

Process based models for resource monitoring in *Pinus pinaster*

Marta González García
mgonzalez@cetemas.es



Coordinator



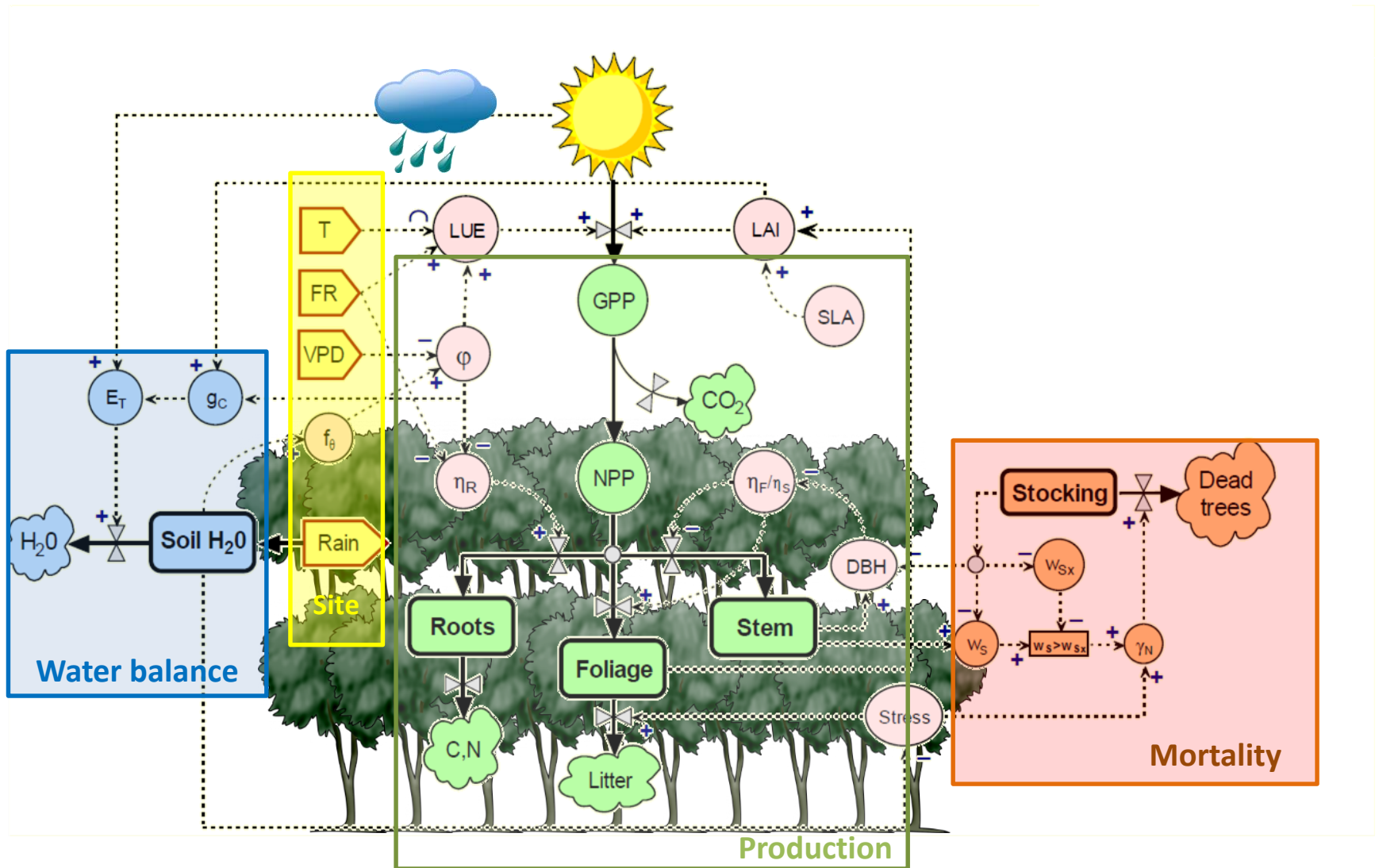
Partners



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 774632

www.incredibleforest.net
info@incredibleforest.net

The 3-PG Model



(Landsberg & Waring, 1997)

The 3-PG Model



**Plot
information**



**3-PG species & site
parameterization**



Model calibration & validation

Stand scale



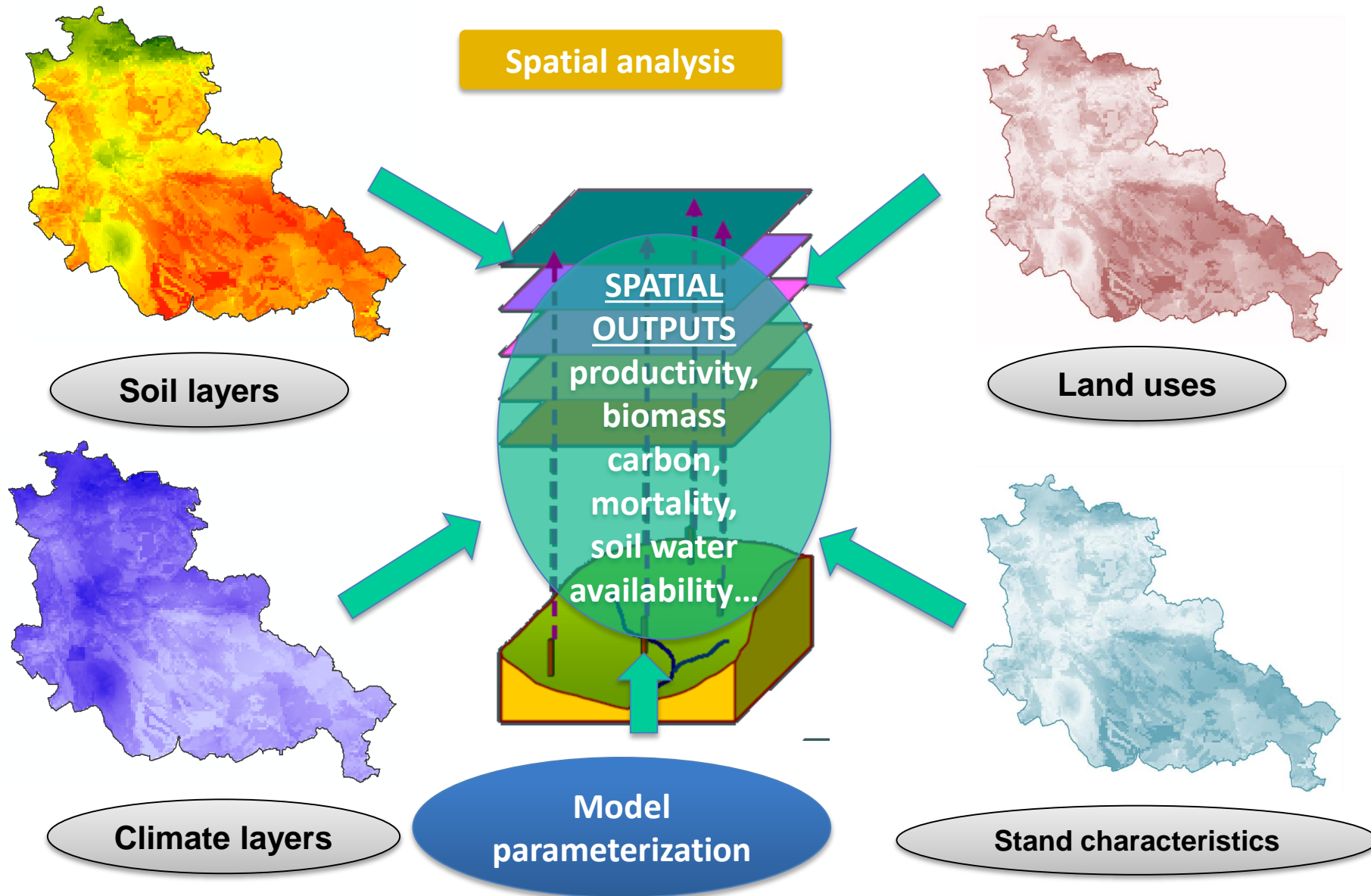
Spatial simulation



**Data required: Inventories, biomass and volume, soil
(texture, fertility, soil water), climate, LAI**

The 3-PG Model

Spatial analysis



Modelling *Pinus pinaster* and *Pinus pinea* stands with 3-PGS Case study: Castilian Plateau (Spain)



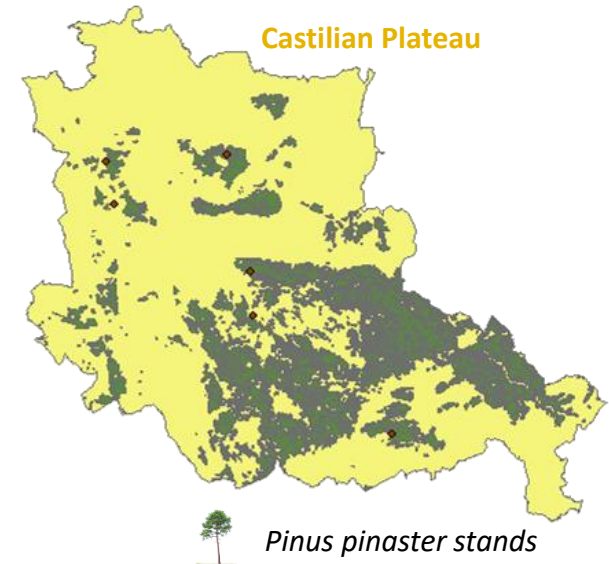
Working on *Pinus Pinaster*...

- ① Model calibration & validation (3-PG)
- ② Spatial simulation (3-PGS)

Next Steps ➡ Include resin production in the model

Data from old and new experimental plots and true resin harvesting values:

- Dendrometric information
- Environmental information
- Harvesting data (managers or companies)



Study area: 310,000 ha

SustForest Plus Proyect



“Resin resource monitoring & modelling in a context of climate change”

Inter-regional workshop, INIA Madrid, January 21/22, 2019

Engage the use of resin in the forestry sector of the productive pine forests in the

Atlantic region



- Adapt method of exploitation to the environmental and socioeconomic particularities
- Assess the quality of the resin produced
- Ensure the use of resin does not affect wood quality and forest health

Partners



Sociedad de
Resinas Naturales

Funding



MINISTERIO
DE AGRICULTURA, PESCA
Y ALIMENTACIÓN



“Resin resource monitoring & modelling in a context of climate change”

Inter-regional workshop, INIA Madrid, January 21/22, 2019

Process models (3-PG) to predict resin production for user

Advantages

- Dasometric + environmental data**
- Stand and spatial resolution (GIS)**
- Forest management tool**
- Variability: soil, climate, quality**
- Future climate scenarios**

Disadvantages

- Data requirements**
- Time for developing and testing**
- Tree variability**
- New situations: new information**



Thank you very much!

Marta González García
mgonzalez@cetemas.es



“Resin resource monitoring & modelling in a context of climate change”

Inter-regional workshop, INIA Madrid, January 21/22, 2019