

# Peatland hydrological monitoring results in Latvian project sites

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LATVIJAS  
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# Hydrological monitoring

## Aim

- Evaluate the impact of the hydrological restoration

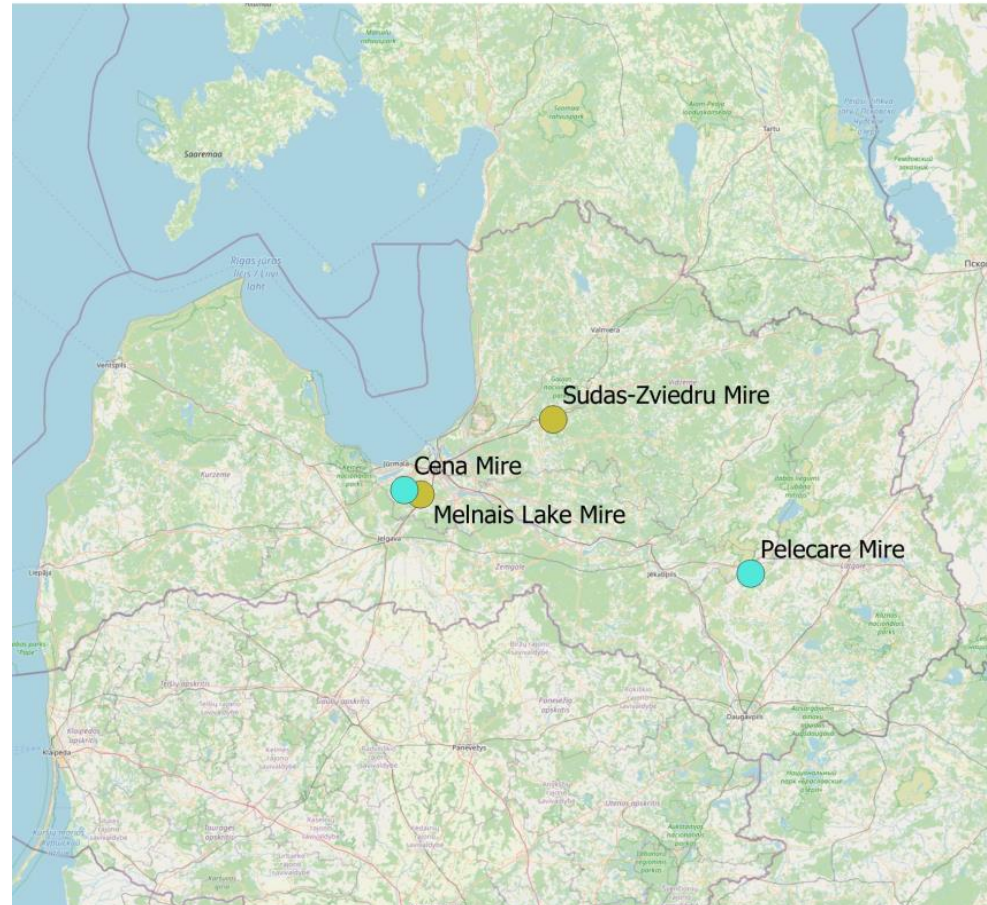
## Task

- Quantitatively measure the changes if of the water table and runoff after restoration

## Approach

- Measure gradients - profile lines
- Comparison: pristine – restored – not- restored

## Project locations in Latvia



Restoration and monitoring locations

- Monitoring locations
- Restoration and monitoring locations

0 25 50 km

# Summary

- 4 mires
- 53 water level monitoring sites
- 2 weather stations
- 2 soil water stations
- 4 surface water sampling locations
- 2 discharge estimation sites



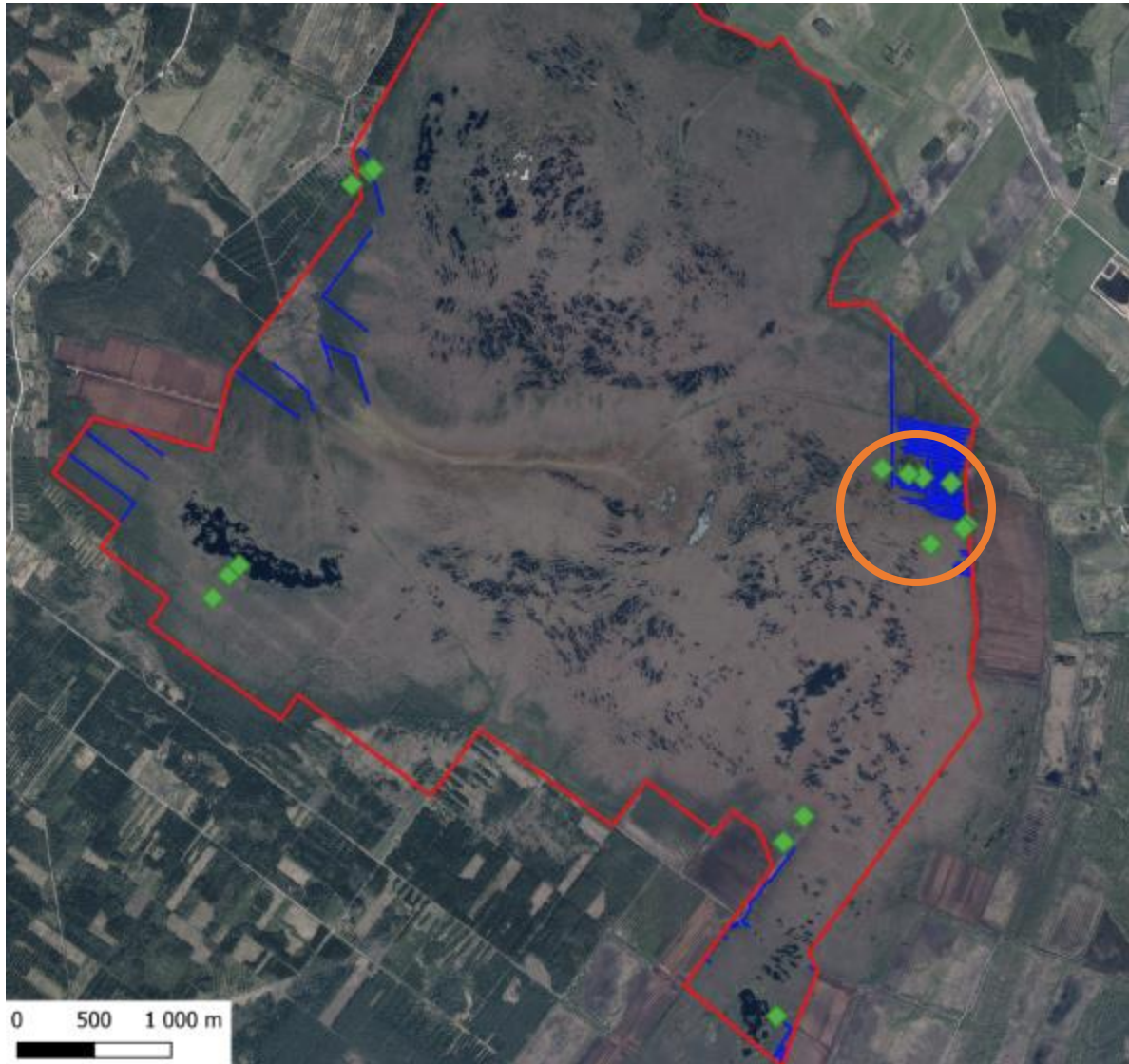


A landscape photograph of a mire, specifically labeled as 'Cena Mire'. The scene features a body of water in the center, which reflects the sky and the surrounding trees. The water is dark and still, acting as a mirror for the blue sky and white clouds above. The shoreline is composed of various vegetation, including green grasses and patches of brown, dry-looking plants. In the background, a dense line of trees, mostly evergreens, stretches across the horizon. The overall atmosphere is serene and natural. The text 'Cena Mire' is overlaid in the center of the image in a white, sans-serif font.

# Cena Mire



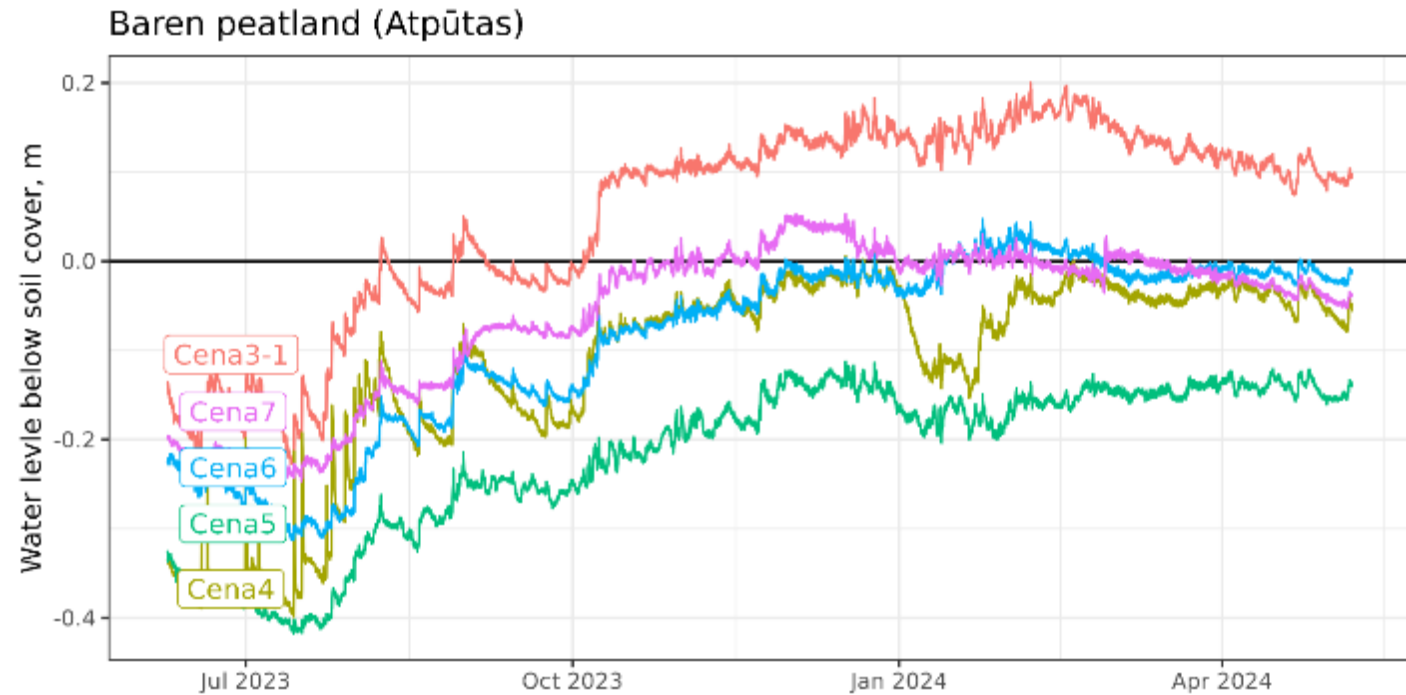
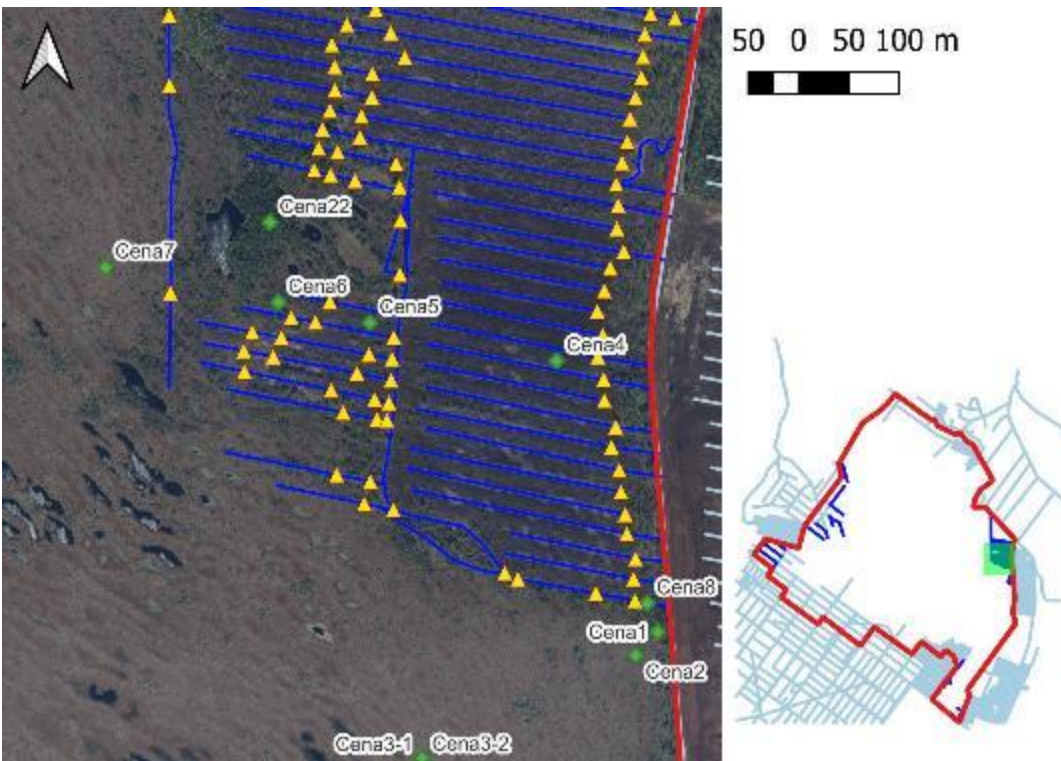
# Cena mire: hydrological monitoring



## Owerview

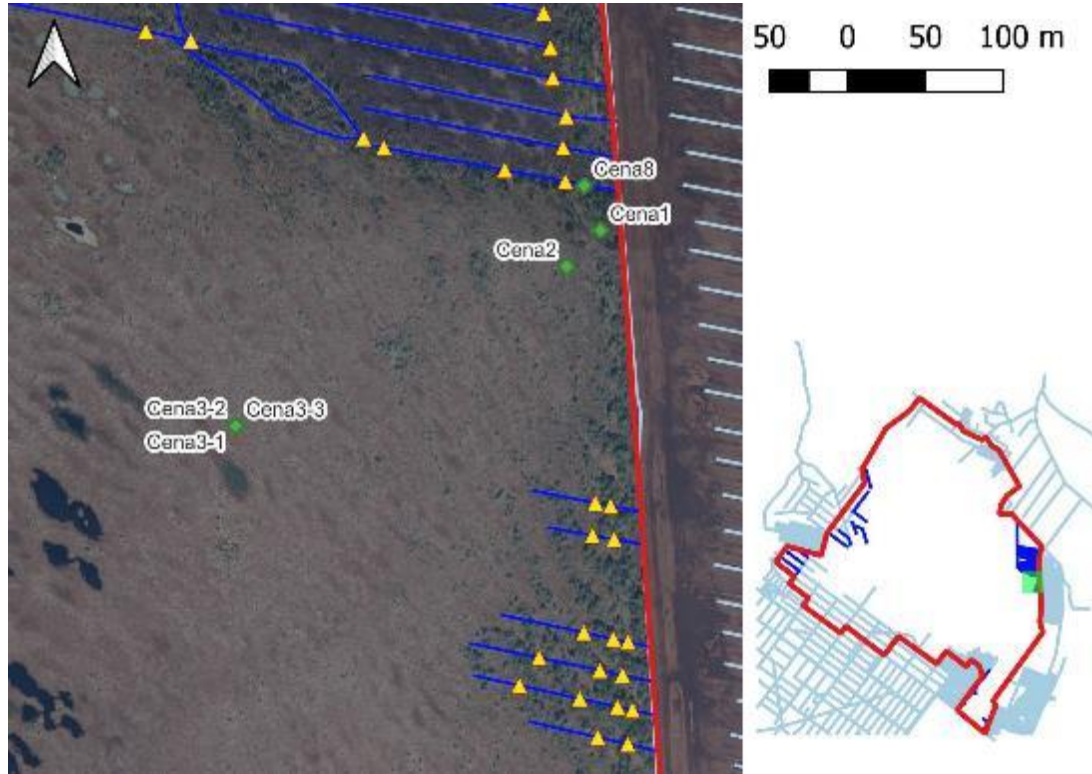
- 19 water level observation wells installed
  - 5 probes since 2023-05
  - 14 probe since 2024-06
- 6 groups of welss
- 1 discharge monitoring site (water level + salt tracing)

# 1. Baren patland (Atputas)



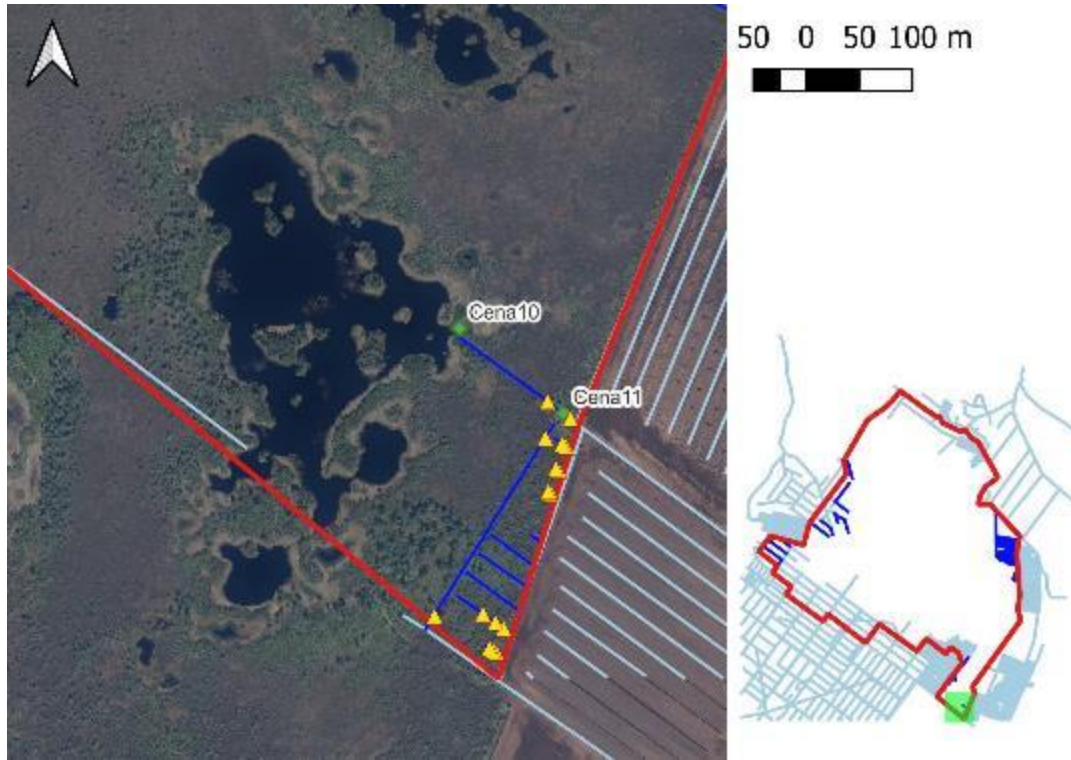


## 2. Gradient pristine to deep contort ditch



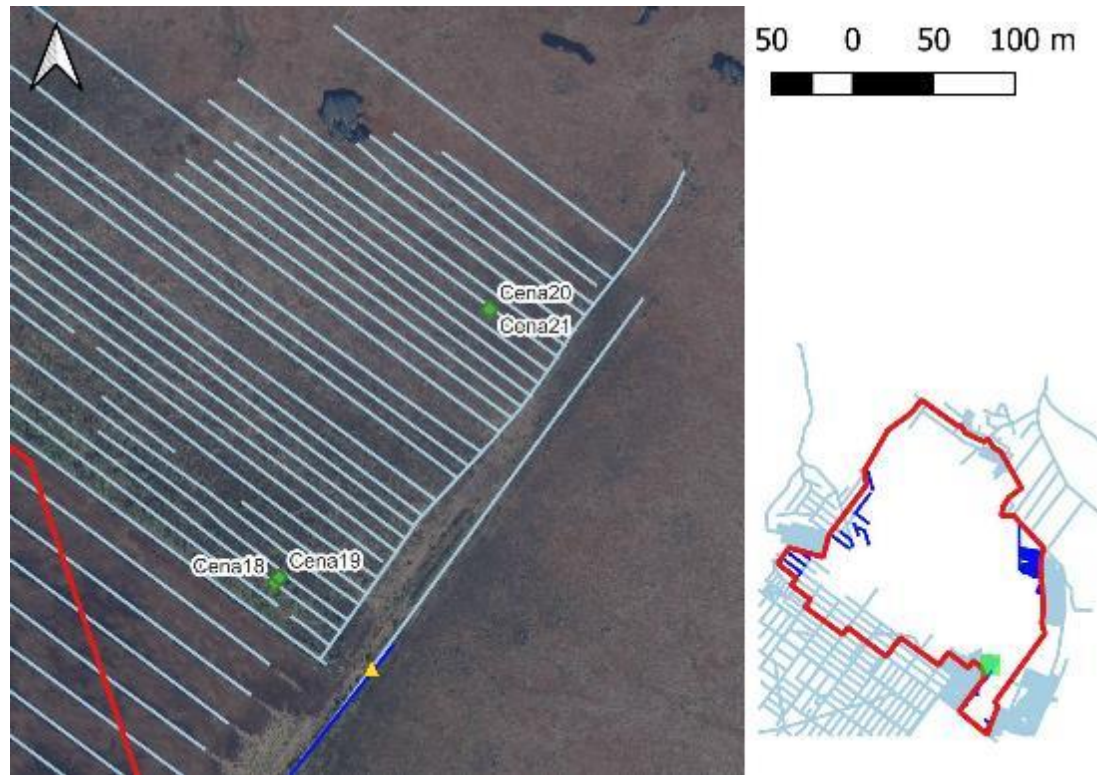


### 3. Partly drained bog pool



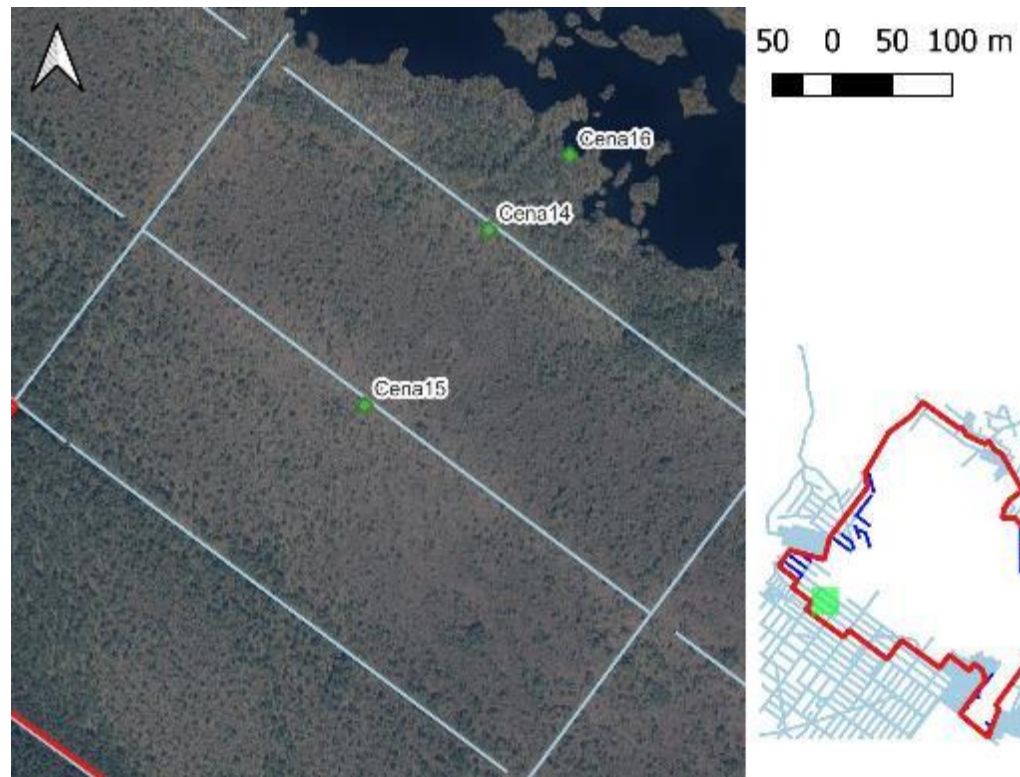


## 4. Historically resorted, closely spaced ditches



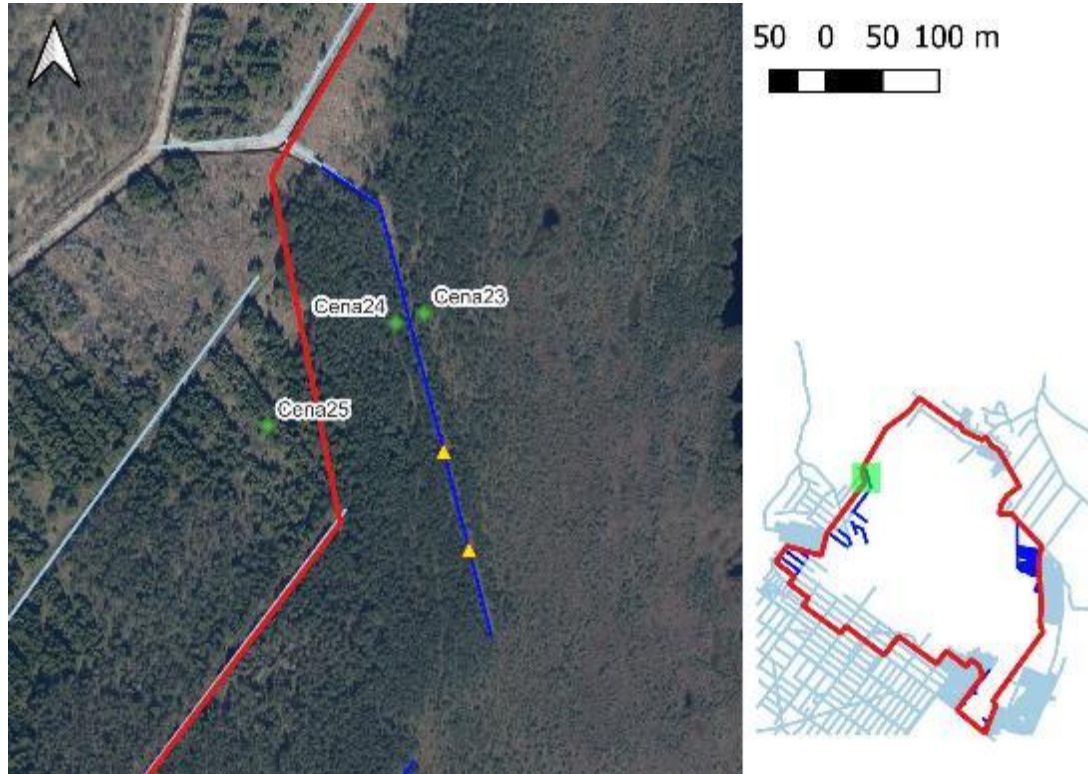


## 5. Historically restored, Lake Skaista





## 6. Large ditch and distal woodland



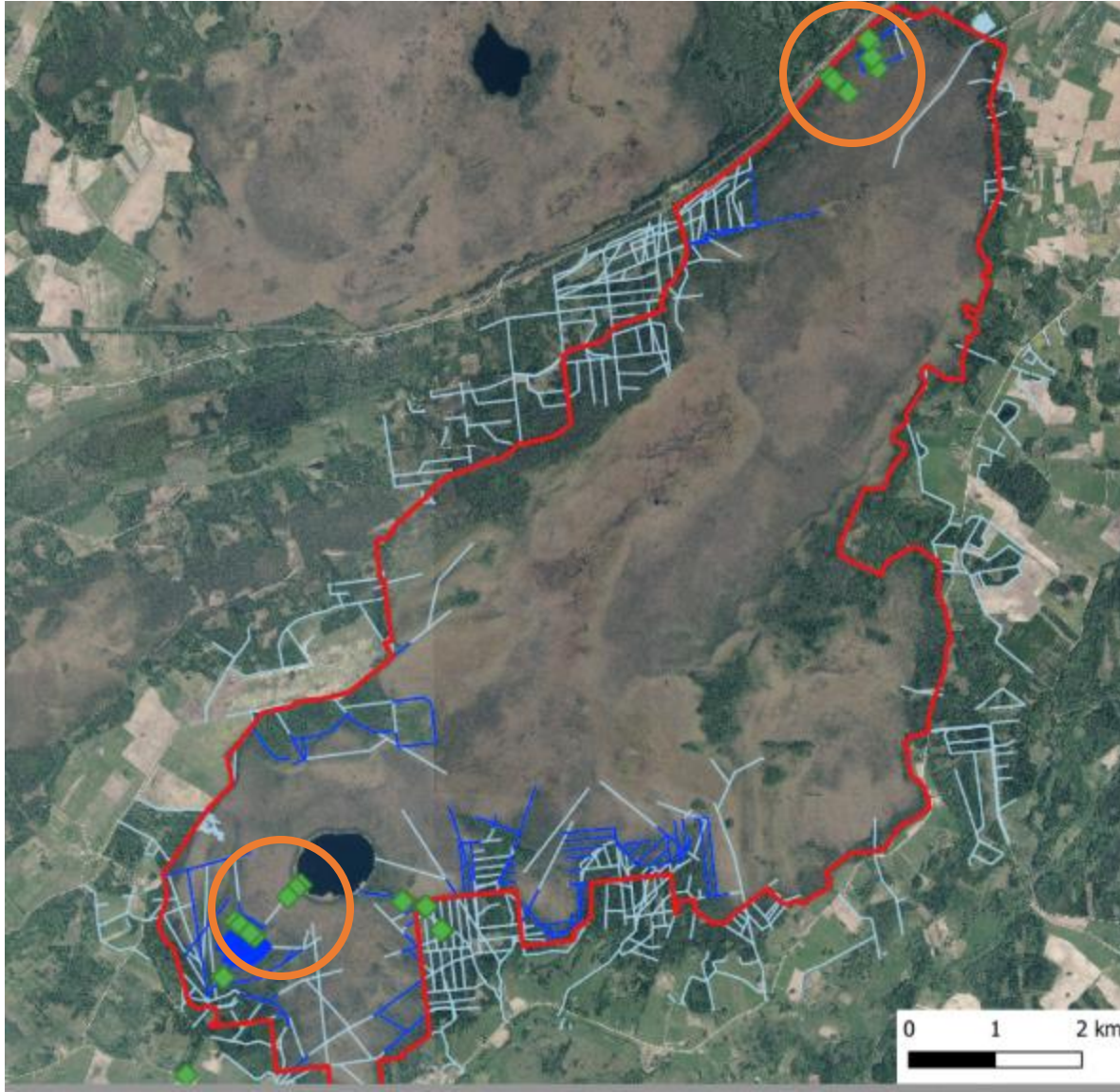


A wide-angle landscape photograph taken during the golden hour, creating a warm, hazy atmosphere. The foreground is filled with tall, dry grass. Several young pine trees are scattered across the middle ground, with one particularly tall, slender tree standing out in the center-left. The background is a dense forest, its details softened by a thick layer of mist or fog. The overall color palette is dominated by warm, earthy tones of gold, brown, and green.

# Lielsais Pelečāre Mire



# Lielsais Pelečāre mire: hydrological monitoring

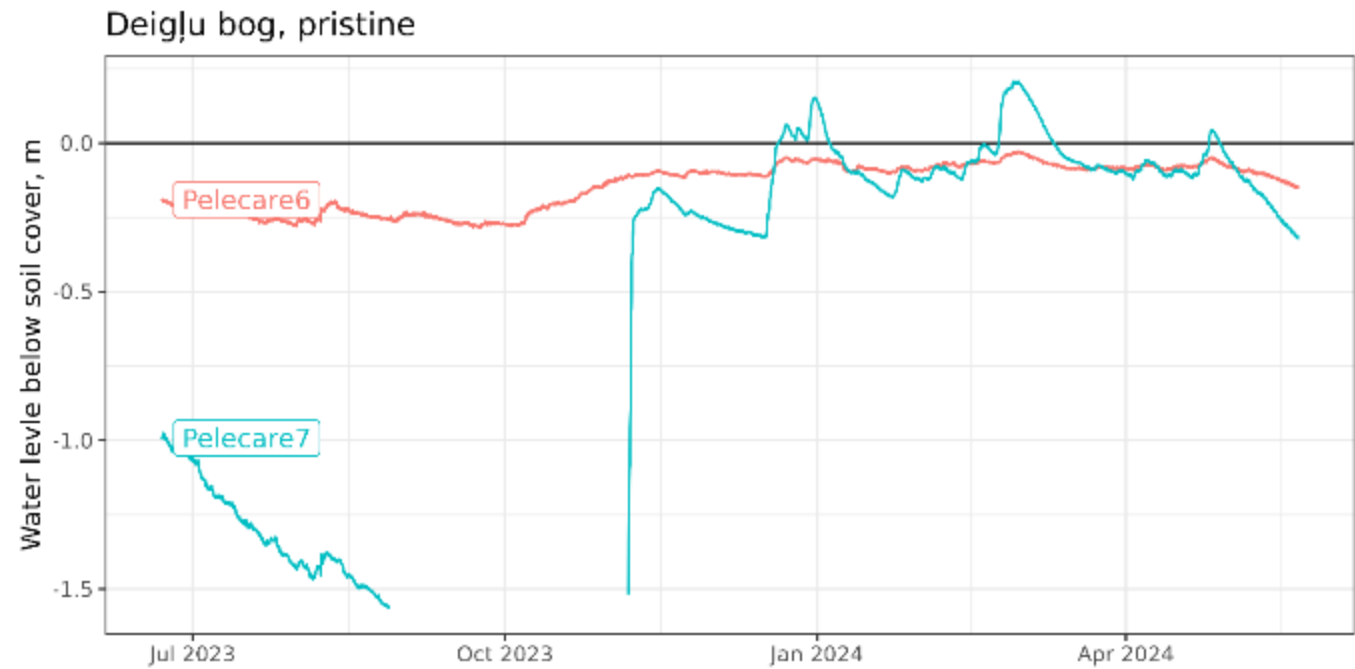
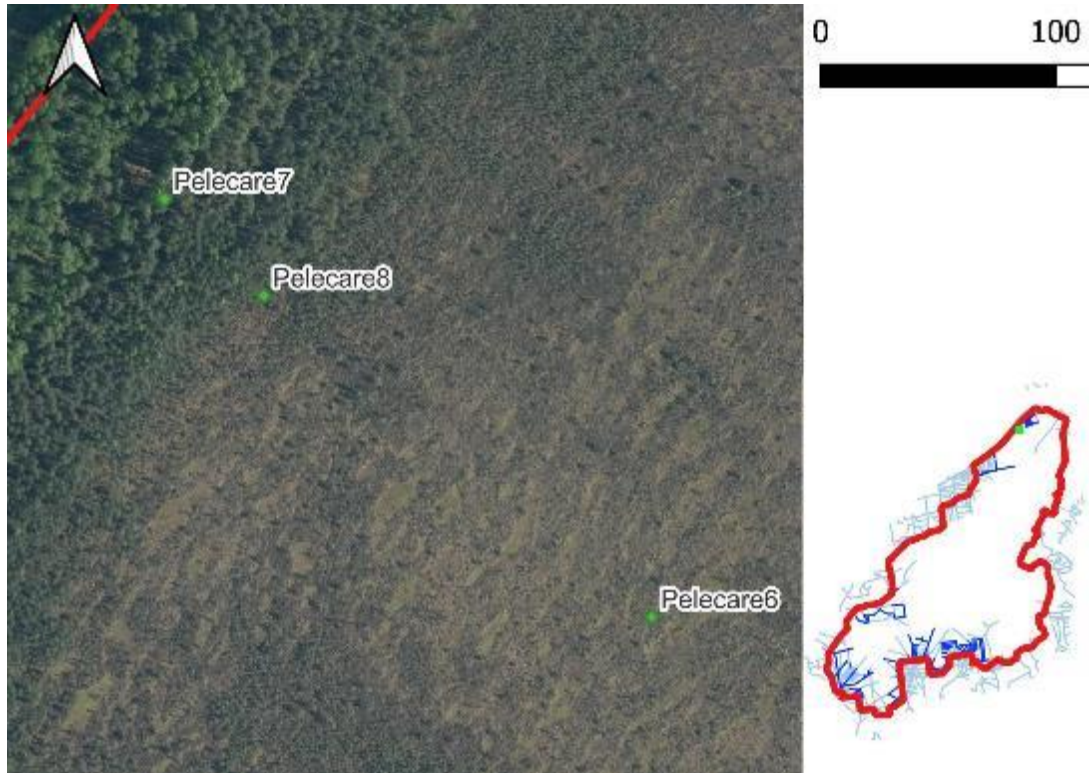


## Overview

- 25 water level observation wells installed
  - 13 Leve logger probes since 2023-06
  - 12 Leve logger probes since 2024-06
- 2 soil water potential and content monitoring points at 3 depth levels
- 1 discharge monitoring site (water level + salt tracing)
- Meteorological station
  - Open peatland
  - Forest site
- 5 groups of observations

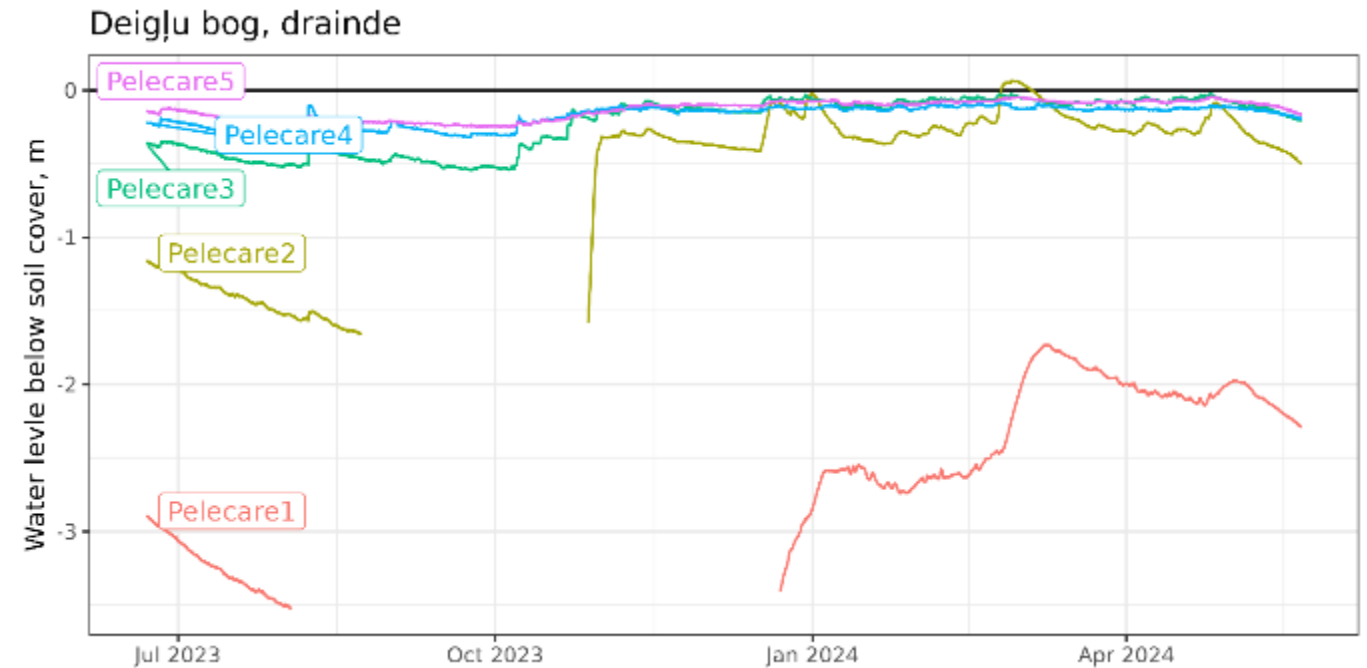
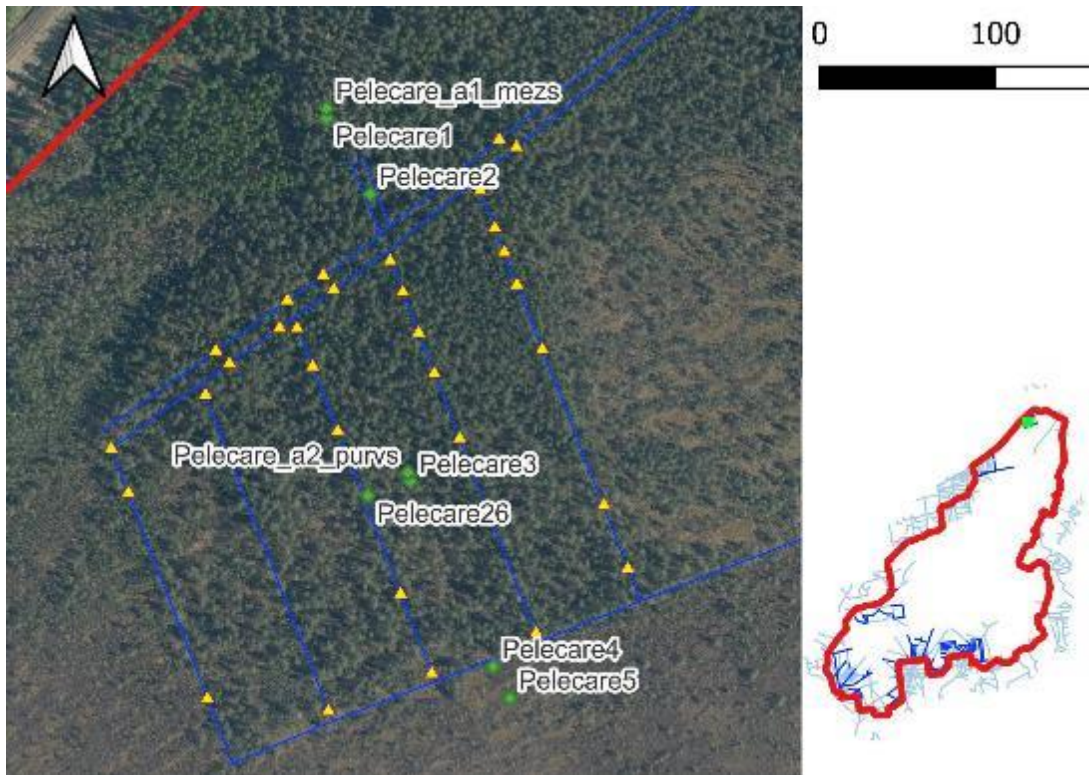


# 1. Deigļu bog, pristine



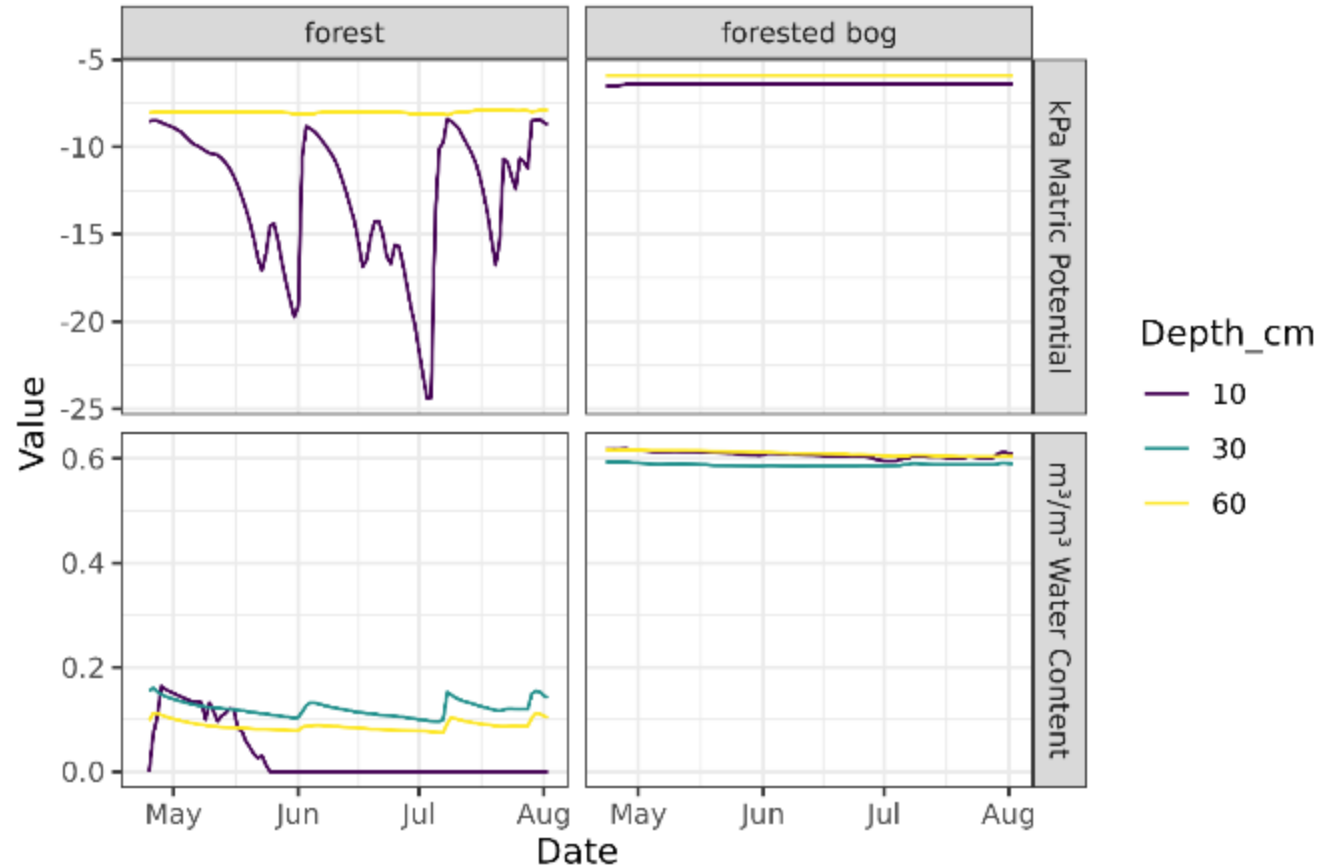
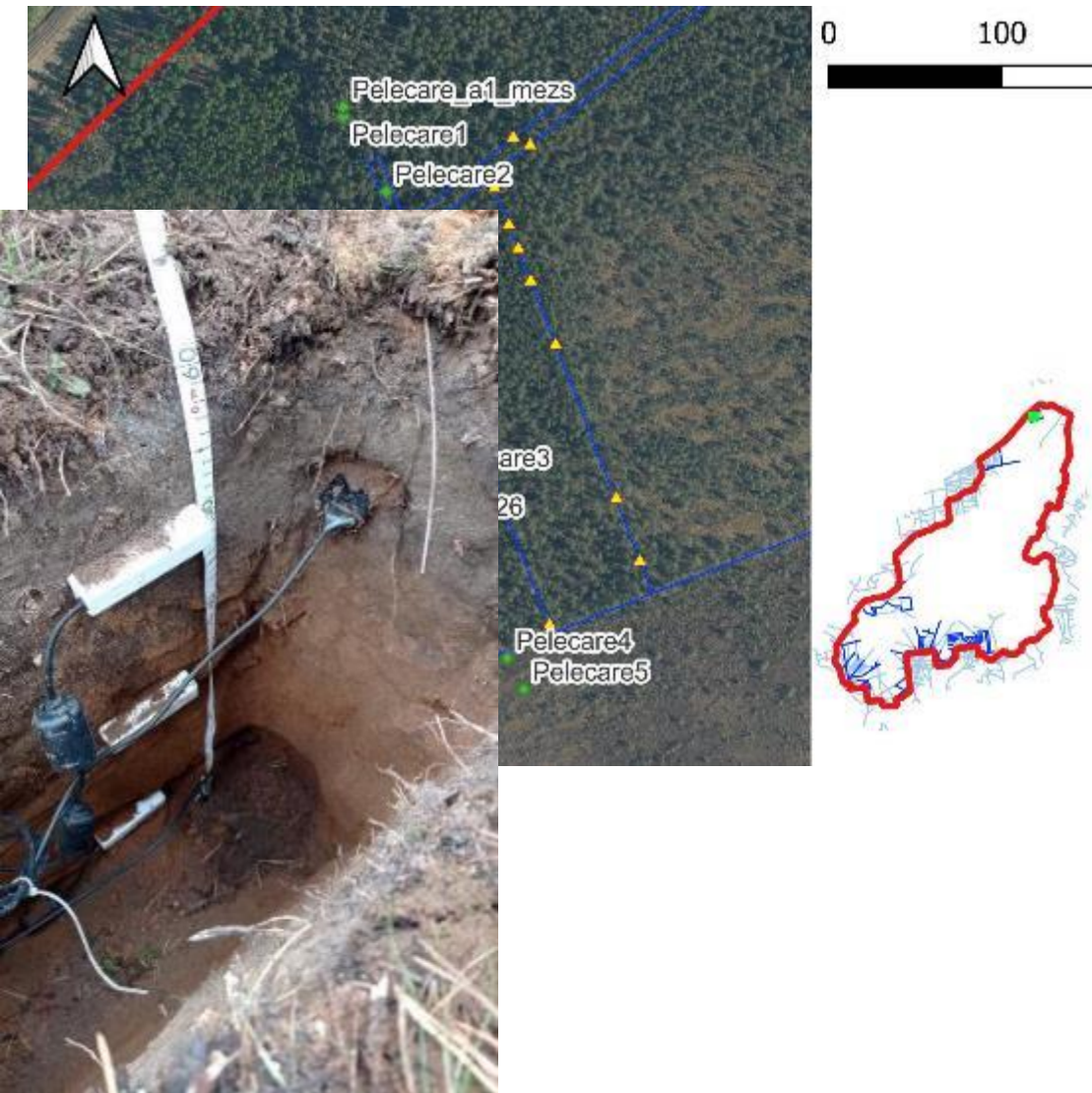


## 2. Deiglu bog, drained and forested



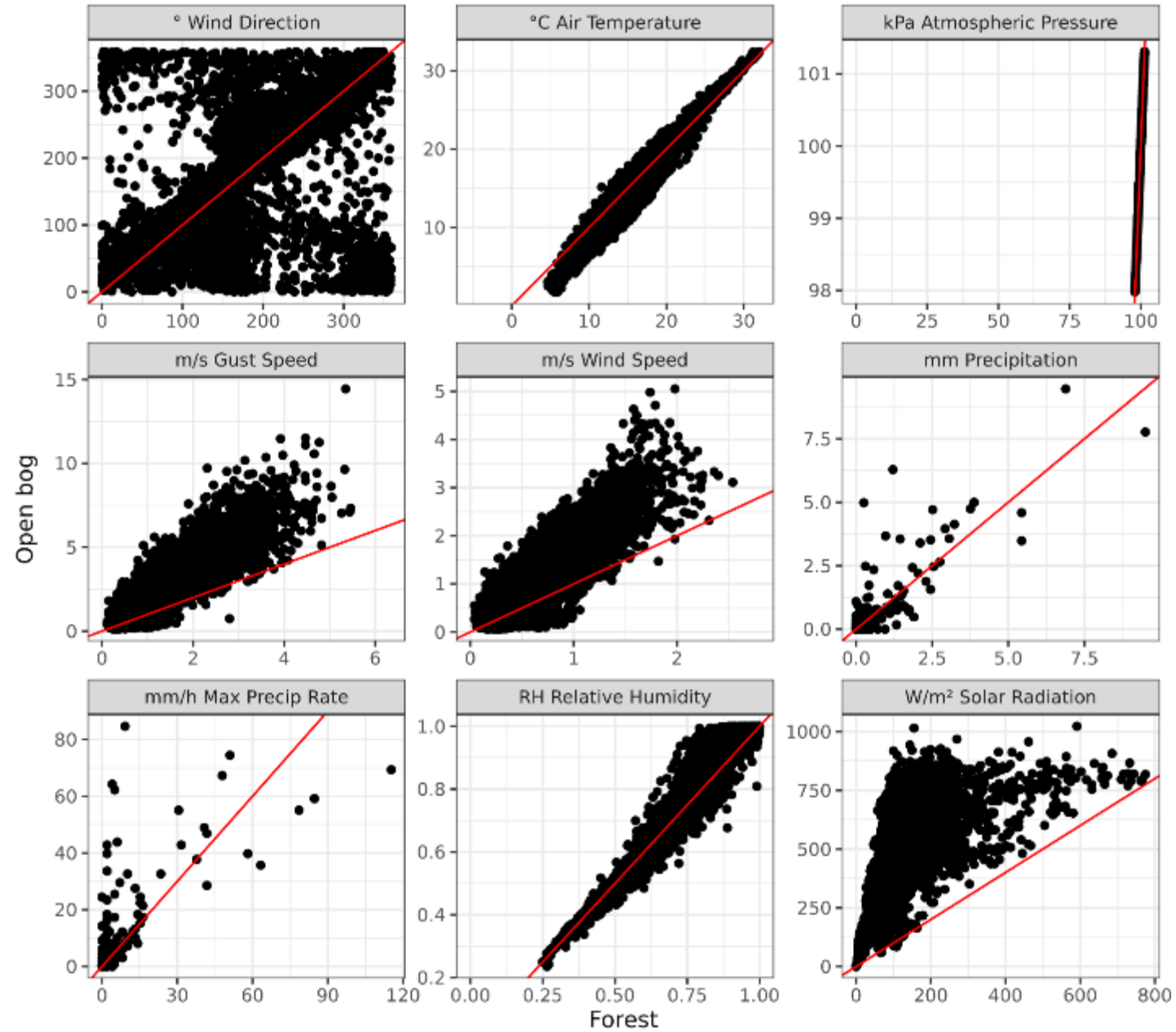


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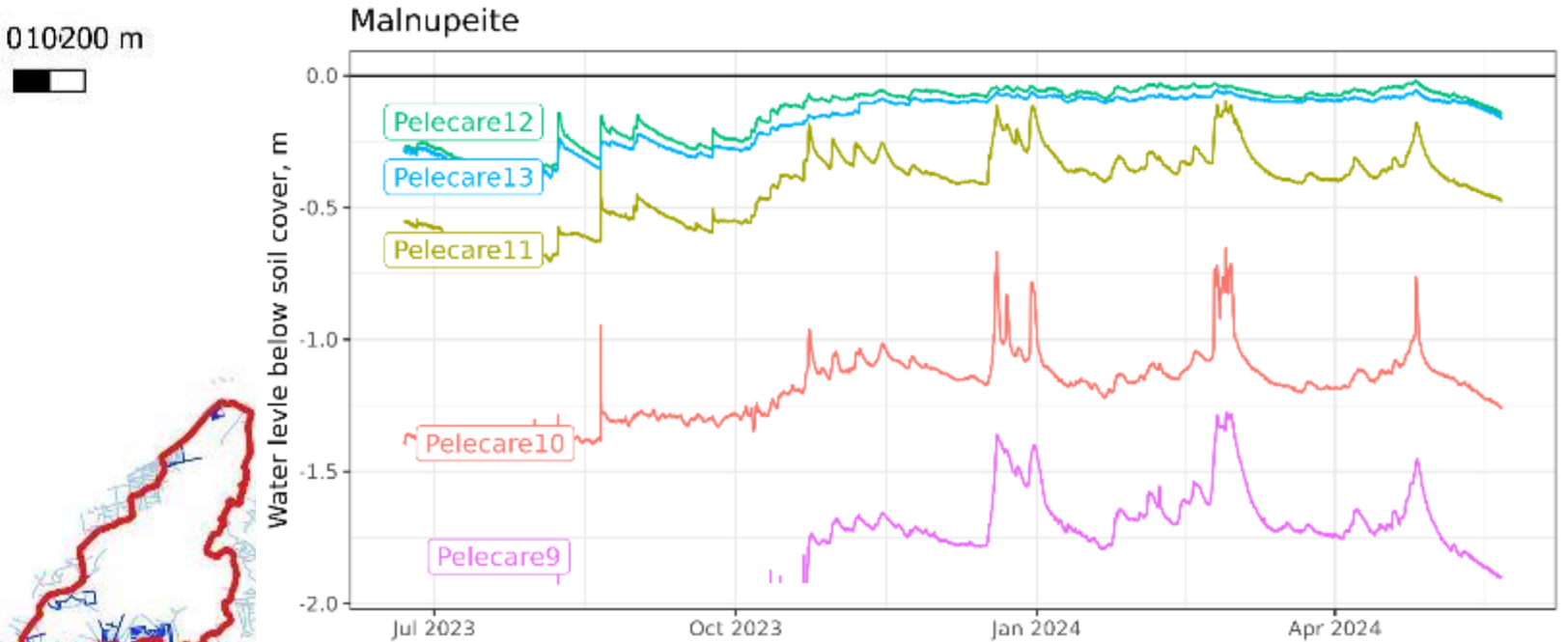
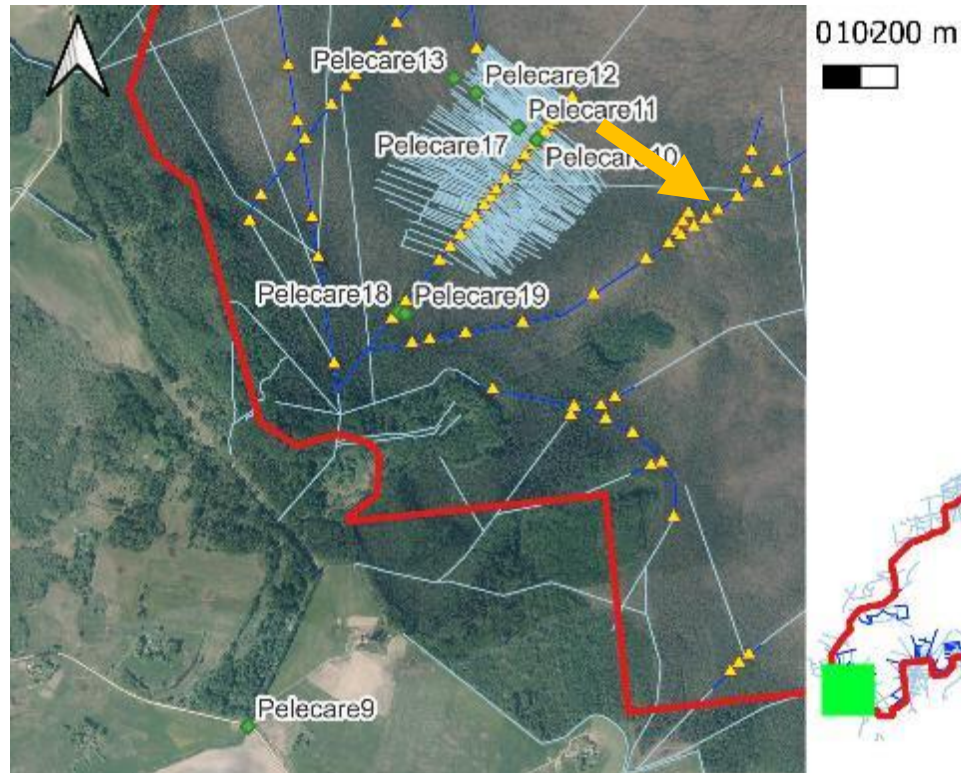


## 2. Deiglu bog, drain and forested



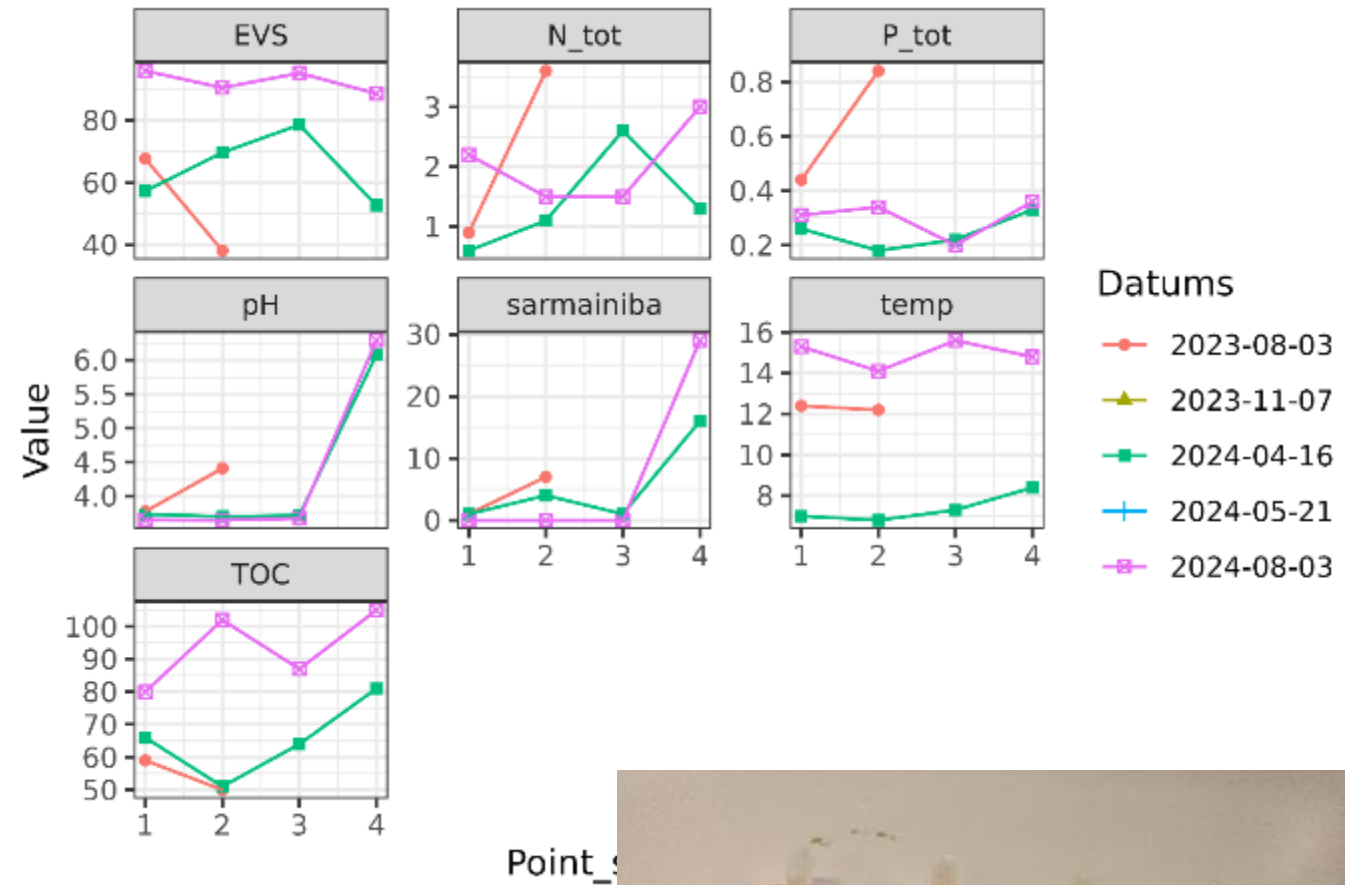
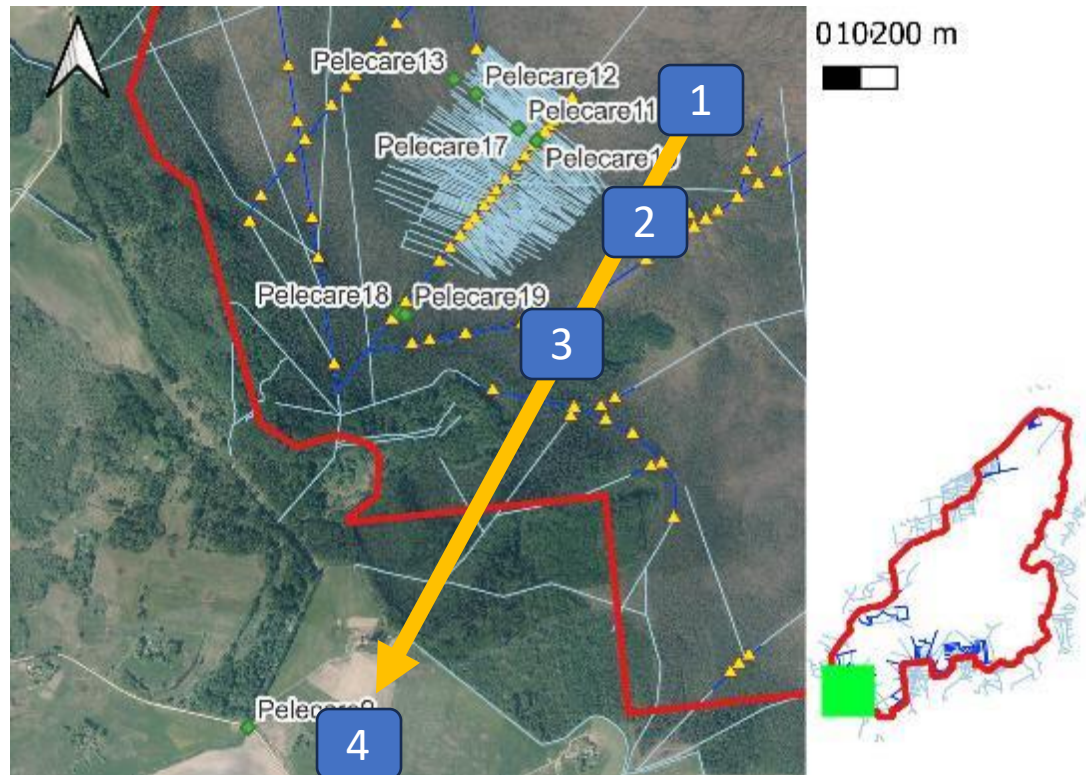


### 3. Malnupeite, heavily drained forested peatland



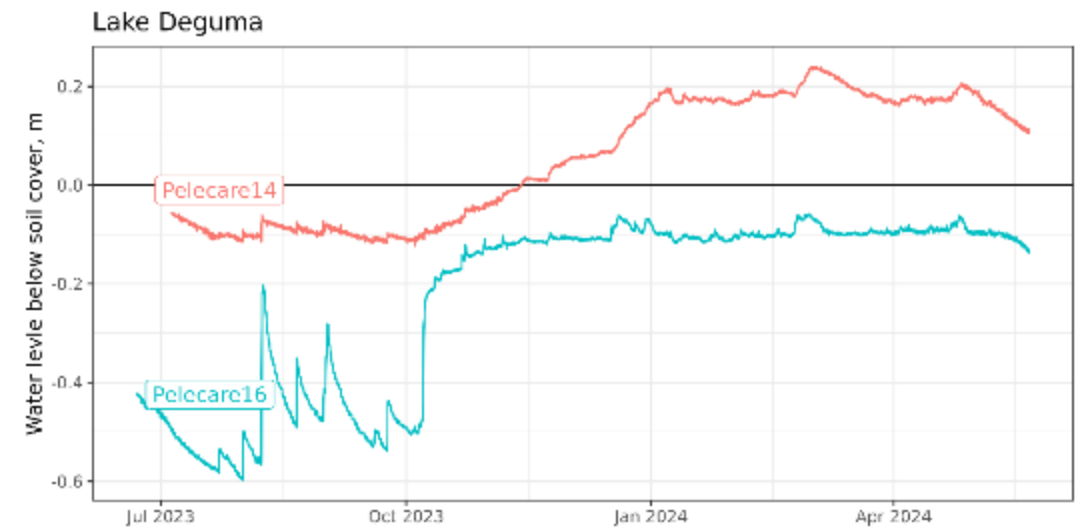
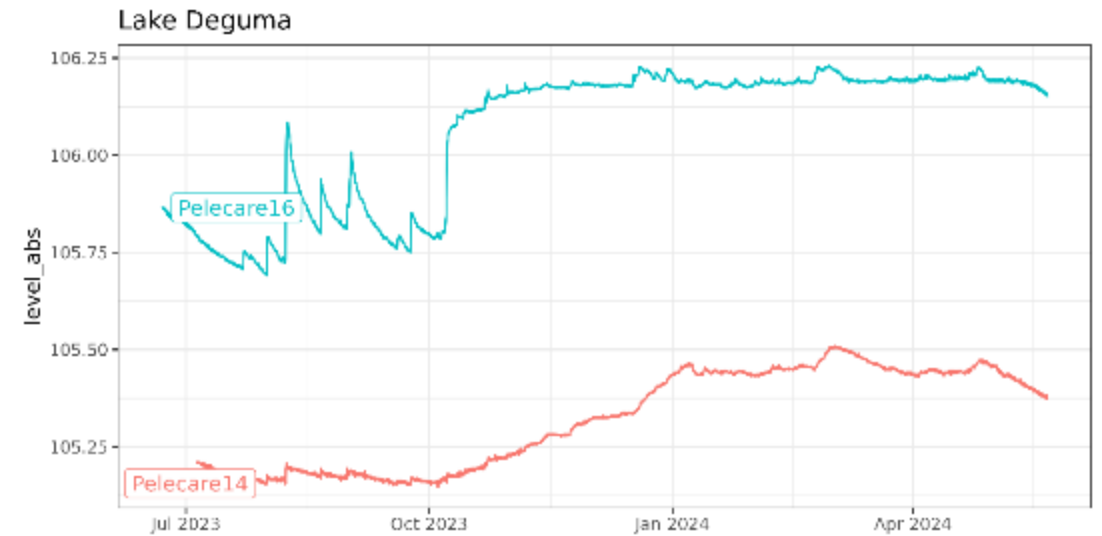
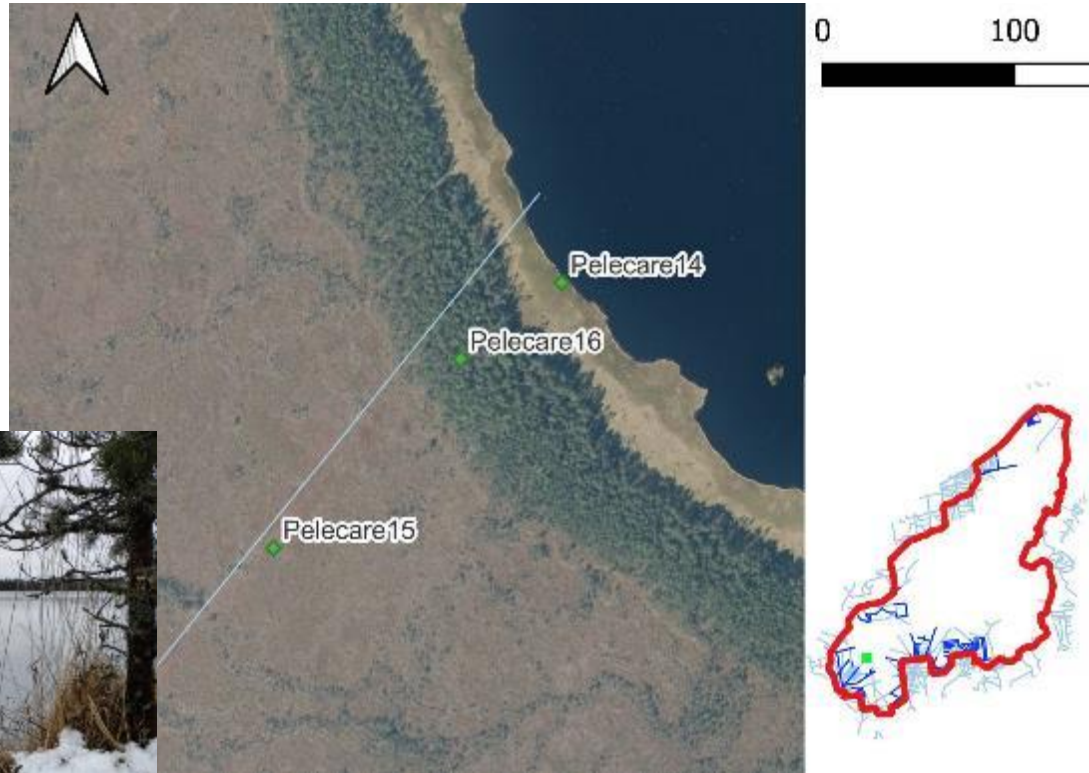


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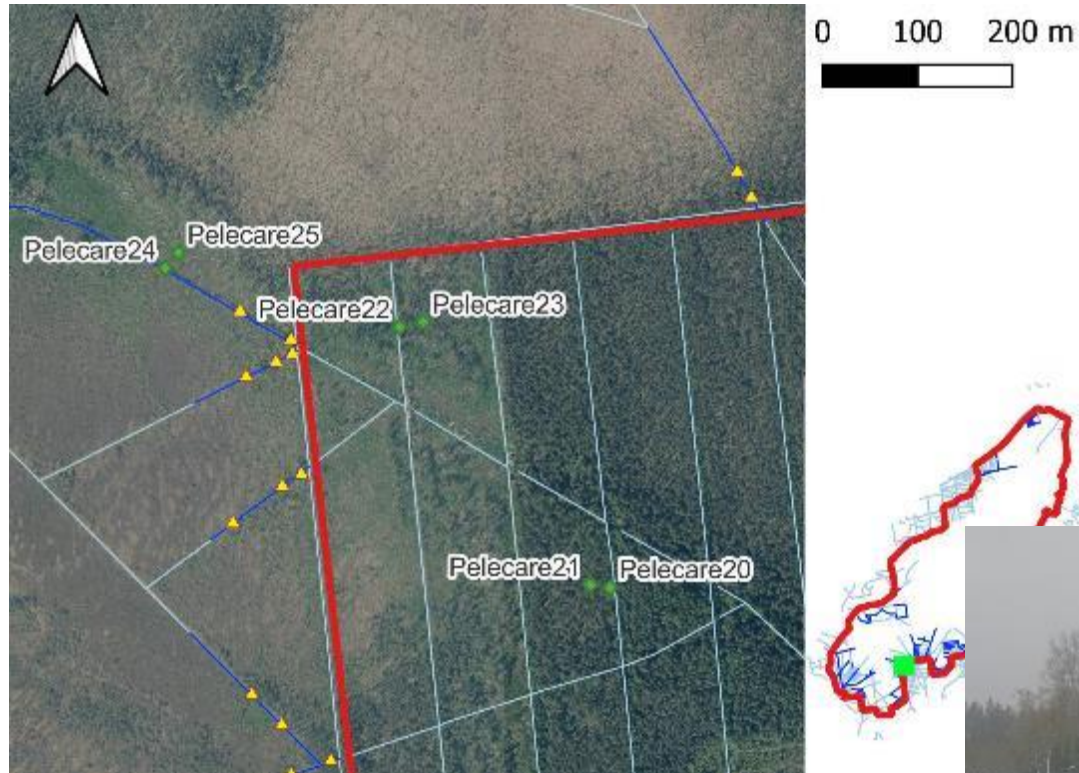


## 4. Lake Deguma, gradient to lake





# 5. Azara ditch – restored to non-restored comparison





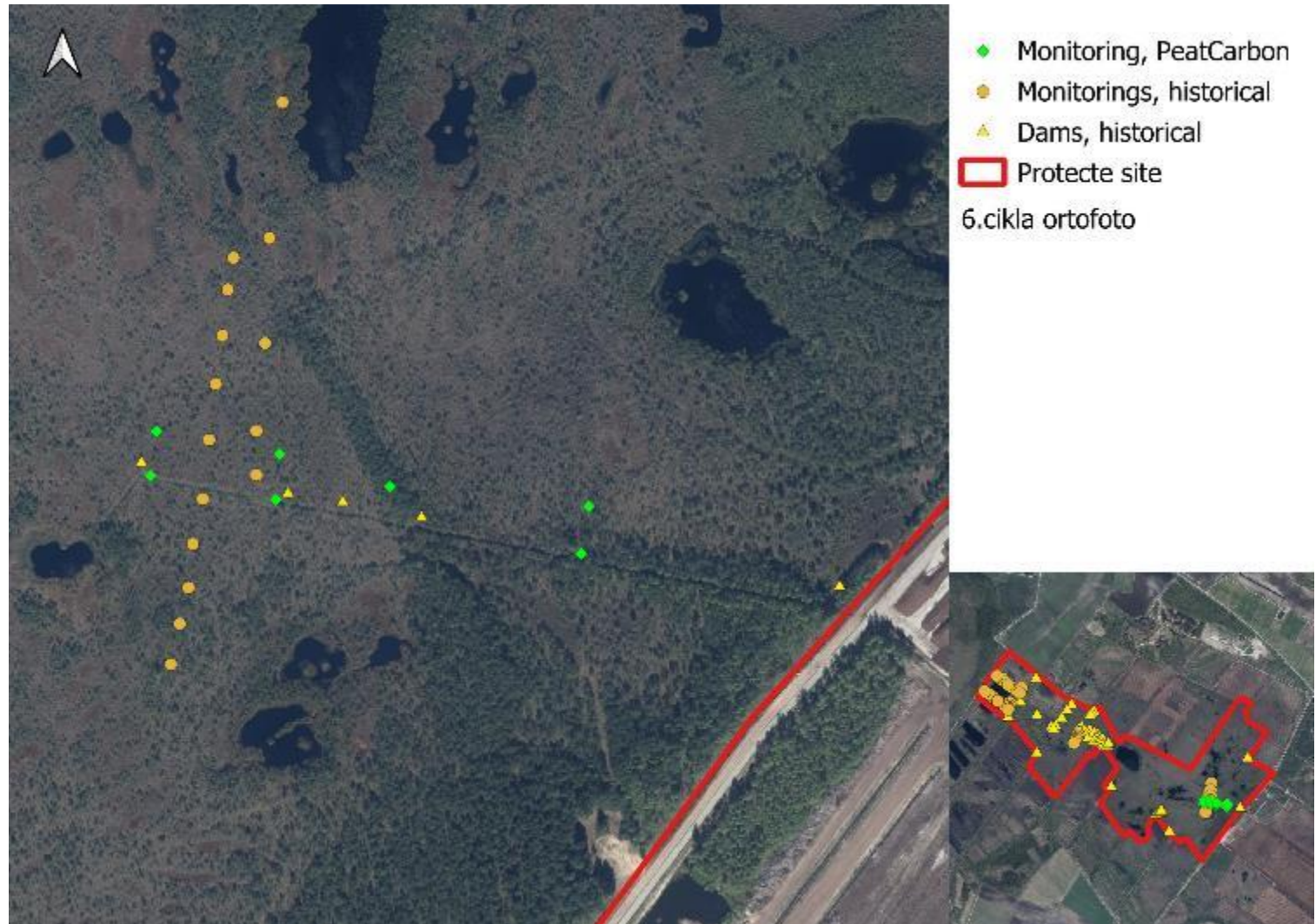
A misty landscape with a forest reflected in a lake. The scene is dimly lit, likely during dawn or dusk, with a soft, hazy atmosphere. The forest consists of tall, dark evergreen trees that are mirrored in the calm water of the lake. The sky is filled with light, wispy clouds. In the foreground, there are some out-of-focus, dry grasses or reeds. The overall mood is serene and quiet.

# Melnais Lake Mire



# Melnais Lake Mire

- The dray-ditch site – is there a potential for natural recovery?
- Why here is a forest belt in the bog?
- Do we see development of longitudinal water level gradient in the ditch?





A landscape photograph of a calm pond in a forest. The water is still, reflecting the surrounding trees and sky. The foreground is filled with dry, golden-brown grass and some low-lying shrubs. The background is a dense forest of tall, thin trees, mostly pines, with some deciduous trees showing autumn colors. The lighting is soft, suggesting early morning or late afternoon.

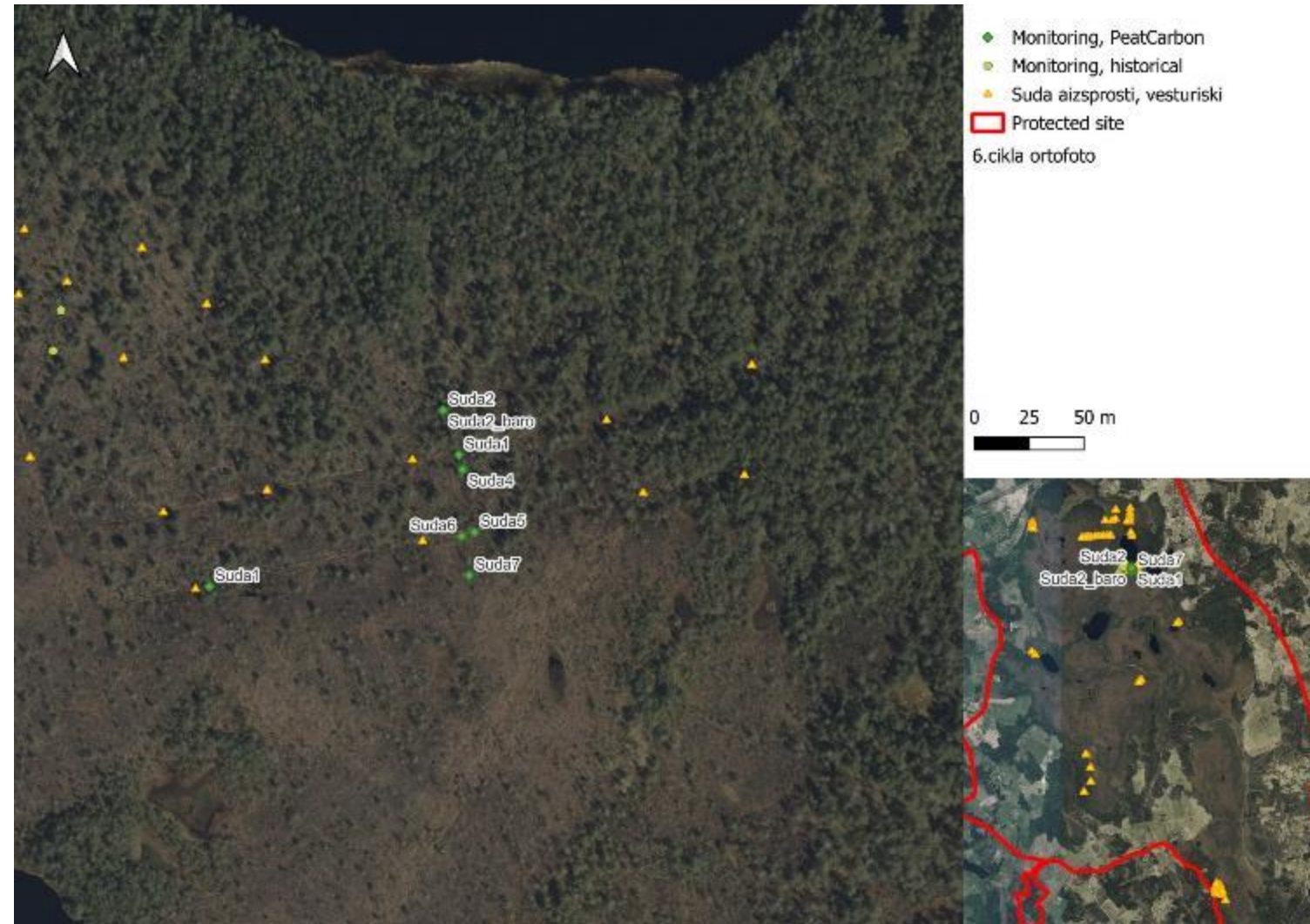
# Sudas-Zviedru Mire



# Sudas-Zviedru Mire

## Aims

- Water gradient from mire to wooded peatland
- The longitudinal gradient in a dammed ditch
- Small-scale gradient to the ditch







What's next?



# What's next?

- Download and re-analyse the data – November 2024
- Relocate the soil water monitoring station
- Consider the weather station





Thanks for the attention!

