Water management for sustainable use and protection of peatlands

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WATERPEAT NEWSLETTER #2

Project Duration April 2019-March 2022

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About WATERPEAT

WATERPEAT aims to improve knowledge on peatland hydrology and ways to manage peatlands to reduce environmental impacts on surface water. In particular,
➤ We will develop and test methods to monitor, model and understand processes on peatlands related to soil subsidence, soil physics, soil hydrology and biomass development.
➤ We will work towards a holistic understanding of peatlands protection and management, and their environment.

News

A special issue is planned on peatlands in Frontiers in Earth Science on *"Observing, Modeling and Understanding Processes in Natural and Managed Peatlands"*

WATERPEAT related research was presented at EGU2020 virtual conference as part of peatland hydrology sessions
https://meetingorganizer.copernicus.org/EGU2020/session/35568

Photo moment

UOULU researcher Lauri Ikkala (Olvassuo, Finland). Peatland restoration sites are studied with drone imaging and mapped with near-infrared and thermal infrared wavelengths to produce orthomosaic images, digital elevation models and a variety of moisture and vegetation indices.

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Updates on project partners' activities 2020

Ireland

The Irish team has used airborne geophysical data to identify soil core sampling locations at the study site. This novel approach will assure that laboratory studies will be truly representative of the field site. The information will help in the design of rewetting and restoration measures
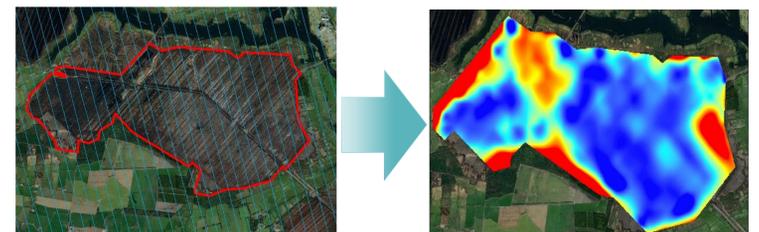

Finland

We used hydrological models to assess water table variations in cultivated peatlands. A 3D HGS groundwater model was applied to peatland dominated sites. We showed that the chemical treatment of peat extraction runoff can be improved when recycling of sediments is used.
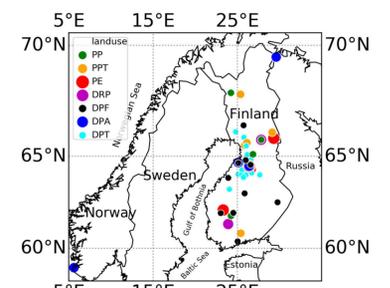
Finnish and Norwegian study sites where a review on soil hydraulic properties is being conducted.

Norway

The Norwegian team has equipped a forested, temperate mire (Akersmyra, close to Tønsberg) with long-term monitoring data on forest biomass and an adjacent pristine reference site (Gjennestadmyra) to examine long term effects on hydrology and impacts of hydrology on peatland forest biomass, peat properties and subsidence. Additionally, the team is developing novel methods (digital photogrammetry and use of lidar data) to enable cost-efficient measurements of subsidence (an indicator for peat loss) remotely over large geographical areas and for long time periods.
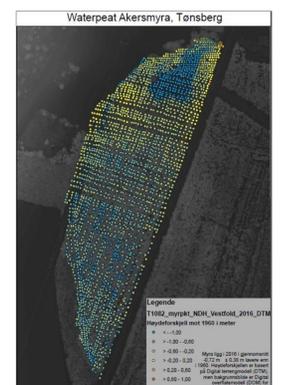
Surface subsidence between 1960 (digital photogrammetry) and 2016 (lidar data) at Akersmyra. The direction of the symbols > and < in the legend is reversed

Indonesia

A joined collaboration between OULU and UGM produced a paper on hydrology of Indonesian peatlands. We also initiated a study on the use of remote sensing methods to study peatlands with NIBIO.