LIFE PEAT RESTORE

Implementation of GEST approach to estimate GHG emissions from peatlands

LIFE 15 CCM/DE/000138

Visit us at: https://life-peat-restore.eu

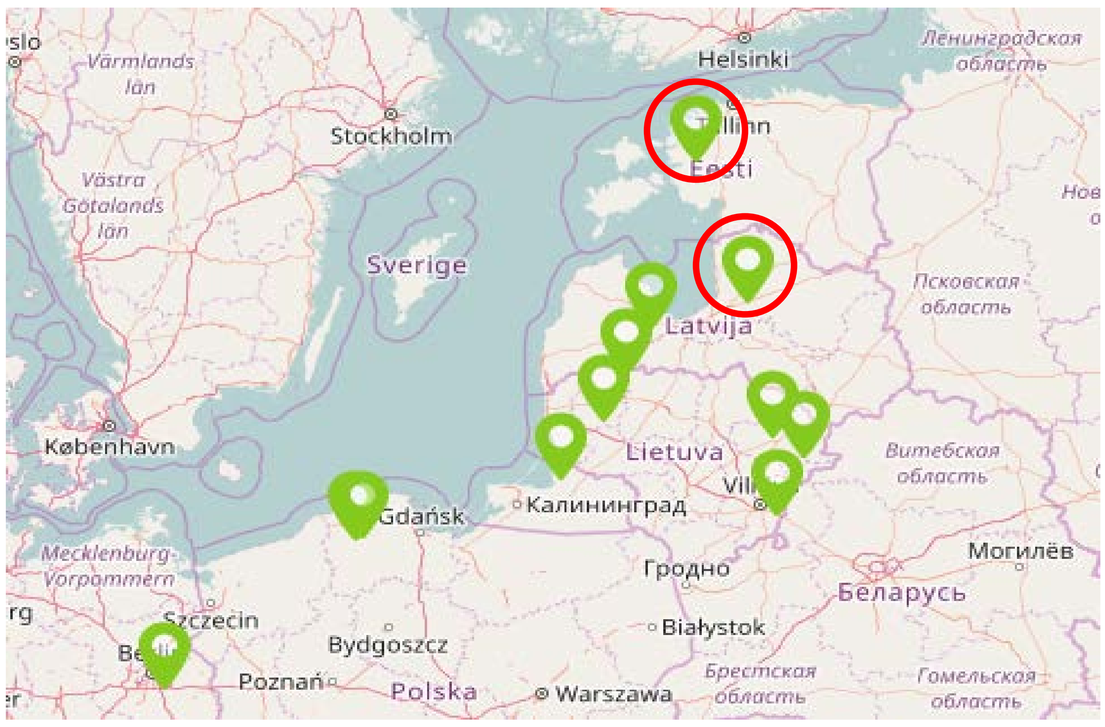
Background

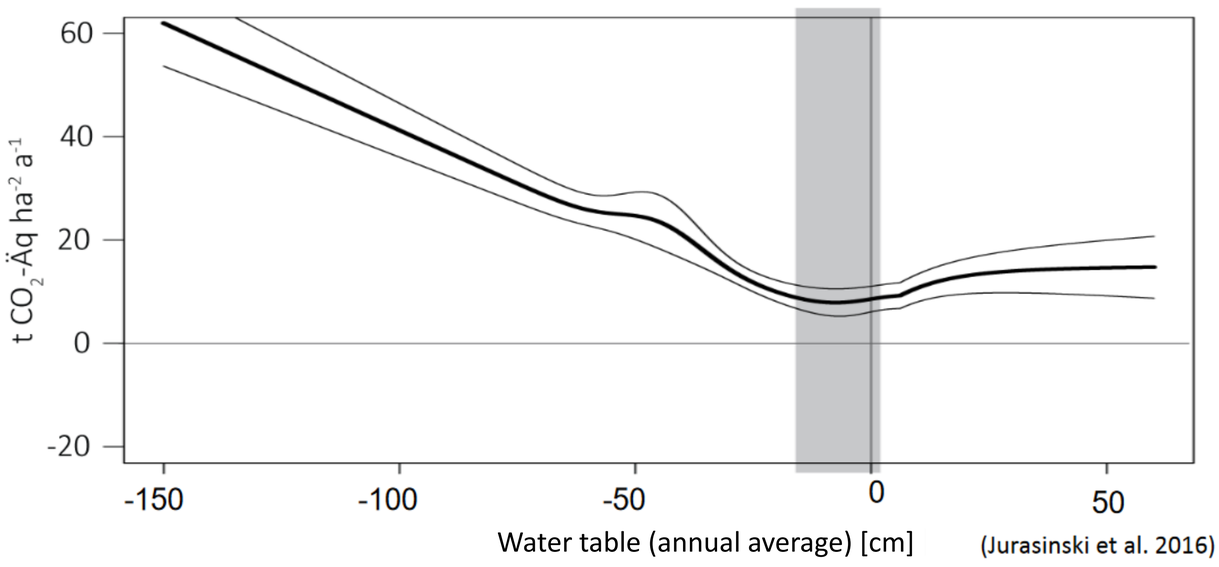
- Peatlands store ca. 600 Gt carbon
  -> ≈ **30 %** of **the global** terrestrial **carbon** stock on only **3 %** of the **land area**
- **Drainage increases decomposition** and mineralisation of peat which leads to **high emissions** of **carbon dioxide** (CO_2)
- Rewetting & **Restoration** of degraded peatlands **reduces Greenhouse Gas** (GHG) **emissions**
- **GHG-Monitoring** is needed for **Estimation** and **Evaluation** of the **climate effect** of **restoration** measures

GEST-Approach

- Elaborated by COUWENBERG et al. (2008 & 2011)
  GEST represents a practical and expandable tool for quantification of GHG emissions of degraded and rewetted peatlands
- GHG – emissions are significantly related to annual mean water table
- Water table levels can be estimated by presence or absence of special groups of plant species
- Classification in more or less homogenous Greenhouse-**G**as-**E**missions-**S**ite-**T**ypes (**GEST**) by referring to published GHG-data of similar sites

Project Sites

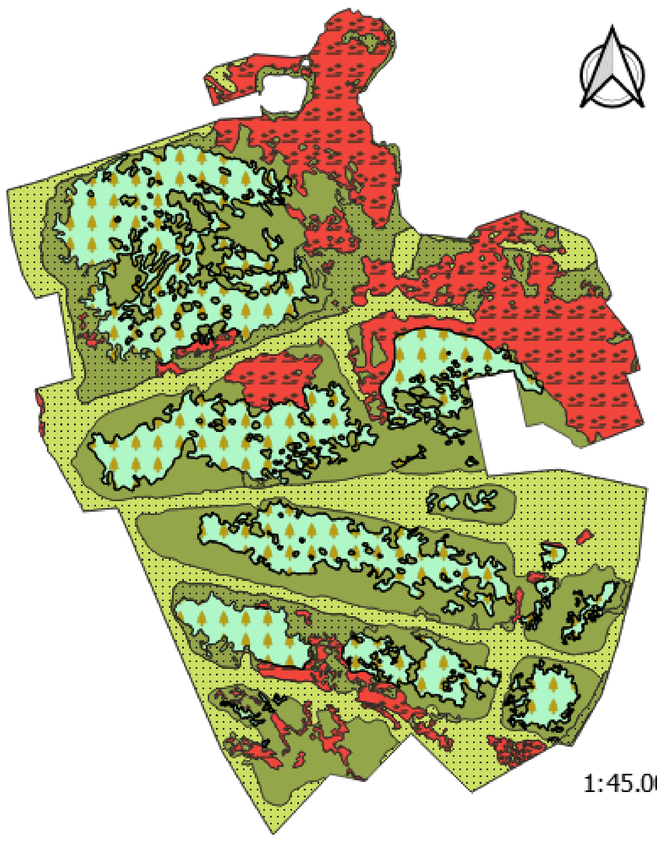




Relationship between water table and GHG emissions

First GEST-Maps

Estonia - Suursoo



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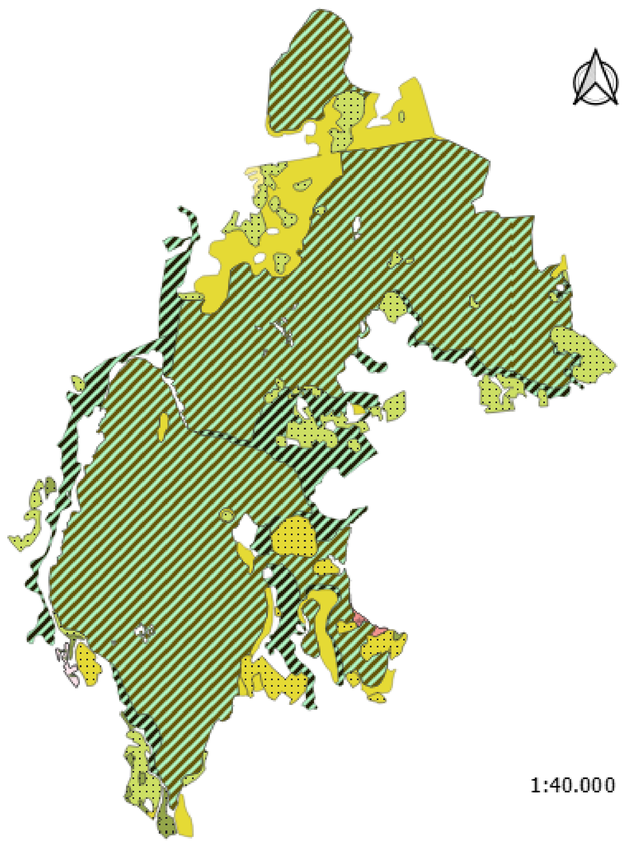
Latvia - Madiesenu Mire



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Forested Peatlands

- Dry Forests and shrubberies (Oligotrophic peatlands)
- Moderately moist Forests and shrubberies (Meso- and eutrophic peatlands)
- Moderately moist Forests and shrubberies (Oligotrophic peatlands)
- Moist Forests and shrubberies (Meso- and eutrophic peatlands)
- Moist Forests and shrubberies (Oligotrophic peatlands)
- Very moist Forests and shrubberies (Meso- and eutrophic peatlands)
- Very moist Forests and shrubberies (Oligotrophic peatlands)

Open Peatlands

- Moderately moist (forb) meadows
- Very moist mesotrophic calcareous Meadows, forbs...
- Very moist Meadows, forbs and small sedges reeds
- Wet Meadows and forbs
- Moist reeds and (forb) meadows
- Wet tall reeds
- Wet peat moss hollows resp. flooded peat moss lawn
- Wet peat moss lawn
- Wet peat moss lawn with pine trees

Partners: NABU, Latvijas Universitātes Botāniskais dārzs, E Būvvadība, ELM media, Klub Przyrodników, LGF Lithuanian Fund for Nature, Lietuviškos durpės, Tallinn University

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