

Session 3. Resin yield data & models, a support for resource mobilisation – what can science tell us?

1. What kind of data, and models, does the natural resin sector need to develop the business in a sustainable way?
2. Is it feasible to assess, and model, the potential of resin production of our territories? At which territorial and temporal scale (scenario) and how accurately?
3. Which assessment and monitoring systems or tools are available or can be developed?
4. What data are needed for feed this models? Are they available?
5. Is it feasible to predict the evolution of the natural resin sources under a global change scenery (CC, new pests & diseases)?

***SustForest Lab & sampling protocols for
Maritime pine resin as forest resource***

R. Alias, F. J. Auñón

INIA

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

Objectives of the models to develop in sustforest+

- Selection of highly productive áreas (spatial models) (resin production/use of improved material)
- Identification of stands with expected high production (classification models)
- Early prediction models (predictive models)

Sustforest+ Frame

- Network of plots for resin production
- Already available information + information collected during the project
- Sustainable after the end of the Project. Own financial resources
- Open to other initiatives. Open data (with some *identified* restrictions)

Research Network + Data repository

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Some requirements of data for Resin production models

- Data from different sources (forest owners, researchers, forest services, companies)
- Data at different scales (trees /stands / forest, región, ..)
- Data from several years (cyclic production)
- Data with different precision

European network of *permanent plots for resin testing*

- Different type of *plots* recognized
 - *Intensive sampling plots*. Tree level data.
 - *Experimental plots*. With repetitions for different treatments.
 - *Resin forest*. Forest with information on resin production at the management unit.
 - *Resin territory*: Municipality with information on resin production and social and economic data.
- Protocol defined
- Necessary to populate the database for defining the network (Sustforest webpage)

Description of the network

- Establishment plan
- Research and data collection plan
- Available information
- Monitoring plan (including contact person for new evaluation)

Database on resin production

- Scope: Georeferenced Data on resin production at individual or stand level.
- All types of research on resin production, main objective: resin production.
- Content must not violate privacy or copyright, or breach confidentiality or non-disclosure agreements. (Data agreement among the owner of the data and the repository)
- There is a description of the database.

Open-data repository

- **To avoid** the **loss** of data
- **To avoid** **redudancy** in data collection and management.
- **To favor multidisciplinary research** (e.g. resin production management) by incorporating existing and improved data from different research groups or sources.
- **To generate added value to the existing research** by using this information to advance in other related fields.
- **To valorize** the existing available data and the responsables of collecting this valuable information.
- The owner and all the involved people is recognized if used.

Database on resin production-Sudforest+

Database on resin production-Sudforest+

General Policies

Content

Scope: Georeferenced Data on resin production at individual or stand level. All types of research artifacts. Content must not violate privacy or copyright, or breach confidentiality or non-disclosure agreements.

Status of research data: Any status is accepted, from any stage of the research lifecycle.

Eligible depositors: REDInia

Ownership: By uploading content, no change of ownership is implied and no property rights are transferred to CERN. All uploaded content remains the property of the parties prior to submission.

Data file formats: All formats are allowed. However, excel files are preferred for raw data, and shape files for georeferenced data.

Volume and size limitations: Total files size limit per record is 50GB. Higher quotas can be requested and granted on a case-by-case basis.

Data quality: All information is provided "as-is". The curator of the Repository can check for integrity and interoperability of the data. Any suggested change should be approved by the depository.

Metadata types and sources: All metadata is stored internally in JSON-format according to a defined JSON schema. Example of metadata can be found in the REDInia web page.

Language: For textual items, English is preferred but all languages are accepted.

Licenses: Users must specify a license for all publicly available files. Licenses for closed access files may be specified in the description field.

Access and Reuse

Access to data objects: Files may be deposited under closed, open, or embargoed access. Files deposited under closed access are protected against unauthorized access at all levels. Access to metadata and data files is provided over standard protocols such as HTTP and OAI-PMH.

Use and re-use of data objects: Use and re-use is subject to the license under which the data objects were deposited.

Embargo status: Users may deposit content under an embargo status and provide an end date for the embargo. The repository will restrict access to the data until the end of the embargo period; at which time, the content will become publically available automatically.

Restricted Access: Users may deposit restricted files with the ability to share access with others if certain requirements are met. These files will not be made publicly available and sharing will be made possible only by the approval of depositor of the original file. The conditions for the use of the restricted access database should be public.

Metadata access and reuse: Metadata is licensed under CC0, except for email addresses. All metadata is exported via OAI-PMH and can be harvested.

Agreement Document: An agreement document can be signed among the REDInia responsible and the data owner, with the conditions for the embargo status or restricted access if necessary.

Removal

Revocation: Content not considered to fall under the scope of the repository will be removed and associated DOIs issued by REDInia revoked.

Withdrawal: If the uploaded research object must later be withdrawn, the reason for the withdrawal will be indicated on a tombstone page, which will henceforth be served in its place. Withdrawal is considered an exceptional action, which normally should be requested and fully justified by the original uploader. In any other circumstance reasonable attempts will be made to contact the original uploader to obtain consent. The DOI and the URL of the original object are retained.

Longevity

Versions: Data files are versioned. Records are not versioned. The uploaded data is archived as a Submission Information Package. Derivatives of data files are generated, but original content is never modified. Records can be retracted from public view; however, the data files and record are preserved.

Replicas: All data files are stored in INIA Data Centre. Data files are kept in multiple replicas in a distributed file system, which is backed up to tape on a nightly basis.

Retention period: Items will be retained for the lifetime of the repository. This is currently the lifetime of the host laboratory INIA.

File preservation: Data files and metadata are backed up nightly and replicated into multiple copies in the online system.

Fixity and authenticity: All data files are stored along with a MD5 checksum of the file content. Files are regularly checked against their checksums to assure that file content remains constant.

Succession plans: In case of closure of the repository, best efforts will be made to integrate all content into suitable alternative institutional and/or subject based repositories.

Database and Publication

Publication: Databases in the repository can be used for scientific publication, other type of publications, dissemination, etc. depending on the access and reuse defined for each data. If they are OA the data can be used including the reference of the database in the paper. If the data has an embargo or access restrictions, can be used only by permission of the owner.

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Data agreement - Sudforest+

Mediante la firma del presente acuerdo, los abajo firmantes que tengan o puedan tener acceso a los datos de XXXX enviados por XXXX al INIA para la constitución de la base de datos de resinación, dentro del proyecto Sust-Fores+ liderado por CESEFOR, se comprometen

1. A incluir los citados datos en la base de datos de resinación "SustForest+", incluida en el Repositorio REDInia, de acuerdo a los términos de referencia de dicha base de datos (Anexo 1) y del repositorio REDInia y con el fin de alcanzar los objetivos del proyecto.
2. Los datos serán de acceso libre, excepto si se indica en este documento un **periodo de embargo de X años a contar desde la fecha de este acuerdo y/o el acceso restringido de estos datos a terceras personas.**
3. No ceder, ni proporcionar estos datos a terceros durante el periodo de embargo/acceso restringido sin contar con el permiso del propietario.
4. A adoptar cuantas precauciones y medidas sean necesarias para evitar que terceros puedan acceder a los mencionados datos.
5. A utilizar los datos proporcionados para cumplir los objetivos del proyecto.
6. A solicitar autorización del propietario de los datos para realizar una base derivada que contenga parte o resultados derivados de los datos suministrados.
7. A mencionar la aportación del propietario en cualquier publicación que se derivara del uso de estos datos. La cita se realizará acorde a las siguientes instrucciones:

Por el propietario de los datos:

Nombre: _____
Institucion/Cargo: _____
Fecha y lugar: _____
Firma: _____

Por el INIA:

Nombre: _____
Institucion/Cargo: _____
Fecha y lugar: _____
Firma: _____

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Back to the questions

1. What kind of data, and models, does the natural resin sector need to develop the business in a sustainable way?
 - Spatial models and decision making models for deciding about the productivity of a future stand.
2. Is it feasible to assess, and model, the potential of resin production of our territories? At which territorial and temporal scale (scenario) and how accurately?
 - Available data only can predict at a limited geographical and temporal scale. We need more longitudinal data (data series)
3. Which assessment and monitoring systems or tools are available or can be developed?
 - We need to develop a sustainable network of plots
4. What data are needed for feed this models? Are they available?
 - No, but the exiting data can produce better information than the existing tools.
5. Is it feasible to predict the evolution of the natural resin sources under a global change scenery (CC, new pests & diseases)?
 - It would be possible to improve the existing models, but we lack essential information.

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Thanks for your attention

Coordinator



Partners



Forestas

Agencia forestale regionale pro s'ambiente de su territoriu a de s'ambiente de sa Sardegna
 Agenzia forestale regionale per lo sviluppo del territoriu e dell'ambiente della Sardegna
SardegnaForeste



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