



Progress on LIFE Peat Carbon project activities in Finland 2023

Tuula Aalto (Finnish Meteorological Institute), Jenni Hultman (LUKE, Natural Resources Institute Finland), Hannu Marttila (University of Oulu), FMI: S Juutinen, J. Chapman, T. Markkanen, K. Isomäki, M. Aurela, A. Lohila LUKE: A Räsänen, K Peltoniemi, A Korrensalo, P Mäkiranta, I. Mella and UOULU: P Ala-Aho, L Ikkala, A Autio

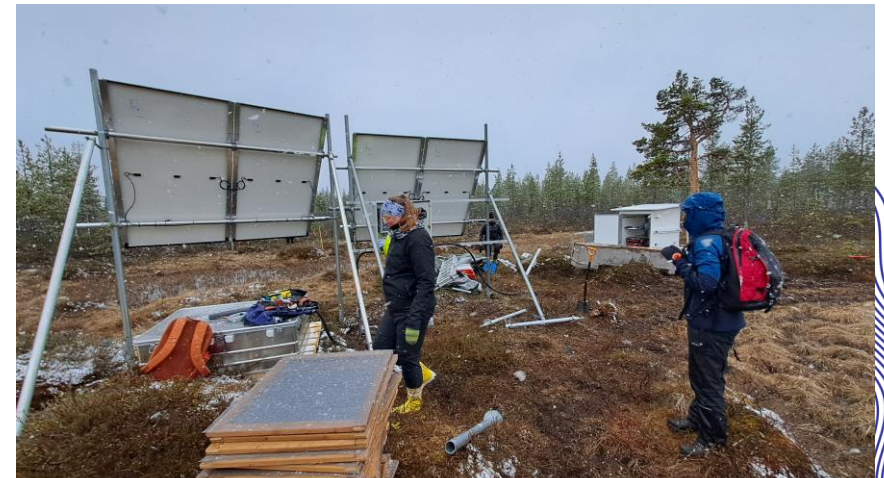
4.12.2023 LIFE Peat Carbon



GHG measurements



- Continuing CO₂, CH₄, and N₂O measurements in Välisuo and Matorovansuo plots
- Starting NEE measurements in selected plots (June 2023 onwards)
- Setting up the EC-CO₂ measurement station (June 2023)
- Tree plot survey (June)
- Litter traps, tea bags, peat samples for BD etc.
- Vegetation inventory in the GHG-collars (July, coordinated with the larger vegetation inventory)
- ABG biomass sampling
- Guidelines for GHG monitoring
- Next: Annual monitoring report
- More about GHG measurements in a presentation by Jack Chapman/FMI and Hannu Marttila/UOULU

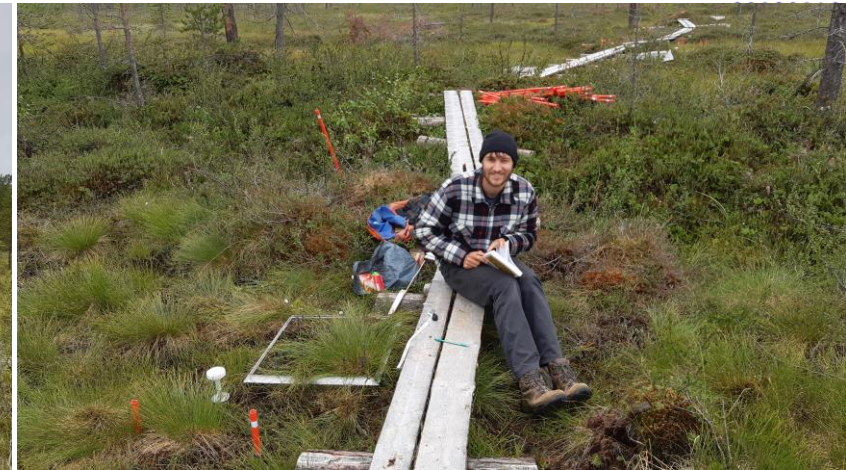


Vegetation studies



- Field work during July 19-25:
Vegetation inventories and soil moisture / water table depth measurements.
- Sampling for microbes June – Aug (4 visits), being processed in laboratory
- Guidelines for vegetation monitoring
- Next: Annual monitoring report
- More about the vegetation measurements and also about the remote sensing stuff in a presentation by Aleksi Räsänen/LUKE

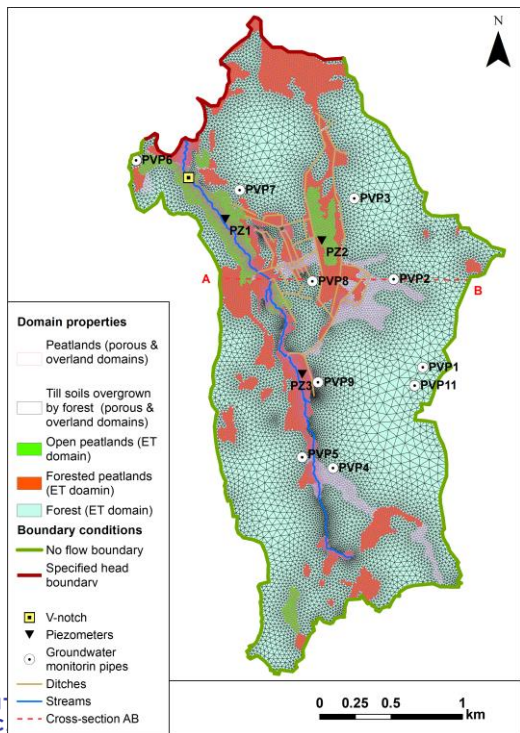
a jazz gig in Lompolojänkkä





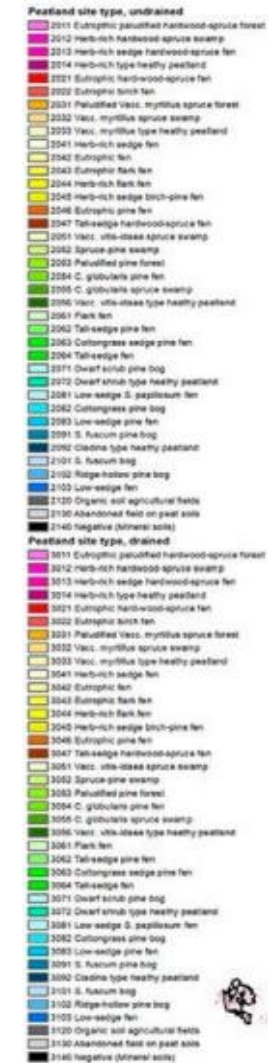
Hydrological studies

- Commercial satellite image from the sites
- Drone campaigns in July 2023 together with LUKE and UEF
- Improving WT monitoring (cloud based systems)
- Sampling for water isotopes and chemistry
- Guidelines for Hydrological monitoring
- Next: Annual monitoring report
- New PhD recruited, start to build HGS model to Matorova
- More about hydrogeological studies in a presentation by Hannu Marttila/UOULU and Jack Chapman/FMI



Modeling

- JSBACH model calibration and development
 - Calibration of peat soil and hydrology parameters and descriptions against measurements in pristine wetlands and peatland forests
 - Implementation of forest growth reduction due to high water table
 - Next: Implementation of moss and lichen (JSBACH module from P. Porada) and other PFTs suggested and discussed earlier (see Monitoring Protocol + a new map from GTK in 10m resolution, released Nov 2023)
 - Model runs for LIFE Peat carbon sites in Pallas region: pristine wetland, drained peatland with different forest densities



Outreach

- Presentations in
 - Power to peatlands, September, Antwerpen
 - IBFRA, August, Helsinki
 - NCGG9, June, Amsterdam
 - ICOS Nordic, November, Bergen
 - ACCC, November, Lahti
 - National Hydrological Modelling meeting, November, Helsinki
- Meetings with National inventory makers in Finland
 - GHG Inventory Seminar, Sep 2023, Helsinki
 - Discussion meeting about LULUCF in inventory and models, October 2023, Helsinki

Outreach

- **Monitoring and calibration meeting**

- Helsinki, March 2023, Helsinki, >20 participants
- Visits to rewetted, forestry-drained and partially harvested field measurement sites
- Preparation of LIFE PeatCarbon Monitoring Protocol: Greenhouse Gas Fluxes, Vegetation, Remote Sensing, and Hydrology

- **Web-stories**

- Field works
- Helsinki meeting

- **Next: video footage of restoration in Matorovansuo and Välisuo**

- Planned for next winter (tree logging) and summer (filling ditches)
- Private company contacted