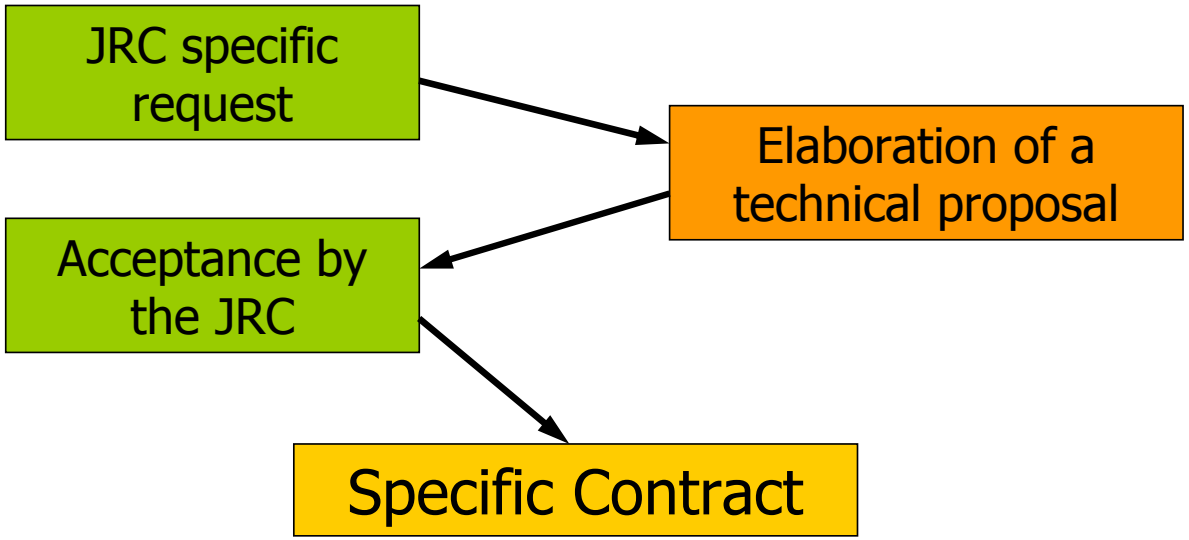
Framework contract
Provision of forest data and services

Framework Contract

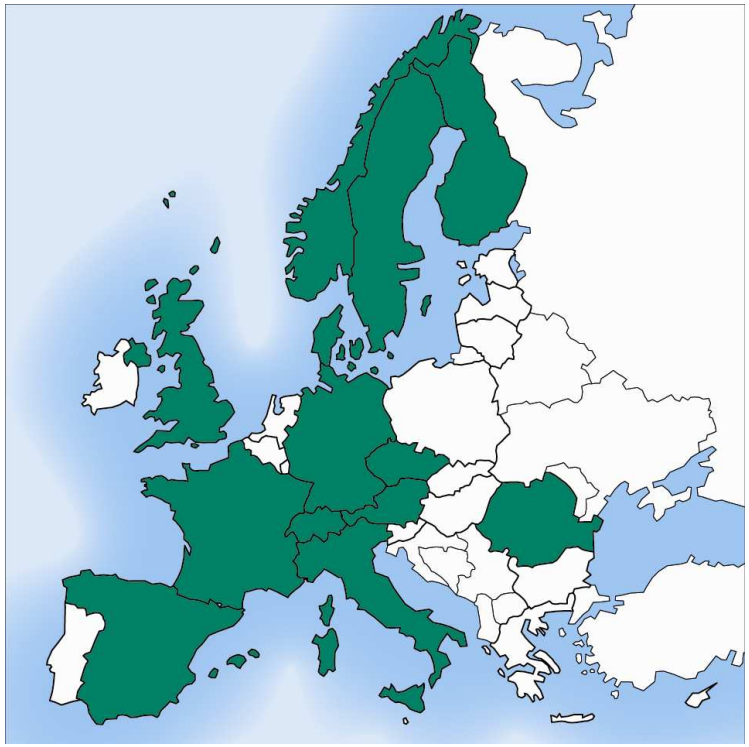
Framework Contract (duration 48 months) between :

JRC

E-forest consortium



Consortium members

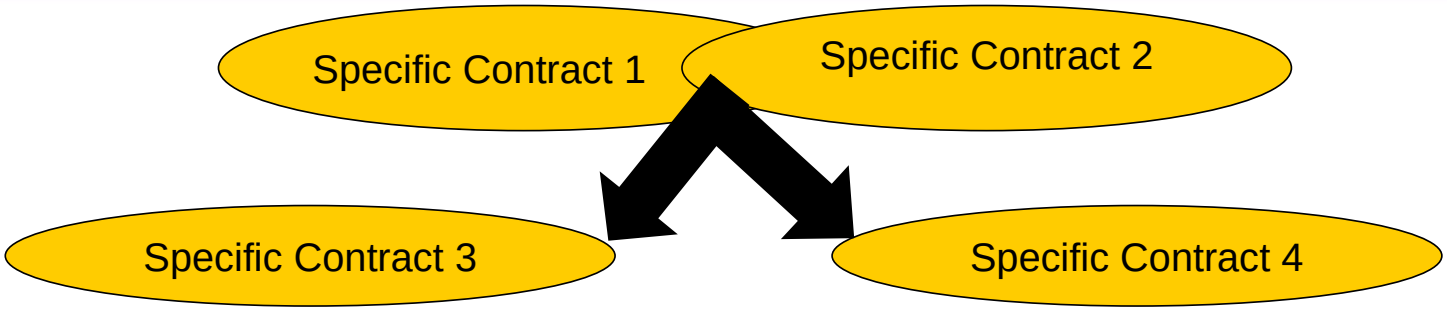


Data provision:

73 % of the total EU-27 territory

75 % of the EFTA territory

Specific Contracts



SC Contents

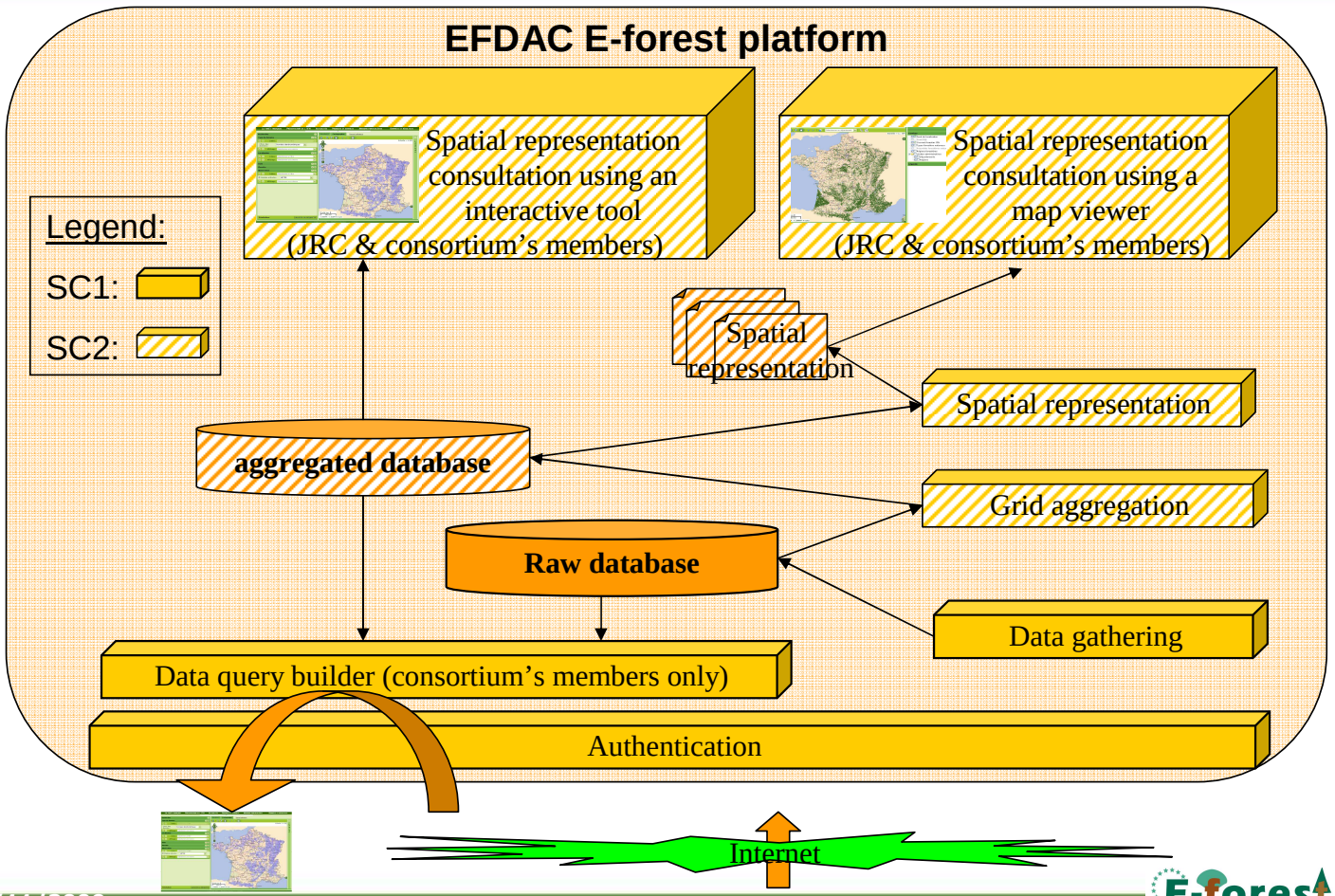
- **SC1 :** Basement of the EFDAC E-forest platform

- **SC2 :** Enrichment of the EFDAC E-forest platform

- **SC3 :** Feasibility and demonstration study of the potential use of National Forest Inventory data to describe the richness of the European forests. First harmonisation descriptive approach.

- **SC4 :** Feasibility study on harmonisation to estimate carbon stock changes in forest biomass in 4 European countries by highlighting differences.

The EFDAC E-forest platform 1/2

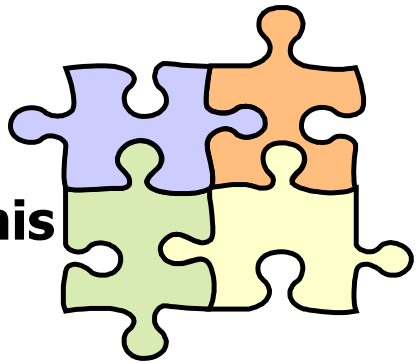


The EFDAC E-forest platform 2/2

All the platform will be available in the Free/Open Source Software Licence EUPL:

- Freedom to use or run it for any purpose and any number of users;
- Freedom to obtain the Source Code (in order to study how the software works);
- Freedom to share, to redistribute copies of the software;
- Freedom to modify, adapt, improve the software according to specific needs and to share these modifications.

Terms of the Specific Contracts



Are you interested in participating in this project?

The number of consortium members is not fixed.

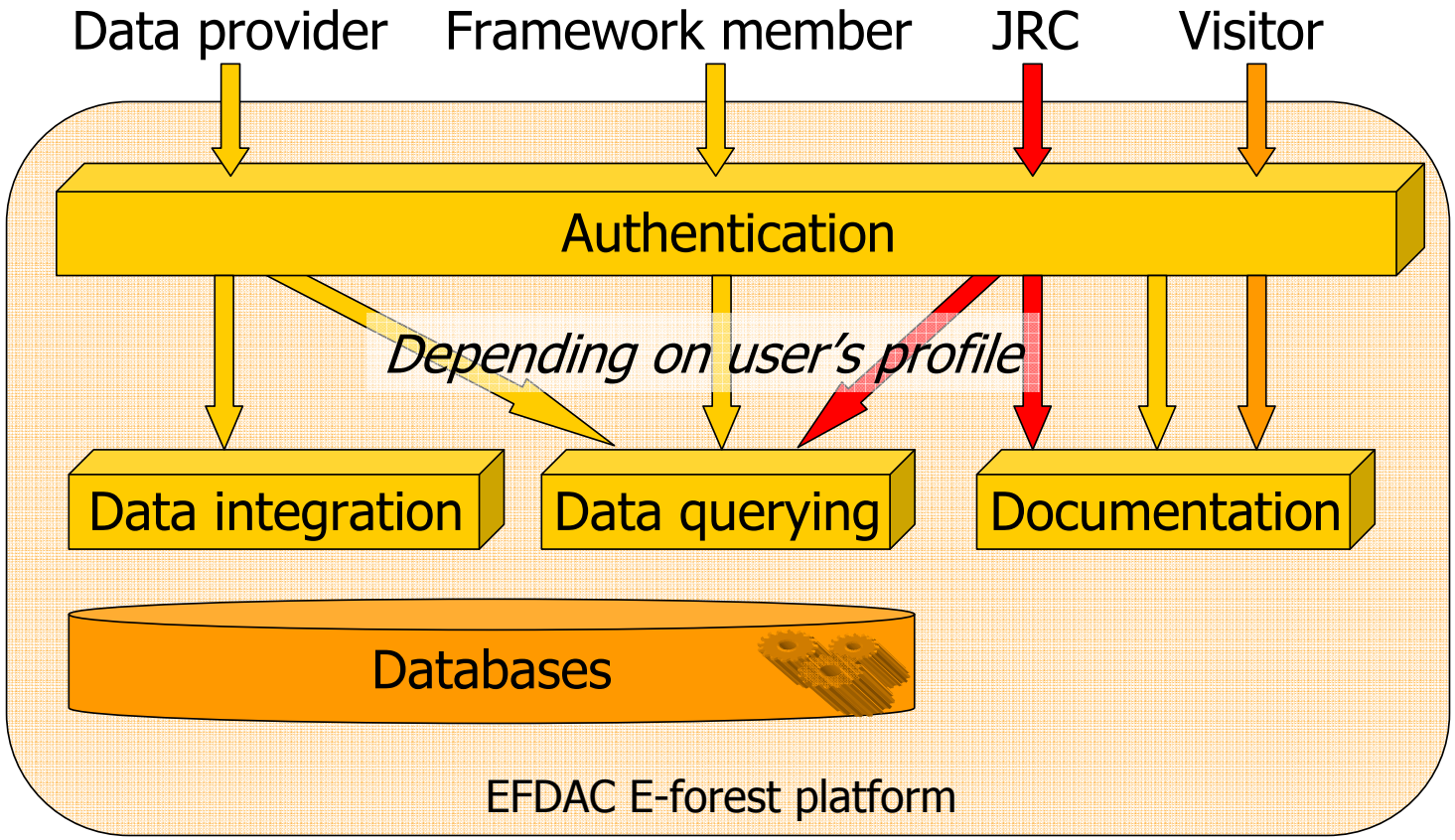
⇨ Any country or organization which collects national forest data can join the consortium at any time

Specific Contract 1

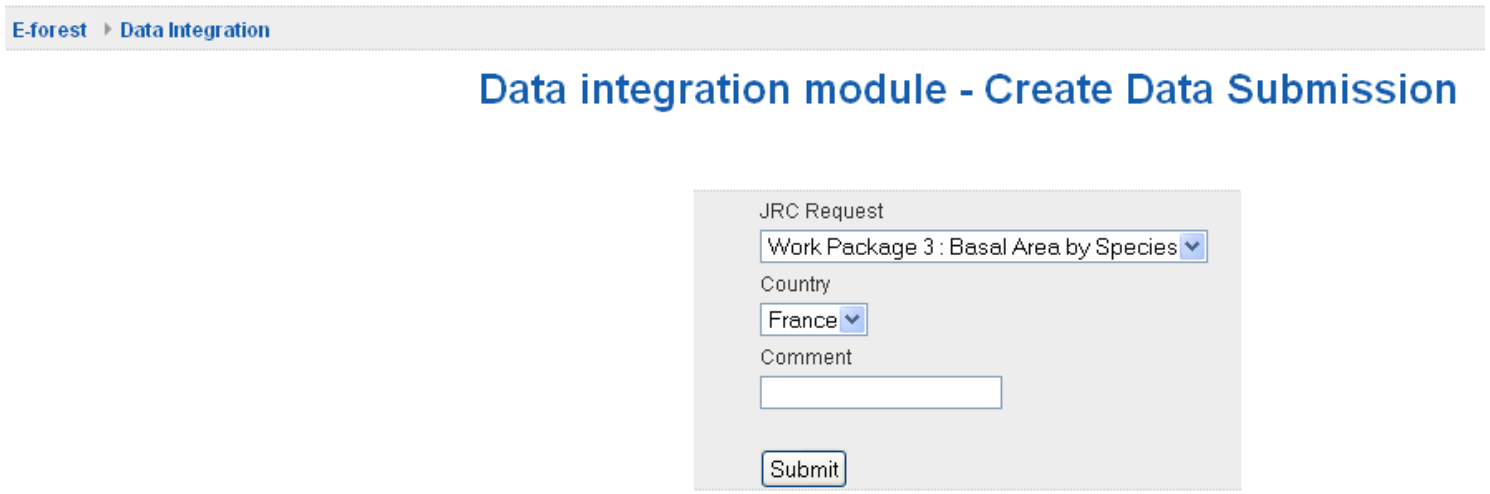
Basement of the EFDAC E-forest Platform

Jean-Luc Cousin

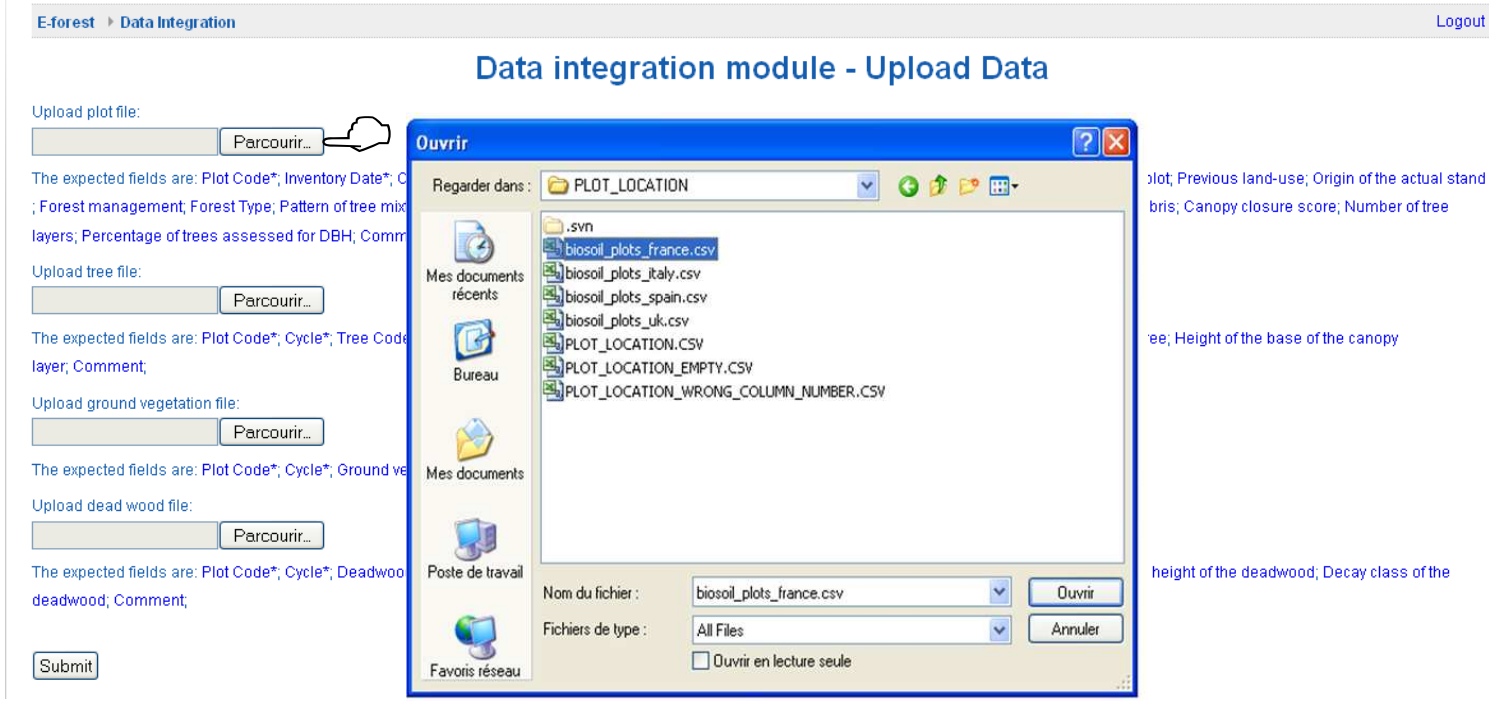
Private access



Integration : Upload Forest Data 1/2



Integration : Upload Forest Data 2/2



Upload Forest Data - Result

European Commission
Joint Research Centre
Institute for Environment and Sustainability

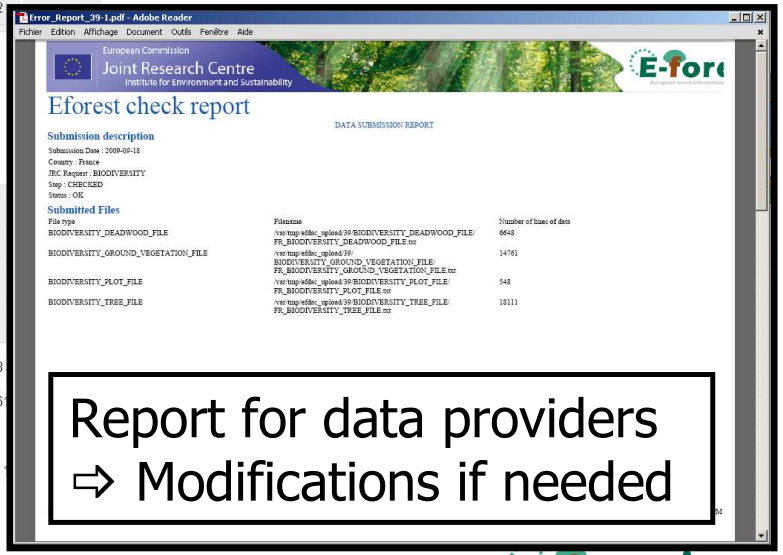
E-forest › Data Integr

Data quality checks

Data integration module

Submission ID	Country Code	Step	Status	File Type	Lines numbers	Action
113	United Kingdom	VALIDATED	WARNING	BIODIVERSITY_DEADWOOD_FILE	1524	
				BIODIVERSITY_GROUND_VEGETATION_FILE	2285	Show report
				BIODIVERSITY_PLOT_FILE	167	
				BIODIVERSITY_TREE_FILE	5092	
339	Denmark	INSERTED	ERROR	BIODIVERSITY_DEADWOOD_FILE	285	
				BIODIVERSITY_GROUND_VEGETATION_FILE	22	
				BIODIVERSITY_PLOT_FILE	22	
				BIODIVERSITY_TREE_FILE	701	
340	Denmark	CHECKED	OK	BIODIVERSITY_DEADWOOD_FILE	9	
				BIODIVERSITY_GROUND_VEGETATION_FILE	285	
				BIODIVERSITY_PLOT_FILE	22	
				BIODIVERSITY_TREE_FILE	701	
342	France	INSERTED	OK	BIODIVERSITY_DEADWOOD_FILE	6648	
				BIODIVERSITY_GROUND_VEGETATION_FILE	1476	
				BIODIVERSITY_PLOT_FILE	548	
				BIODIVERSITY_TREE_FILE	1811	

Create data submission

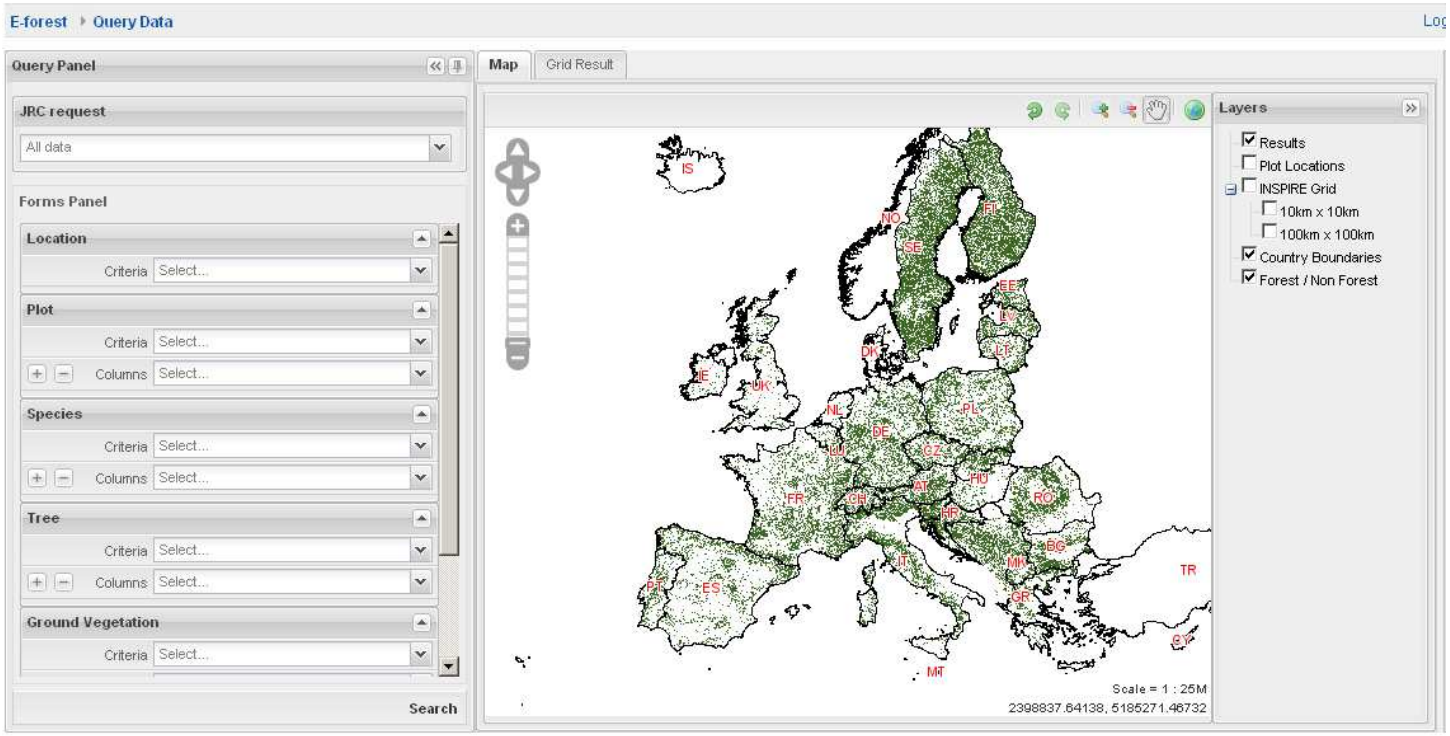


Report for data providers
⇨ Modifications if needed

Data querying module

Query (criteria and colums)

Results (grid or map)



Data query: restriction

Query Panel

JRC request

Work Package 3 : Basal Area by Species

Forms Panel

Spatial Query

Criteria Select...

Polygon : POLYGON((3757031.3524041 3

Plot

Criteria Select...

Inventory Date : 2009/09/29 - 2999/12/31

Begining Year : 2000 - 2005

Columns Select...

Species

Criteria Select...

Tree species : Fagus sylvatica

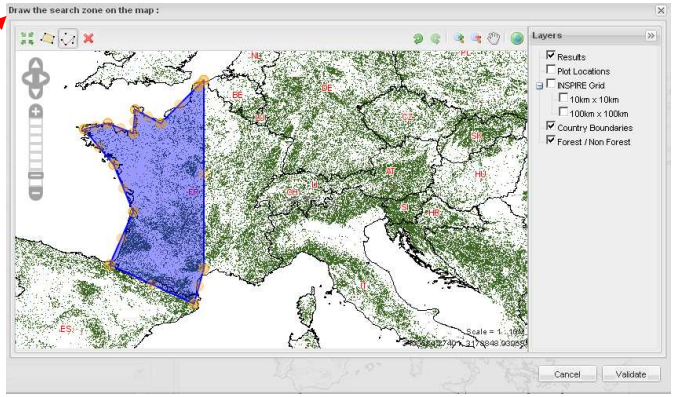
Columns Select...

Tree species

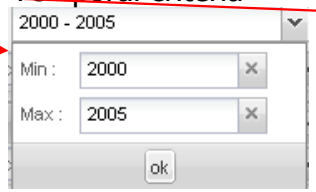
Basal Area

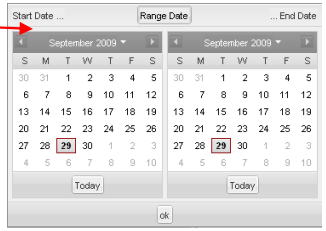
Search

Spatial criteria

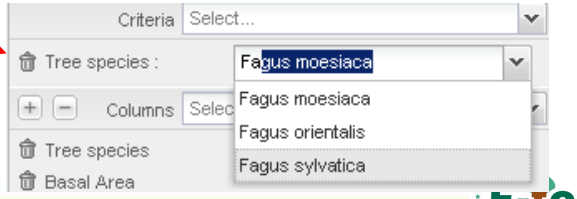


Temporal criteria

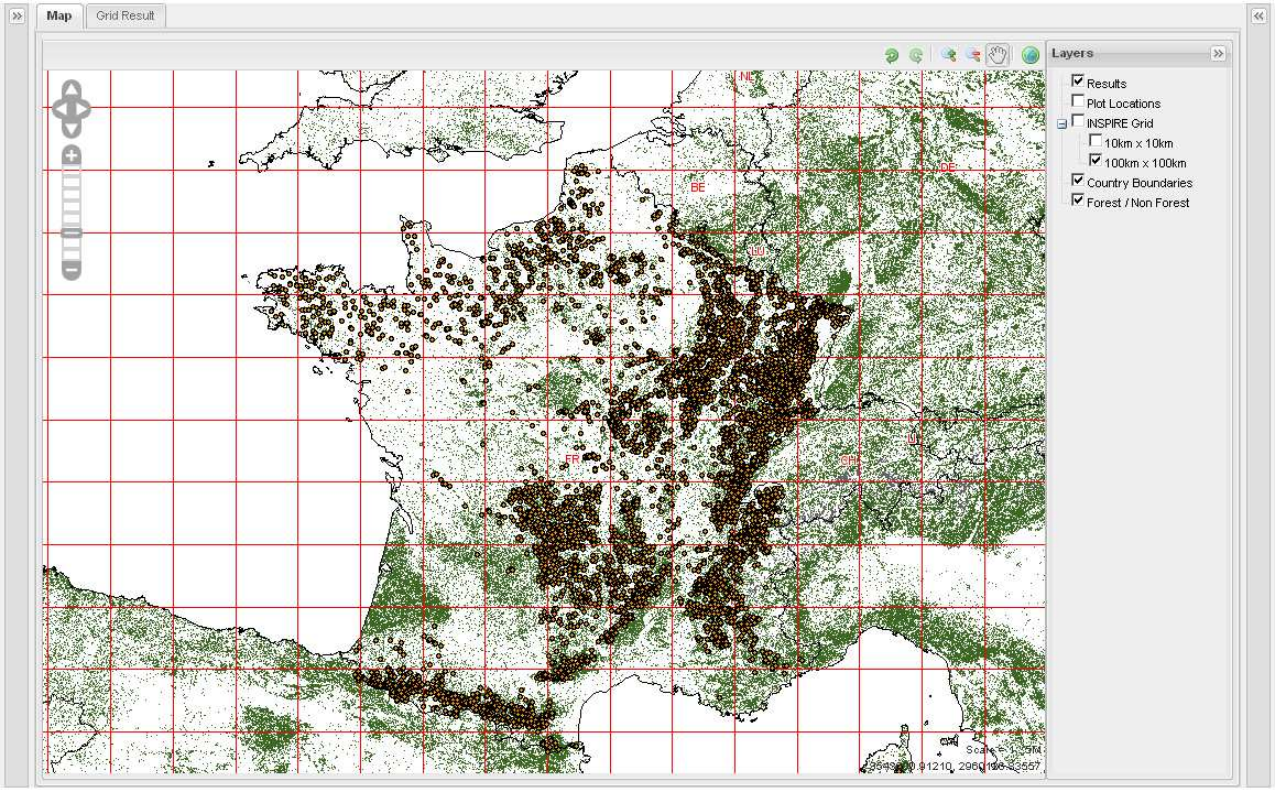




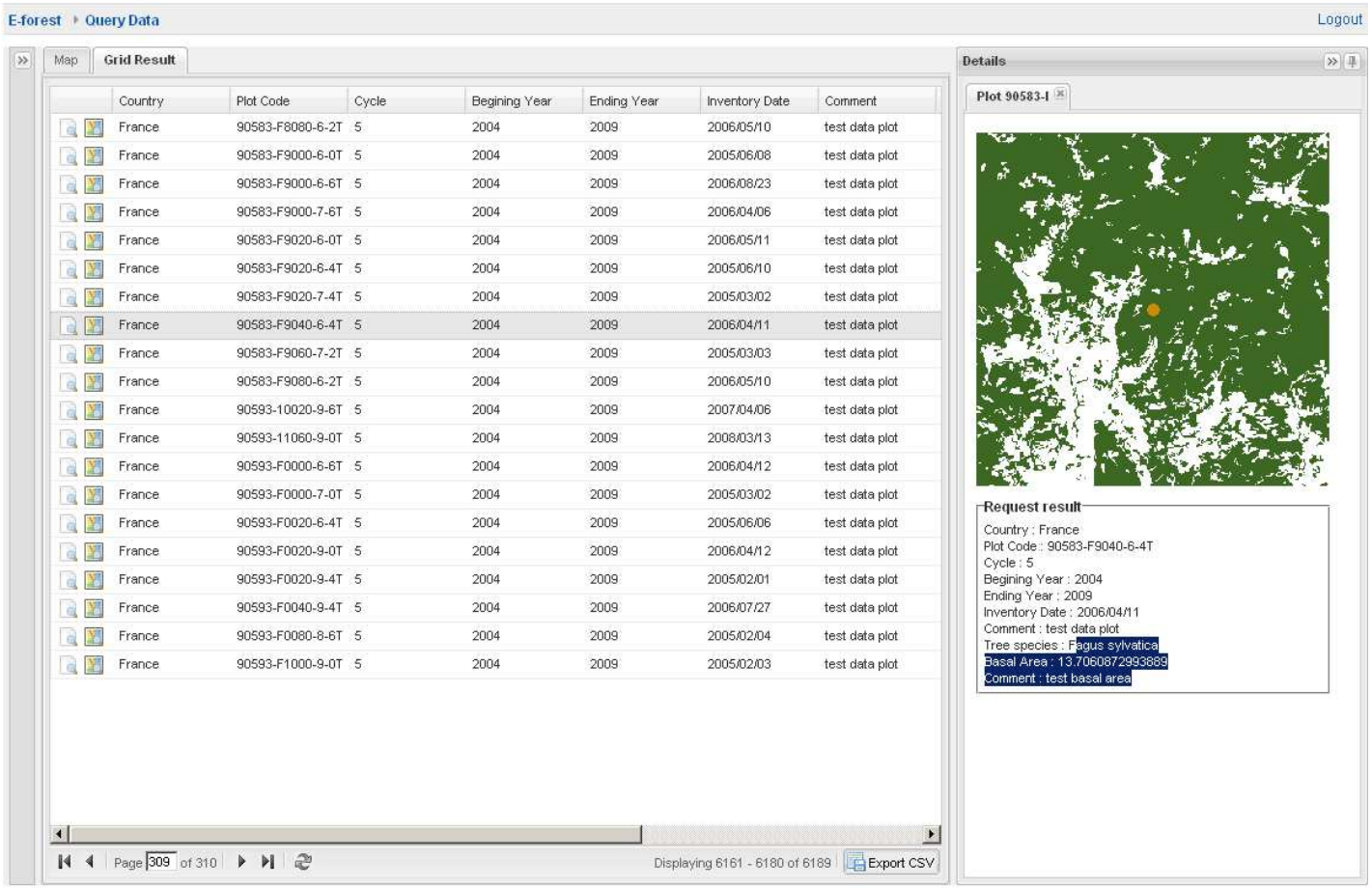
Qualitative criteria



Data query: map results 1/3

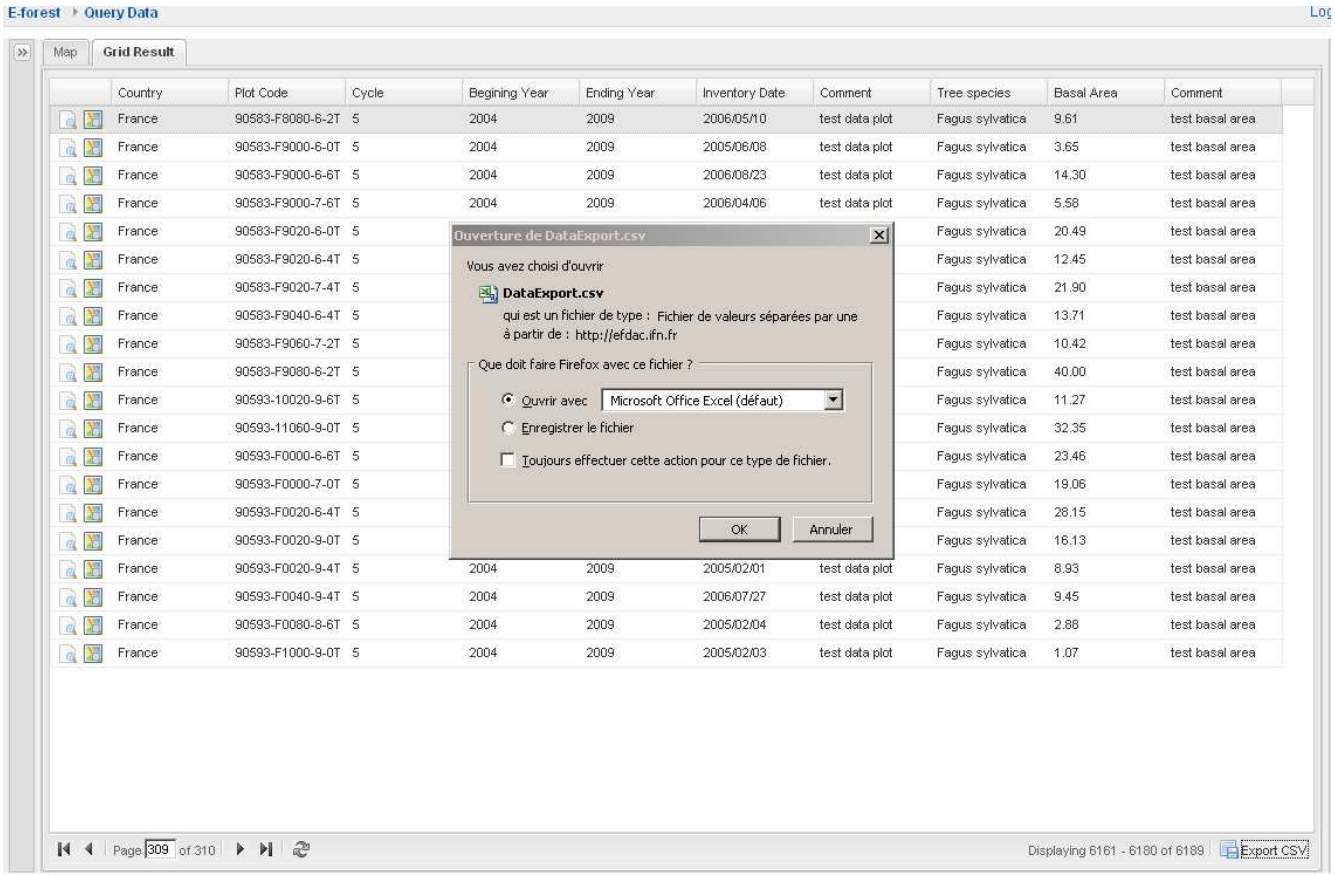


Data query: grid results 2/3



Country	Plot Code	Cycle	Begining Year	Ending Year	Inventory Date	Comment
France	90583-F8080-6-2T	5	2004	2009	2006/05/10	test data plot
France	90583-F9000-6-0T	5	2004	2009	2005/06/08	test data plot
France	90583-F9000-6-6T	5	2004	2009	2006/08/23	test data plot
France	90583-F9000-7-6T	5	2004	2009	2006/04/06	test data plot
France	90583-F9020-6-0T	5	2004	2009	2006/05/11	test data plot
France	90583-F9020-6-4T	5	2004	2009	2005/06/10	test data plot
France	90583-F9020-7-4T	5	2004	2009	2005/03/02	test data plot
France	90583-F9040-6-4T	5	2004	2009	2006/04/11	test data plot
France	90583-F9060-7-2T	5	2004	2009	2005/03/03	test data plot
France	90583-F9080-6-2T	5	2004	2009	2006/05/10	test data plot
France	90593-10020-9-6T	5	2004	2009	2007/04/06	test data plot
France	90593-11060-9-0T	5	2004	2009	2008/03/13	test data plot
France	90593-F0000-6-6T	5	2004	2009	2006/04/12	test data plot
France	90593-F0000-7-0T	5	2004	2009	2005/03/02	test data plot
France	90593-F0020-6-4T	5	2004	2009	2005/06/06	test data plot
France	90593-F0020-9-0T	5	2004	2009	2006/04/12	test data plot
France	90593-F0020-9-4T	5	2004	2009	2005/02/01	test data plot
France	90593-F0040-9-4T	5	2004	2009	2006/07/27	test data plot
France	90593-F0080-8-6T	5	2004	2009	2005/02/04	test data plot
France	90593-F1000-9-0T	5	2004	2009	2005/02/03	test data plot

Data query: exportation 3/3

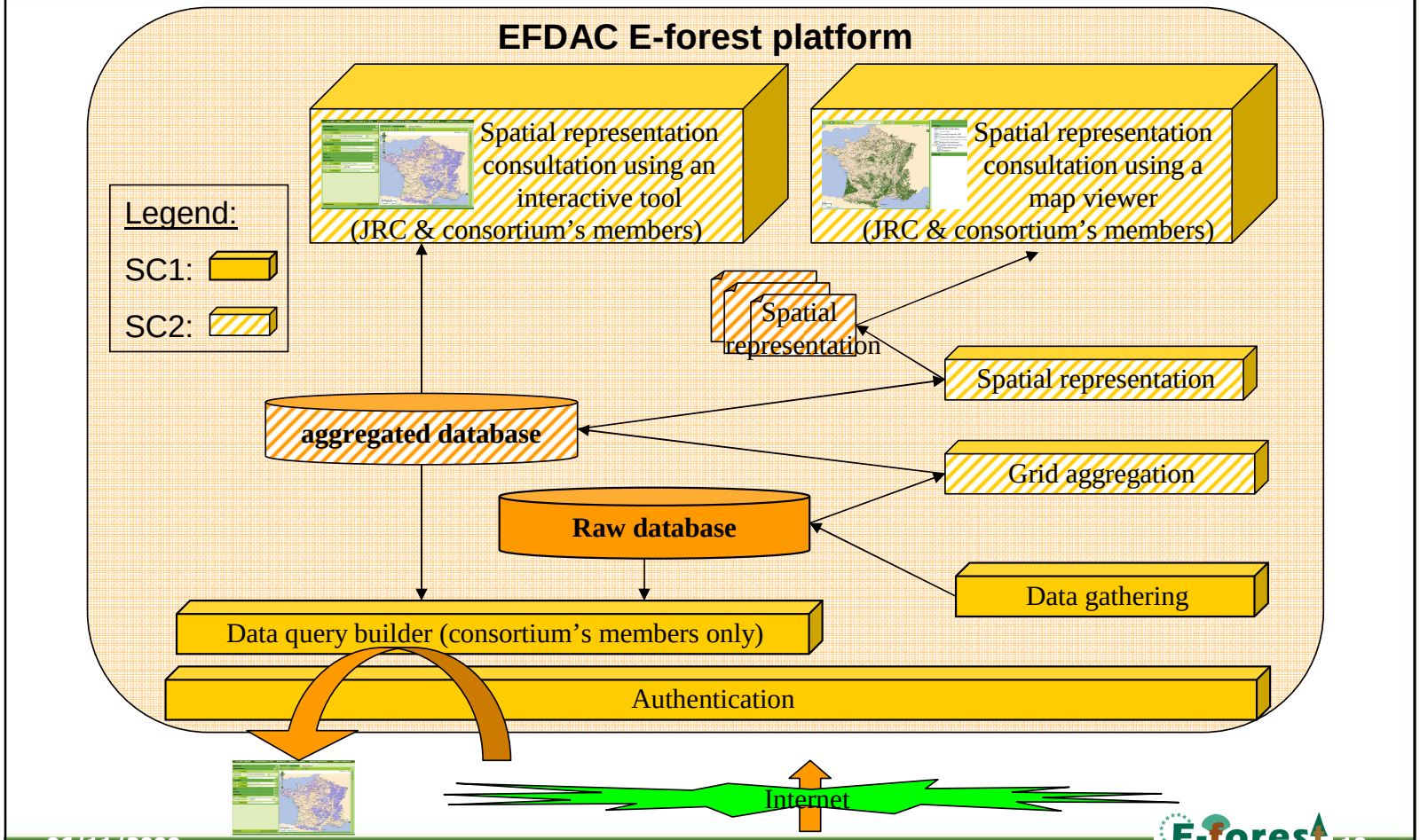


Specific Contract 2

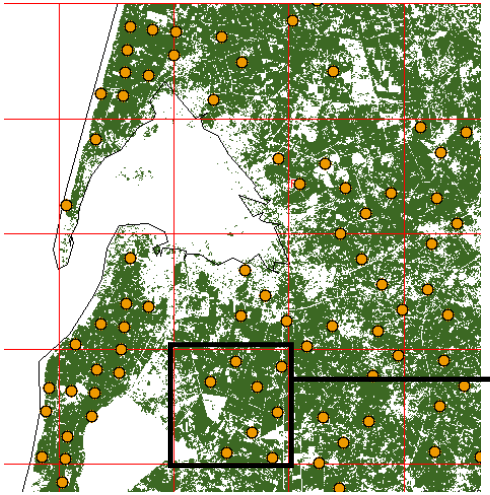
Enrichment of the EFDAC E-forest Platform

Jean-Luc Cousin

The EFDAC E-forest platform



Aggregation



10 km x 10 km Grid
Landes, France

Data of the selected plots

	Plot Code	Basal Area
	33527-18080-2-4T	29.18
	33527-18080-2-8T	19.19
	33527-19000-2-2T	15.37
	33527-F8040-2-4T	26.58
	33527-F8060-2-2T	15.19
	33527-F9000-2-6T	25.30
	40527-18060-3-0T	34.45
	40527-F9000-3-0T	26.87

Aggregation, Interpolation techniques (IDW, etc.)

(estimation?)

Value of basal area for this cell

Same process for all the cells

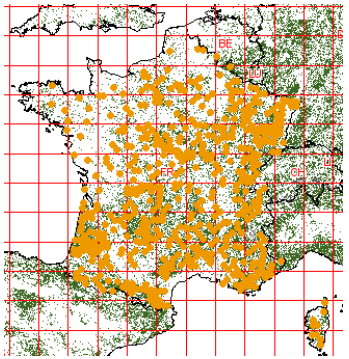
Storage

aggregated database

Interactive Spatial interpolation

aggregated database

1. Variable to display
2. Methodology for interpolation

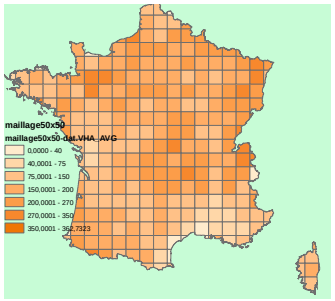


Based on INTAMAP

Java

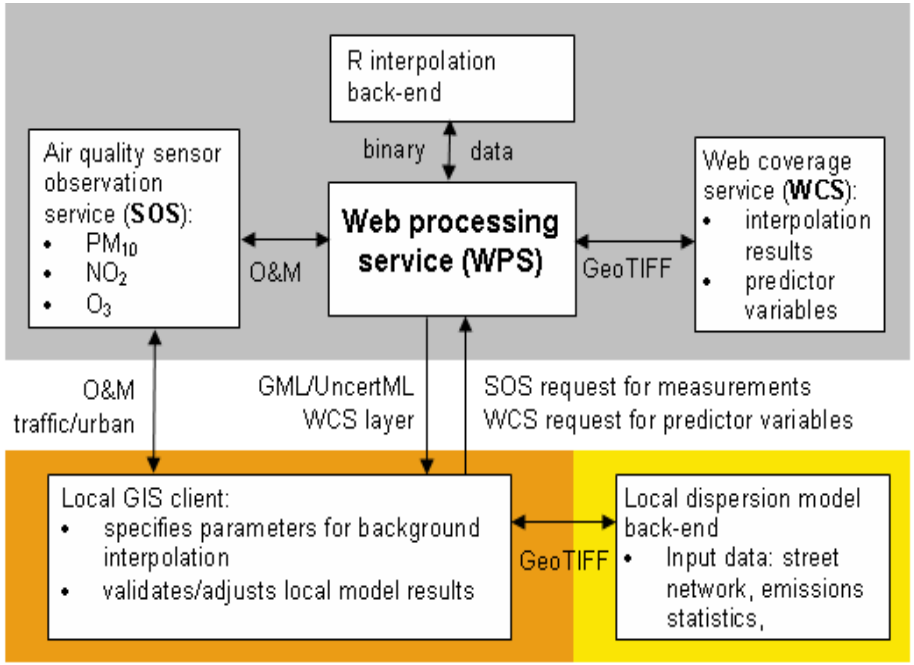
R or other language

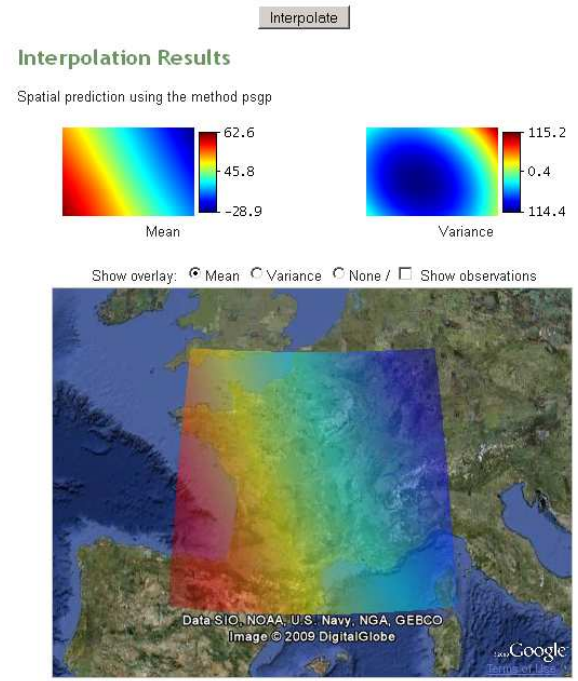
Spatial representation



INTAMAP

Main objective of INTAMAP: to develop an interoperable framework for real time interpolation of environmental variables by extending spatial statistical methods and employing open, web-based, data exchange and visualisation tools.

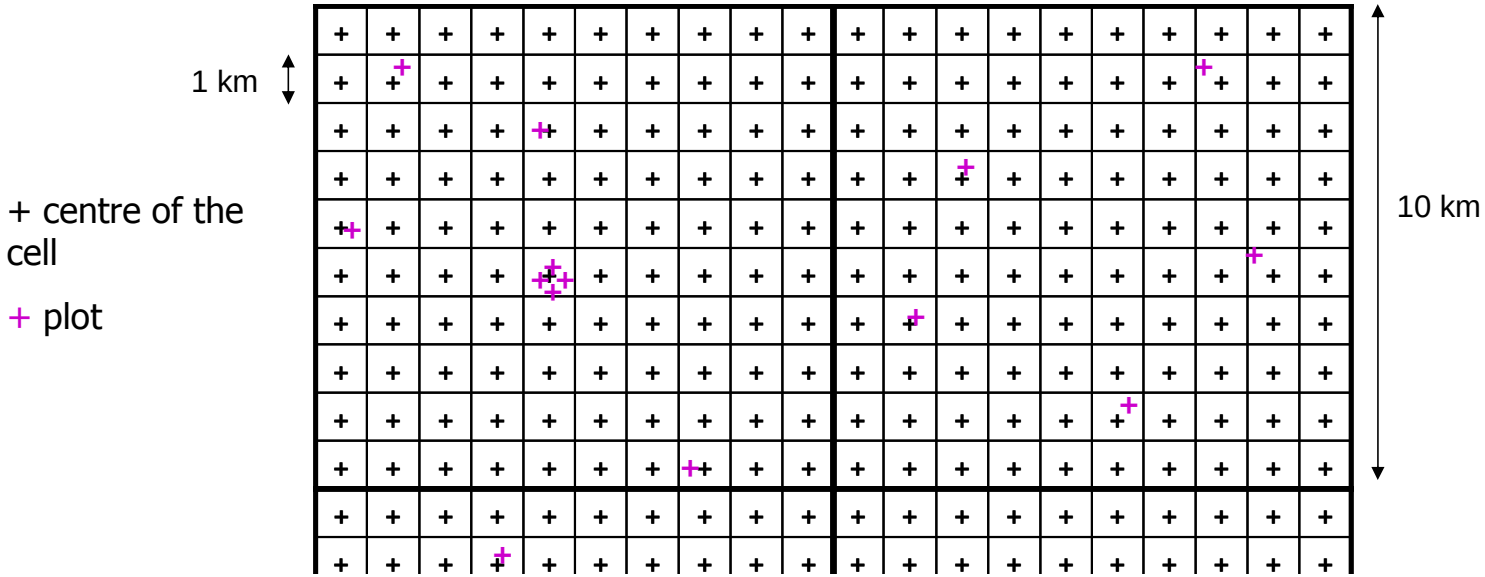





Service Contract 3
Feasibility and demonstration study of the mapping of tree species using the basal area by tree species per hectare in 12 European countries
INVENTAIRE FORESTIER NATIONAL
© IFN 2009

Objectives

The main objective of SC3 is to show the richness of NFI data to the Commission Services. A first step is to map distribution species by 1 km × 1 km grid (descriptive approach).



Main tasks 1/2

Establishment of a common tree species list based on Flora Europea

ROYAL BOTANIC GARDEN EDINBURGH

Flora Europaea

The data provided here have been extracted from the digital version of the Flora Europaea, the full version of which is held in the *PANDORA* taxonomic data base system at the Royal Botanic Garden Edinburgh.

Click here for instructions on searching this data set.

Family name

Genus name

Species name

Taxon name

Rank name Any rank

Envoyer Effacer

Code	Species
999	Other broadleaves
998	Other conifers
026.001.001	Abies procera
026.001.002	Abies grandis
026.001.003	Abies lasiocarpa
026.001.004	Abies sibirica
026.001.005	Abies nordmanniana
026.001.006	Abies alba
026.001.007	Abies nebrodensis
026.001.008	Abies cephalonica
026.001.009	Abies pinsapo
026.001.999	Abies sp.
026.002.001	Pseudotsuga menziesii
026.003.001	Tsuga heterophylla
026.003.002	Tsuga canadensis
026.003.999	Tsuga sp.
026.004.001	Picea abies
026.004.002	Picea orientalis
026.004.003	Picea glauca
026.004.004	Picea engelmannii

Main tasks 2/2

Data Provision

For each tree assessed:

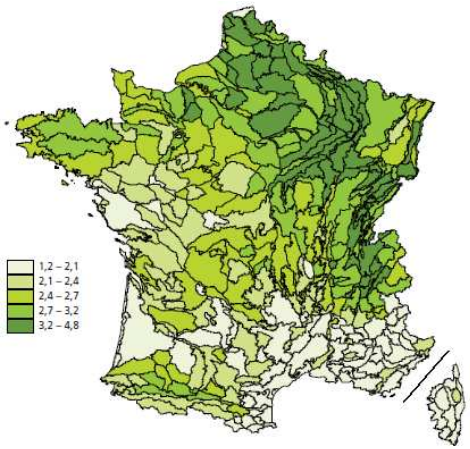
- Tree species
- Basal area per ha forest

	A	B	C	D	E	F
1	// PLOT_CODE	CYCLE	SPECIES_CODE	NATIONAL_SPECIES_CODE	BASAL_AREA	COMMENT
2	21573-F1000-6-6T	5	031.001.041	25M	0.676133548544388	test basal area
3	81557-11000-9-8T	5	036.004.011	3	2.37462768317047	test basal area
4	57592-13000-2-2T	5	026.002.001	64	23.5115588559347	test basal area

⇩

Assessment of:

- Number of tree species per plot
- Majority of Conifers or Broadleaves
- Total basal area



Average number of tree species per plot per forest region

Feasibility of mapping tree species

Purpose:

- To explore options to produce spatial representations or maps of tree species per reporting unit.
- To show the richness of the NFI databases (number of plots).

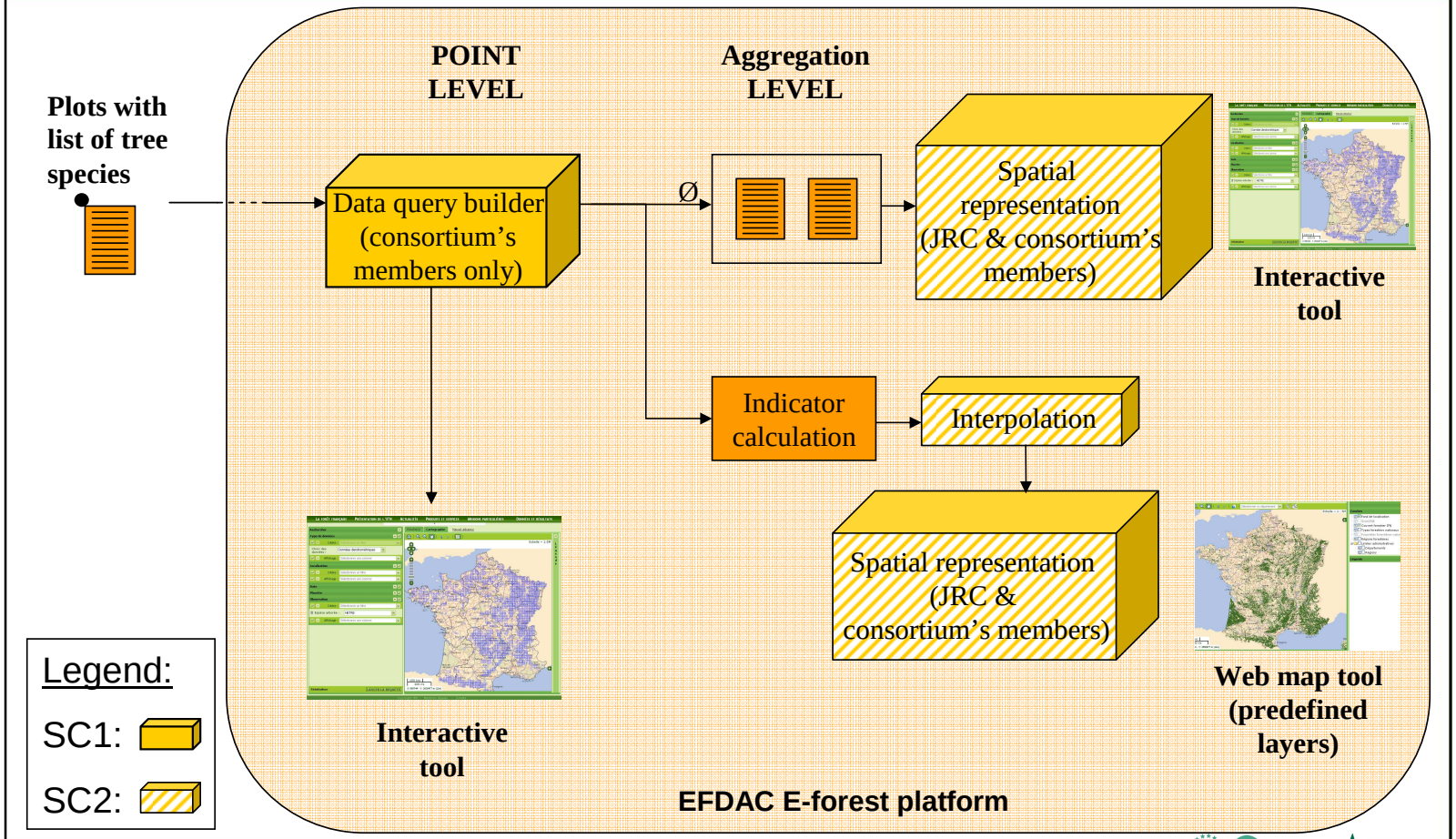
Resolution:

- Based on different grid sizes: 1 km × 1 km, 5 km × 5 km and 10 km × 10 km.

3 types of tools:

- An interactive tool to carry out requests. Results displayed in a table or in a spatial representation.
- An interactive tool to aggregate and/or interpolate the data. Results displayed in a map viewer.
- A web map tool or map viewer. Results displayed as static maps.

Process of mapping tree species



Specific Contract 4

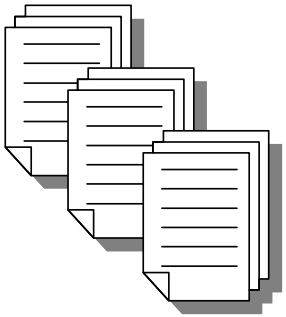
Feasibility study on harmonisation to estimate carbon stock changes in forest biomass in some European countries by highlighting differences

Claude Vidal

Main steps

1

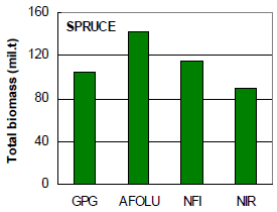
Analysis of the methods to estimate carbon stock changes in biomass in different climatic regions



2

Comparison of results obtained with:

- Existing BF and BEF at EU level (Tier 1)
- Country specific factors (Tier 2/3)



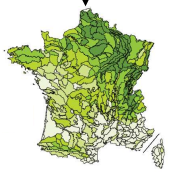
$$V_{spruce} = a*(DBH+1)^{b}*H^{c} - e*(DBH+1)^{f}*H^{g}$$

3

Recommendations for harmonisation

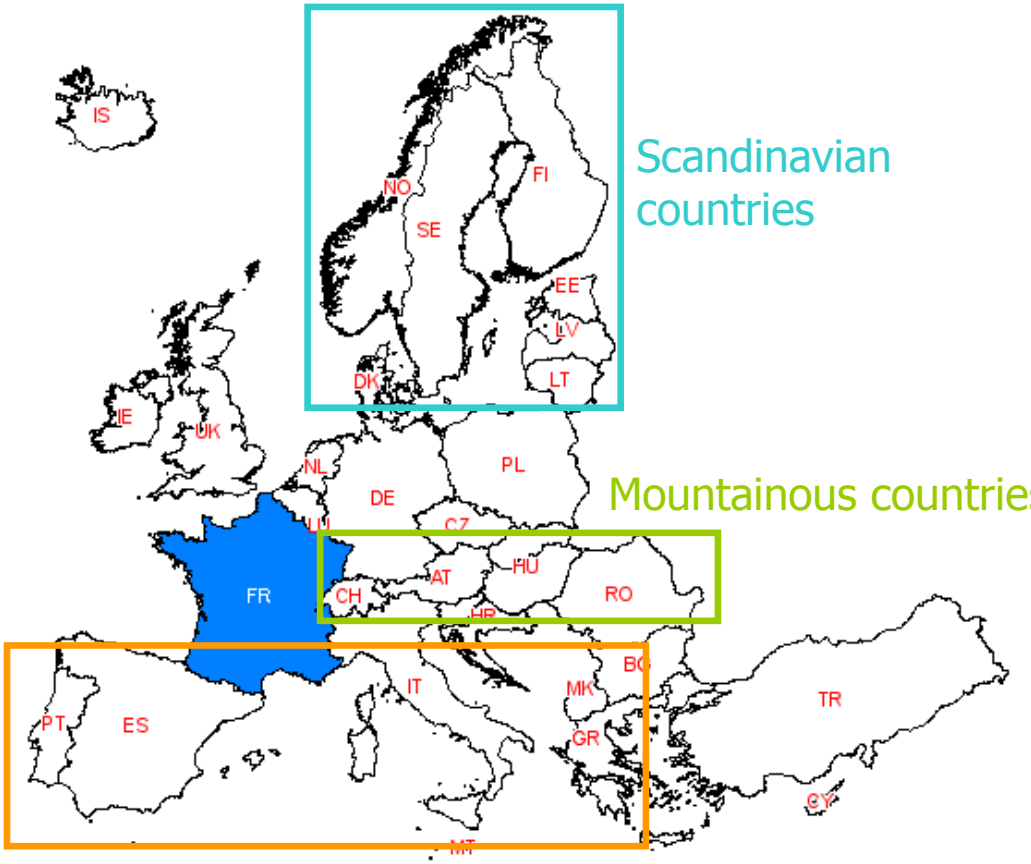
E-forest enrichment

Next step: study on dead wood?



Biomass maps

Study location



Scandinavian countries

Mountainous countries

Mediterranean countries


INVENTAIRE FORESTIER NATIONAL
B F W
FOREST & LANDSCAPE
FACULTY OF LIFE SCIENCES
UNIVERSITY OF COPENHAGEN
SLU
Swedish University of Agricultural Sciences
skog+ landskap
NORWEGIAN FOREST AND LANDSCAPE INSTITUTE
METLA
WSL
Forest Research
ICAS
CENTRE TECNOLÒGIC FORESTAL DE CATALUNYA
© IFN 2009