



La Rioja Region and it's forest sector

FOREST
LIDARIOJA



> 175.000 hectares of forest



More than
amazing wine



60% hard woods
(without market!)



40% soft woods
(pine, douglas-fir,
poplar)



170.000 m³/year
80% in public forest

Harvest





Challenges



Availability of raw material

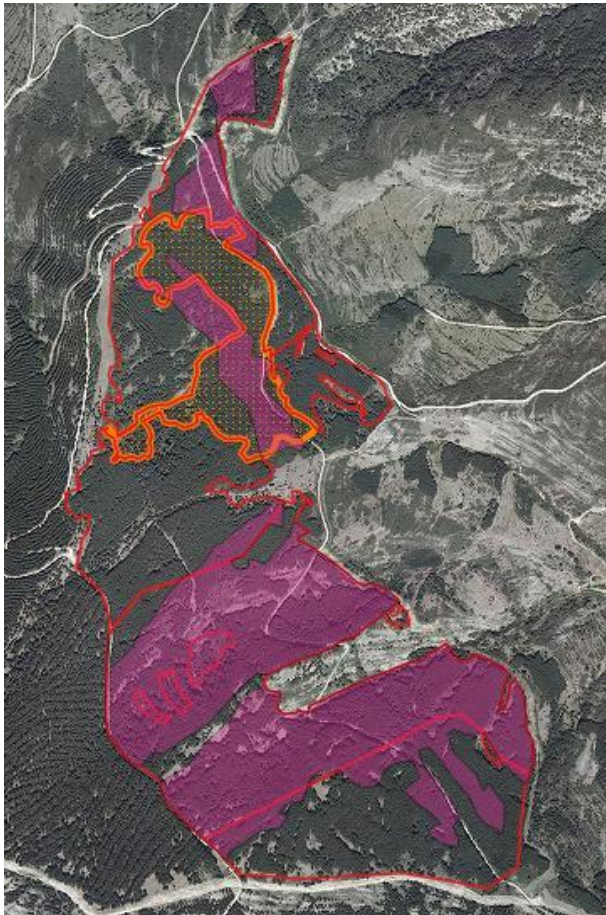
A key question for forest-based industries



Increasing risk of forest fires

How to improve forest fire prevention?

Where is it?
How much we have?



Availability of
raw material



Availability of raw material?



Dependency on local resources:

What about our future in La Rioja?

Uncertainty about the exact amount of poplar available

Perception that raw material can be a problem



**REPRESENTS HALF OF THE TOTAL
INCOMES FROM THE SALE OF WOOD
- TOTAL: 3,5 M€ per year,
Poplar 1,75 M€**



Increase of forest fires risk

Forest fires: important challenge in *Mediterranean areas*

Impacts on:

- Environment
- Society
- Economy

Fire behaviour:

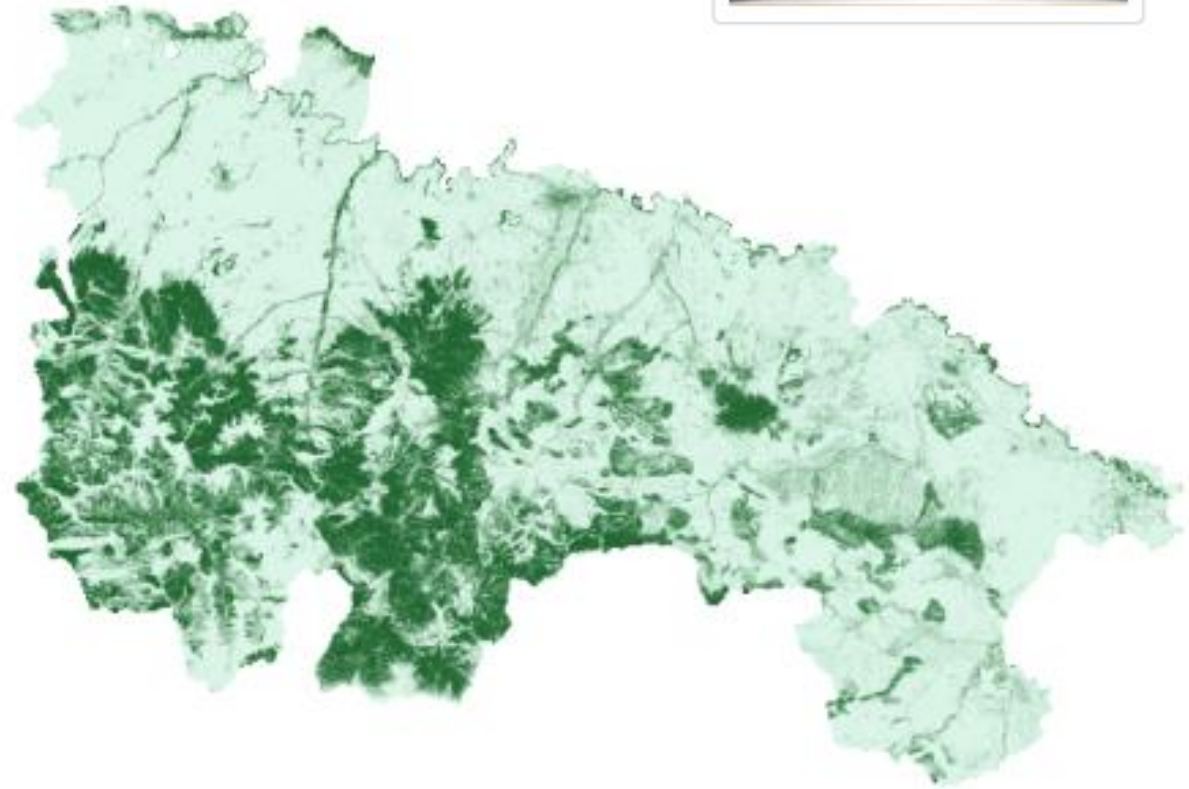
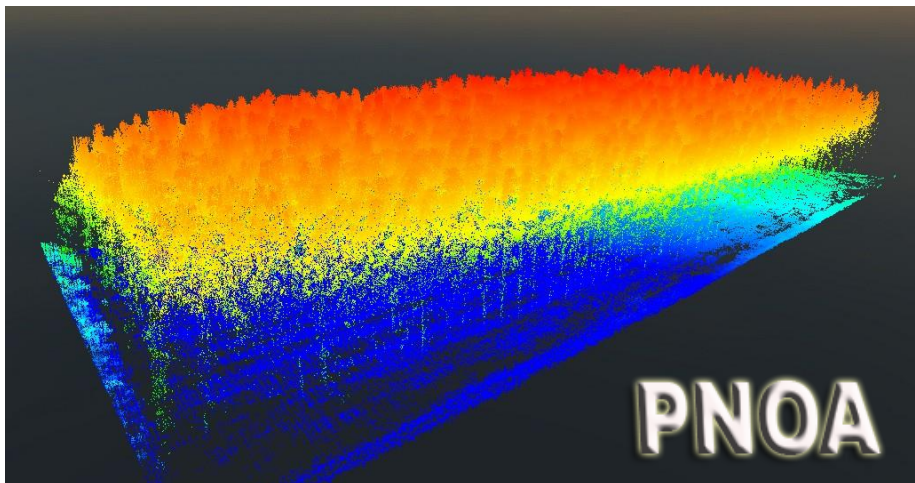
- Weather
- Topography
- **Fuels**



Opportunities

FOREST
LIDARIOJA

LiDAR data is now available
in La Rioja



Industry

Foresters
Association

Forest
Consultancy



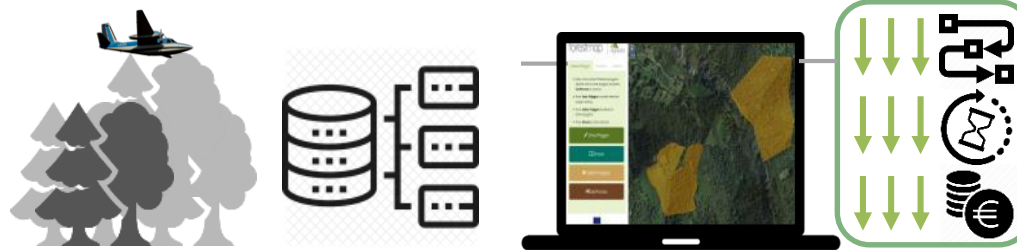
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Communication

Regional
Government

The actions:

1.- Regional Wood Stock

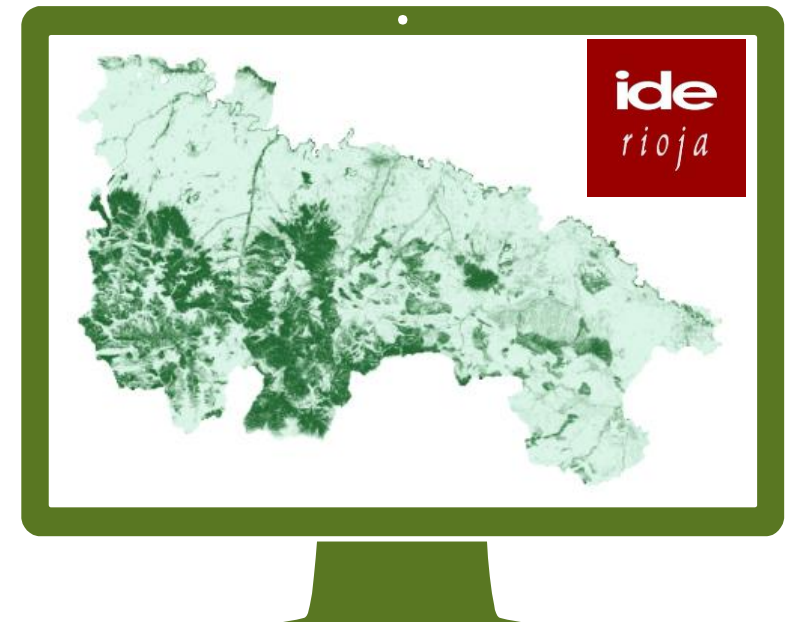


**Regional Forest Inventories
based on LIDAR**

↑  **Quick and easy-to-use**

↑  **high resolution and
continuous information**

↑  **Cost-effective**

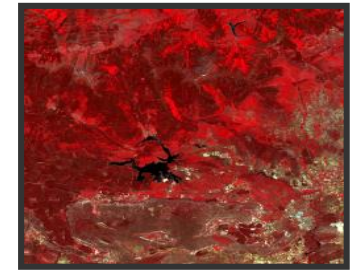
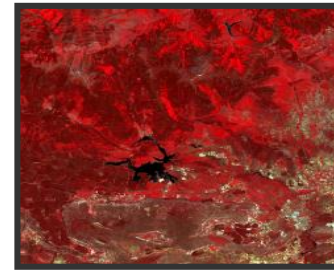
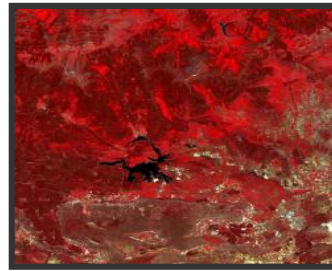
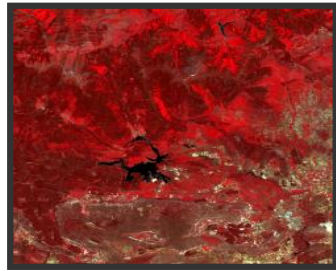
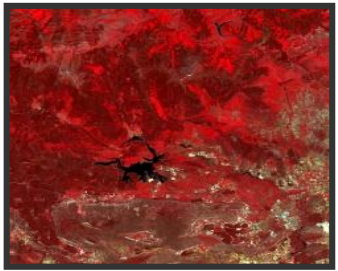


More and better management plans 9

2.- Trend Analysis of Poplar stands in La Rioja



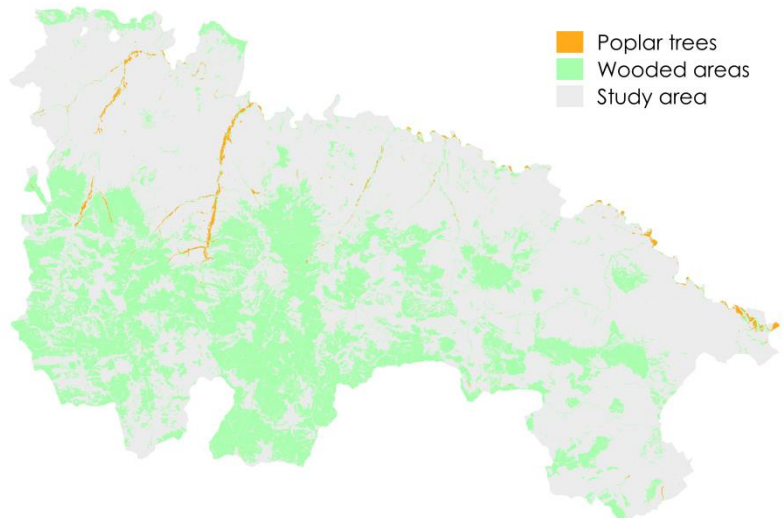
LANDSAT TIME SERIES



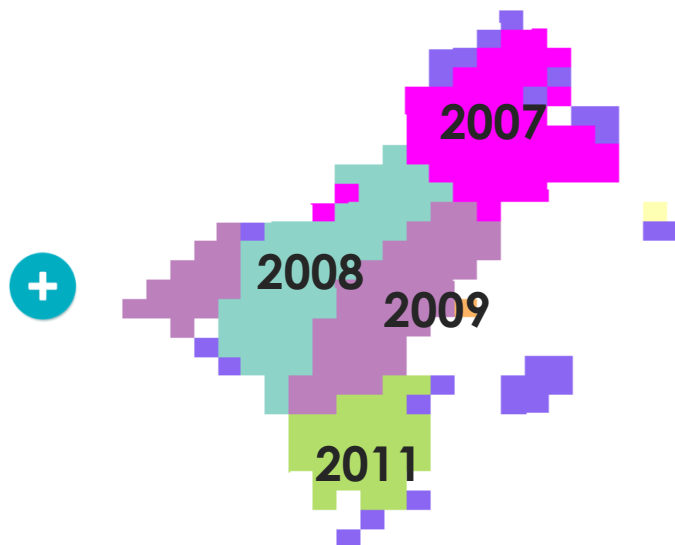
1999

2017

FOREST TYPE MAPPING



CLEAR CUT MAPPING

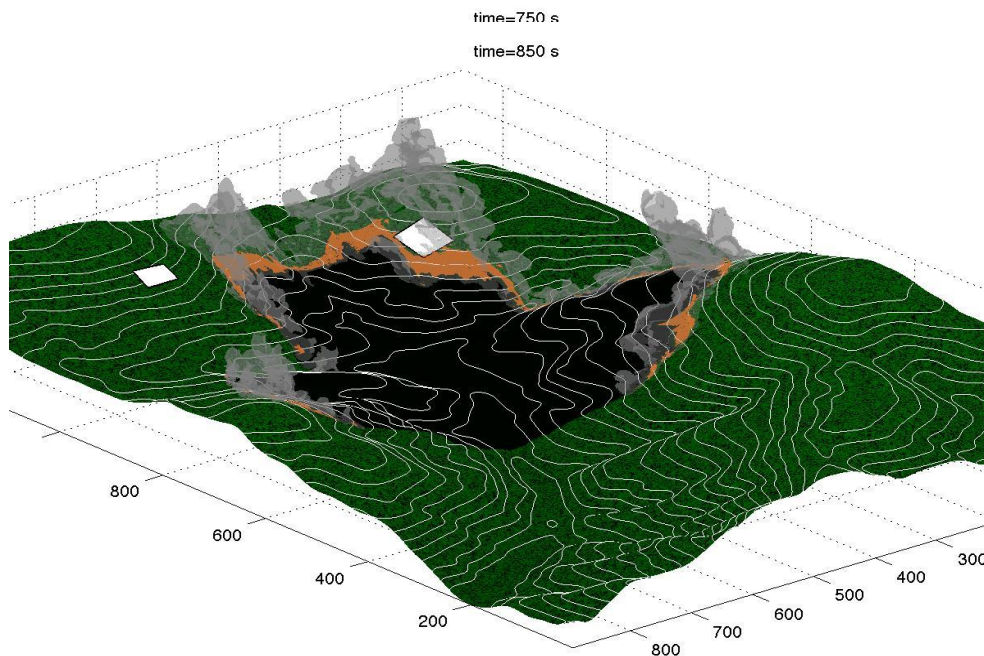
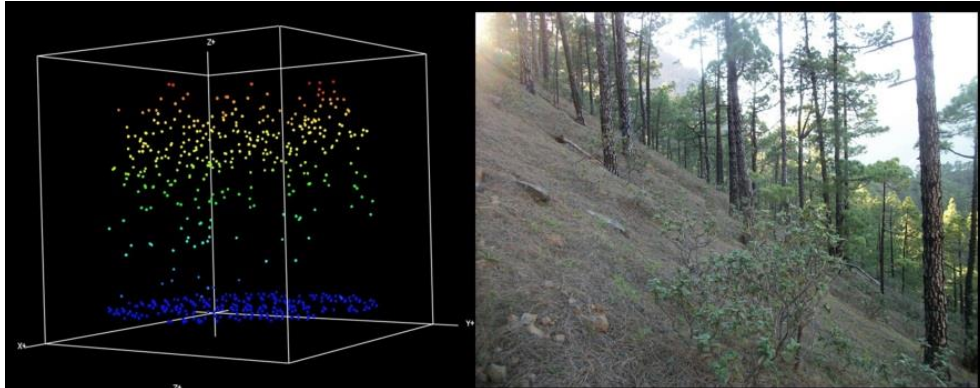


Riverbank
poplars

Production
poplar
plantations



3.- Map of fuel models



Useful for forest fire prevention and suppression

- Strategic fuel treatment planning
- Resource optimization

Input in forest fire simulations

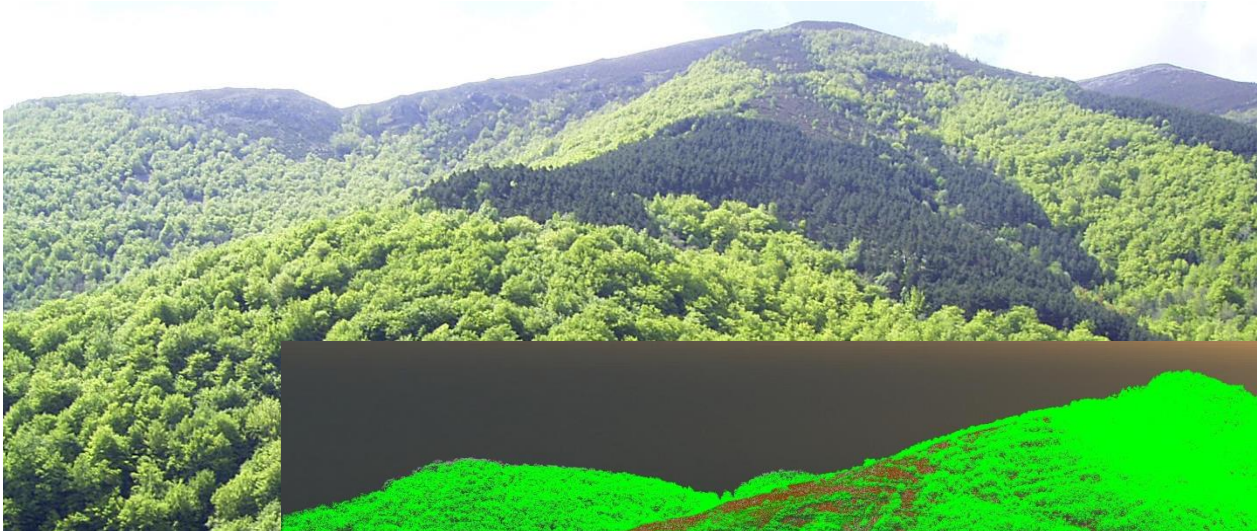
- High spatial resolution on fuel information
- Critical fire behavior predictions
- High vulnerability areas

Conclusions

The objectives and methodologies of this project can be transferred to other regions in Europe because:

- An increasing number of European countries have national programs to capture LiDAR data
- Most forest-based industries in many regions don't have good information about real raw material availability and its evolution
- Not only Mediterranean areas will need high resolution fuel cartography models (climate change)

thanks for your
attention !



More information:

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This operational group has been promoted by the Ministry of Agriculture, Livestock and Environment of the Government of La Rioja and co-financed by FEADER, Ministry of Agriculture and Fisheries, Food and Environment, and the Government of La Rioja