# Soil and land cover connections near Taevaskoja Holiday Centre

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# Introduction

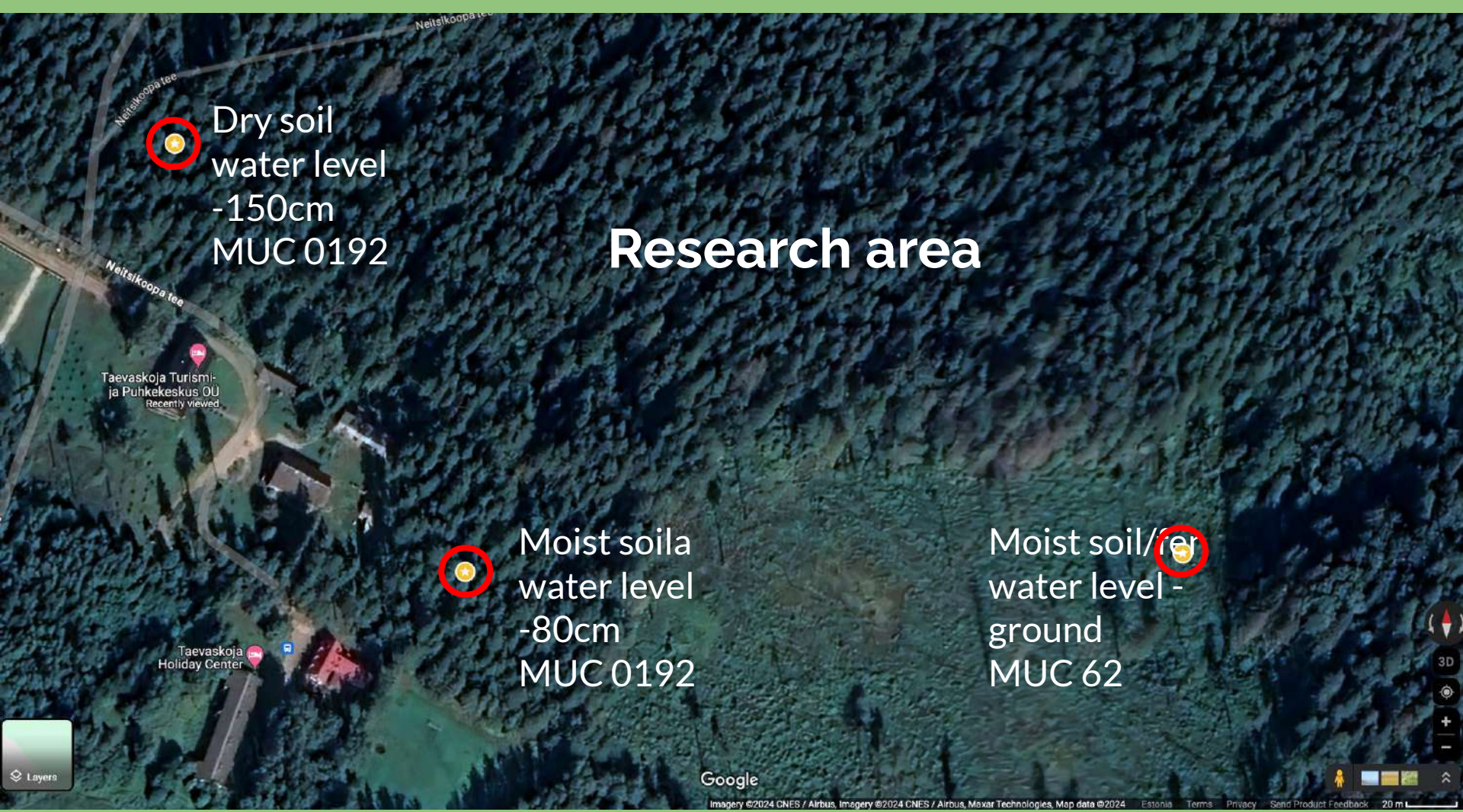
What is known about this topic? Every plant has its own habitat requirements, including light, temperature, moisture, pH, nutrients, and disturbances/stability (Ellenberg 1982).

More research is needed to discover possible new connections and to understand the potential biodiversity in the studied area.

Our objective was to explain the connections between land cover and soil.

1) Hypothesis: There are different species in dry soil compared to wet soil.

2) Hypothesis: With different moisture levels in the soil, the amount of plants growing there varies.


Dry soil
water level
-150cm
MUC 0192
Research area
Moist soila
water level
-80cm
MUC 0192
Moist soil/fen
water level -
ground
MUC 62
Neitsikoopa tee
Taevaskoja Turismi-
ja Puhkekeskus OÜ
Recently viewed
Taevaskoja
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# Methods

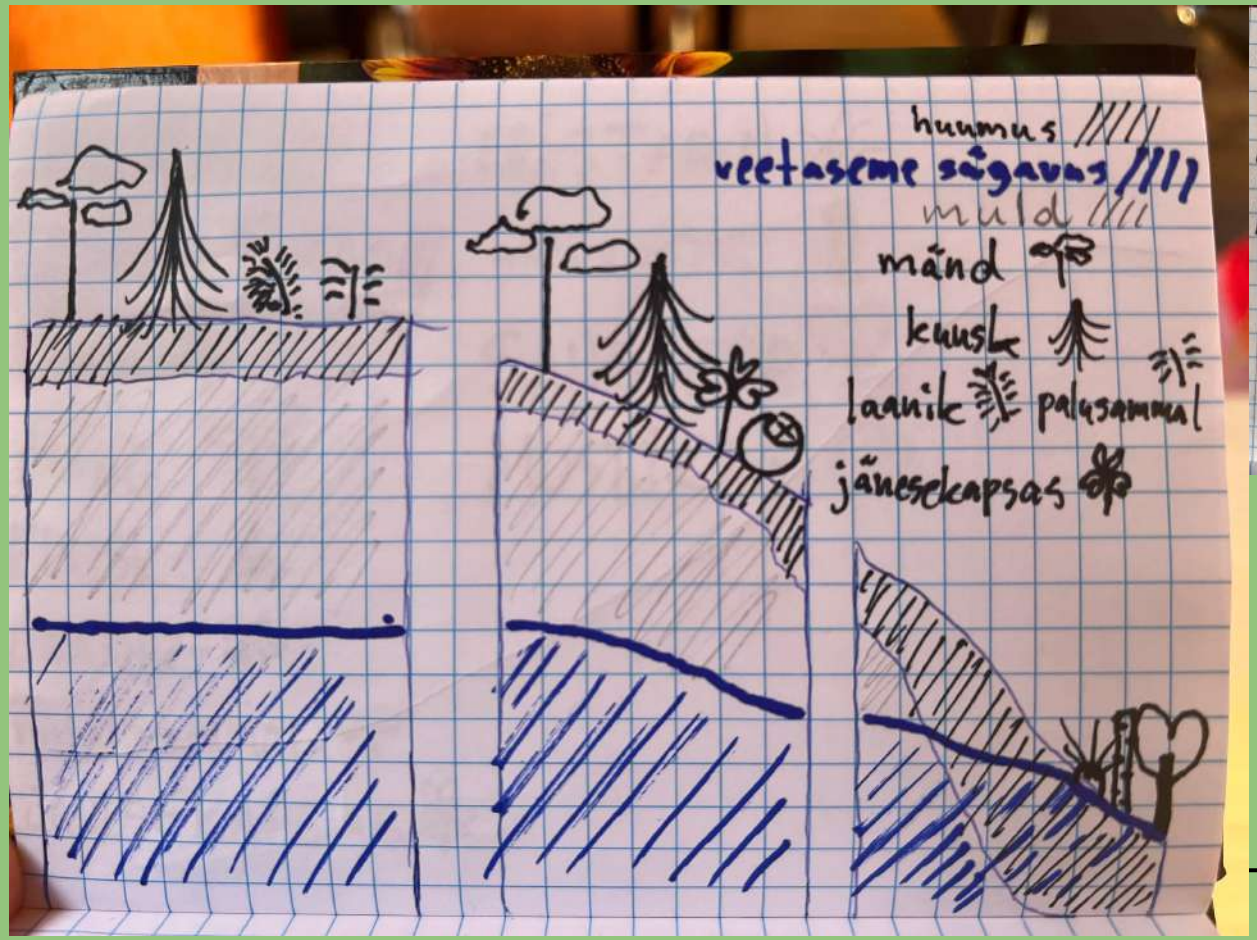
We measured the water level depth and soil moisture, identified plant species, measured canopy density, measured tree height, and determined the thickness of the humus layer using a soil auger and a soil color chart.

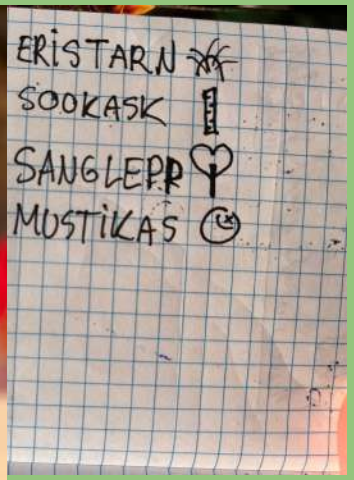
**GLOBE Protocols:** Land cover mapping, Biometry

## What tools did we use?

Soil auger, soil moisture meter (Teros 12), clinometer, measuring tape, rope, densiometer, soil color chart, plant identification guides (*Flora Incognita*), plant habitat indicator tables (according to Ellenberg), MUC Field Guide, Estonian Land Board geoportal.


Build a Clinometer
What is a clinometer?
Materials

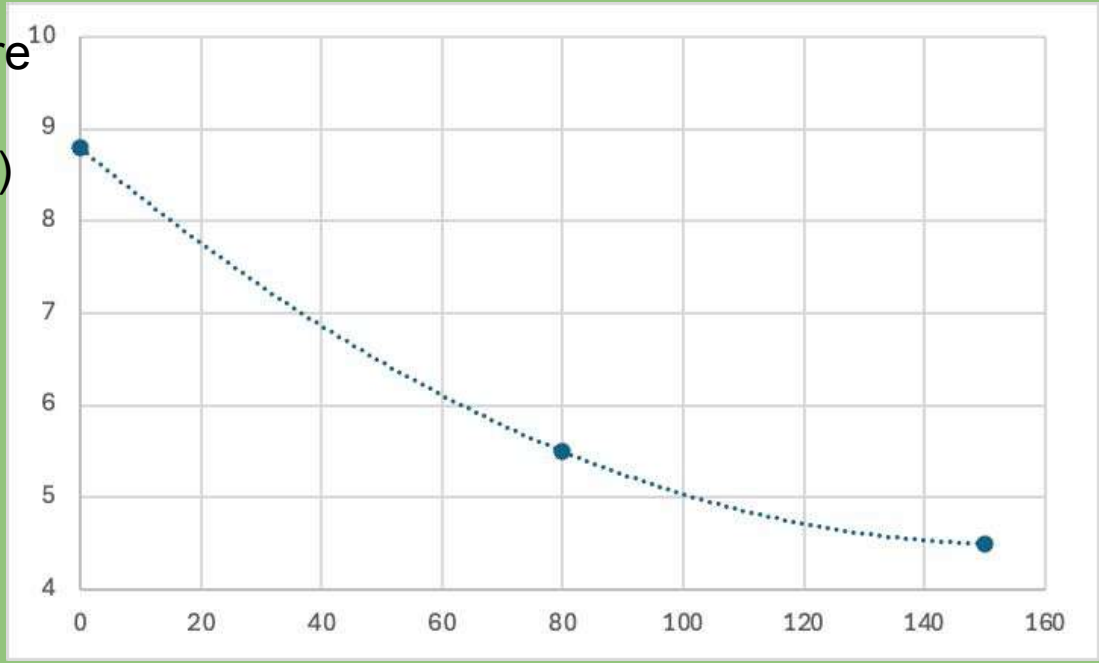



# Results: Soils in research areas and plants on landscape

# Results (hypotheses 1)

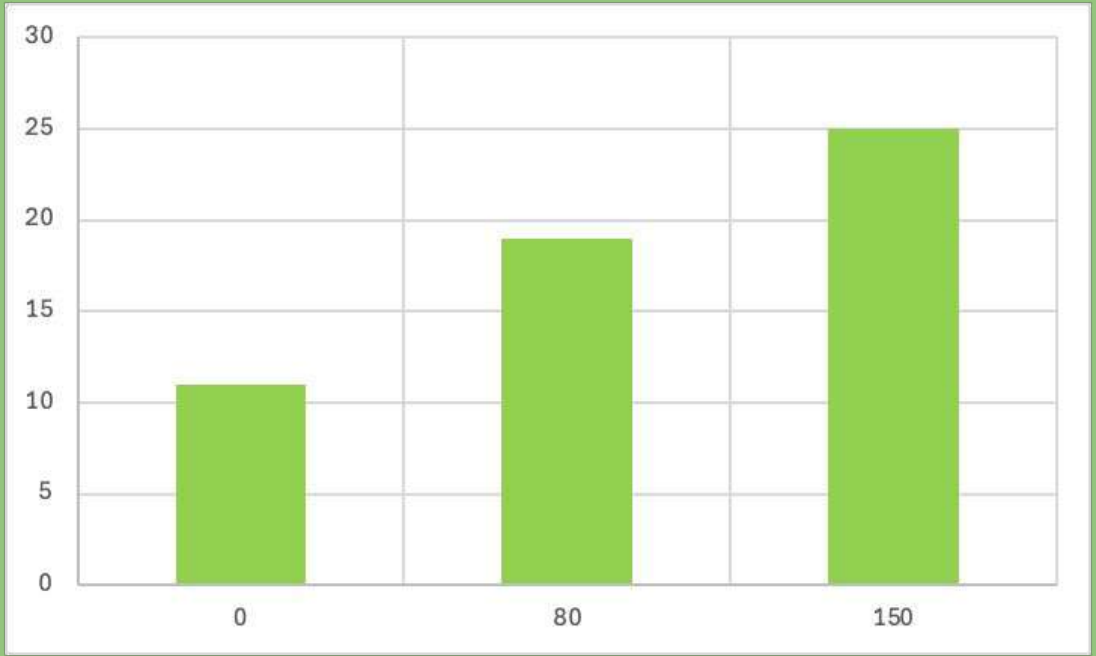
Plant species moisture demand (on the Ellenberg scale 1–10)




Depth of the water level (cm)

# Results (hypotheses 2)

Number of plant species




Depth of the water level (cm)

# Discussion and Conclusions

The hypotheses turned out to be correct.

We observed that soil types and vegetation change very abruptly in this area. Completely different plant communities can be found just a few dozen meters apart. The differences were also visually noticeable.

To truly learn and experience things, one must go to the location and explore firsthand—many data points cannot be detected via satellite.

In more challenging and swampy conditions, measurements were more difficult, and we gained experience in assessing things visually as well.


Thank you!