NIBIO
NORSK INSTITUTT FOR BIOØKONOMI

Forest Monitoring in Europe: Exploring prospects for enhancements and future directions

Johannes Breidenbach

Head of Department, National Forest Inventory

job@nibio.no

@Jo_Breidenbach

Overview

- How a forest monitoring system can be developed
- Advantages and disadvantages of maps in forest monitoring
- The PathFinder vision of a European forest monitoring system

NIBIO PathFinder

The research leading to these results has received funding from the European Union Horizon Europe (HORIZON) Research & Innovation programme under the Grant Agreement no. 101056907

How a forest monitoring system ideally should be developed

- Clear political goals defined
- Information gaps identified
- Experts propose a methodology
- Experts implement and improve the system

NIBIO PathFinder

The research leading to these results has received funding from the European Union Horizon Europe (HORIZON) Research & Innovation programme under the Grant Agreement no. 101056907

How the EU forest monitoring system may be developed
(my personal impression)

How a forest monitoring system ideally should be developed

- Clear politically defined
- Information gaps identified
- Experts propose methodology
- Experts implement and improve the system

We have contradicting goals

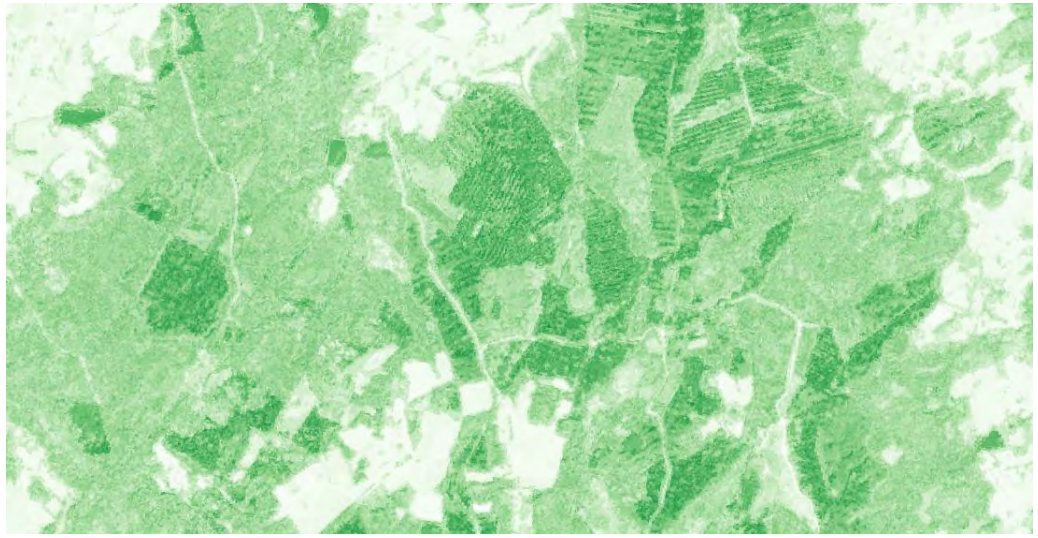
Therefore, we do not know what information we need –
we want it all

Politicians do not understand statistics,
therefore we need maps

We make very quick decisions, therefore maps need to
be real time

Use satellites becaUse it looks modern, and
we invested a lot of money into Copernicus

About maps…



- Maps are not the truth
- Pixel-level uncertainty in this map is >50%
- Much of the uncertainty is systematic error
- “Pixel counts” are typically severely biased
- Should not be used to inform policymaking directly
- Pixel counts should be corrected with (field) reference data to be reliable
- Maps can be useful as a first impression locally, e.g., to inform where to look more closely
- “All [maps][…] are wrong, but some are useful” (George Box, 1976)

NIBIO PathFinder

The research leading to these results has received funding from the European Union Horizon Europe (HORIZON) Research & Innovation programme under the Grant Agreement no. 101056907

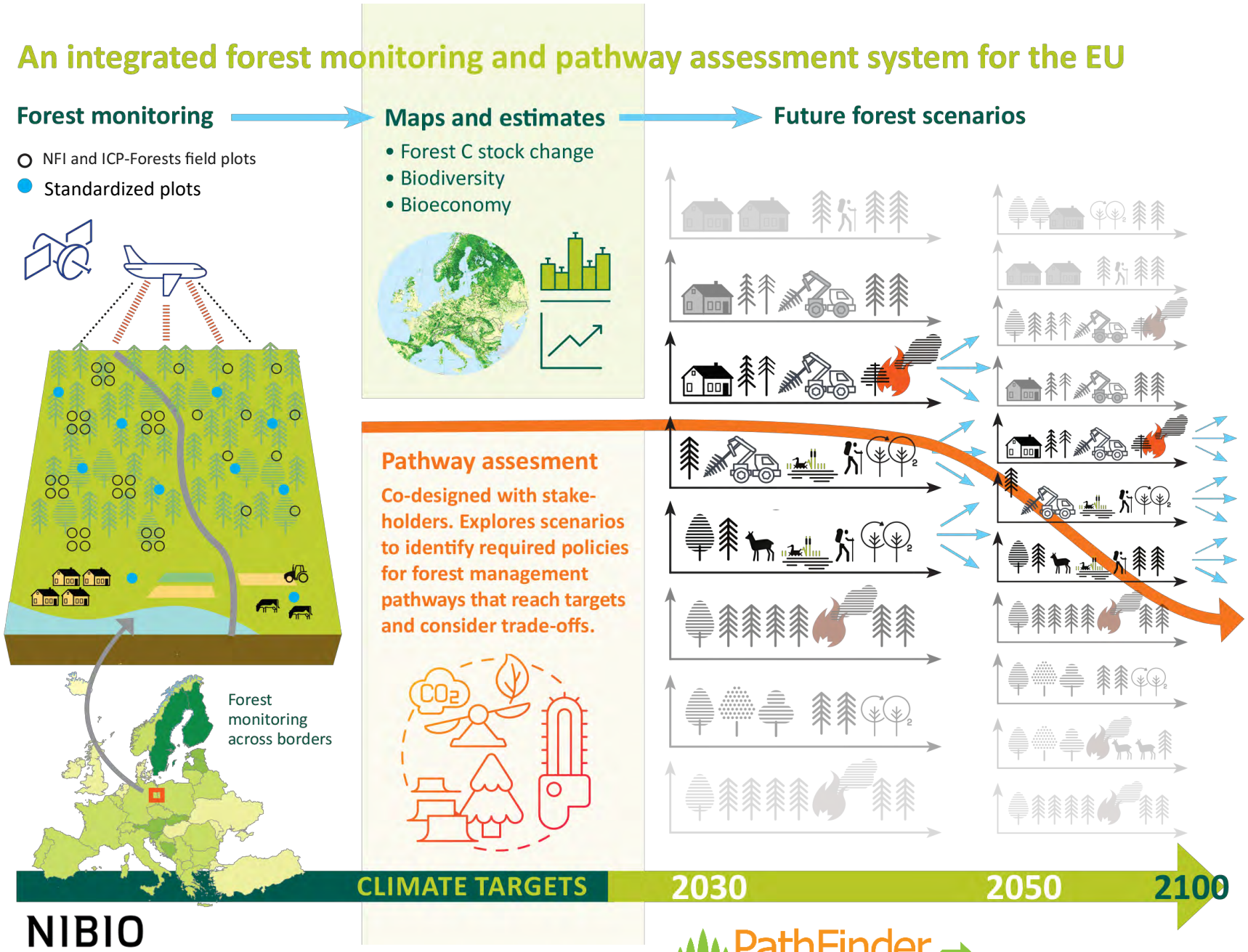
Overview

- How a forest monitoring system can be developed
- Advantages and disadvantages of maps in forest monitoring
- The PathFinder vision of a European forest monitoring system

NIBIO PathFinder

The research leading to these results has received funding from the European Union Horizon Europe (HORIZON) Research & Innovation programme under the Grant Agreement no. 101056907

An integrated forest monitoring and pathway assessment system for the EU



Continuous monitoring enables the informed adjustment of policies, if "off-track"

NIBIO
NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

PathFinder

Horizon Europe

An integrated forest monitoring and pathway

Forest monitoring

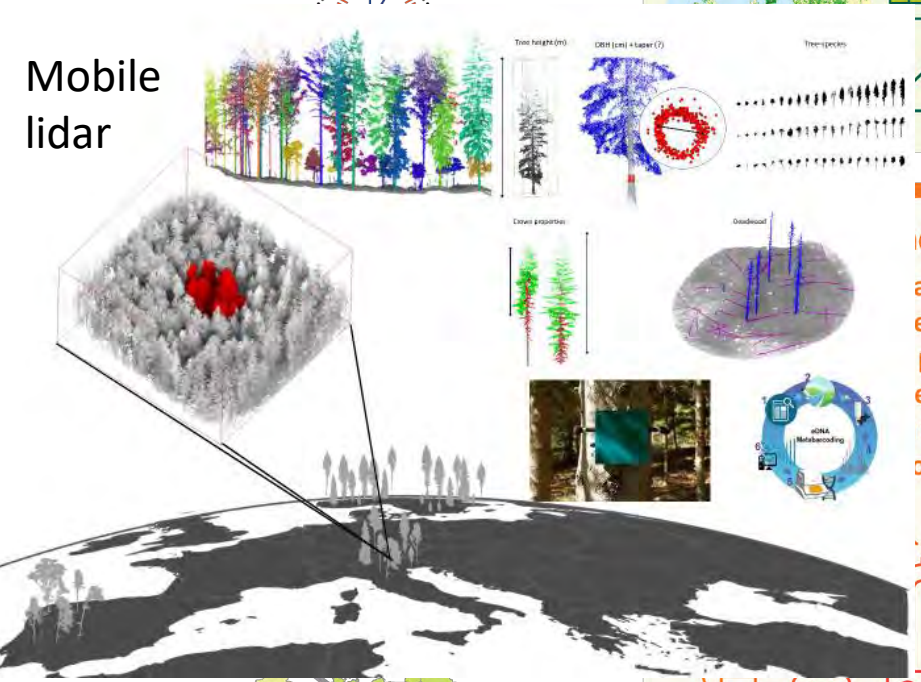
- NFI and ICP-Forests field plots
- Standardized plots

Maps and estimates

- Forest C stock change
- Biodiversity
- Bioeconomy

High-resolution NRT maps, DL, EEA FISE

Mobile lidar



ent
ake-
enarios
policies
ent
targets
offs.

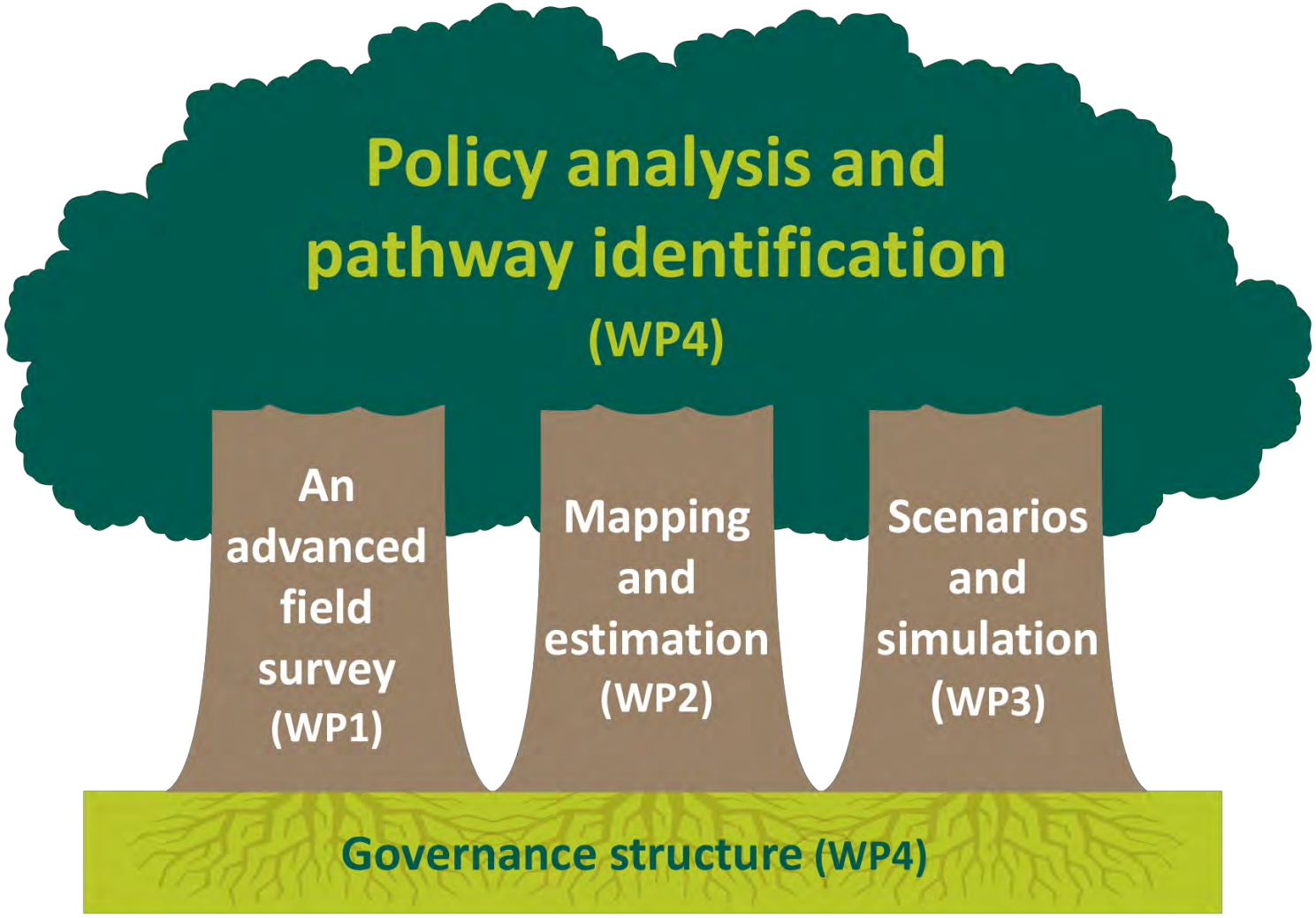
CLIMATE TARGETS 2030 2050 2100

NIBIO
NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

PathFinder

Horizon Europe

PathFinder – Towards an Integrated European Forest Monitoring and Policy Pathway Assessment Framework



NIBIO
PathFinder
The research leading to these results has received funding from the European Union Horizon Europe (HORIZON) Research & Innovation programme under the Grant Agreement no. 101056907

NIBIO
NORSK INSTITUTT FOR BIOØKONOMI

https://pathfinder-heu.eu

Johannes Breidenbach

job@nibio.no

@Jo_Breidenbach