

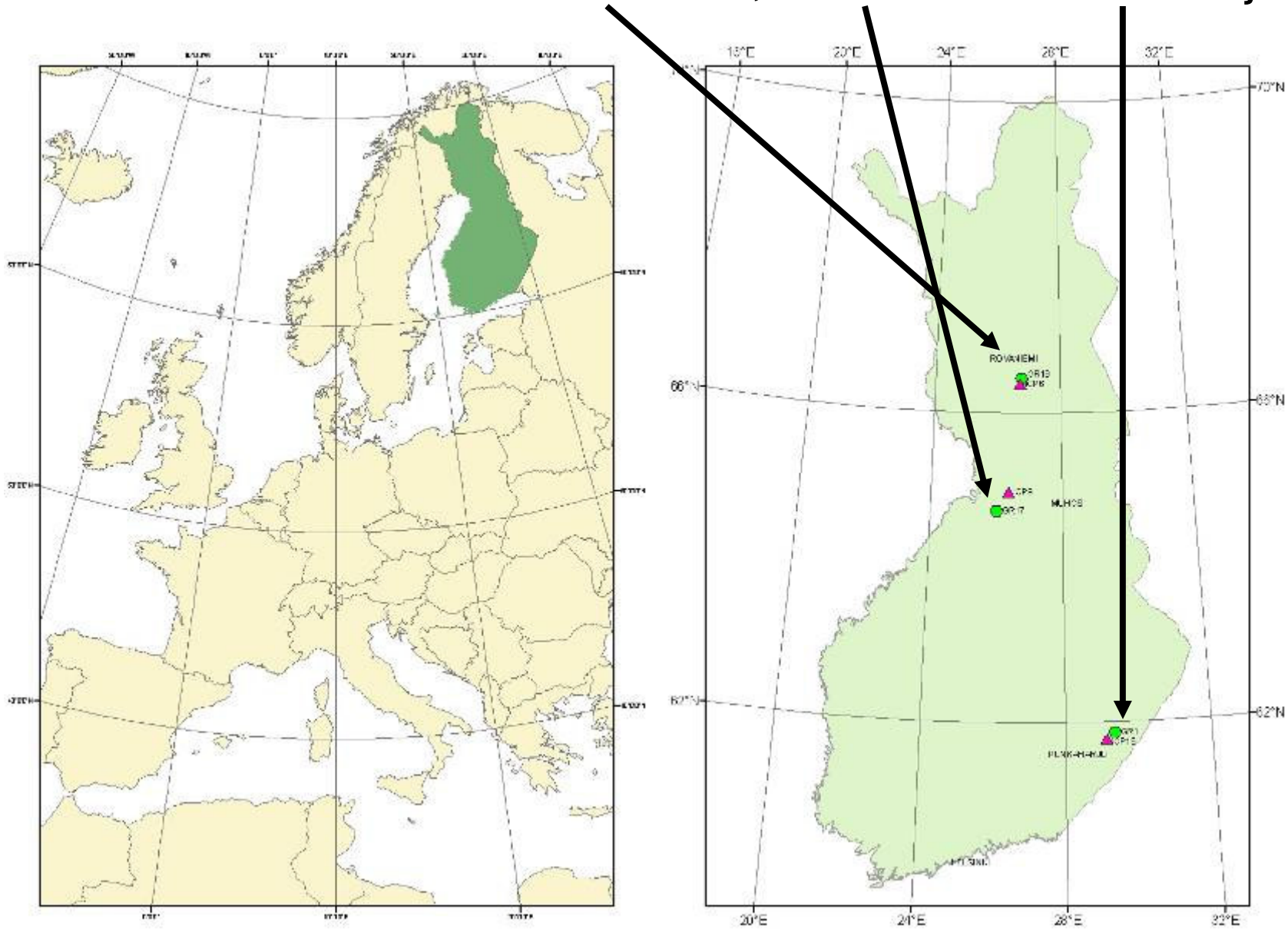
# Proposal for ISS: PUNKAHARJU, FINLAND

P21b, Finnish Forest Research Institute, METLA

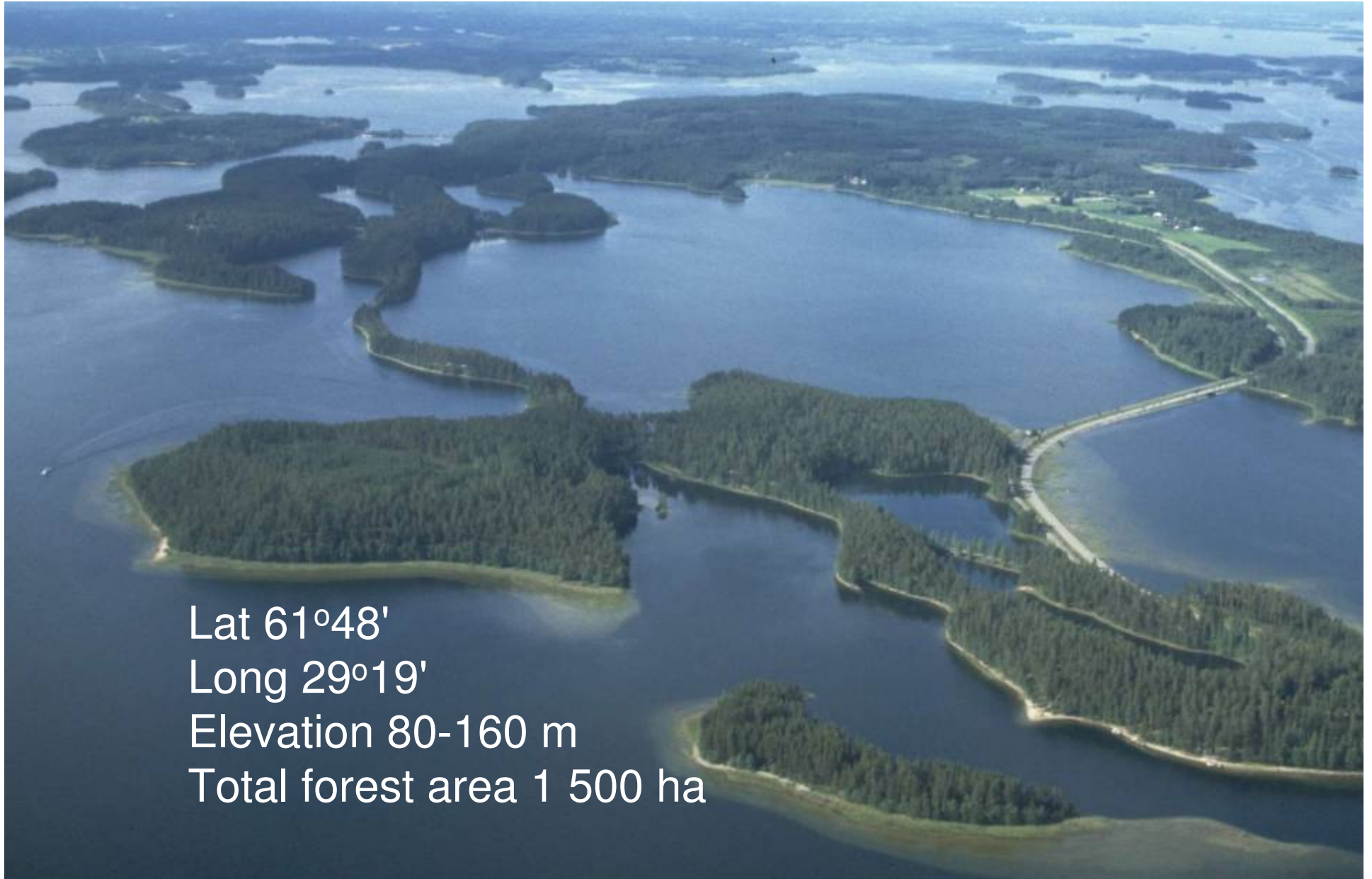
-Katri Kärkkäinen, Leena Yrjänä, Tuija Aronen, Egbert Beuker, Teijo Nikkanen, Arto Aalto

-Forest Genetics Team of METLA, Punkaharju Research Unit of METLA

# 3 suitable areas for ISS: Rovaniemi, Muhos and Punkaharju



# PUNKAHARJU, FINLAND



Lat 61°48'

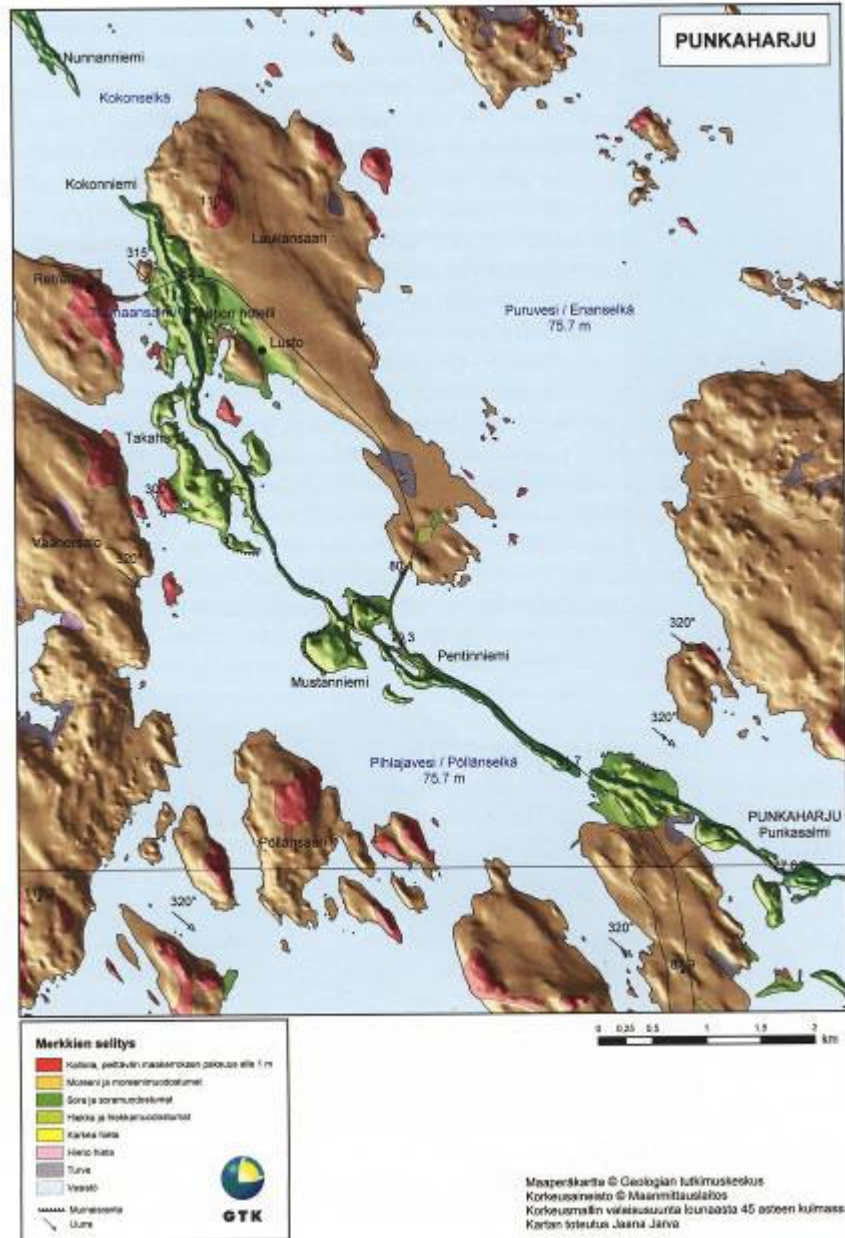
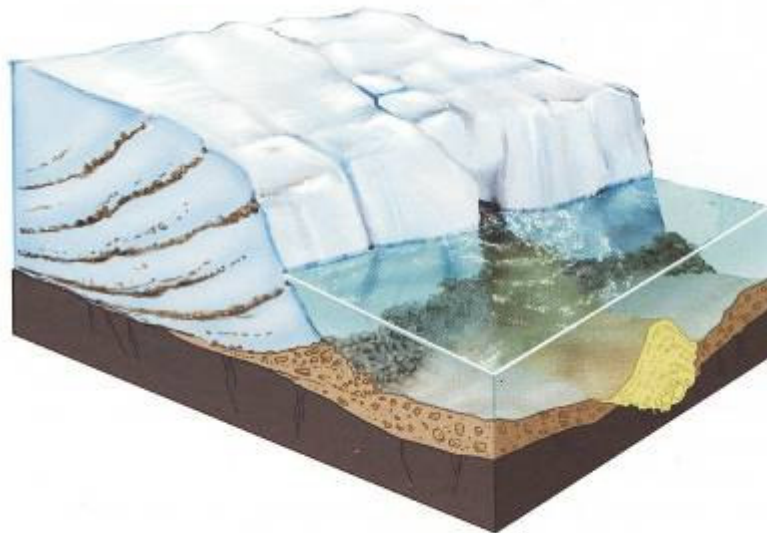
Long 29°19'

Elevation 80-160 m

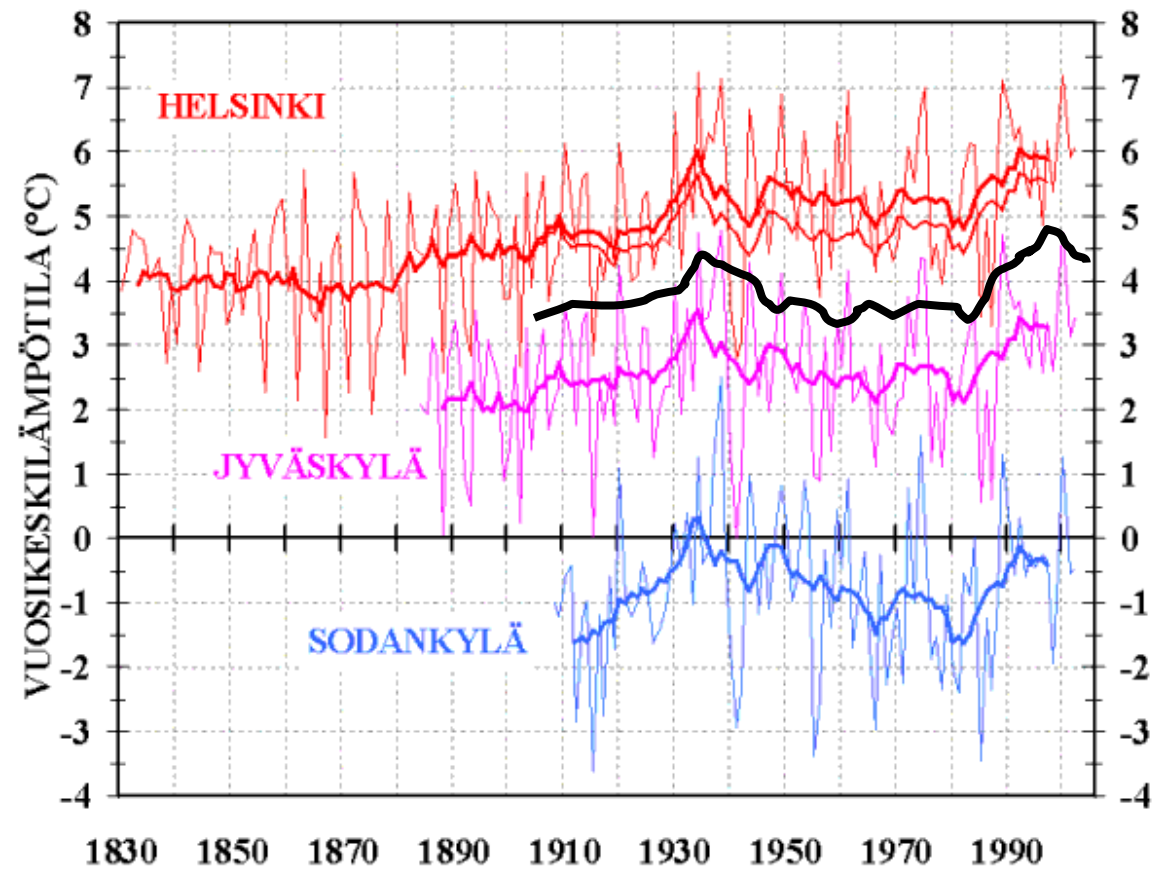
Total forest area 1 500 ha

Typical Finnish area formed by the ice age

Geology of the area well known



# Meteorological data from Punkaharju research area from year 1905



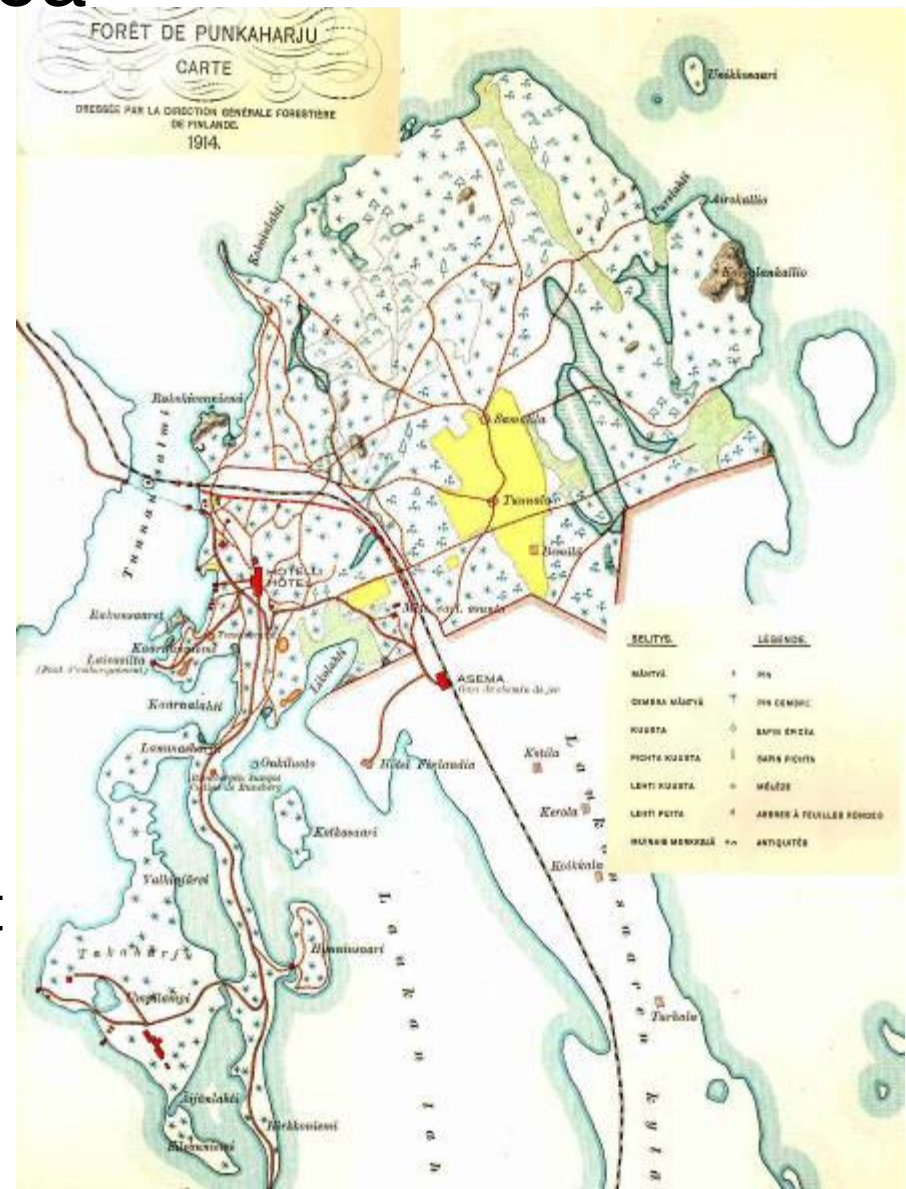
# Punkaharju research area

100% owned by the state

Detailed information on the forest structure of the area from 1877 onwards

Establishment of nature park within Punkaharju research area in 1843

Establishment of Finnish Forest Research Institute 1917, responsible for managing the forests in Punkaharju area



Punkaharju area: combination of  
unmanaged natural stands...



Punkaharju area:

managed stands...

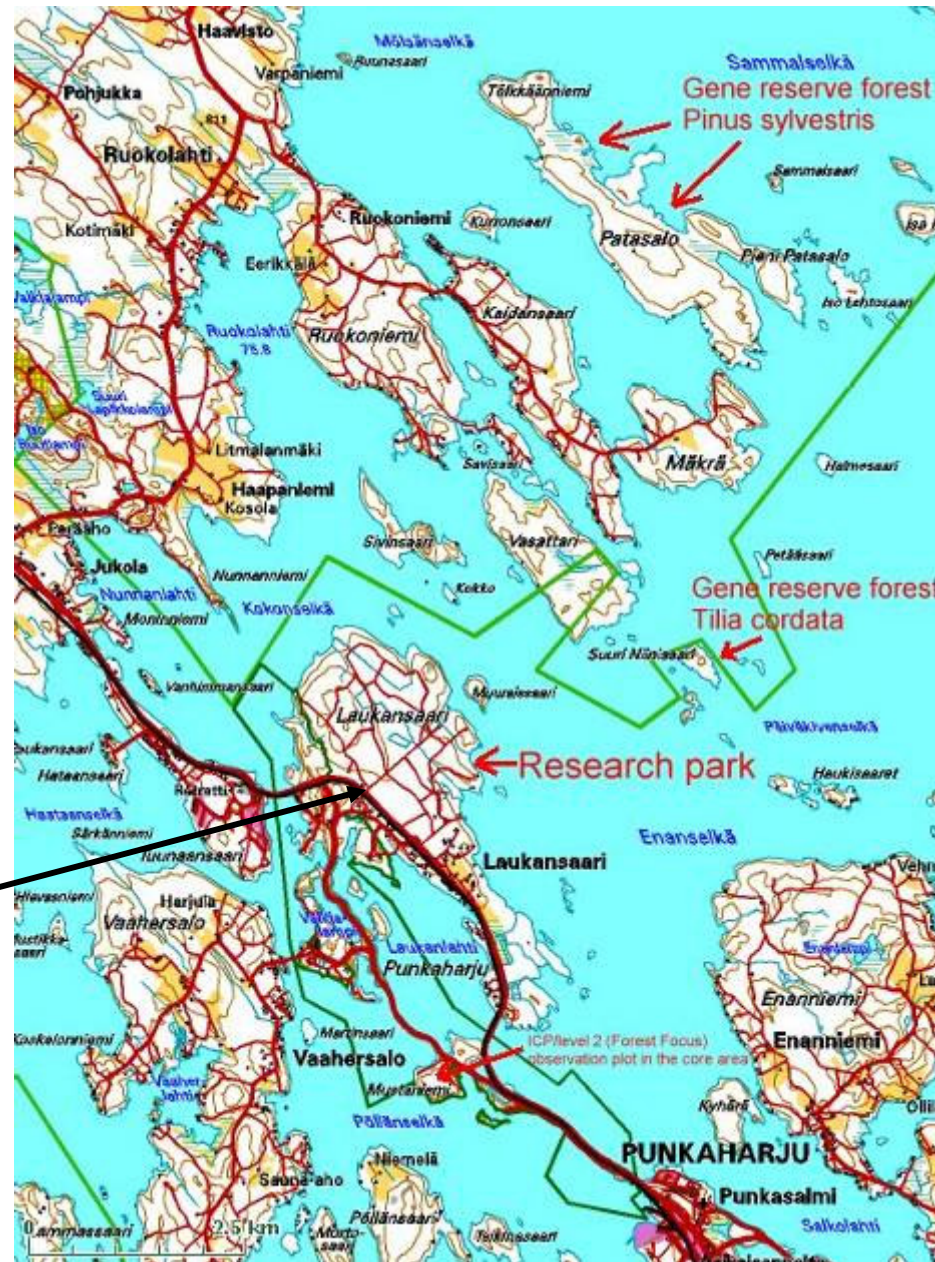


# Punkaharju area:

.. and experimental plots



# Punkaharju Research Area:



METLA, Punkaharju  
Research Unit

# Ecological information:

## Boreal ecosystem

*Pinus sylvestris*, *Populus tremula*

*Picea abies*, *Acer platanoides*, *Tilia cordata*  
*Betula*, *Alnus*, *Prunus*, *Salix*, *Sorbus*

*Abies* and *Larix* as introduced



# International studies on the area: ICP/level 2

Scots pine 1994-  
Norway spruce 1994-  
Silver birch 2004-

Monitoring activities including  
e.g., soil sciences, tree growth,  
meteorology, ground vegetation,  
air quality



## INTERREG SIBLARCH 2004 -



EVOLTREE: gene mapping population of Scots pine?

National candidate for ALTERNET

## National activities:

- long term monitoring of airborne pollen (1963-)
- biodiversity monitoring of birch stand (1997-)
- phenology study plots
- long-term experimental studies, including progeny and clonal trials
- molecular studies, herbivory, mychorrizal fungi



# Fascilities in Punkaharju:

- Easily accessible area with possibility of accomodation, transportation and technical help by the Punkaharju Research Unit of METLA
  - accomodation for max 24 persons (winter) 45 (summer)
  - cars, tractors, field elevators, snow mobile, boats
  - well-equipped molecular laboratory
  - trained staff for field, greenhouse and laboratory work
- Researchers interested in collaborative studies:
  - Forest genetics, ecological effects of climate change, genetic diversity in trees and mychorrhiza



A wide-angle landscape photograph showing a calm body of water in the foreground, which perfectly reflects the dense forest of tall, thin trees lining the shore. The sky is a clear, pale blue, and the overall scene is peaceful and natural.

Thank you!

Photos e.g., Teijo Nikkanen, Egbert Beuker,  
Erkki Oksanen