



Experiences from an  
international staff exchange

program

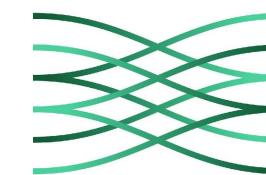
# DecisionES

2025

Porto Seguro

Jun 30th to Jul 4th BR

Symposium on  
Ecosystem Services,  
Forest Management and  
Decision Making



# DecisionES

Decision Support for the Supply of Ecosystem  
Services under Global Change

<http://decisiones.ctfc.cat/>

## Consortium

The composition of the consortium provides the multidisciplinary framework needed to facilitate a knowledge sharing strategy and realize the needed interdisciplinary synthesis. The list of partners participating in this project are:

### AMERICA



COSTA RICA



BRASIL



### EUROPE



# DecisionES Project

**“Decision Support for the Supply of Ecosystem Services under Global Change”. Grant Agreement number: 101007950—H2020-MSCA-RISE-2020. ”**

- This project gets 2.4 Million € funding from the European Union’s H2020 research and innovation programme under one of the Marie Skłodowska-Curie Actions.
- The specific action financing **DecisionES** is the Research and Innovation Staff Exchange (RISE) which aims to support the career development of researchers.
- The base is the support for international collaboration through the exchange of research and innovation staff as well as sharing of knowledge. (June 2021- June 2026)

<http://decisiones.ctfc.cat/>



# DecisionES Project



Partners	Acronym	Country
Centre de Ciència i Tecnologia Tecnològic Forestal de Catalunya	CTFC	Spain
Instituto Superior de Agronomia	ISA	Portugal
Universidad Politécnica de Madrid	UPM	Spain
Ita-Suomen Yliopisto	UEF	Finland
Albert-Ludwigsuniversitaet Freiburg	ALU-FR	Germany
Sveriges Lantbruksuniversitet	SLU	Sweeden
Universidade de Evora	UEvora	Portugal
Forest Bioengineering Solutions	FBS	Spain
Univeristy of Lleida	UdL	Spain

TC Institutions	Acronym	Country
Instituto Sistemas Complejos de Ingeniería	ISCI	Chile
Pontificia Universidad Católica De Chile	PUC	Chile
US Forest Service	USDA	US
Centro Agronómico Tropical de Investigación Y Enseñanza	CATIE	Costa Rica
The Pennsylvania State University	PSU	USA
University of Washington	UW	USA
Universidad de São Paulo	USP	Brazil
University Laval	Ulaval	Canada
Universite du Quebec	UQAM	Canada
University of Toronto	UoT	Canada



# DecisionES Project

The **DecisionES network general objective** is to develop methods and tools to improve forest management planning and policy analysis to contribute to the efficient delivery of ecosystem services ESs under risk and uncertainty (e.g. fires, climate change).

**Specific objectives of DecisionES** are the generation of knowledge:

- 1) Methods to characterize ecosystems (e.g. remote sensing, inventories etc... ).
- 2) Methods to project forested landscapes and the provision of Ess under different management regimes and scenarios of global change.
- 3) Methods/models to integrate ecosystems management planning and policy processes to effectively address concerns with the sustainability of the provision of ESs
- 4) to develop computer-based tools to encapsulate all the models and methods for ecosystem management planning generated

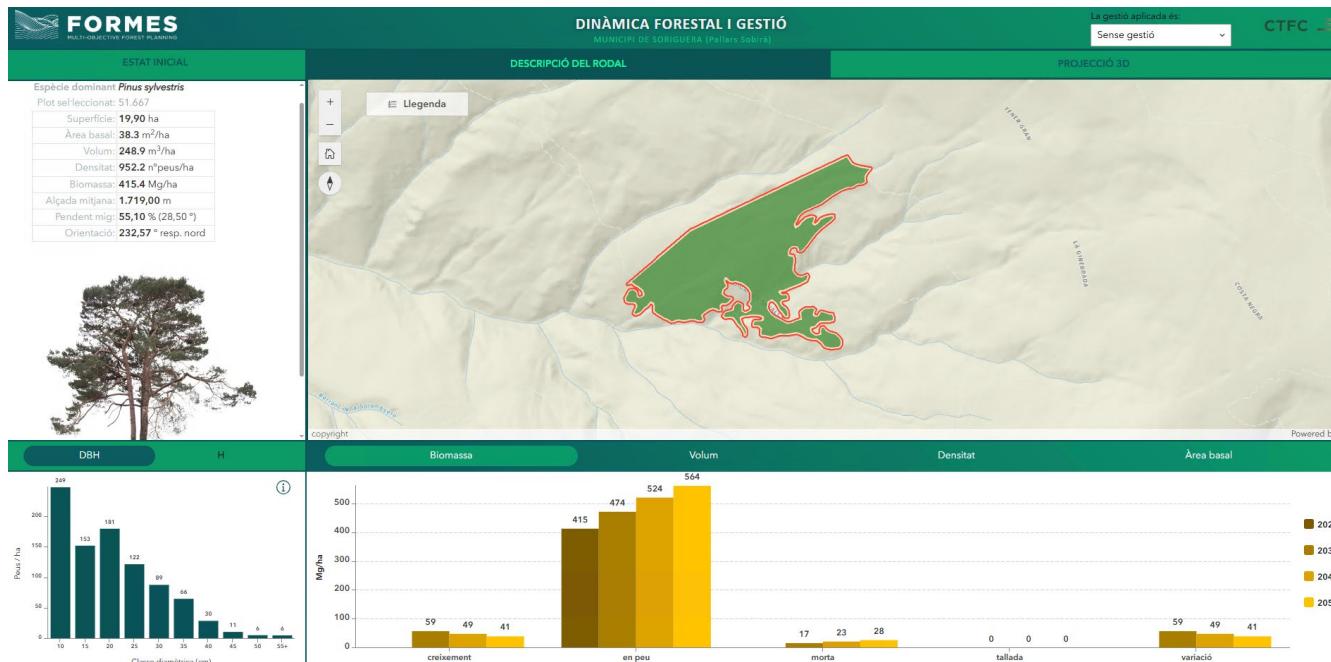




## **Examples of methods and tools developed**

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- Developing dynamic models understand and explore forest Dynamics under climate change.



<https://doi.org/10.1016/j.foreco.2021.119909>



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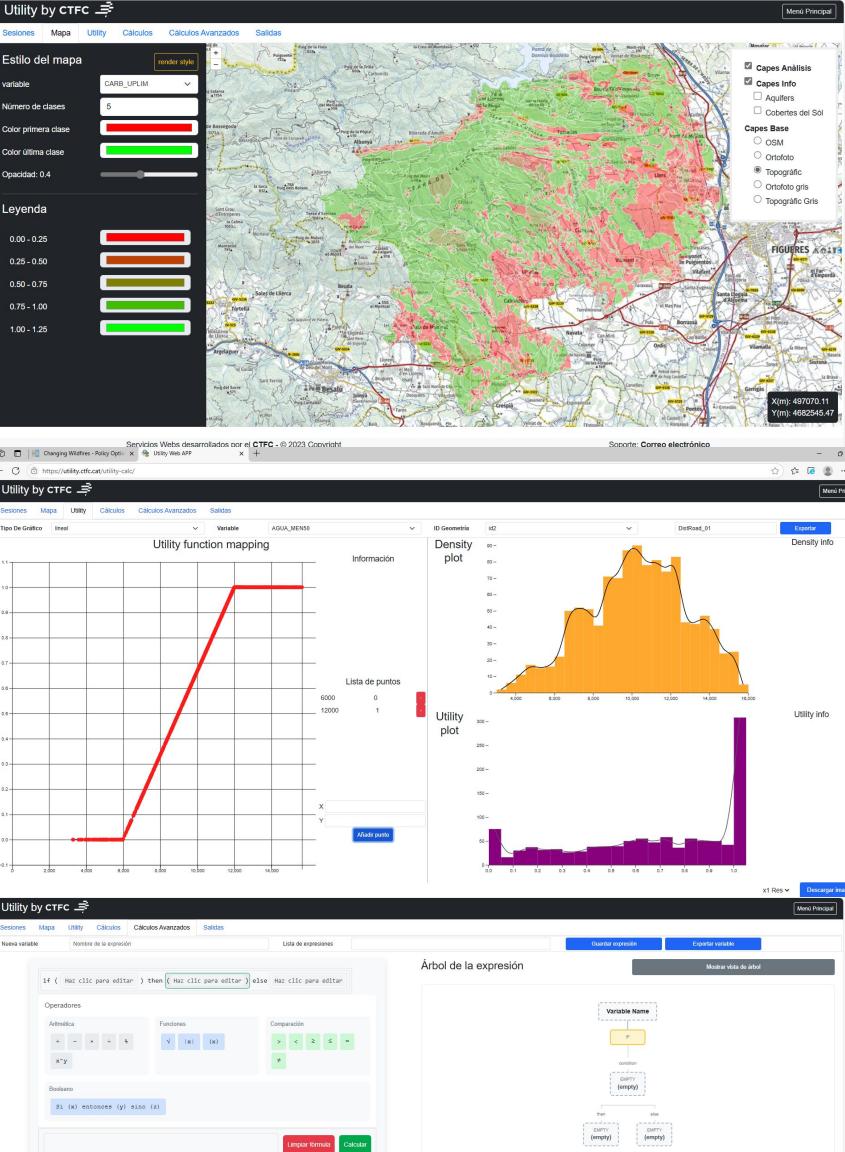
# **CTFC\_Utility.**

## **New Landscape Tool to Prioritize Projects / Actions in the landscape.**

The system is based on the Multi Attribute Utility Theory a decision-making framework that can be used to prioritize areas based on multiple criteria.

Because **CTFC\_Utility** is a generic solution framework, it can be applied to an extremely broad array of problems at virtually any and all spatial scales:

- Prioritising Forest Management Zones to Prevent Large Forest Fires.
- Defining suitability areas for the provision of certain Ecosystem Service.
- Prioritising areas for conservation or restoration purposes.





# PrioriActions: Multi-action management planning tool

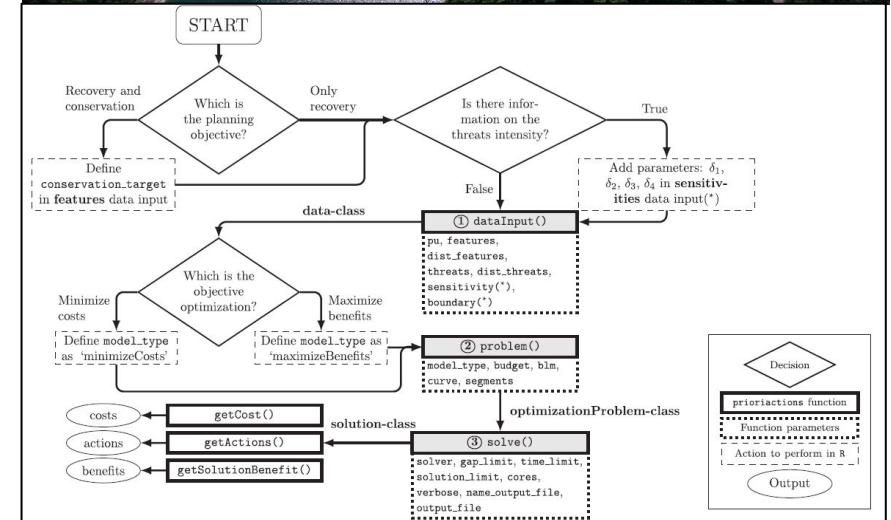
**PrioriActions** is an R package for spatial conservation planning via **Mixed Integer Programming**. It generates optimal (or near-optimal) prioritization and action-deployment solutions under diverse spatial and functional constraints, and works with both commercial (Gurobi, CPLEX) and open-source (CBC, Symphony) solvers.

Problems that can be addressed:

- Identifying priority areas for conservation or restoration
- Designing conservation plans
- Designing restoration plans



<https://prioriactions.github.io/prioriactions/>



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# Cell2Fire: A family of growth fire simulators.

Cell2Fire is a new cell-based forest fire growth model predictor

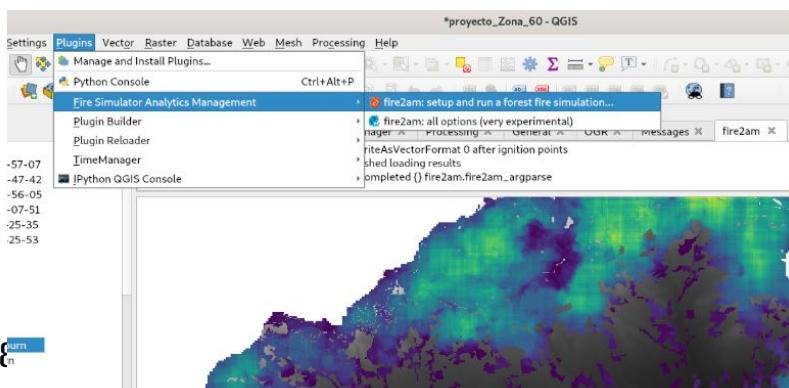
It includes Cell2Fire Prometheus (Canada), Cel2Fire Scot and Burngman (Spain), Cell2Fire Kitral (Chile), Now its being adjusted for Portugal Cell2Fire\_P



- **Methodology:**
- Spread rules similar to farsite.
- Surface spread based to Prometheus (Canada), Scott and Burgam (Catalonia), Kitral (Chile) and now Portugal.
- Fuel effects, humidity scenarios and wind adjusted to outputs of behavior using IA.

Problems that can be addressed:

- Prioritising areas for conservation or restoration purposes.
- Designing conservation plans...
- Designing restoration plans.



## LAST BUT NOT LEAST

- The Project is not only about working



DecisionES is also about networking and having fun!



# THANK YOU !!



**DecisionES**  
Decision Support for the Supply of Ecosystem  
Services under Global Change

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**CTFC** The logo features the acronym "CTFC" in a bold, dark green sans-serif font. To the right of the text is a graphic element consisting of several thick, diagonal green lines of varying lengths, some with small black dots, resembling a stylized checkmark or a series of tally marks.

SCIENCE FOR FOREST MANAGEMENT,  
BIODIVERSITY & BIOECONOMY  
**Change the future, today**