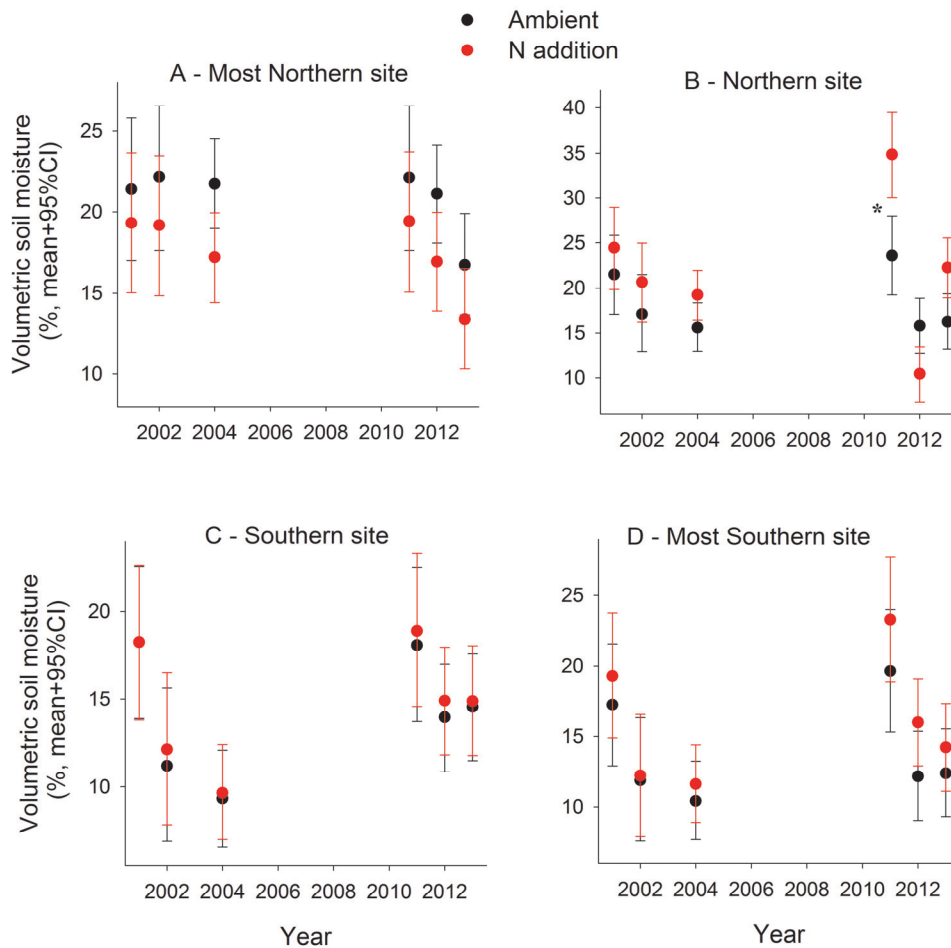


Appendices S8

Soil moisture analysis

We used independent soil moisture data (i.e., gravimetric soil moisture data estimated from soil samples collected at the study site and during the study years, see references below). Analysis of variance among years and between sites, show that for except one measurement (site B 2011) there were no significant differences in soil moisture between N treatments, and differences did not change over the course of the study.

Fig. S1. Volumetric soil moisture data collected at the study sites as part of other studies.



Appendix S8. Anthropogenic nitrogen deposition ameliorates the decline in tree growth caused by a drier climate. Inés Ibáñez, Donald R. Zak, Andrew J. Burton, and Kurt S. Pregitzer. *Ecology*.

References: DeForest, J.L., D.R. Zak, K.S. Pregitzer, and A.J. Burton. 2004. Experimental NO_3^- additions alter microbial community function in northern hardwood forests. *Soil Science Society of America Journal*, 68: 132-138.

Hassett, J.E., D.R. Zak, C.B. Blackwood, and K.S. Pregitzer. 2009. Are basidiomycete laccase gene abundance and composition related to reduced lignolytic activity under elevated atmospheric NO_3^- deposition in a northern hardwood forest? *Microbial Ecology* 57:728-739.

Freedman, Z. and D.R. Zak. 2014. Soil bacterial communities are shaped by temporal and environmental filtering: Evidence from a long-term chronosequence. *Environmental Microbiology* DOI :10.1111/1462-2920.12762.

Freedman Z., R.Z. Upchurch, D.R. Zak and L.C. Cline. 2015. Lignocellulolytic bacteria foster soil C storage under anthropogenic N deposition. *Frontiers in Microbiology*, 7:259