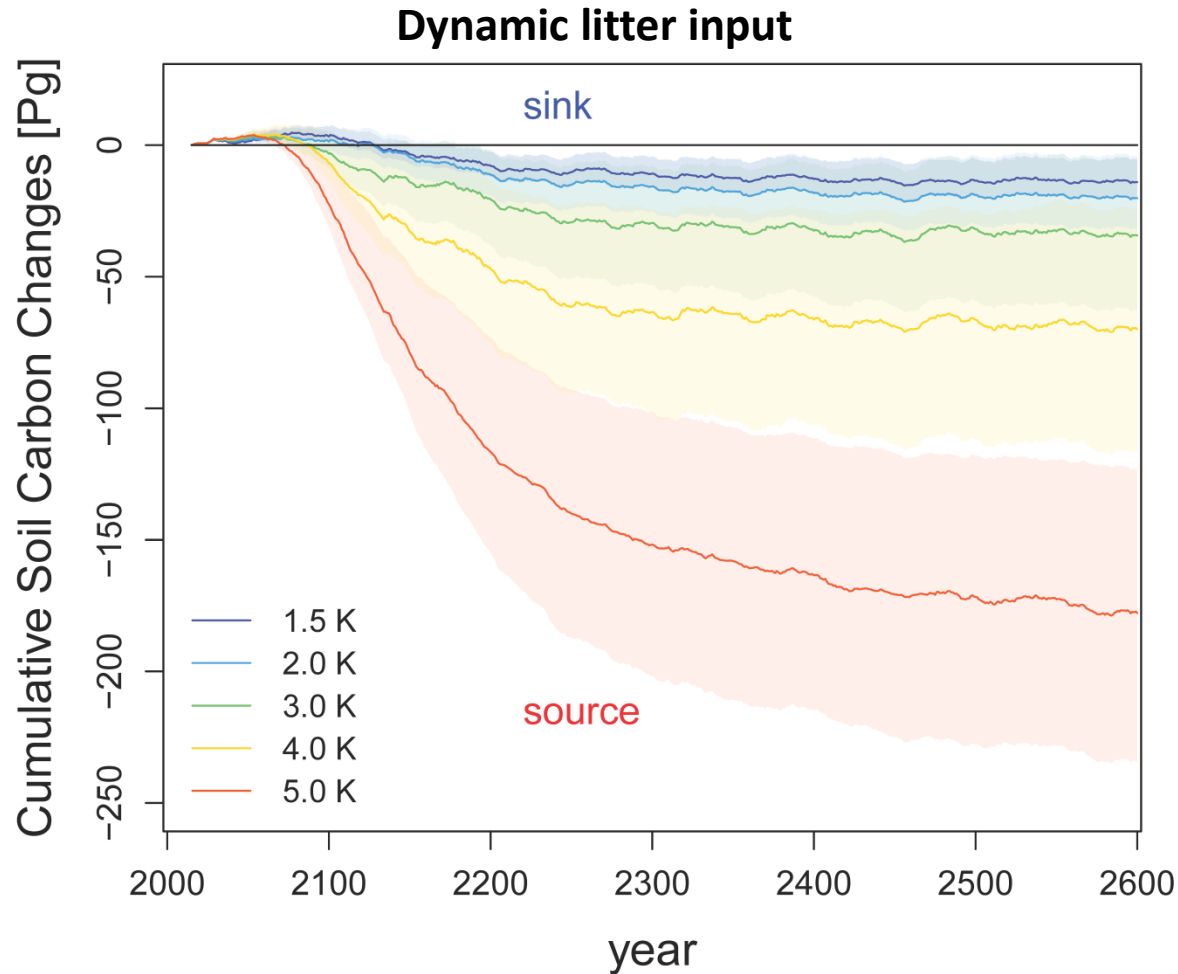


ISI-MIP theme permafrost

Kirsten Thonicke, Eleanor Burke,
Sibyll Schaphoff

Long-term (irreversible) changes in soil carbon storage on permafrost soils



Schaphoff et al. (ERL 2013)

Topics for permafrost intercomparison

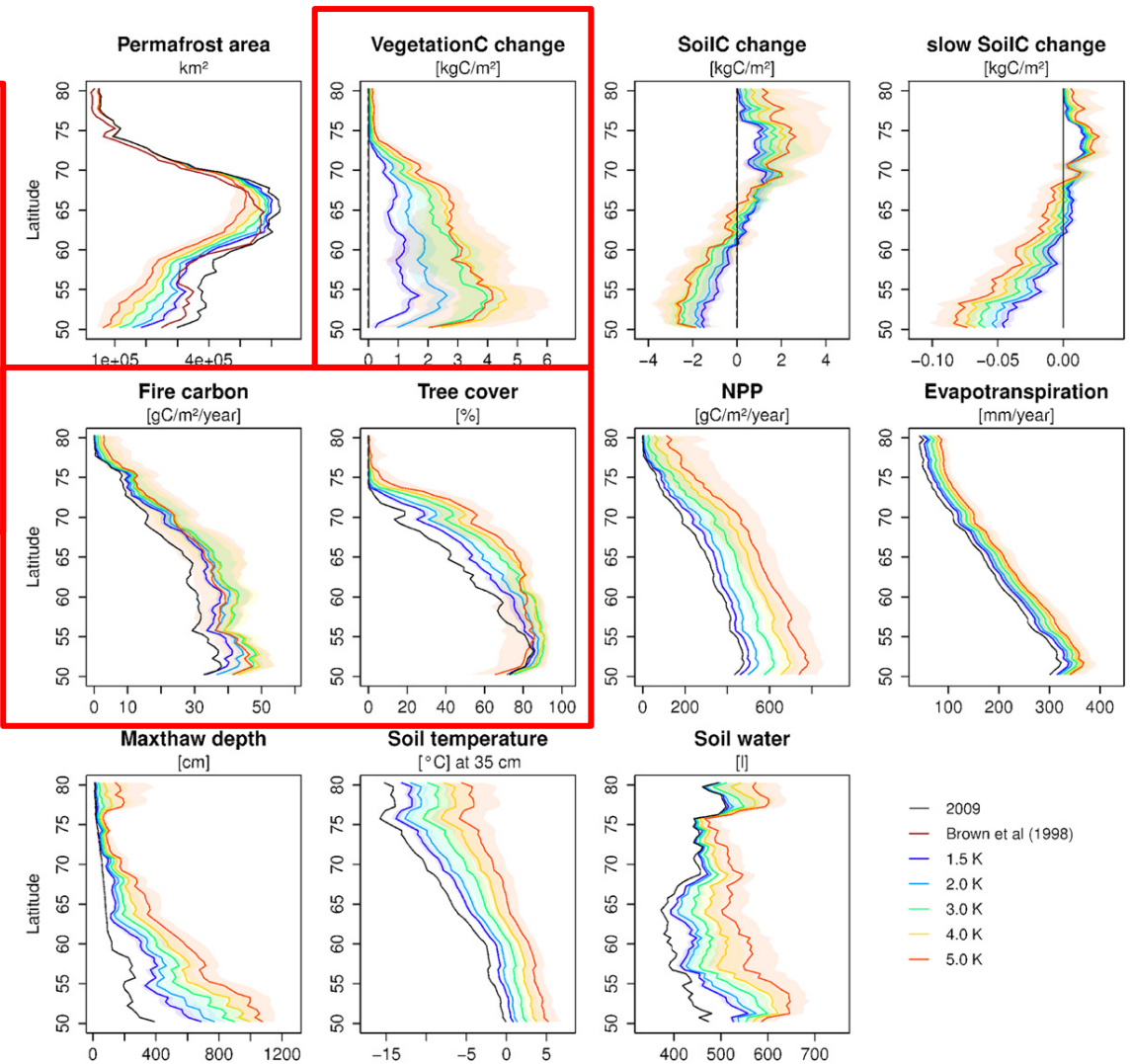
- **Look at long-term changes in coupled water and carbon processes**
 - Long-term changes in soil carbon storage
 - Connect hydrological processes and permafrost processes
- **Create synergies with ongoing model intercomparisons**
- **Make connection with site or specialized regional models**
 - Nested approach of global model with local models to investigate specific processes

Non-linear effects in changing vegetation & fire

Highest warming scenario (5°K)

- Biomass levels drop below levels under 3-4°K warming
- Southern latitudes with tree cover less/equal tree cover under 2°K warming
- Thus biomass burning less/equal levels under 2°K

All other changes in hydrological or carbon-related variables stratify along level of warming



Look at interactions – links to other ISI-MIP topics

