LITTERFALL EXCEEDS MODELING INPUTS FOR SOIL CARBON STOCK CHANGE

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Precise litter input estimates are needed for soil carbon models serving national greenhouse gas inventories. Litter inputs are typically estimated using regionally averaged and species specific biomass turnover rates. We tested the foliar turnover rates estimated from long-term measurements by two methods.

Table 7.2-3 Litter production rates and Lehtonen 2004, Starr et al. 200? organic soils is based on measureme

Tree species	Needles
pine, south	0.245
pine, north	0.154
pine, drained peatlands	0.33
spruce, south	0.1
spruce, north	0.05
deciduous, south	0.79
deciduous, north	0.79

Statistics Finland
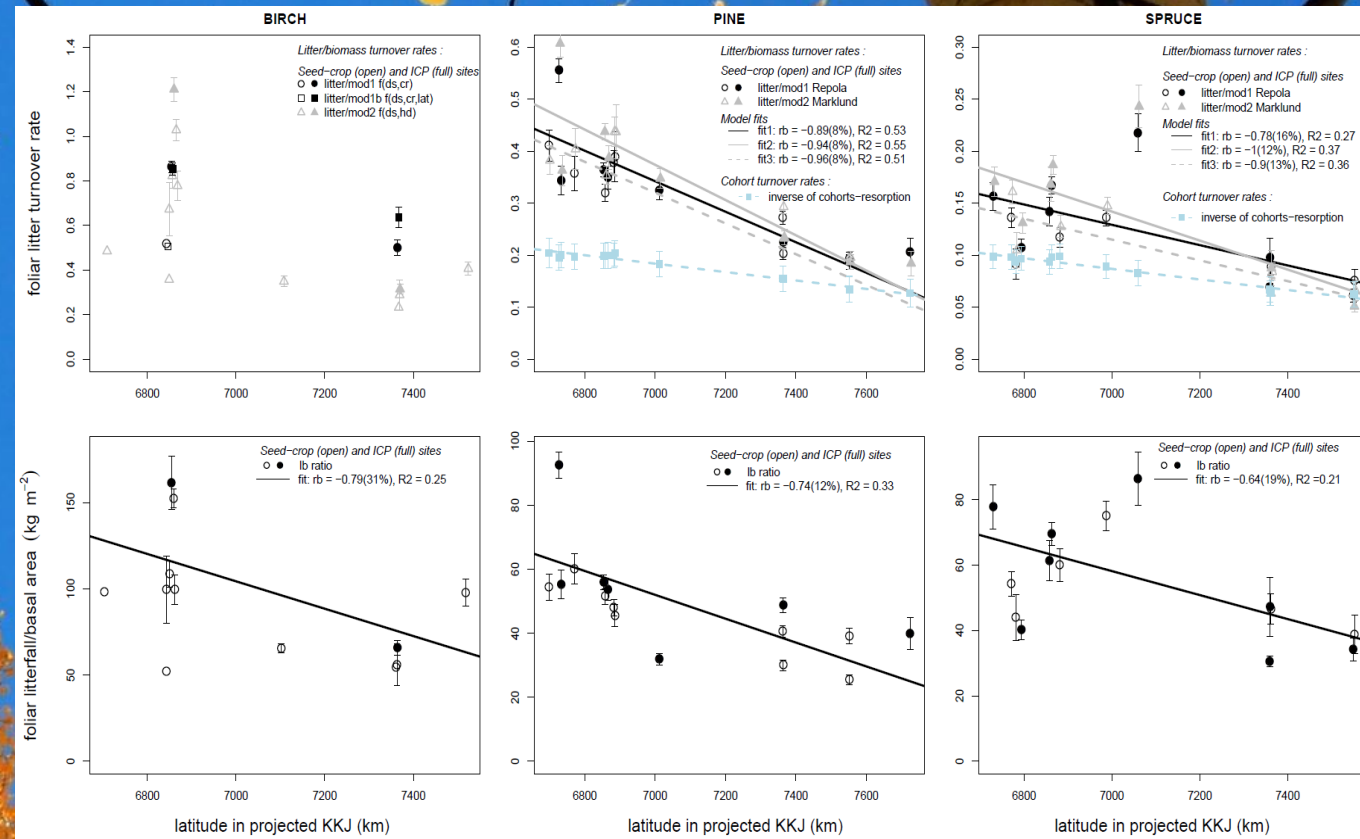
Turnover rates decreased with latitude.
Our pine and spruce estimates were larger than current foliar turnover rates used in Finland; whereas birch estimates were similar if latitude was included in a biomass model.

Disagreement between methods may indicate forests in a transition phase and/or effects of method uncertainties (cohorts' defoliation, nutrients resorption, biomass models).

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