The 10th Capsis Meeting

June 17th 2008 - Montpellier

Capsis progress since 2007

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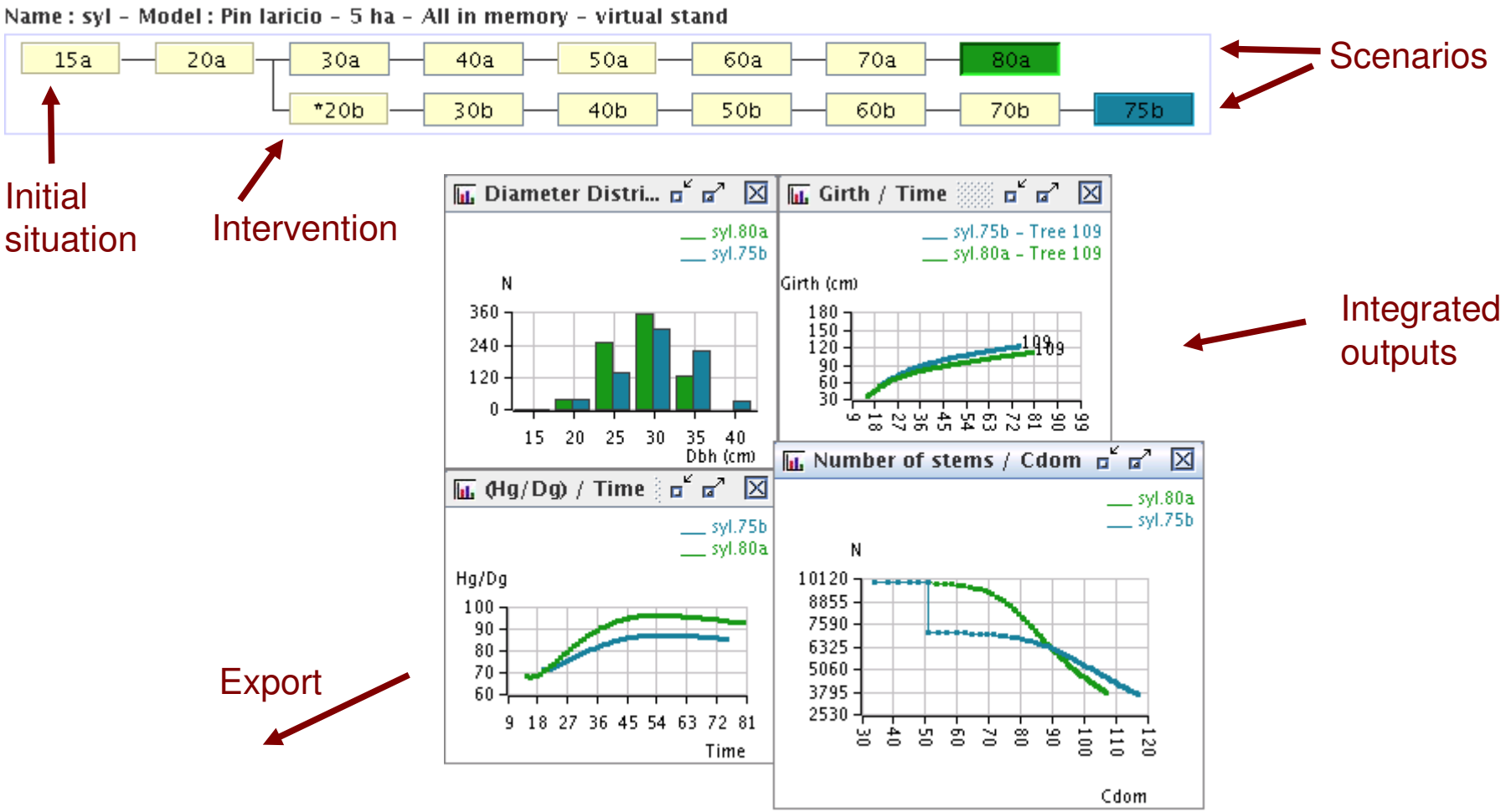
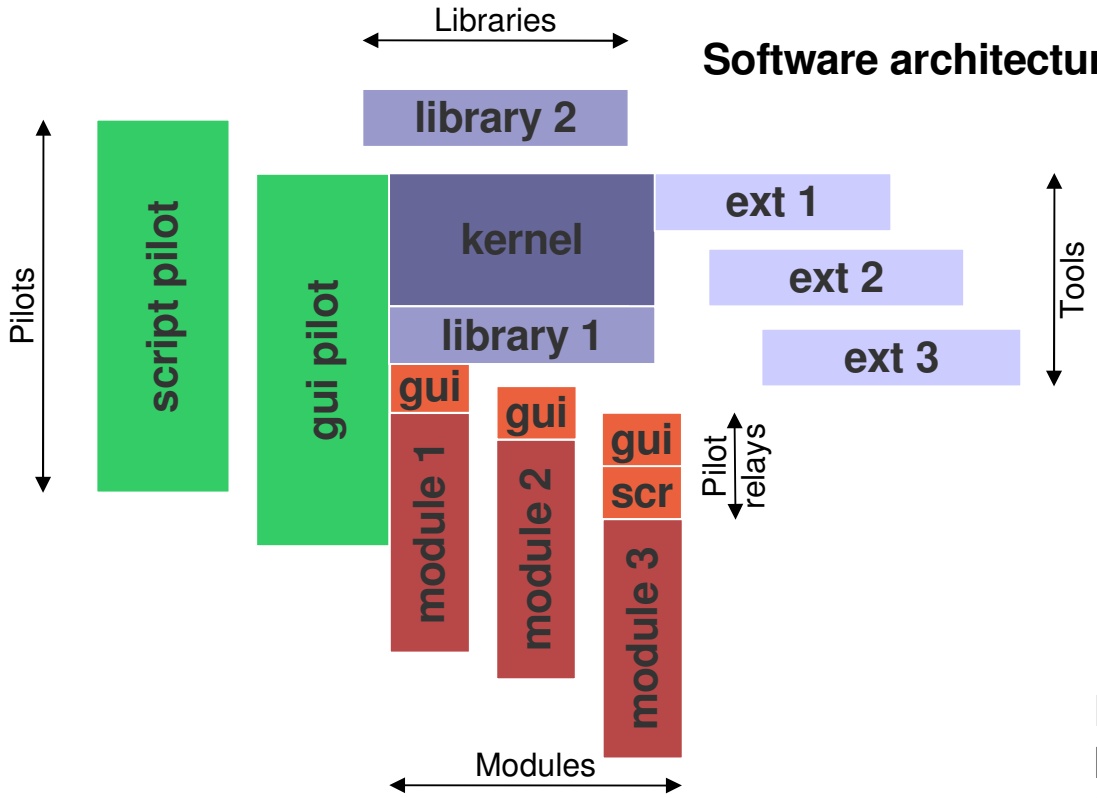
The Capsis project

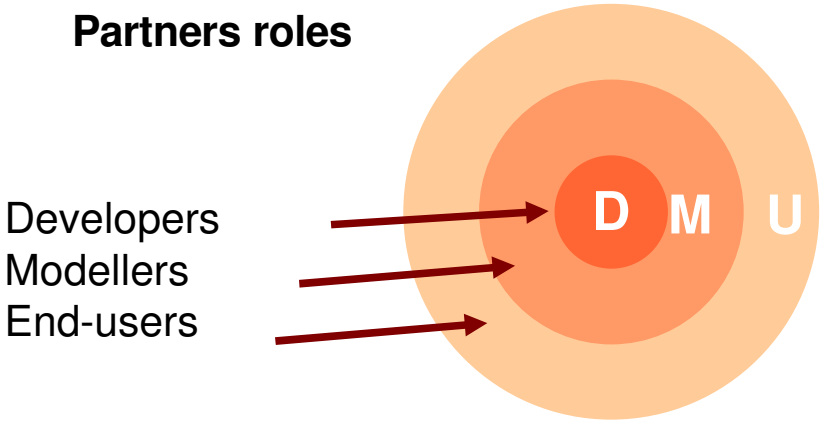
Objective : To build a **software platform** to integrate **forestry growth / dynamics models** for modellers, forest managers and education.



The Capsis project organisation



Partners roles



Clear participation rules

- **The common part is free (LGPL): green / blue parts**
- **The capsis charter rules (extract)**

Modellers develop themselves their modules
The modules belong to theirs authors (orange / red parts),
The source codes are shared within the community...

The Capsis community:
Developers + Modellers **co-develop** together

The 2008 Capsis training session

Training politics :
- a general training sesion once a year (2 days, about 10 persons)
- custom training sessions when needed several times a year

Capsis training session - February 13-14 2008

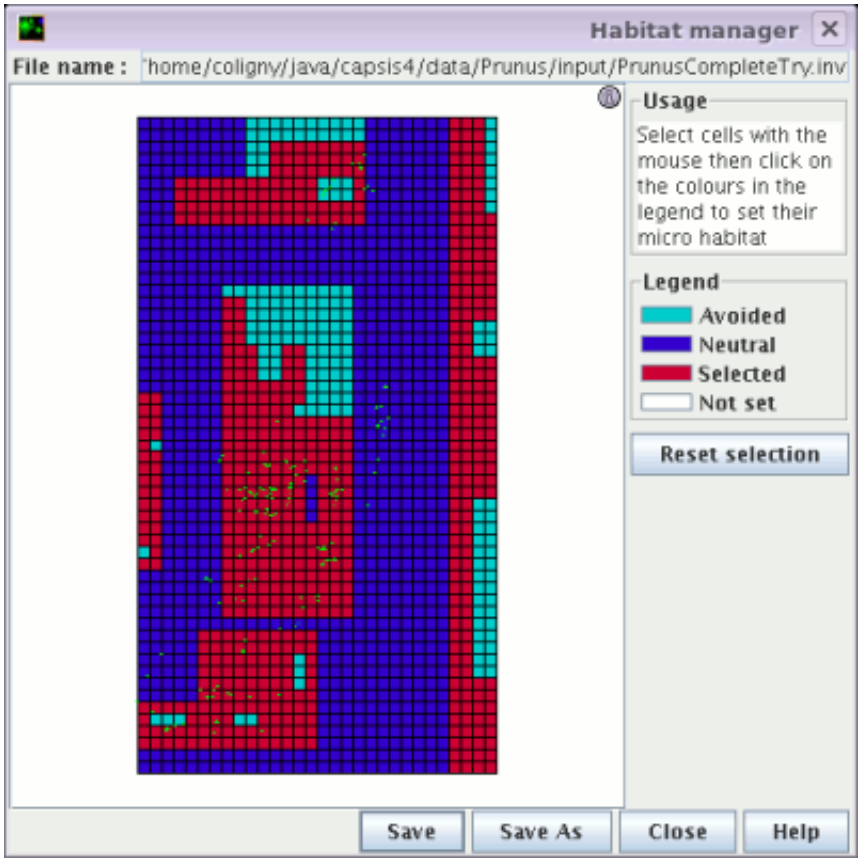
2 days (the course on the extensions is deferred) :

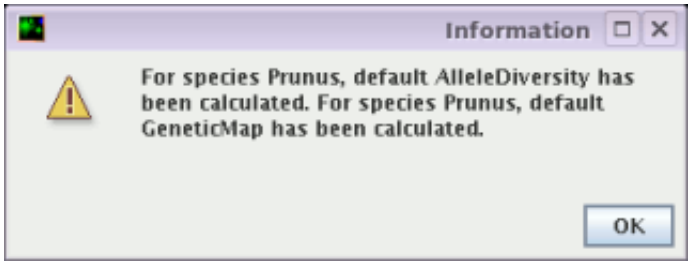
Annabelle Amm, Isabelle Lecomte (INRA URFM Avignon)
Jérôme Perez, Champak Beravolu Reddy, Jean Dauzat (AMAP)
Anne Ganteaume, Eric Maillé (Cemagref Aix en Provence)
Nicolas Robert, Michael Rivoire, Zhun Mao (INRA Lerfob Nancy)

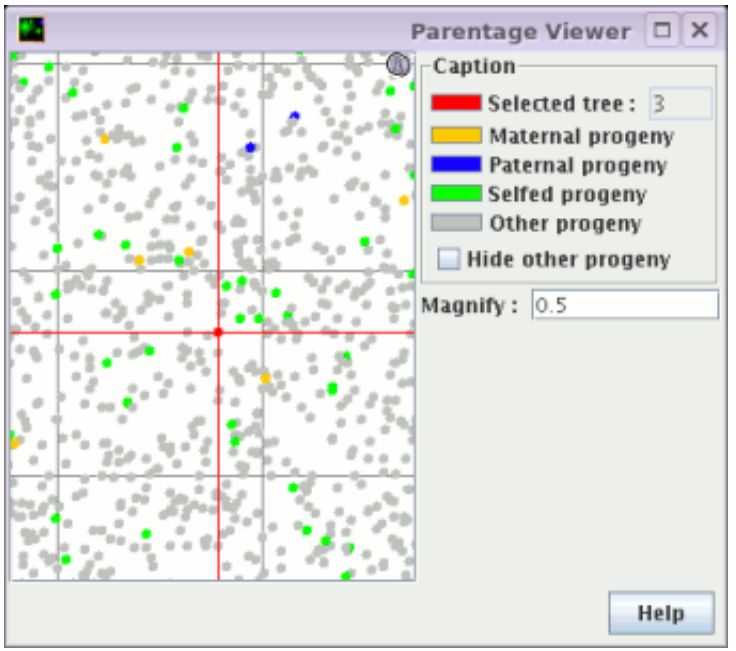
Active projects 2007 - 2008

Prunus

Genetic consequences of seed dispersal assisted by animals in heterogeneous landscapes. Uses the genetics library of Capsis.





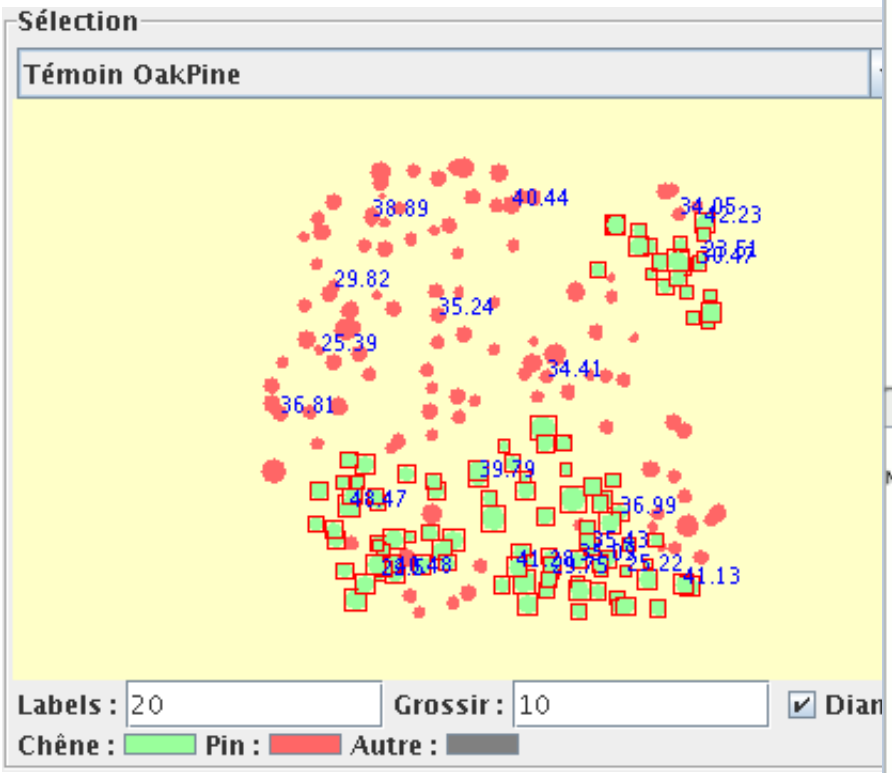


Active projects 2007 - 2008

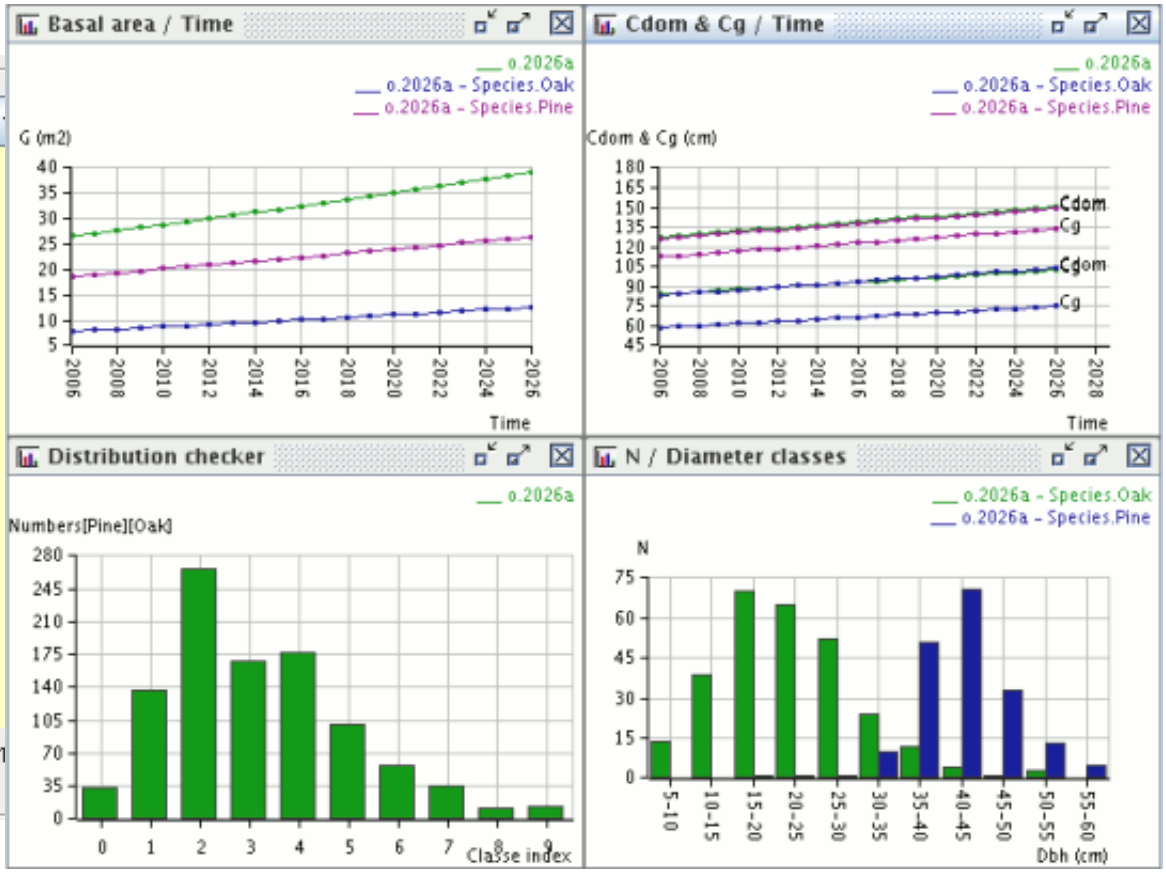
OakPine2

A dynamics model for heterogeneous forests : Oak + Pine

2007: Oakpine 1 - individual based / spatialized



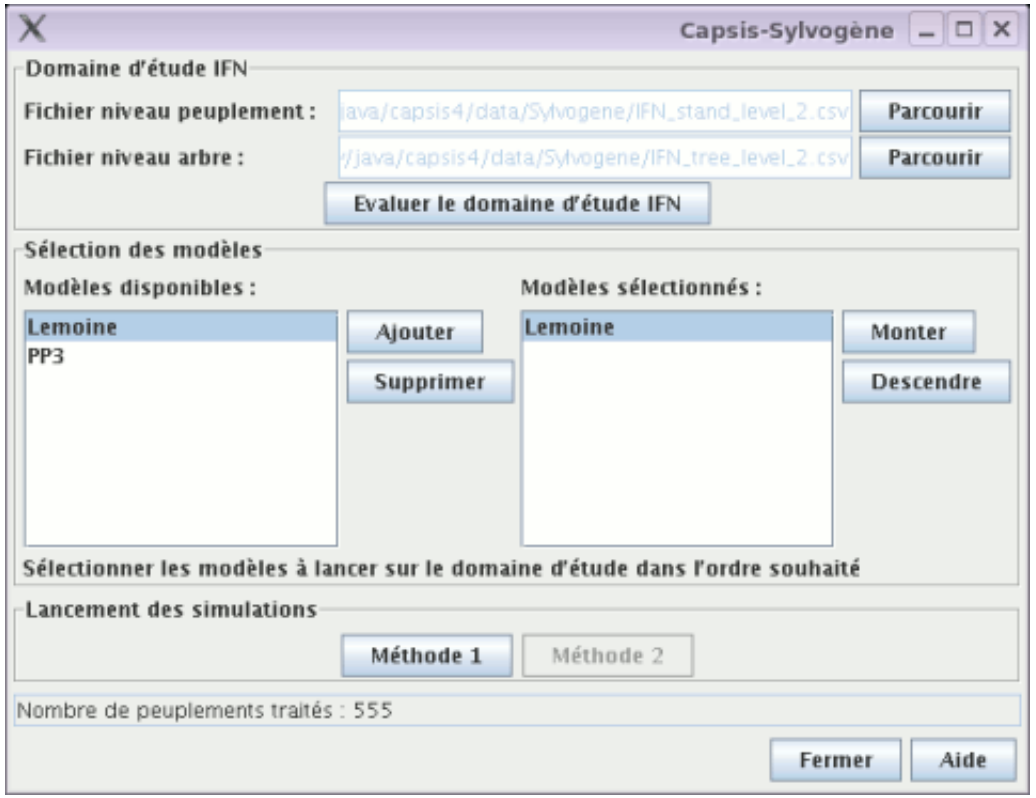
2008: Oakpine 2 - distance-independent tree model



Active projects 2007 - 2008

Sylvogene

- Pole of competitivity : "Industrie et Pin maritime du Futur"
- The Sylvogene project involves INRA, FCBA (AFOCEL + CTBA), IFN, CRPF, ONF, CAFSA, FORELITE, VILMORIN...
- Action « Build a permanent analysis system for the resource » for the Massif des Landes de Gascogne



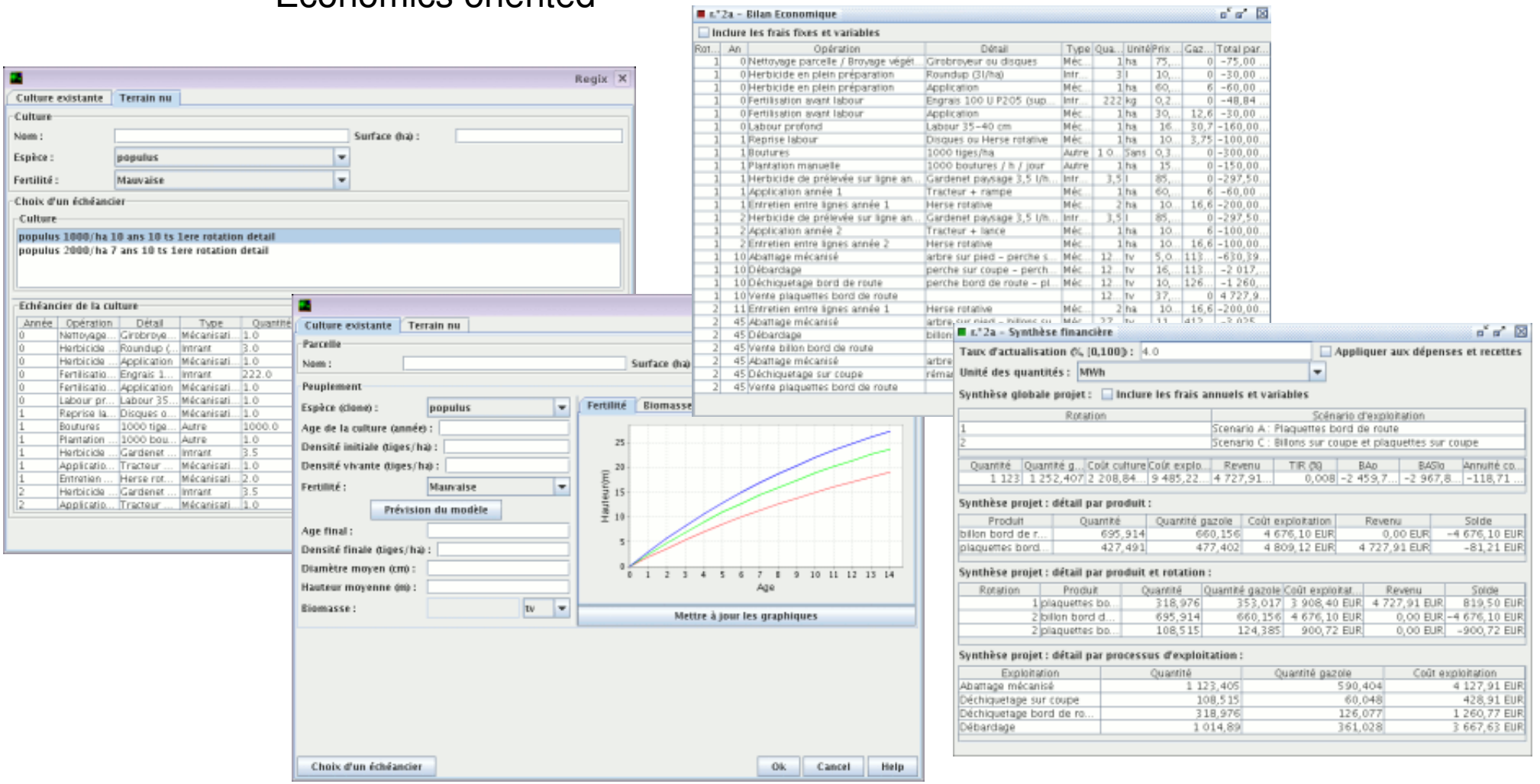
- INRA, IFN et FCBA share their data and models

- FCBA decided to integrate its models within Capsis to ease their connection with the IFN data bases.

Active projects 2007 - 2008

Regix

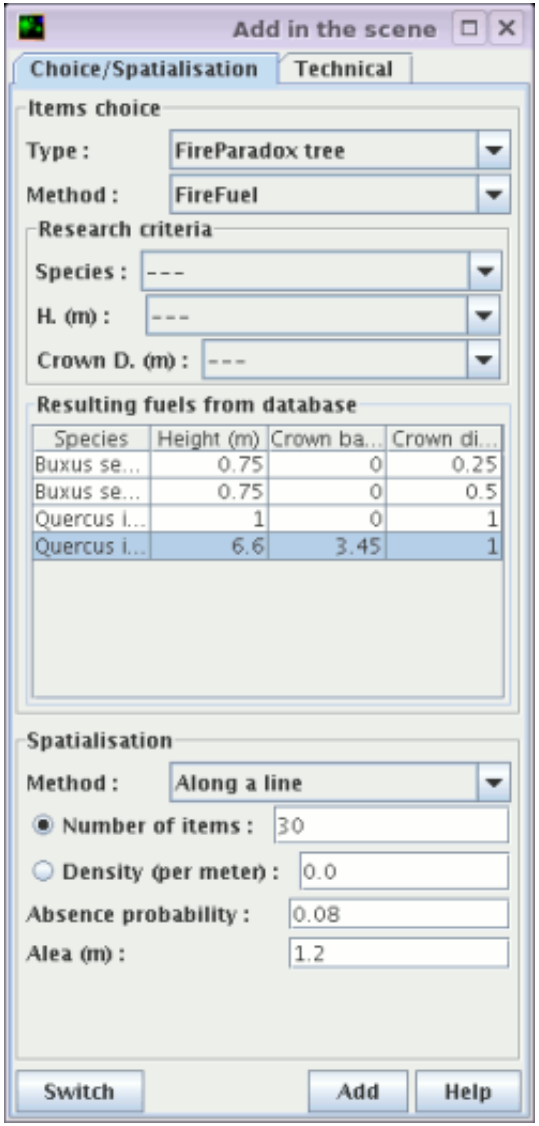
Stand level model for short rotation coppice of poplar and eucalypt.
Economics oriented

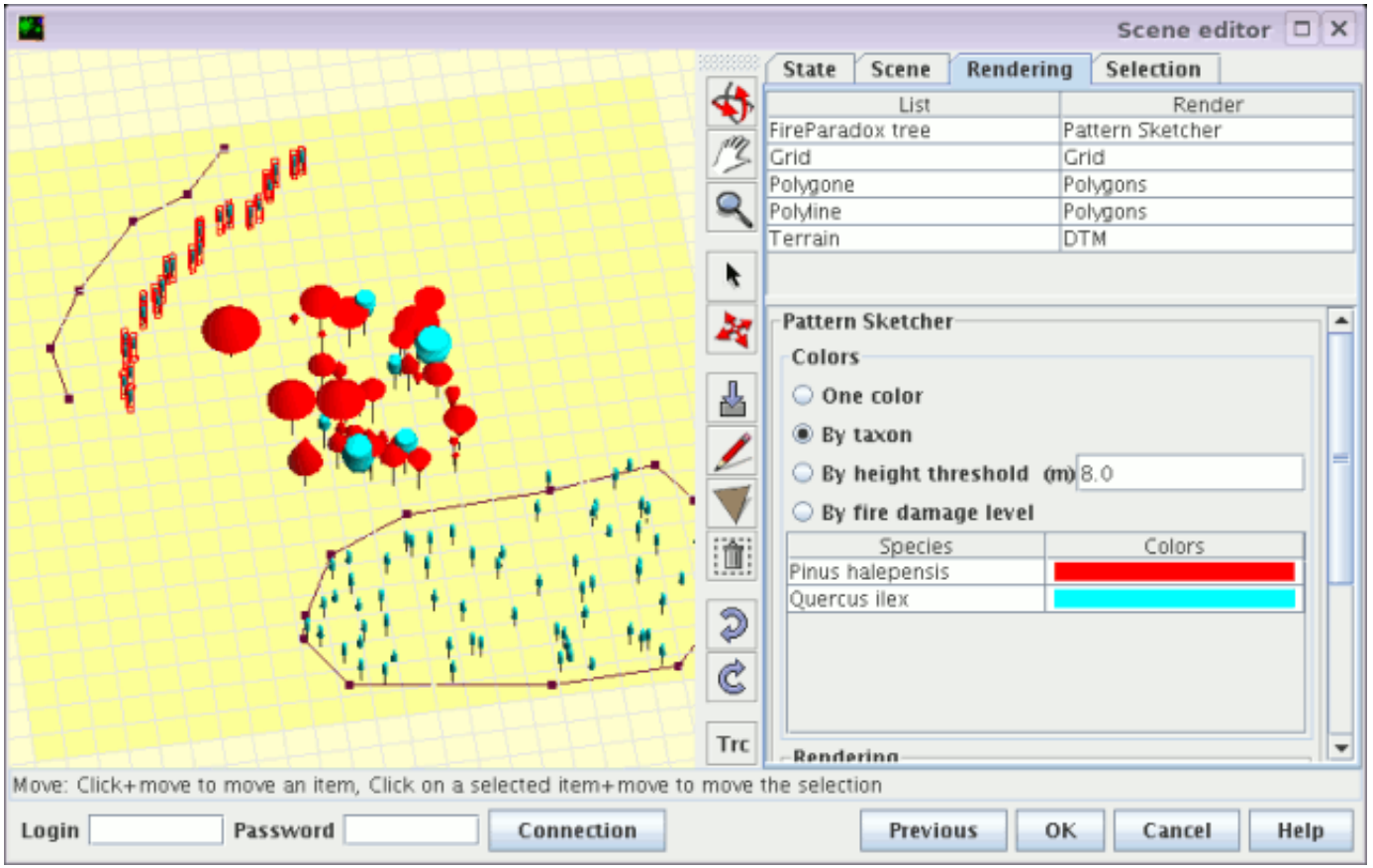


Active projects 2007 - 2008

FireParadox

- European project : An Innovative Approach of Integrated Wildland Fire Management Regulating the Wildfire Problem by the Wise Use of Fire: Solving the Fire Paradox.
- Needs a software to place in 3D the plants / trees (condidered as fuel) and export a file to a fire calculation program. Will consider the growing again of the trees after fire.



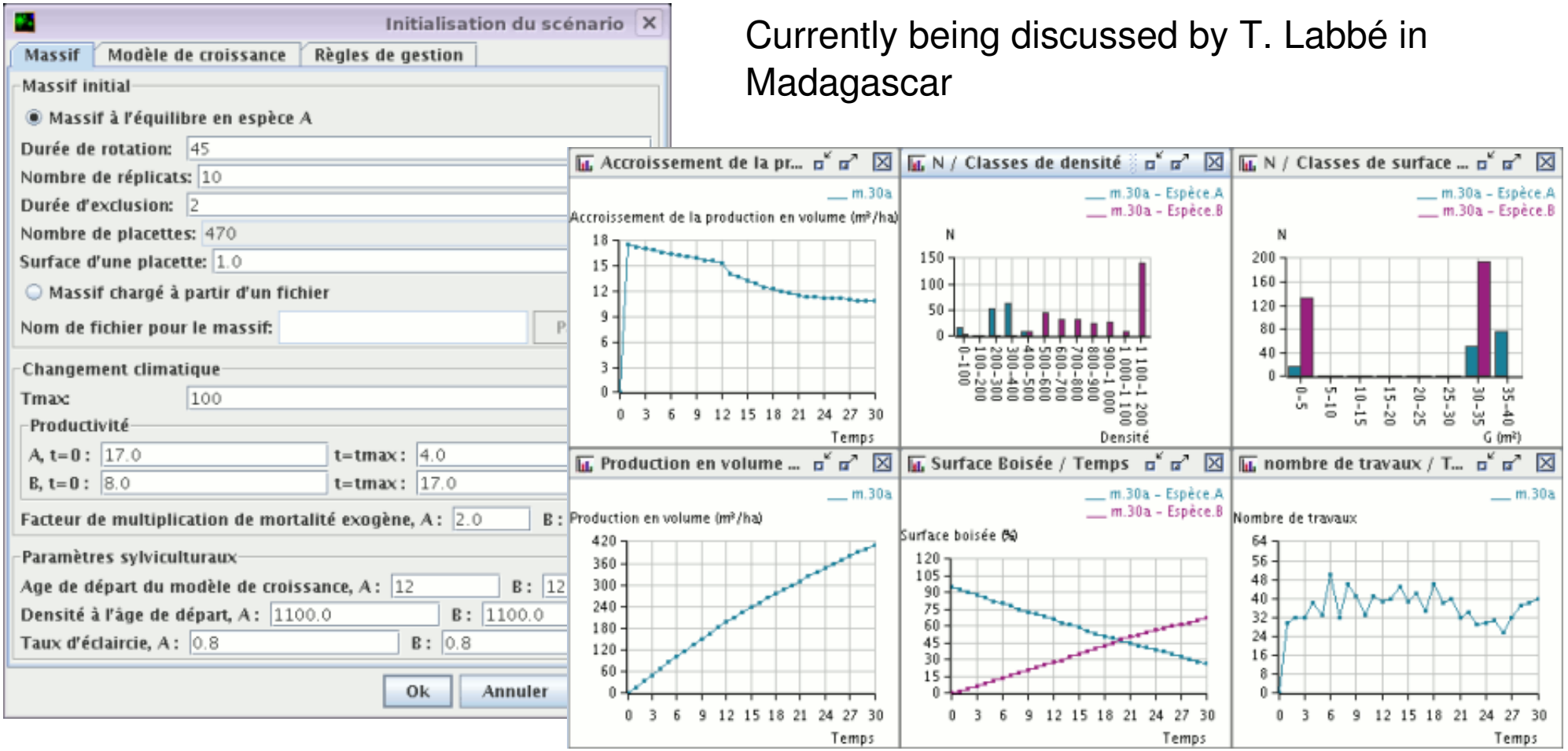


Active projects 2007 - 2008

Mustard

A Forest Growth Model to simulate global change at forest scale (National Research Agency, the Deduction Project).

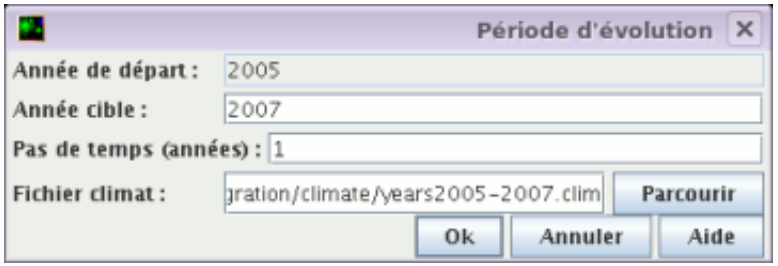
Currently being discussed by T. Labbé in Madagascar

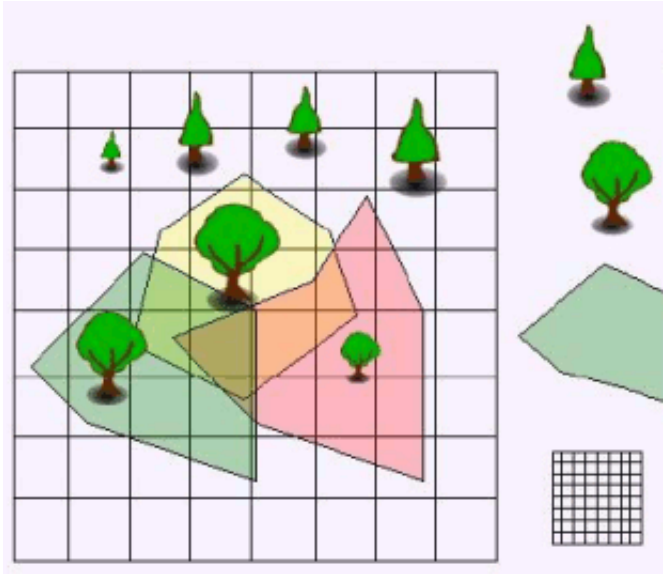


Active projects 2007 - 2008

Migration

A model to estimate potentialities of forest tree migration.
Large scales, local properties (altitude, fertility...), climate files, individuals and cohorts...



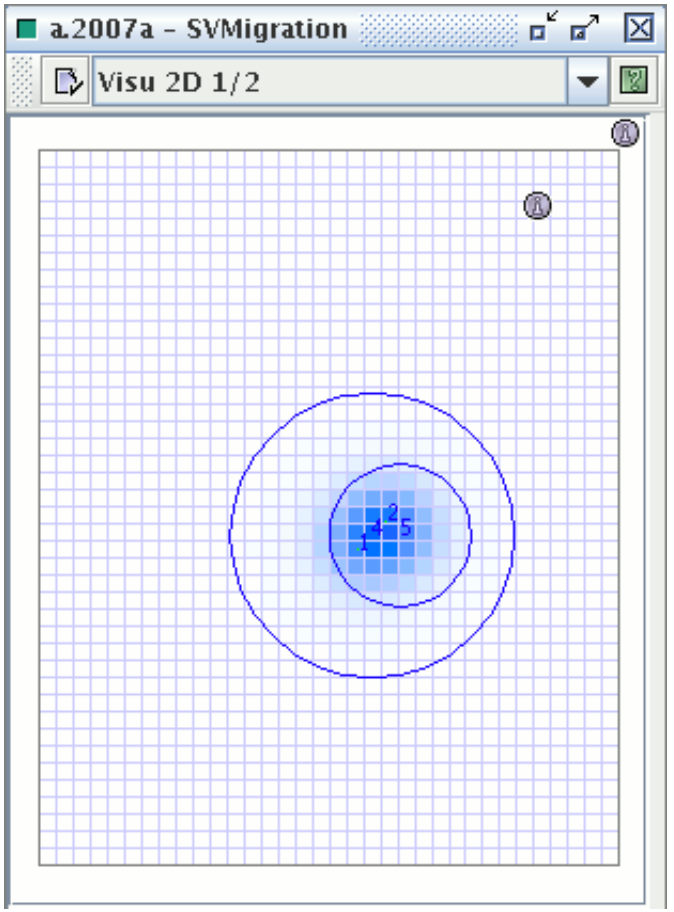


Tree

Cohort

Cohort extension

Thin grid for dispersal

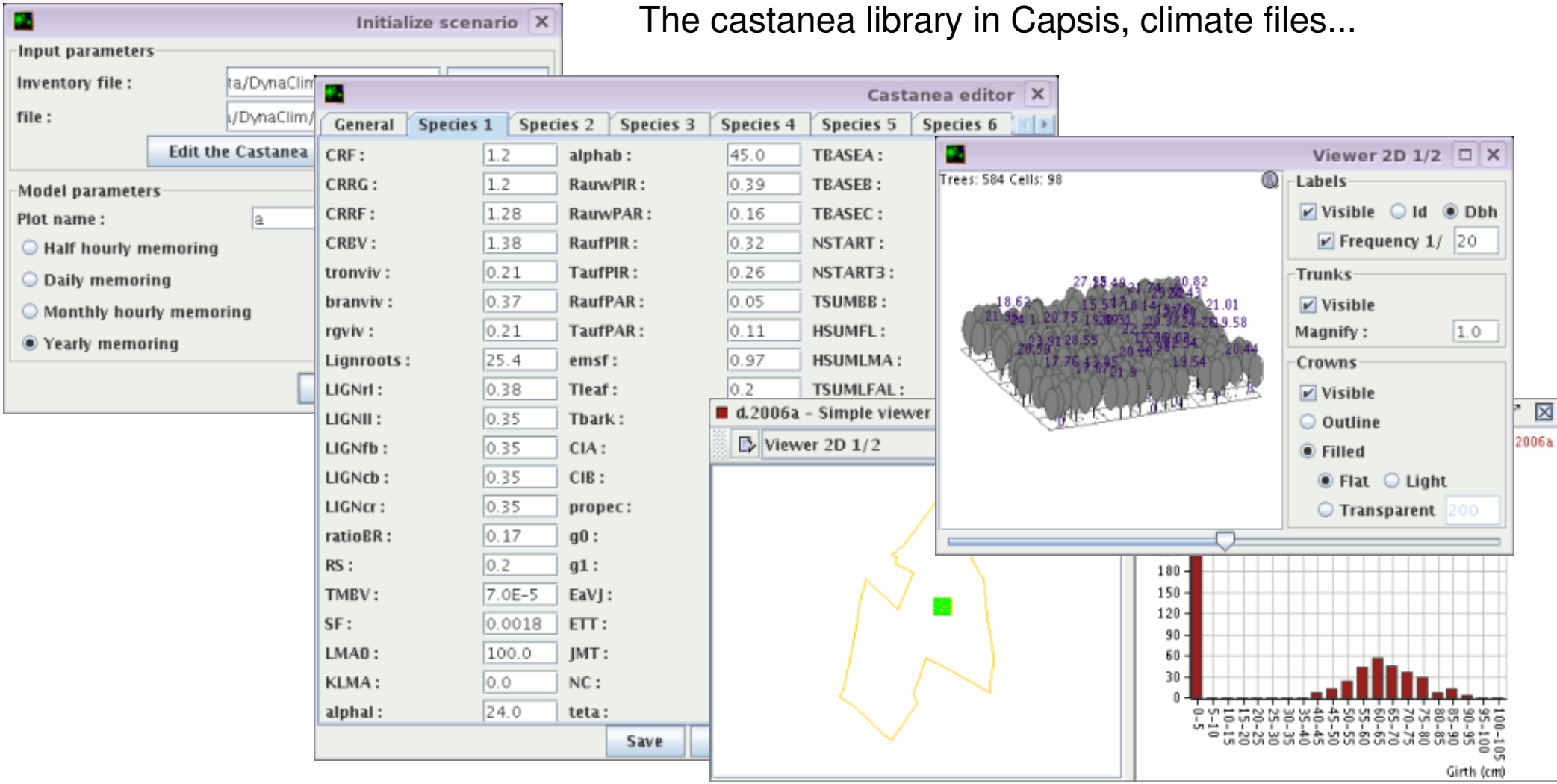


Active projects 2007 - 2008

Dynaclim

An hybrid dynamics model mixing ecophysiology and dendrometry.

The castanea library in Capsis, climate files...

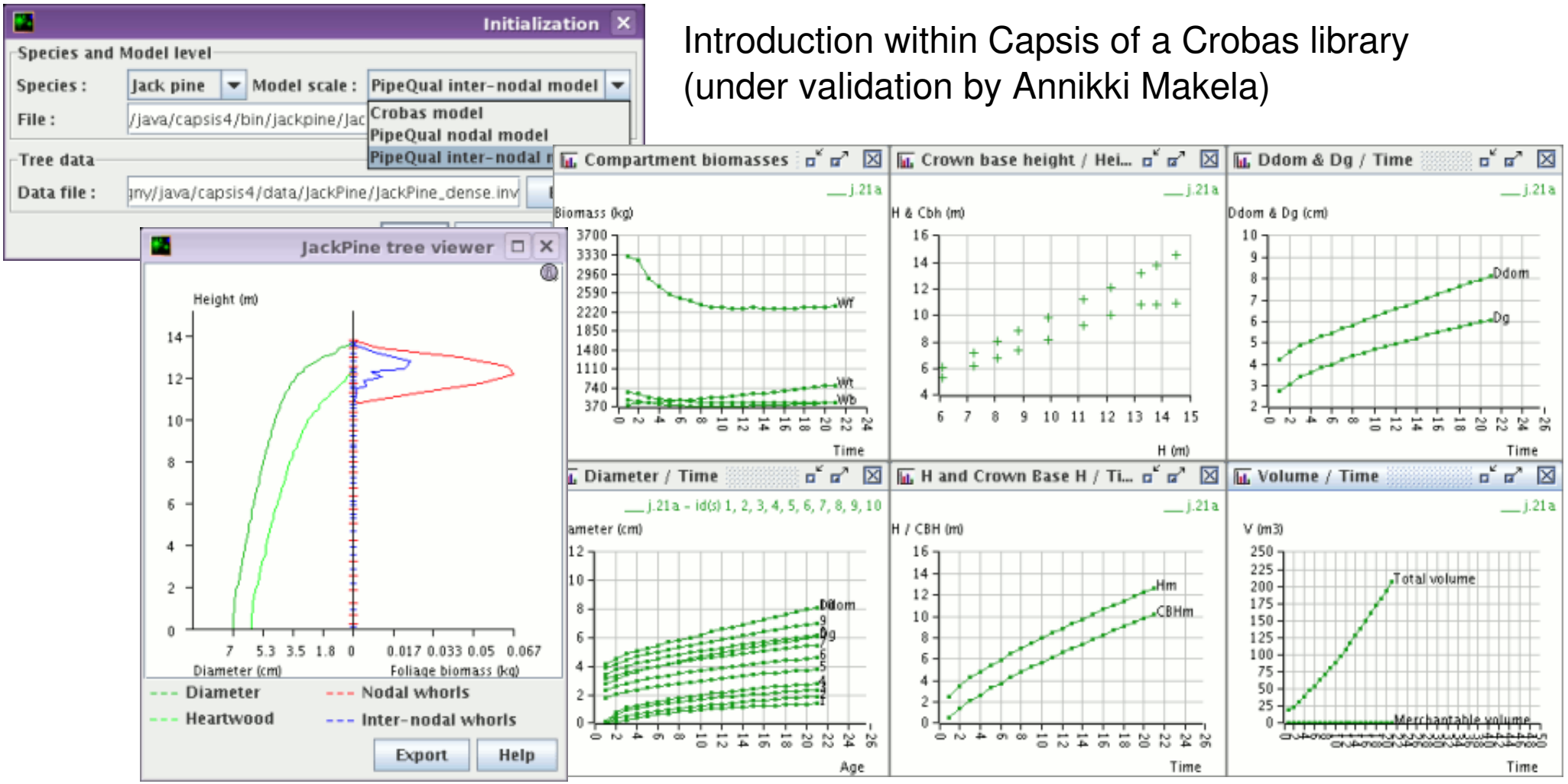


Active projects 2007 - 2008

JackPine

Growth of Jack pine in Canada using the Crobas - PipeQual model by Annikki Makela (University of Helsinki, Finland).

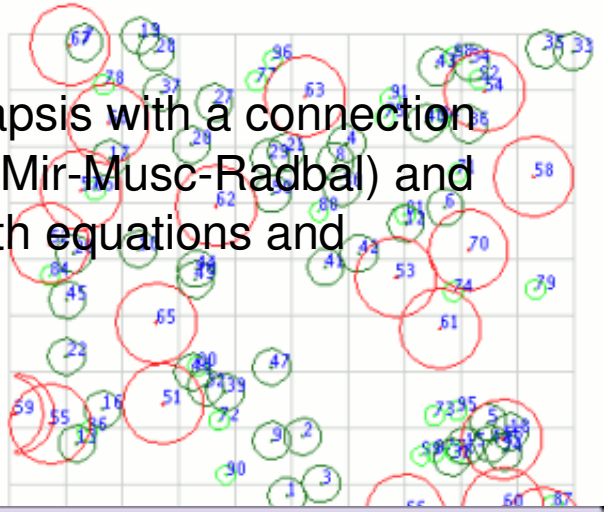
Introduction within Capsis of a Crobas library (under validation by Annikki Makela)

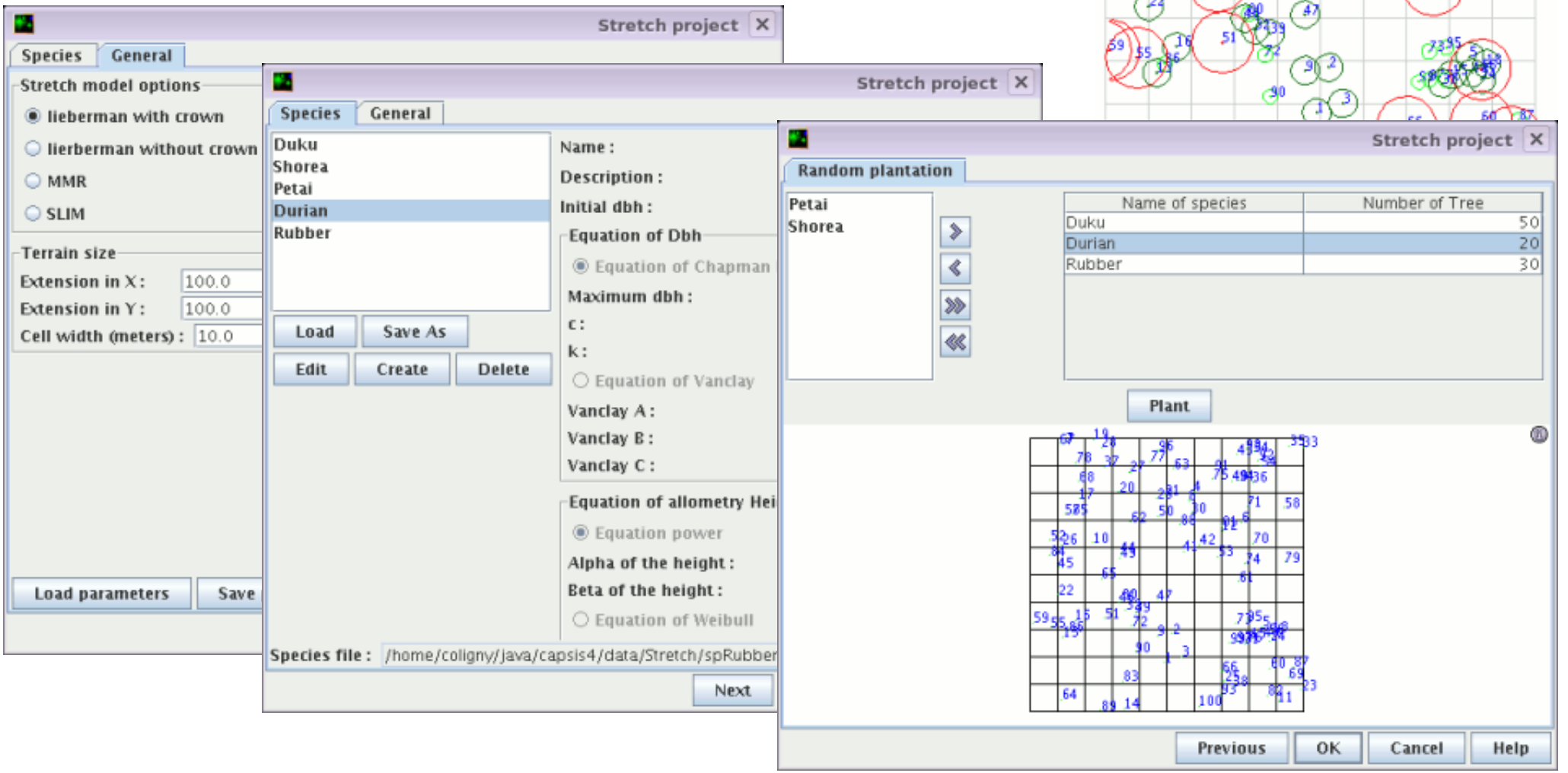


Active projects 2007 - 2008

Stretch

A rewriting of the Sexi-FS model within Capsis with a connection to the AMAP light model by Jean Dauzat (Mir-Musc-Radbal) and other evolutions. Several options for growth equations and radiative balance calculation...





Main meetings in 2007-2008

CAQ 11 - Montpellier - march 10-11th 2008
Capsis - une plateforme logicielle générique pour la simulation de la croissance des peuplements forestiers

"Plantes et Peuplements Virtuels" meeting - ENS Lyon - march 27-28th 2008

Integration - the software platforms fiel of enquiry

Capsis publications 2008 (from PMA06)

Hong L.X., Tang S.Z., Li H.K., Li Y.C., de Coligny F., 2008. **Integrated Stand Growth model (ISGM) and its Application**. In: Fourcaud T, Zhang XP, eds. Plant Growth Modeling and Applications. Proceedings of PMA06. Los Alamitos, California: IEEE Computer Society, pp. 223-230

de Coligny F., 2008. **Efficient Building of Forestry Modelling Software with the Capsis Methodology**. In: Fourcaud T, Zhang XP, eds. Plant Growth Modeling and Applications. Proceedings of PMA06. Los Alamitos, California: IEEE Computer Society, pp. 216-222

Transfert actions (2006 - 2008)

22 oct 2007 : **Mathieu Fortin** and **Sylvain Turbis** organised a training session on Capsis and the SaMARE model for 13 people outside the Department of Natural Resources and Wildlife on September 12 in Quebec City. The trainees were from **timber companies**, **consulting firms** and **forest cooperatives** from several regions of Quebec where Maple is present.

20 août 2007 : On June 7th 2007, **Céline Meredieu** and **Thierry Labbé** (INRA Bordeaux) presented Capsis and the PP3 module to foresters. Thirty three participants came from **CASFA, CPFA, CRPF, GOFOGARGPF Sud-Landes, Groupama, ONF, SODEF**. This session was jointly **organised by INRA, CRPF Aquitaine and ONF**. The presentation began by the context of the Sylvogène project (Pôle de compétitivité Industrie et Pin du futur) with Sebastien Drouineau (CRPF). Then Céline Meredieu presented Capsis and theorical and conceptual information about the PP3 project. Dominique Merzeau (CPFA), Sebastien Drouineau (CRPF) and Didier Canteloup (ONF) showed how to use Capsis/PP3 for various applications. (...)

15 jan 2007 : On January 10th, **Mathieu Fortin** and **Sylvain Turbis** (Ministère des Ressources Naturelles et de la Faune (MRNF), Québec, Canada) presented Capsis and the Samare module to **foresters from MRNF region 06 and 07**. Four of the seven participants came from the region 06 (BR06, UG61, UG62, UG64), and the three others were from the region 07 (BR07, UG71, UG72) (BR ? regional office, UG ? management unit). (...)

28 nov 2006 : On October 17th, **Thomas Pérot** and **Sandrine Perret** (Cemagref Nogent sur Vernisson) organized a second session to transfer to the French Forestry Office (ONF) the Laricio and Sylvestris modules. Two of the three participants came from the **ONF DT Centre Ouest**, and the third was from the **ONF DT RD based at Fontainebleau**. (...)

29 juin 2006 : In Orleans, training session by **Patrick Vallet** to the Fagacees model and how to use it in the Capsis platform for the colleagues of the **French Forestry Office (ONF)**. The session was **organized by Sandrine Verger (ONF-DT Centre-Ouest)** and welcomed 12 participants (12.6.2006).

Perspectives

The recruitment of **a new developer** is under progress thanks to INRA-EFPA (arriving next fall).

- Possible to take care better of more integration projects

- Progress on the common parts of the platform
- Better documentation for modellers self-training
- Better training, with multiple short advanced sessions
- Support for other projects (european, ANR, RTRA...)
- More partnerships with european / foreign countries...

More details on the Capsis web site:
http://capsis.free.fr/

Capsis progress since 2(