

# Forest-LidaRioja | Forest inventory and fuel model map using remote sensing technologies



*This project has created an updated cartography of the main forest species in La Rioja, collecting data such as the volume of wood, tree heights and vegetation structure for every 25x25m of land, with a very high level of resolution.*

The Forest-LidaRioja operational group has been formed with the aim of developing a forest inventory and a fuel model map of La Rioja using remote sensing technologies. Among the main practical utilities, we can highlight the importance for improving sustainable forest management, since with accurate and updated data, better decisions can be made and actions in forest areas can be better planned. This project has allowed the development of methodologies and processes for the integration of different sources of information (mainly airborne LiDAR from PNOA 2016 data and OPTICA satellite information). These methods are supported by the development of algorithms that correlate by statistical methods precise terrain data with LiDAR data, requiring the realization of very well calibrated forest plots and measurements located with sub-meter precision in strategic points for each forest species and working area.

The main results of the Forest-LidaRioja Project are:

- Forest inventory of the forests of La Rioja.
- Mapping of fuel models of the forest area of La Rioja to plan preventive forest fire prevention work.
- Study of the evolution of poplar groves in the region and their supply potential.
- Technical training on the products generated for professionals interested in their practical use.

The products generated are open to the public so that anyone can download and use them.

## DETAILS

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### ORIGIN OF WOOD

Forest

### TYPE OF WOOD

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### KIND OF WOOD CONCERNED

Wood standing

### IMPACT ON ENVIRONMENT & BIODIVERSITY

Difficult to estimate

### INCOME EFFECT

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### EXPLOITATION POTENTIAL

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### HUB

South-West Hub

### ECONOMIC IMPACT

### MOBILIZATION POTENTIAL

Difficult to define, but if we base ourselves on the annual felling and the possibilities in La Rioja, it could be between 100,000 and 250,000 m3 of wood, but it would not be only through this system.

### SUSTAINABILITY POTENTIAL - VALUE

Very Positive

### EASE OF IMPLEMENTATION

A very easy-to-use application has been created to make it user-friendly for everyone, with a basic variant for all audiences that is intuitive to use and a more advanced variant for technicians (the latter was accompanied by training).

### EASE OF IMPLEMENTATION - EVALUATION

Very Easy

### KEY PREREQUISITES

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### TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED

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### JOB EFFECT

Difficult to specify

### COSTS OF IMPLEMENTATION ( EURO - € )

High at the scale of forest users, facilitates many processes linked to public forest services and lowers inventory costs for both public and private users.

243000

**SPECIFIC KNOWLEDGE NEEDED**

For the all public variant none, only knowledge of the location of the plot and internet access, for the technical variant knowledge of foresters and some rudiments of using the application.

## MORE DETAILS

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<b>CHALLENGE ADDRESSED</b>	<b>DOMAIN</b>	<b>TYPE OF SOLUTION</b>
2.- Improve infrastructures and capacity of public actors	Inventory, monitoring Harvesting, infrastructure, logistics	Modelling, simulation, optimization
<b>KEYWORDS</b>	<b>DIGITAL SOLUTION</b>	<b>INNOVATION</b>
Cartografía Inventario forestal continuo LiDAR	Yes	Yes
<b>COUNTRY OF ORIGIN</b>	<b>SCALE OF APPLICATION</b>	<b>START AND END YEAR</b>
Spain	Regional/sub-national	2018 - 2020

## CONTACT DATA

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### OWNER OR AUTHOR

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## REFERENCES AND RESOURCES

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### MAIN WEBSITE

<https://www.forest-lidarioja.info/>

### PROJECT WEBSITE

<https://www.forest-lidarioja.info/grupo-operativo/>

### PROJECT REFERENCE

FEADER

### RESOURCES

**Spatial Data Infrastructures of the Government of La Rioja (IDerioja)**

**Application for consulting and extracting data from specific plots of land**

LOGO OF BEST PRACTICE



LOGO OF MAIN ORGANIZATION



PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

Rosewood 4.0

POST DATE

8 Sep 2021



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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

