AFORCLIMATE

LIFE15 CCA/IT/000089

Agrotica

27th INTERNATIONAL FAIR FOR AGRICULTURAL MACHINERY, EQUIPMENT & SUPPLIES

1-4 | 2 | 2018

THESSALONIKI INTERNATIONAL EXHIBITION & CONGRESS CENTRE

LIFE AForClimate Project - *LIFE15 CCA/IT/000089*

Adaptation of **FOR**est management to **CLIMATE** variability: an ecological approach

Ugo Chiavetta

Council for Agricultural Research and Economics (CREA)

Research Centre for Forestry and Wood

COORDINATOR

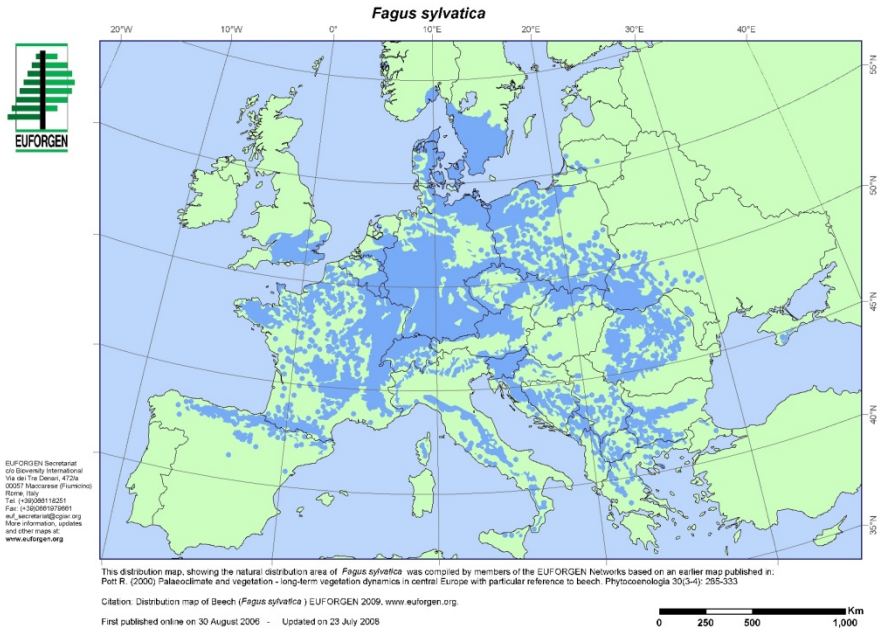
PARTNER

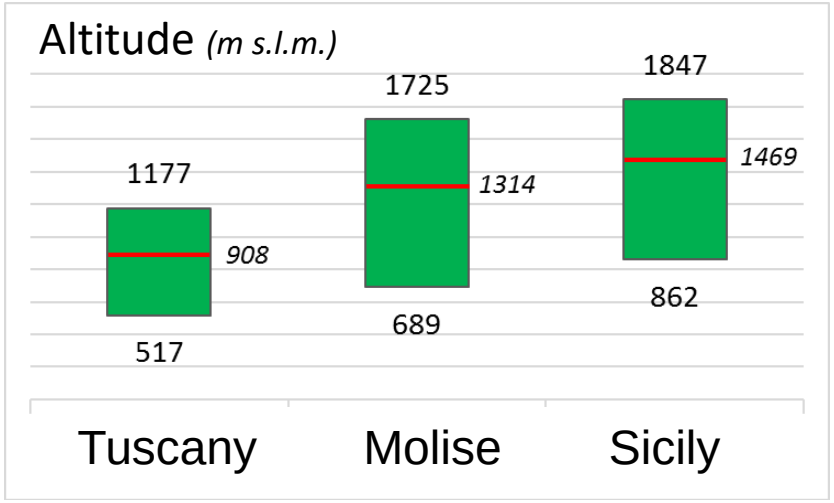
Objectives of the project

General Objective: To maintain and improve the **efficiency of beech forest ecosystem**, through an effective forestry, planned **on the basis of climatic cycles**

Specific Objective: Definition of a method for **measuring climatic factors predisposing and predicting** specific phenology, growth and resilience, promoting **forest regeneration and seed production**

Demonstration areas





NORTH-SOUTH Transect in the southern extreme of beech range in three Italian Regions: Tuscany, Molise and Sicily

The team

Acronym	Name	Type	Role in the project
CREA	Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria Centro di ricerca per la selvicoltura	Public body **Research Centre**	**Coordinator beneficiary**
CDF	Compagnia delle foreste	SME **Publisher**	**Responsible for communication and dissemination activities**
DSRTRS	Regione Siciliana Assessorato Regionale dell'Agricoltura dello Sviluppo rurale e della Pesca Mediterranea	Public body **Regional Forest Service**	**Responsible for the implementation of the project in Sicily**
DREAM	D.R.E.AM. Italia società cooperativa agricolo forestale	SME **Forestry Enterprise**	**Technical Manager** **Financial and Administrative responsible**
DSAF	Università degli studi di Palermo Dipartimento Scienze Agrarie e Forestali	Public body **University**	**Implementation leader of monitoring in Sicily**
REGMOL	Regione Molise	Public body **Regional Forest Service**	**Responsible for the implementation of the project in Molise**
UMMUGE	Unione Montana dei Comuni del Mugello	Public body **Local Forest Service**	**Responsible for the implementation of the project in Tuscany**
UNIMOL	Università degli Studi del Molise Dipartimento di Bioscienze e Territorio	Public body **University**	**Implementation leader of monitoring in Molise** **Coordinator for defining guidelines**

Project budget

- Total project budget: 2,386,250 €
- Total eligible project budget: 2,385,250 €
- EU financial contribution requested: 1,431,063 € (60% of Total budget)

Cost category in Euro												
Beneficiary short name	Personnel		Travel	External assistance	Equipment	Prototype	Consumables	Other	Overheads	EU contrib.	Total eligible costs	% of total eligible costs
	Days	Cost										
CREA	2.673	490.606	22.680	98.000		54.000	26.000	6.000	48.641	456.027	745.927	**31,27%**
CDF	688	101.160	2.520	27.920				13.400	10.149	139.634	155.149	**6,50%**
DRARFD	1.787	228.985							16.028	108.356	245.013	**10,27%**
DREAM	1.080	192.100	13.385	10.500					15.118	207.886	231.103	**9,69%**
DSAF	1.202	200.720	9.381				6.000		15.126	141.164	231.227	**9,69%**
REGMOL	2.027	229.909							16.093	108.612	246.002	**10,31%**
UMMUGE	184	21.398		229.000					17.527	117.789	267.925	**11,23%**
UNIMOL	1.094	223.695	11.010		1.000		10.000		17.199	151.595	262.904	**11,02%**
Total	**10.735**	**1.688.573**	**58.976**	**365.420**	**1.000**	**54.000**	**42.000**	**19.400**	**155.881**	**1.431.063**	**2.385.250**	**100%**
Share of total eligible costs		**70,79%**	**2,47%**	**15,32%**	**0,04%**	**2,26%**	**1,76%**	**0,81%**	**6,54%**	**60,00%**	**100%**	

AFORCLIMATE

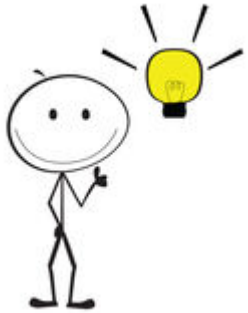
Starting assumptions

Climate change is known to **influence forest tree growth** response and the **CO_2 cycle**

Classic methods of forest management planning **do not include climate variability** although climate is the one of the main driver in trends of tree growth

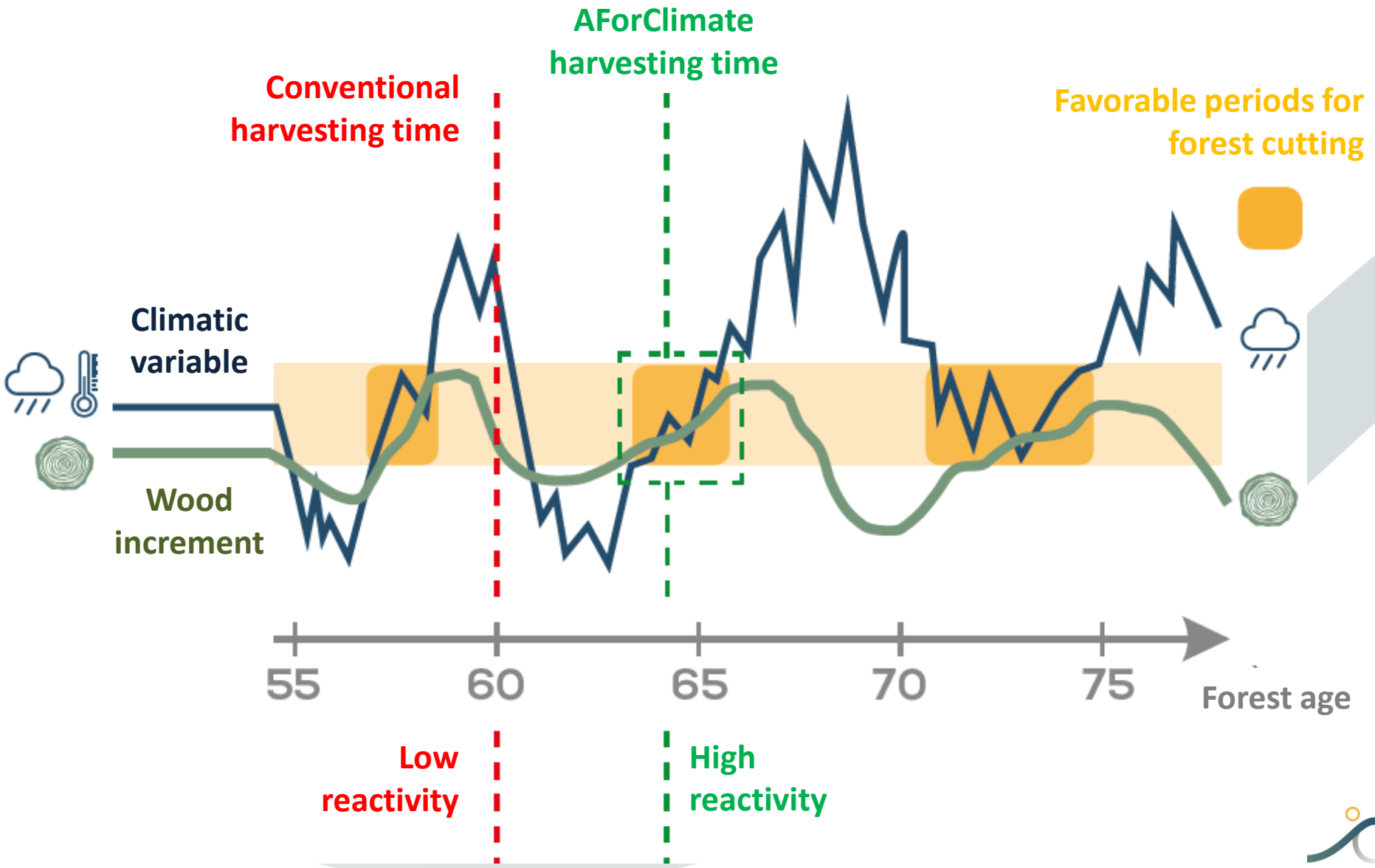
Forest biomass, resilience, and CO_2 storage may be damaged unless forest planning and management implement the relationships between climate variability and trends of tree growth.

The basic idea



AFORCLIMATE

AforClimate proposal



AFORCLIMATE

Project actions:

A. Preparatory actions (if needed)

A1 Defining thresholds of reactivity through a dendroclimatological sampling and analysis

A2 Detailed design of the climate monitoring network and acquiring geomorphological information

C. Implementation actions (obligatory)

C1 Implementation of different types of intervention aimed at promoting forestry production

C2 Implementation of various types of intervention aimed at the renewal of forest

C3 Defining forest planning guidelines and establishing a technical committee with national stakeholders on the issues of Climate Change

C4 DSS Prototype for forest planning and management and consistent with guidelines

C5 Implementation of planning models suggested by the prototype

D. Monitoring of the impact of the project actions (obligatory)

D1 Validation of the system by analyzing actual reactivity of the forest in relation to different types of intervention

E. Communication and dissemination of results (obligatory)

E1 Workshop: initial and final conference

E2 Notice-board

E3 Project website

E4 Publication of guidelines, video documentary and Layman's report

F. Project management (obligatory)

F1 Management and Monitoring Project

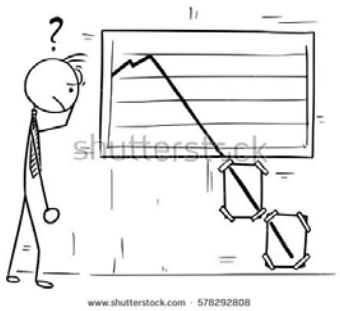
F2 Networking

F3 After LIFE Action Plan

F4 Audit

AFORCLIMATE

Expected results:



R1 (WP A - Preparatory Actions) definition of the parameters (thresholds) of the beech forests ecosystem reactivity

R2 - (WP C - Concrete Actions) Development of the innovative silviculture planning based on climatic variability

R3 - (WP D - Monitoring Actions) Monitoring and validation of the system for experience replication

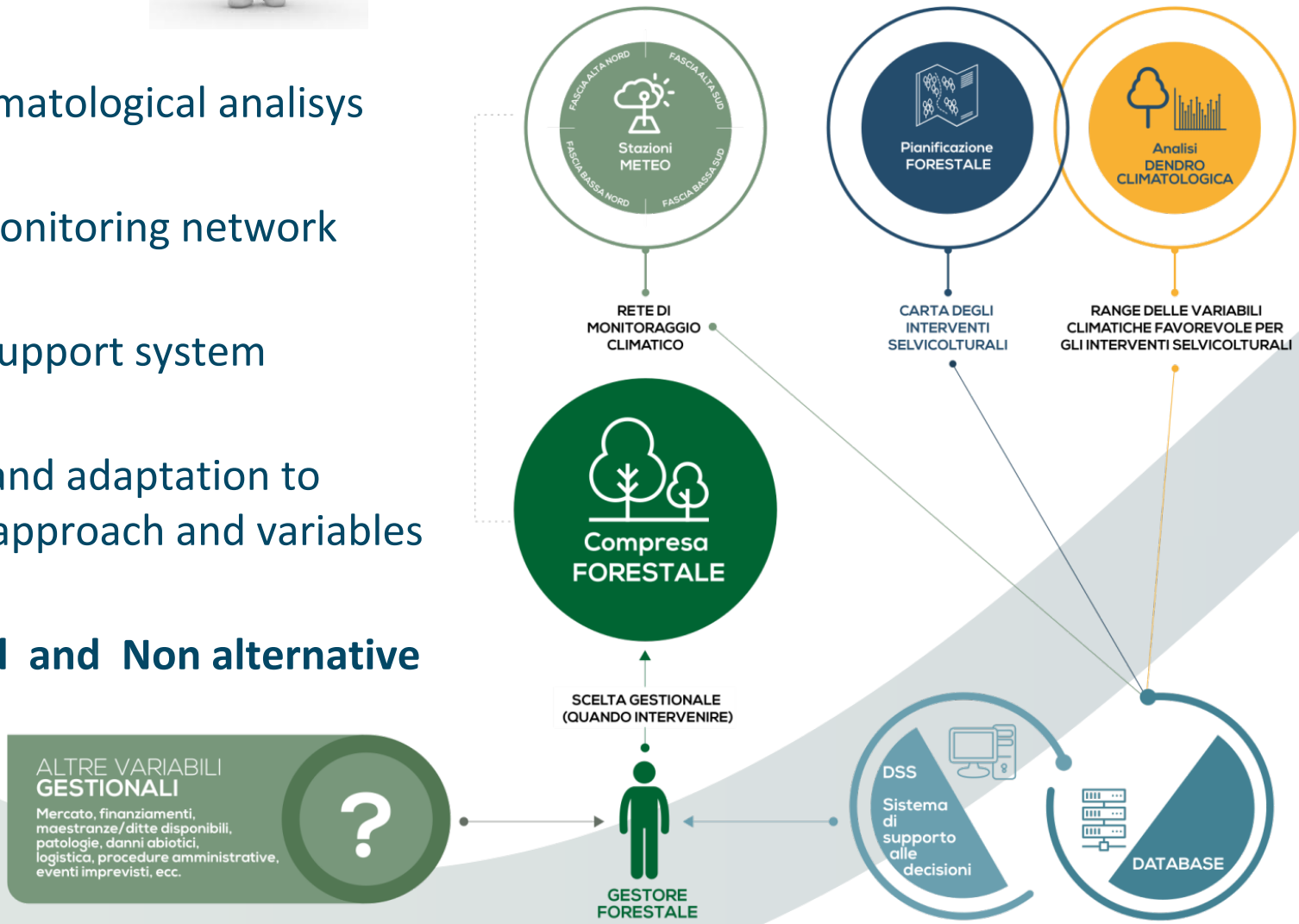
R4 - (WP E - Dissemination) Ensuring appropriate visibility for disseminating results

R5 - (WP F - Project Management) To ensure the proper management of the project

AFORCLIMATE

Method:

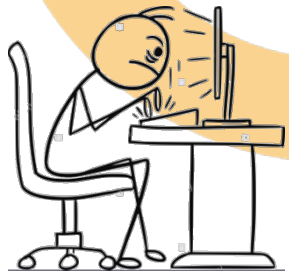
- Dendroclimatological analisys
- Climate monitoring network
- Decision support system
- Elasticity and adaptation to traditional approach and variables
- **Additional and Non alternative**



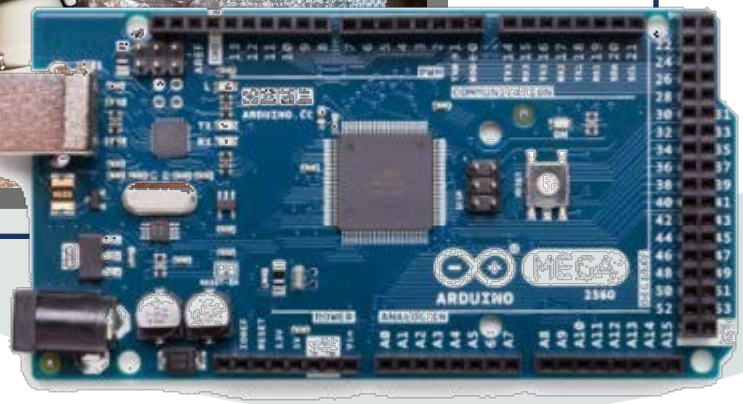
AFORCLIMATE

Dendroclimatological analysis:

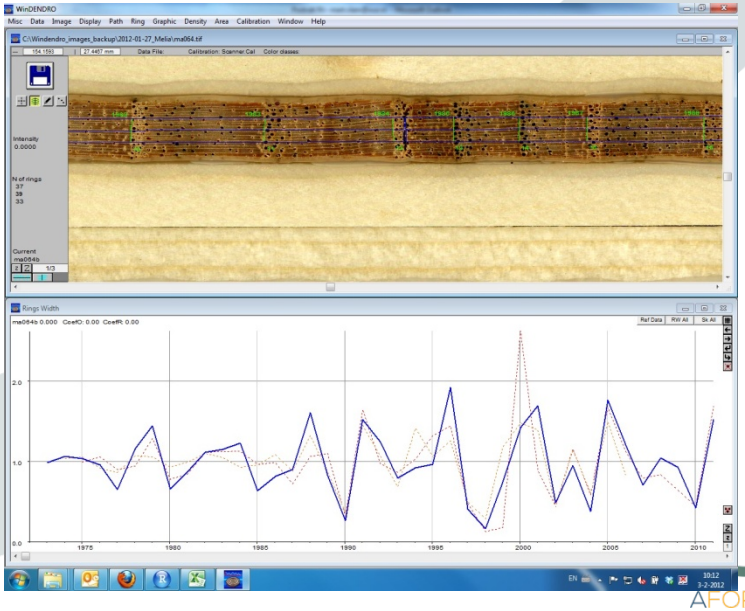
Assess the climate influence on tree growth



Climate monitoring through the positioning of 4 weather stations in each forest to measure all climate parameters (temperature, rainfall, snow and humidity)

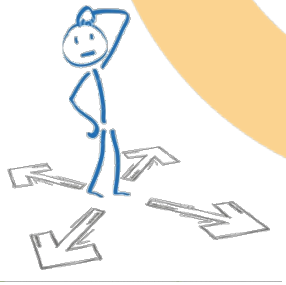


Dendroecological monitoring through extraction of wood cores



AFORCLIMATE

DSS (Decision Support System)



Example **year 1**

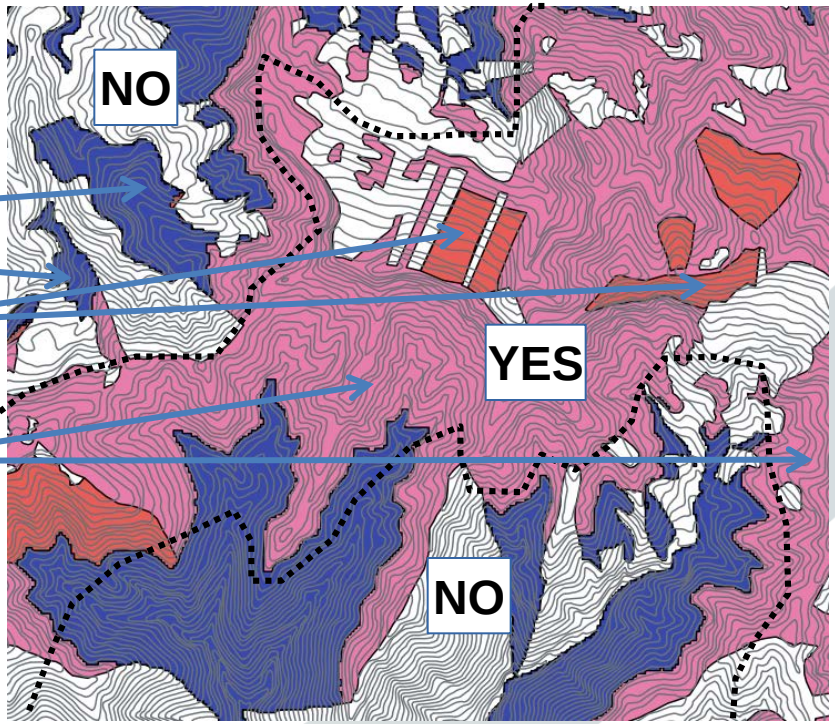
Already planned

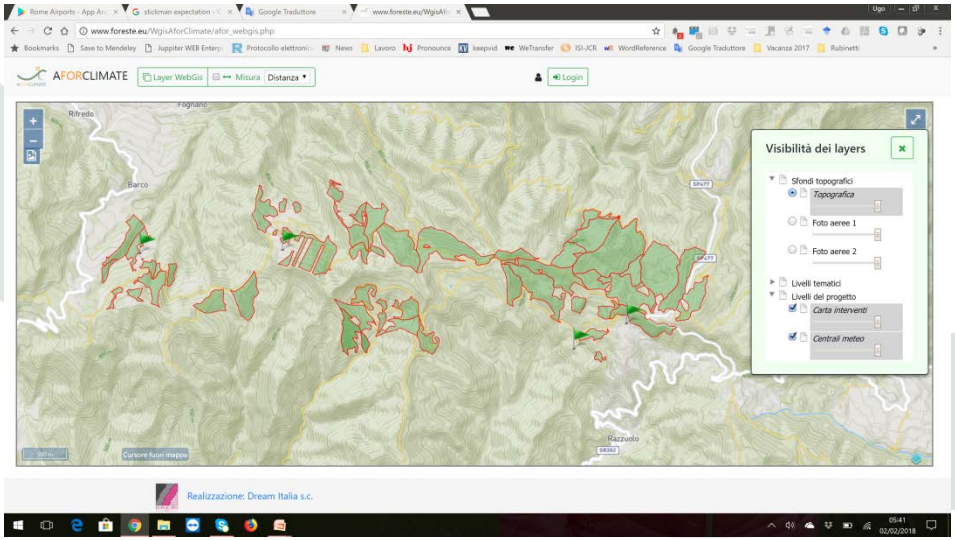
- Period 1
- Period 2
- Period 3

To be posponed

Can be anticipate to year 1

Can be anticipate to year 1
After check





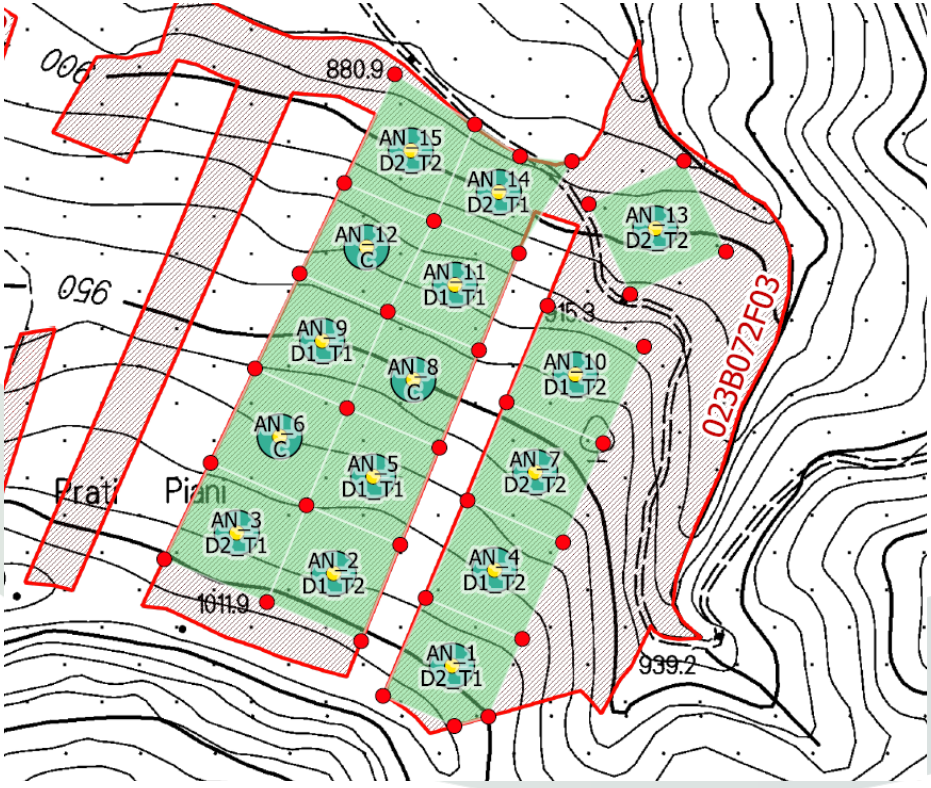
Draft and simplified version online at

http://www.foreste.eu/aforclimate.php

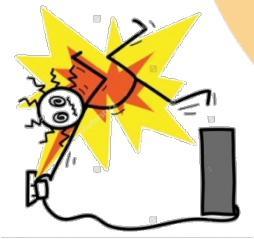
AFORCLIMATE

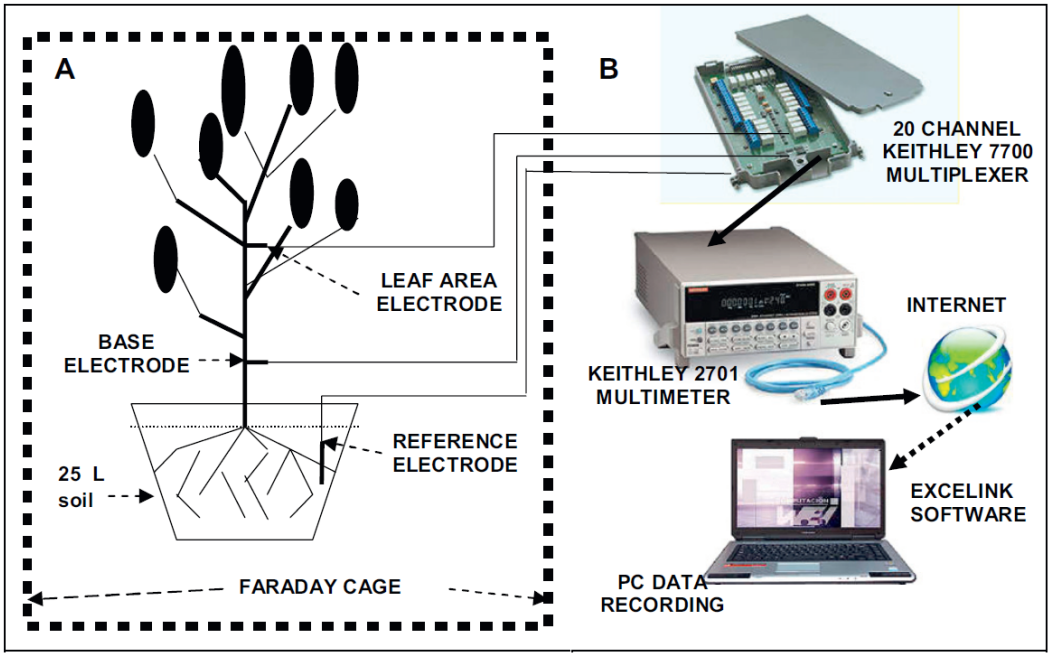
Monitoring and Validation

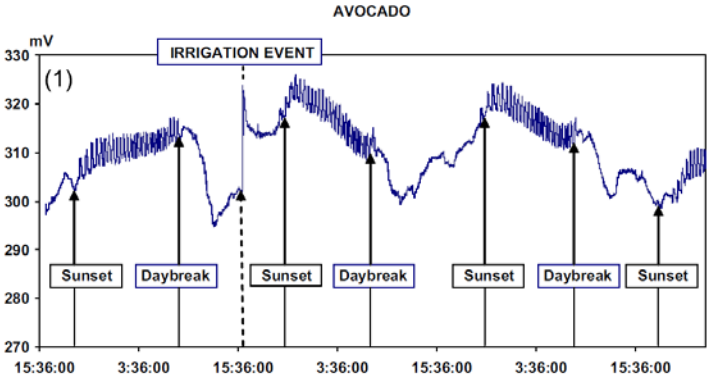
Design of a climate monitoring network in each demonstration area.
4 weather stations for each site located in 4 demonstration quadrant. The quadrants are combination of ASPECT (North and South) and ALTITUDE belt (high and low)
High-North and Low-South quadrants are upper and lower limit of local beech forests.

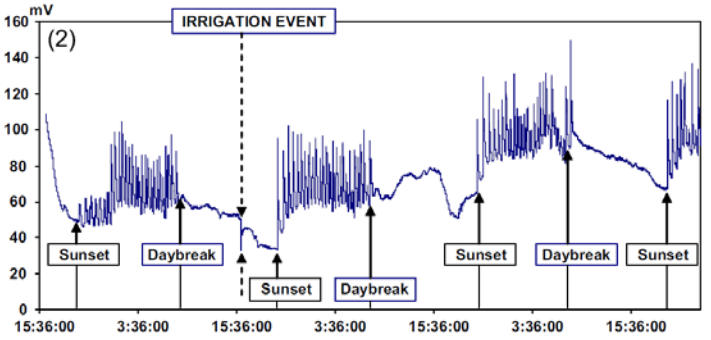


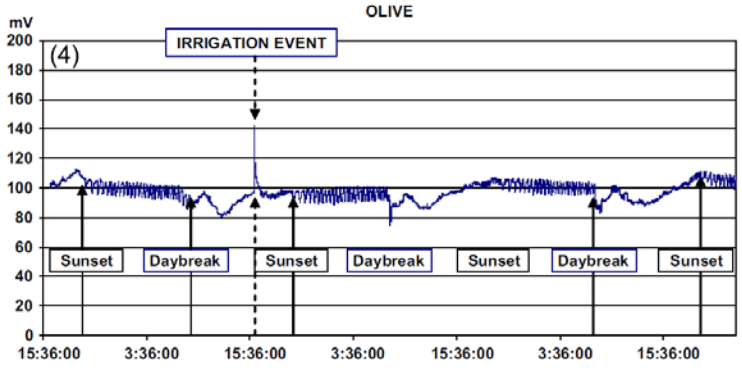
Electrophisiology

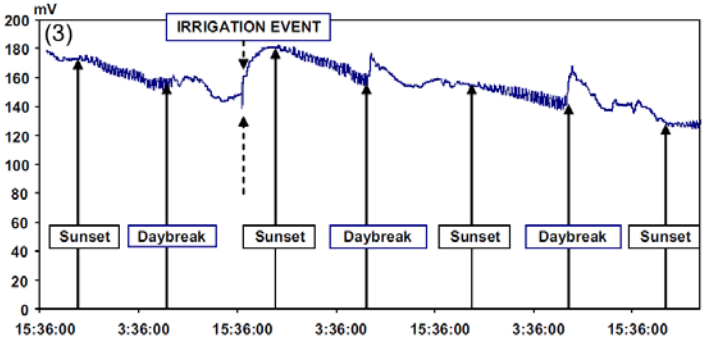




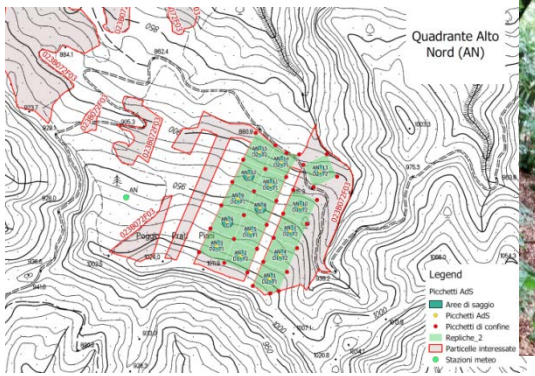


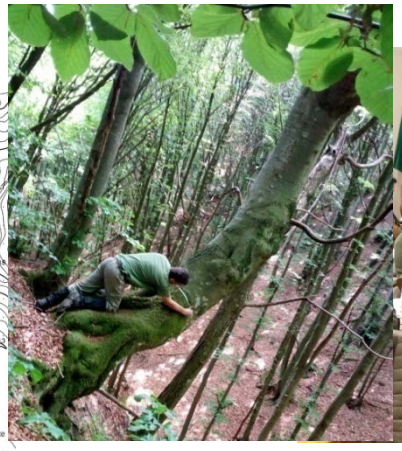






Progress:





AZIONE	2016		2017				2018				2019				2020				2021				2022	
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
A1																								
A2																								
C1																								
C2																								
C3																								
C4																								
C5																								
C6																								
D1																								
E1																								
E2																								
E3																								
E4																								
F1																								
F2																								
F3																								
F4																								

That's all!
Thanks for your attention!

www.aforclimate.eu

@aforclimate

uchiavetta@gmail.com

AFORCLIMATE