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

ORIGIN OF WOOD
Forest

TYPE OF WOOD
--

KIND OF WOOD CONCERNED
Wood standing

IMPACT ON ENVIRONMENT & BIODIVERSITY
Difficult to estimate

INCOME EFFECT
--

EXPLOITATION POTENTIAL
--

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
--

TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED
--

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

CHALLENGE ADDRESSED

2.- Improve infrastructures and capacity of public actors

DOMAIN

Inventory, monitoring

Harvesting, infrastructure, logistics

TYPE OF SOLUTION

Modelling, simulation, optimization

KEYWORDS

Cartografía

Inventario forestal continúo

LiDAR

DIGITAL SOLUTION

Yes

INNOVATION

Yes

COUNTRY OF ORIGIN

Spain

SCALE OF APPLICATION

Regional/sub-national

START AND END YEAR

2018 - 2020

CONTACT DATA

OWNER OR AUTHOR

Agresta S. Coop.

David García

dgarcia@agresta.org

https://agresta.org/

REPORTER

CESEFOR

Ángela García de Arana

angela.garcia@cesefor.com

REFERENCES AND RESOURCES

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

FOREST LIDARIOJA

LOGO OF MAIN ORGANIZATION

GOBIERNO DE ESPAÑA MINISTERIO DE AGRICULTURA Y PESCA, ALIMENTACIÓN Y MEDIO AMBIENTE

FEADER: EUROPA INVIERTE EN ZONAS RURALES

Gobierno de La Rioja

PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

Rosewood 4.0

POST DATE

8 Sep 2021

ROSEWOOD 4.0 Sustainable Wood for Europe

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 862681

iHTML

A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

cesefor
Centro de Servicios y Promoción Forestal y de su Industria de Castilla y León

EFI