

Project acronym: TeaComp

Project title: A global litter decomposition study

Project leader: Ika Djukic, Environment Agency Austria, Vienna

Discipline: Earth Sciences & Environment

Station(s): Arctic Station (Greenland), Khibiny Educational and Scientific Station (Russia)

Litter decomposition represents one of the largest fluxes in the global terrestrial carbon cycle and a number of large-scale decomposition experiments have been conducted focusing on this fundamental soil process. However, previous studies were most often based on site-specific litters and methodologies. The general lack of common protocols still poses a main challenge as it adds major uncertainty to meta-analyses across different experiments and sites and it challenge attempts to put site based measurements into national, international and global context. The TeaComposition initiative offers an approach to overcome these limitations by providing standardized litter decomposition measurements across broad spatial and temporal scales. Through a link to experimental approaches such as Detritus Input Removal and Transfer Experiment (DIRT) we will be able to improve our mechanistic understanding of decomposition process. Moreover, when tea bag decomposition is combined with local litter decomposition a strong prerequisite is given for further improvement of the simulation models as well as for verification of their prediction.

Within INTERACT Transnational Access we aimed to expand litter decomposition study into arctic sites in order to address following objectives: Studying Long-term litter decomposition across arctic ecosystems within TeaComposition Initiative 2) Set-up of Detritus Input Removal and Transfer Experiment (DIRT) to study soil organic matter turnover over time 3) Data analyses and synthesis