The ForestNavigator Project

Early modelling advancements for the LULUCF community

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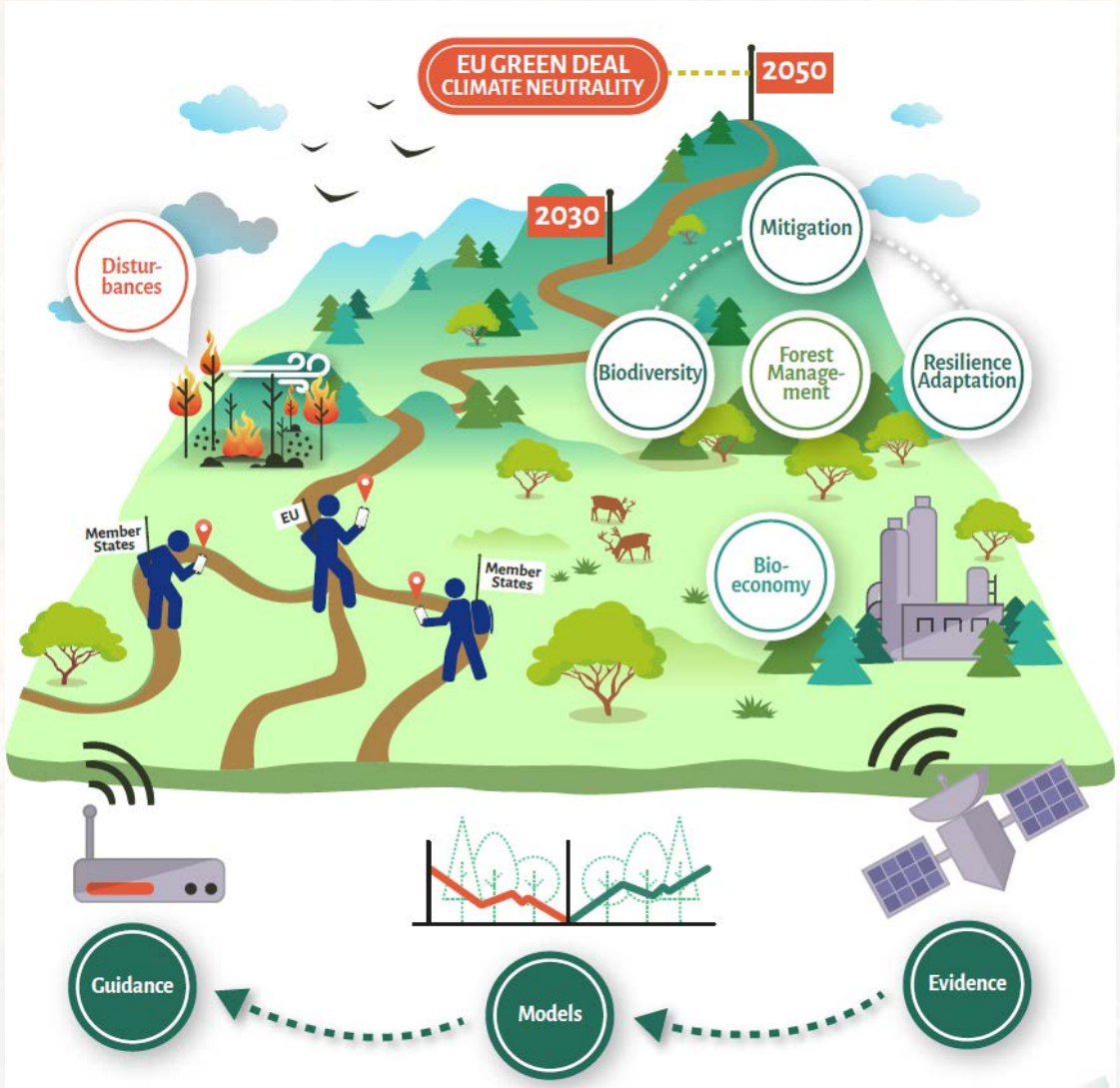
IIASA

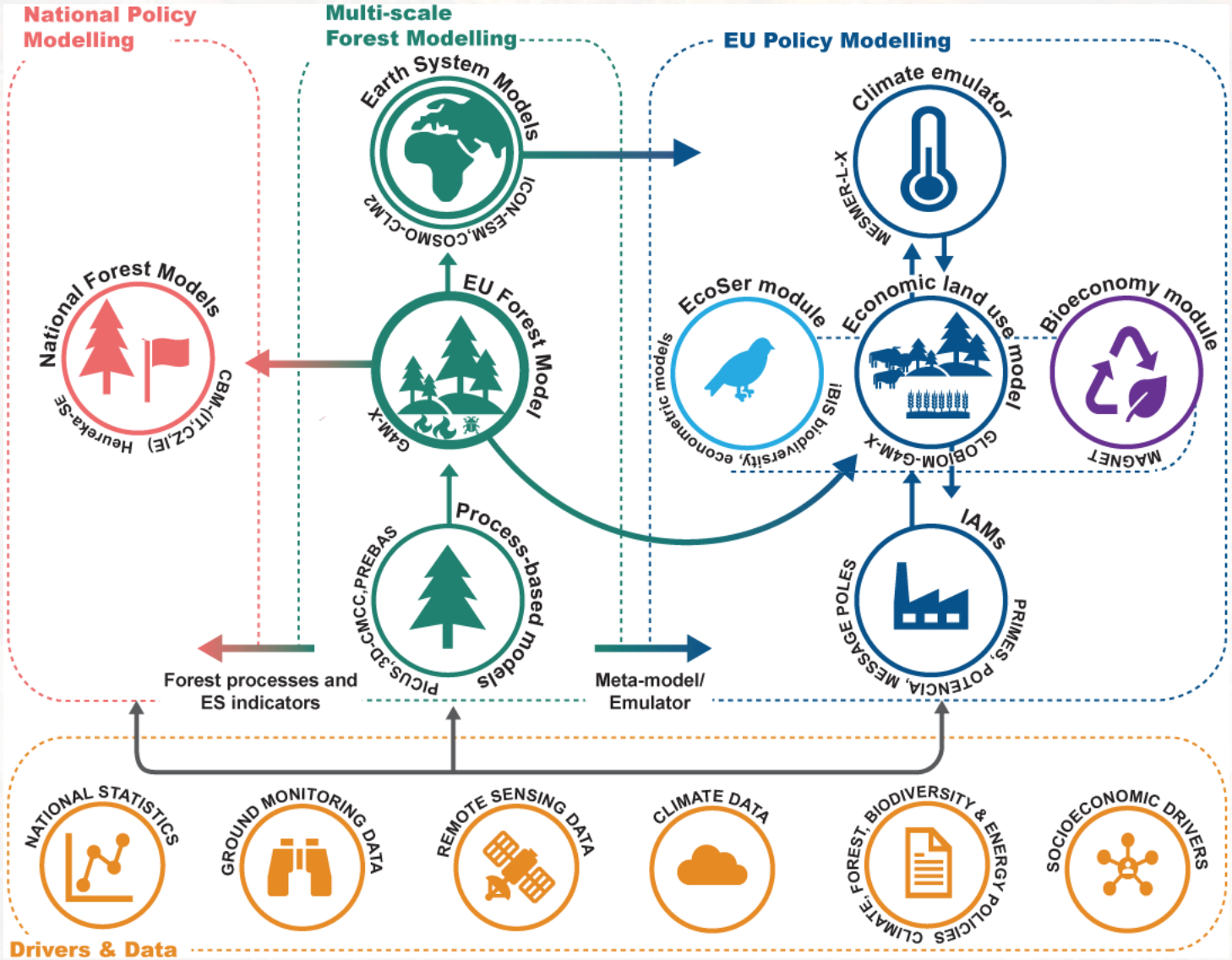
Funded by the European Union

Navigating European forests and forest bioeconomy sustainably to EU climate neutrality

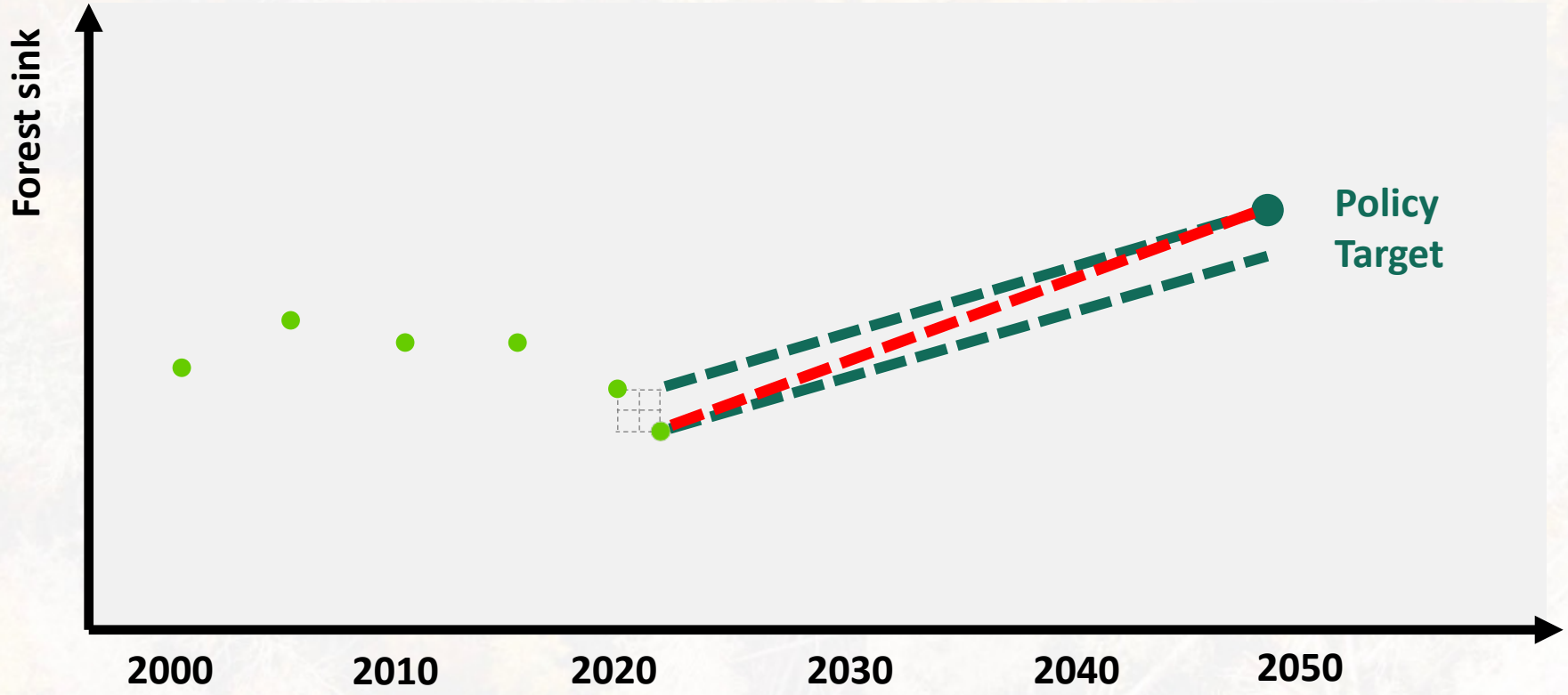


- **Forest-based modelling** of mitigation and adaptation potentials under climate change, accounting for carbon, biodiversity, bioeconomy, and the global context
- Co-designing, modelling, and validation of forest pathways with **EU policy makers, national authorities, and other key stakeholders**
- Consistent forest **policy pathways across EU and Member States**
- **Near-real time monitoring** data enabling a seamless re-calibration of the modelling tools for a timely response to evolving policy questions

Analytic Modelling Framework



Near real time update of policy pathways and proofing towards reporting



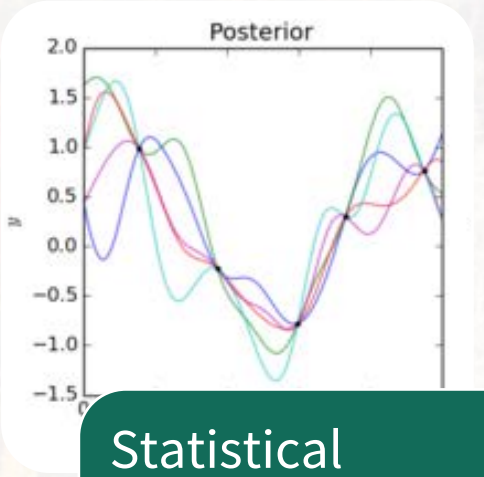
- A standardized **near real-time model-data assimilation: forest cover, disturbances (harvest and natural disturbances)**
- Capacity for yearly updating of the model projections and **adjust mitigation strategies in the face of novel socioeconomic developments and disturbances** (COVID, socio-economic disruptions, natural calamities)
- Informing about deviations from planned pathways to **assess timely corrections for re-aligning to the National and EU policy objectives**

Deadwood mapping: methods

Combining field observations with RS

Input data

- ICP forests deadwood data
- Predictors: forest structure, climate, terrain,socio-econ.



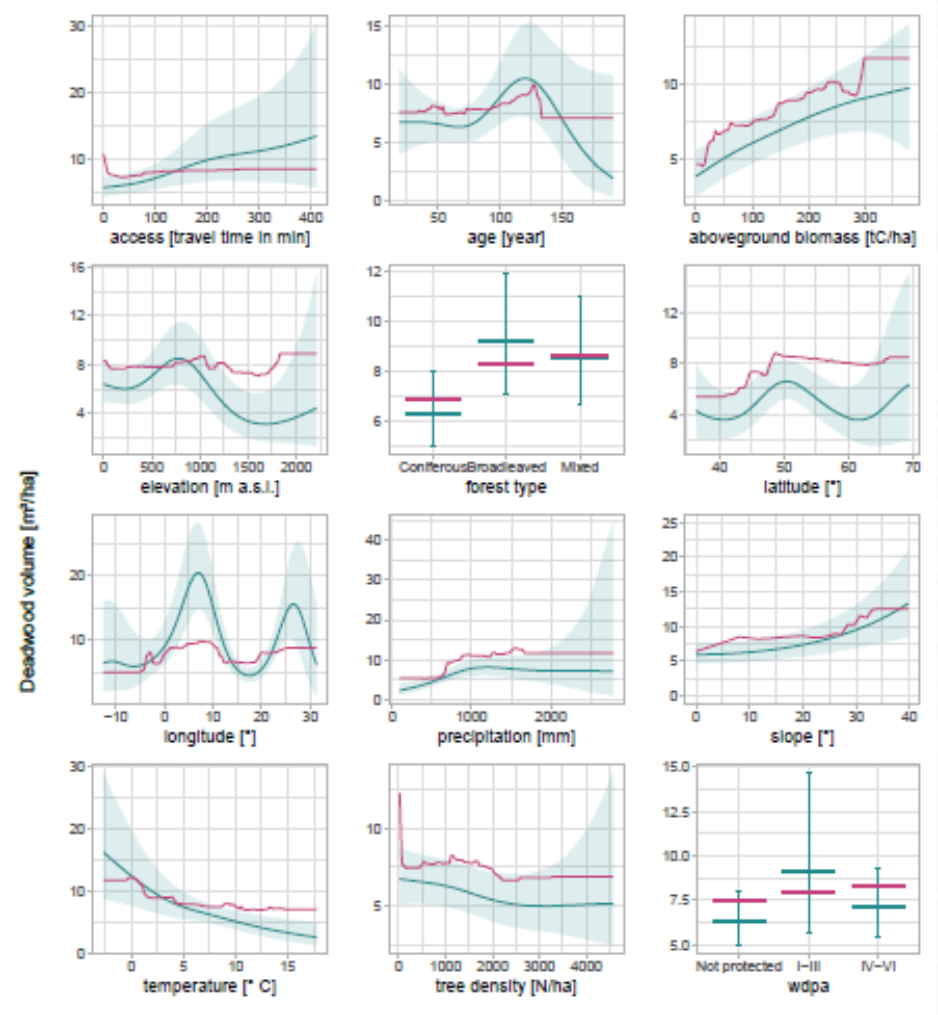
Statistical models

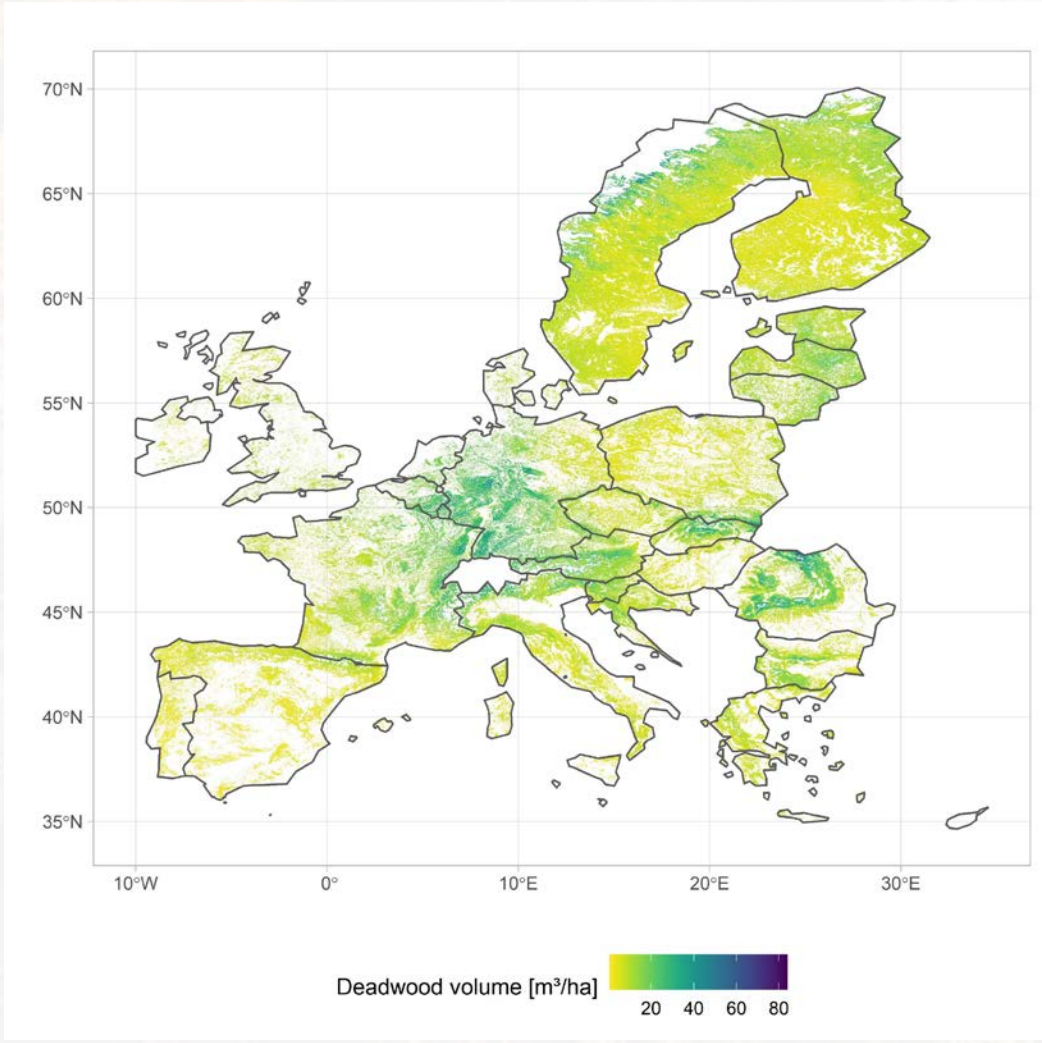
- Hurdle-lognormal
- Boosted regression trees

Upscaling deadwood stocks

- Current deadwood distribution maps

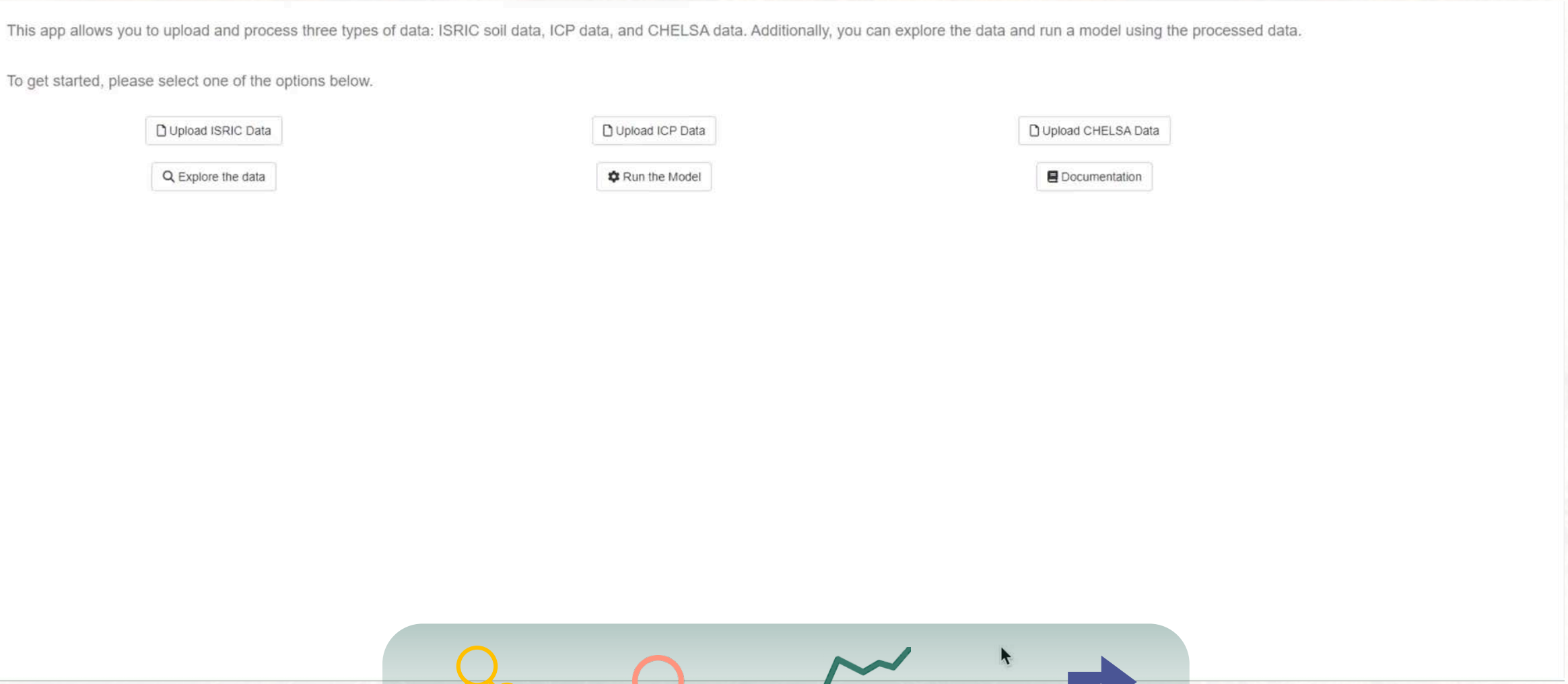
Deadwood mapping: early results and applications





FN Portal tools: early advancements

Web platform for testing soil, climate and forest data with multiple soil models (RothC, ICBM, YASSO) coupled to r3PG



Upload Soil, Stand, Climate data

Explore data

Driving model with observations

Deliver results

Upload your soil, climate and forest data

Select Clay Files

Browse... No file selected

Select Silt Files

Browse... No file selected

Select Sand Files

Browse... No file selected

Select SOC Files

Browse... No file selected

Select Nitrogen Files

Browse... No file selected

Process Soil Data

Back to Home Page

ISRIC soil data upload

This page deals with the ISRIC data input and sorting them for the replacement of where ICP soil data is not available for Clay, Silt, Sand, SOC, Nitrogen, and AWC. The required files to be uploaded are available on the ISRIC database at 1km resolution.

To get started, please upload all the required on the left.

Select and run the models and explore the results

This app utilizes a modified version of the r3PG vegetation model provided by IIASA . The original r3PG model is a process-based model developed for simulating forest growth and stand dynamics. This modified version extends the original model to include the simulation of carbon, nitrogen, and phosphorus pools and fluxes in both aboveground and belowground components.

To get started, make sure you selected the site and the site has all the required data (e.g. climate, soil, species and thinning).

Carbon Model:

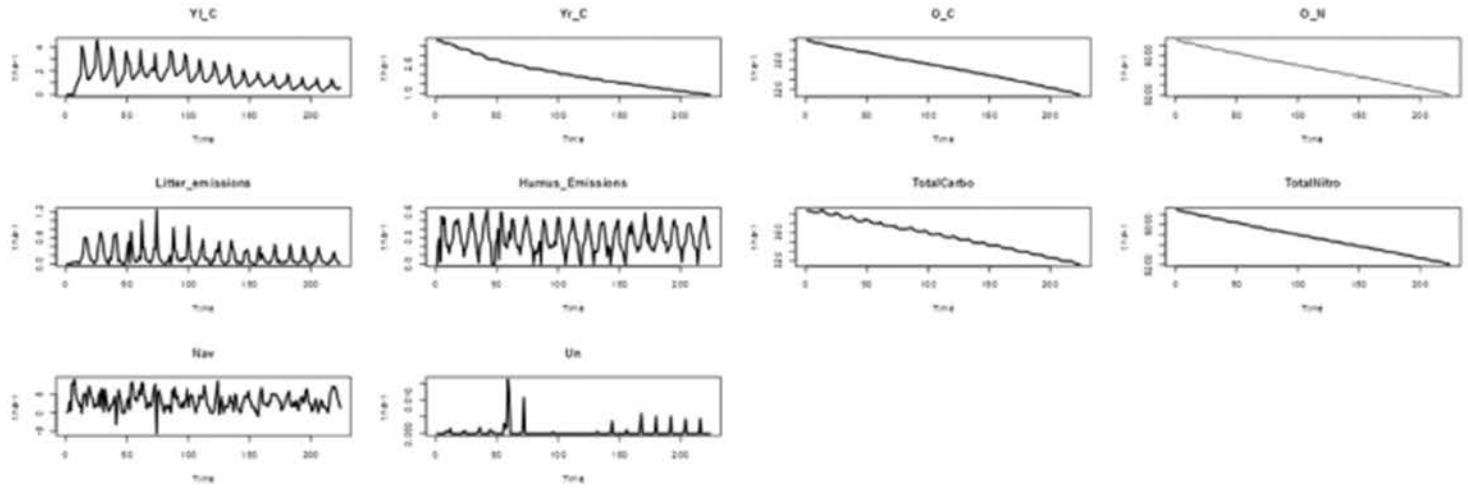
ICBM

RothC
ICBM
YASSO

Run MODEL

Back to Home Page

Climate | Stand | Canopy | Stocks | Modifiers | Production | Water Use | Mortality Management | Wood Delta | Weibull | Soil



Change the settings and explore the results

This app utilizes a modified version of the r3PG vegetation model provided by IIASA . The original r3PG model is a process-based model developed for simulating forest growth and stand dynamics. This modified version extends the original model to include the simulation of carbon, nitrogen, and phosphorus pools and fluxes in both aboveground and belowground components.

To get started, make sure you selected the site and the site has all the required data (e.g. climate, soil, species and thinning).

Carbon Model:

RothC

Limitation:

No - Limitation

No - Limitation
N-P limitation

Back to Home Page

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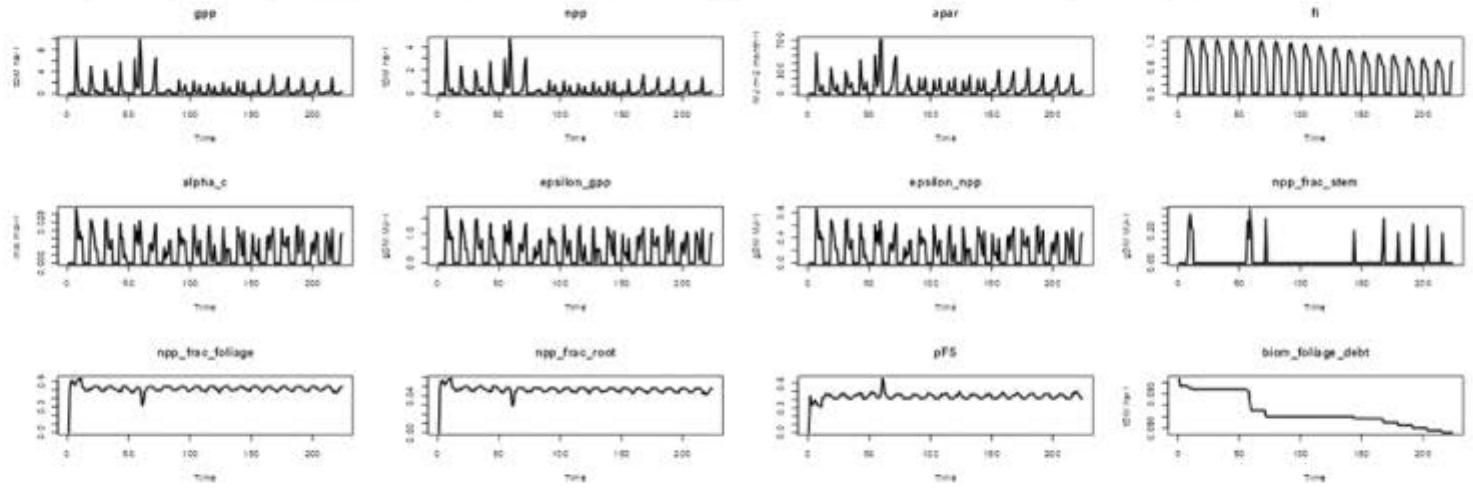
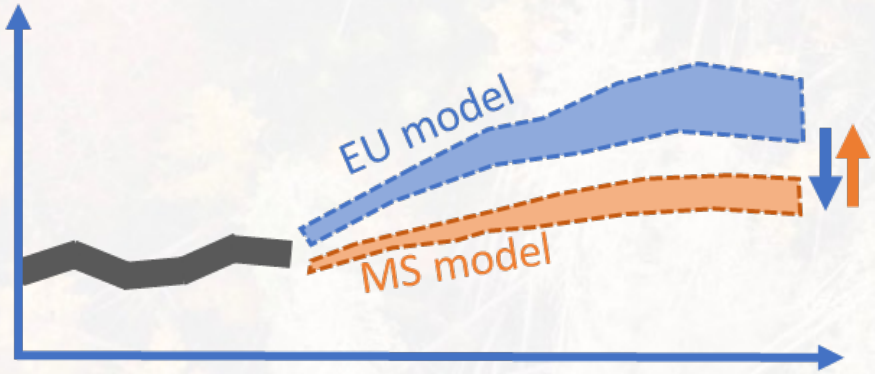


EU Forest Policy Modelling Forum

A Forum to shorten the policy cycle and align EU & national pathways



Best practices and accelerated model development

ForestNavigator Portal

- Open access to harmonized data
- Consistent model development
- Automatized model deployment and results visualization

Exchange on modelling methods and results

Coming soon!

Thank you for your attention

Questions?

- LinkedIn @Forest NavigatorEU
- Twitter: @ForestNavigEU
- Website: https://www.forestnavigator.eu