer linkages, such as with root N, and with litter N