Changes in Soil Organic Matter Characteristics under Warming in Arctic Tundra

You Jin Kim¹, Mats P. Björkman², Robert G. Björk², Min Sung Kim³ Kyoung-Soon Jang³, Sungjin Nam¹, Sujeong Jeong¹, Ji Young Jung¹

¹ Korea Polar Research Institute , Korea; ² University of Gothenburg, Sweden; ³ Korea Basic Science Institute, Korea

Research questions

- How total soil C and the labile and recalcitrant fractions of SOM respond to warming?
- Is the characteristics of SOM changing as well as the quantity of SOM with warming?



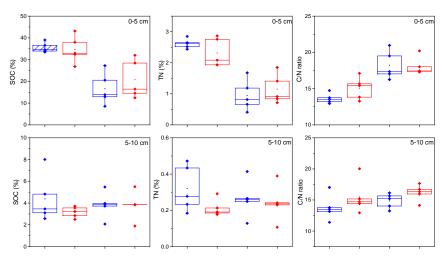




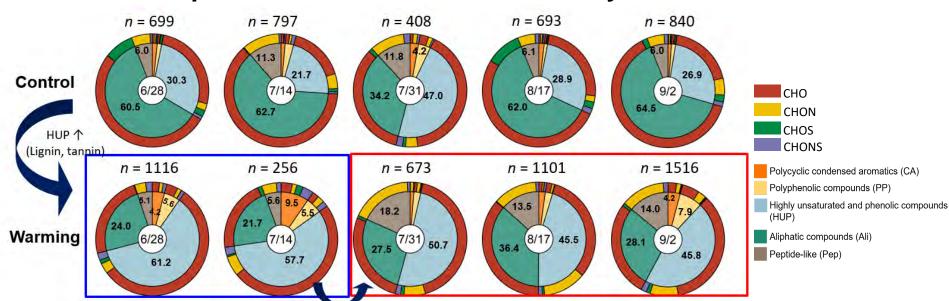
Study sites

SOM responses to warming





Molecular composition of DOM in the mineral layer



Number of molecules (molecular richness) ↑
Biological-derived compounds % (aliphatic, peptide-like) ↑