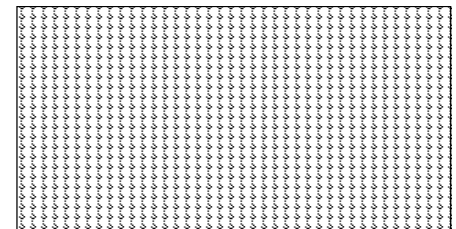
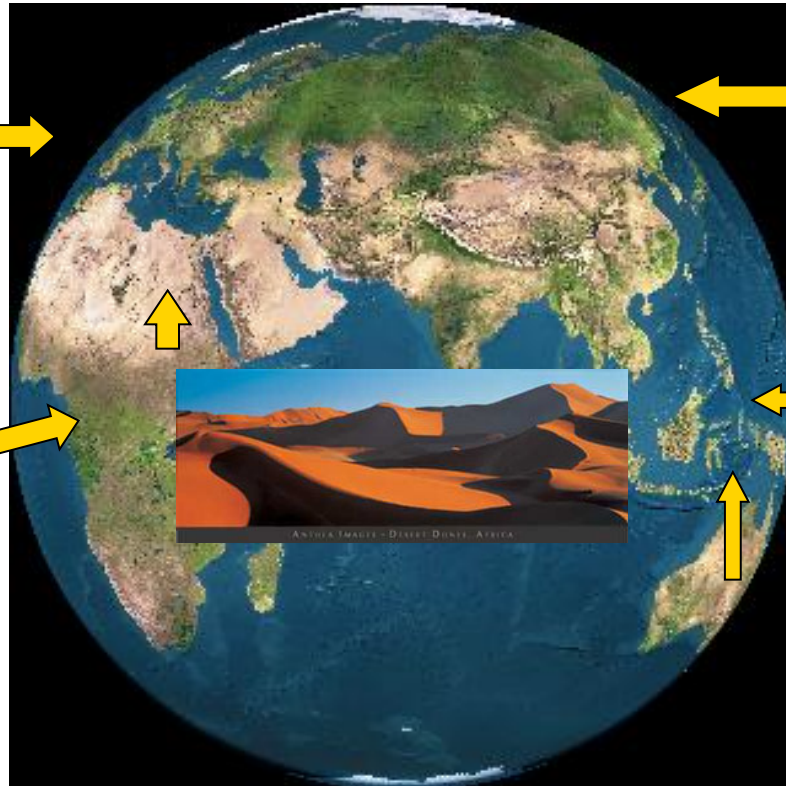


Dynamic Global Vegetation Model ORCHIDEE

**Simulates the Energy, Water and Carbon balance
Land component of the IPSL Earth System Model**

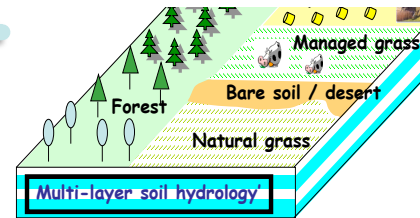
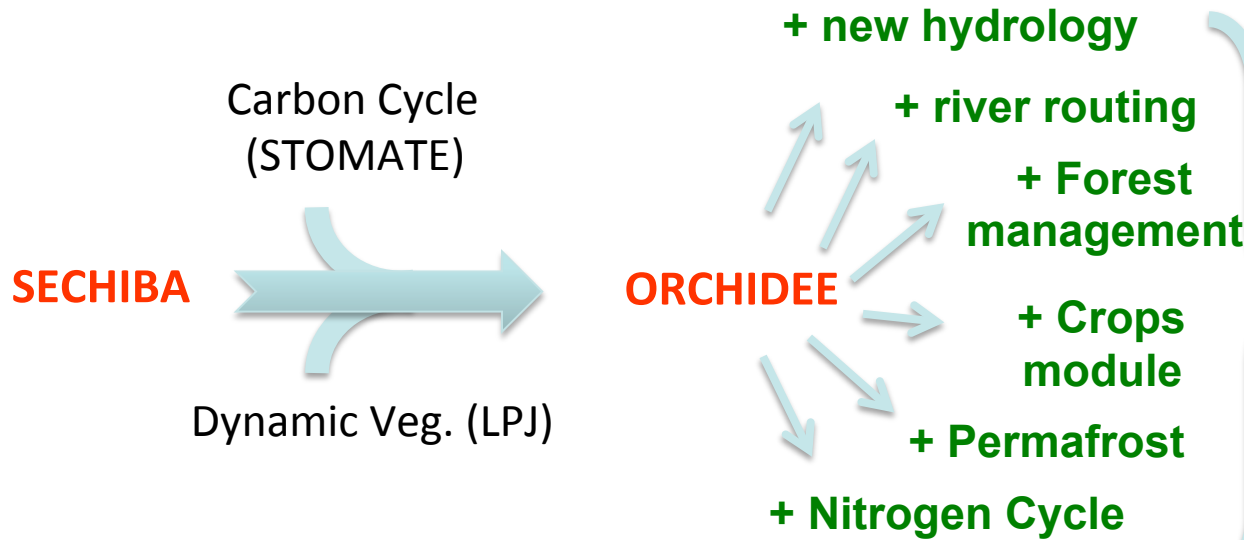


The ORCHIDEE project

- COLLABORATIVE effort with many contributors !!
- More than 15 permanents and over 30 CDD
 - Several laboratories but mainly from IPSL
- YOU may develop some new modules
 - ➔ benefit for the ORC project
- BUT never forget:
 - ➔ The current ORC model that will allow your research results from a huge team work !

A brief history

Model



(Laval et al., 1981)

(Ducoudré et al., 1993)

(Viovy et al., 1997)

(Polcher et al., 1998)

(Krinner et al., 2005)

Project / Users

80s

90s

2000

2009

Few Scientists at LMD (3-4)

Small group btw LMD/LSCE (5-10)

Increasing number of developers & users (15-25)

LMD

organization LMD/LSCE

Specific "Project Group" across IPSL & few other labs.

Coding guidelines..

- A document that summarizes the MAJOR RULES that you NEED TO FOLLOW when developing new code
- NEEDED to get support from the group
- NEEDED if you want your code to be further used and included in the main ORC version
- You are welcome to suggest new coding rules...

Use of SVN

- Josefine has explained it uses...
- SVN is the BEST way to maintain properly your developments
- SVN is is the BEST way to insure your code will be further used in the TRUNC
- SVN is a facilitating tool.

Use of the “Help”

- **TO BE USED SPARINGLY**... (as little as you can)
- **FIRST:** Dig as much as you can into the code..
- **SECOND:** check the WIKI
- **THIRD:** ask your main advisor
- **FOURTH:** Ask your colleague/neighbour
- **THEN:** post a message to “orchidee-help@ipsl.jussieu.fr
- **AS A RETURN,** please:
 - Try to write a little summary of the answer to your question on the WIKI (if relevant)
 - Use the “How to ?” section

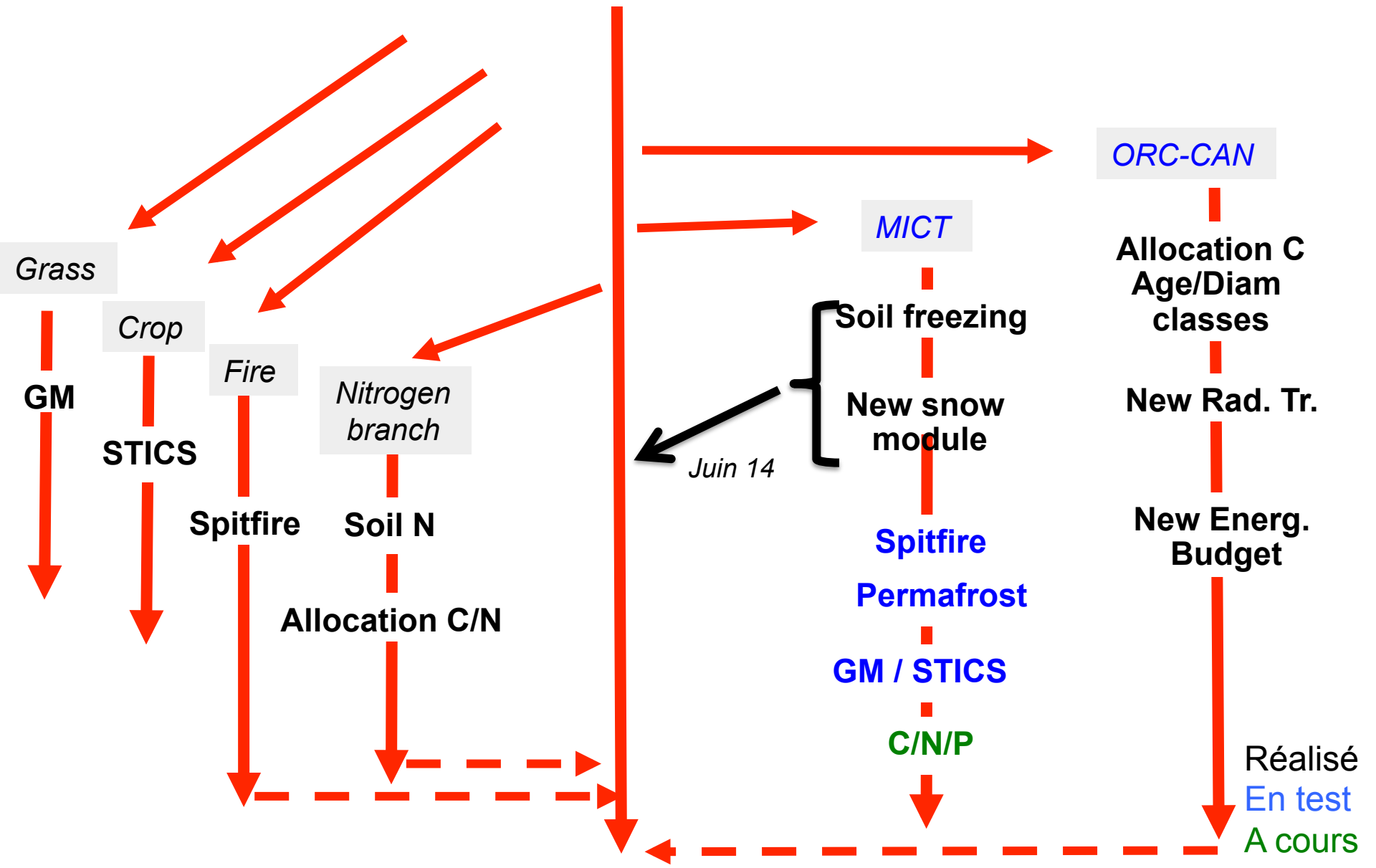
Various recommendations...

- USE LIBIGCM...
- BE CAREFULL with computer time consumption
 - CURRIE: DO NOT use “many processors” without strong advice from experts !!
 - LSCE: Cluster will increase in size but respect the main rule (under LSCE web site)
 - OTHER systems: Ask the main advisor..
- Propose “Talks” for our regular ORC dev meeting

Version post - AR5 (1.9.6)

Current branches...

Includes: Hydro-11C, Spin-up Anal, OMP, Ext param; COV



Fair Use policy

- To ensure “reward” to developers of new physical modules and people maintaining the code (including drivers)
- New developments are not “free” to use : fair use should include/propose co-authorship to the developers
- Reward the “difficult” and less visible technical maintenance and improvement of the code
- Try to prevent “competition” within the ORC group
- Means (under cloud space):
 - Table for the “ownership/status” of model features
 - Table describing the “intended” studies/papers
 - Table summarizing submitted papers

Exemple of model functionality and status

FUNCTIONALITY	REFERENCES	ORC VERSIONS	MAIN CONTACT POINTS	CONTRIBUTORS	STATUS (from restricted to free)
New soil temperature and hydrology discretization		TRUNK	Frederic Cheruy, Fuxing Wang,	Agnes Ducharne, Jean Louis Dufresne, Jan Polcher	free
Multi-layer soil hydrology	de Rosnay 1999 de Rosnay et al. 2000, 2002 d'Orgeval 2006 d'Orgeval et al. 2008 Campoy et al. 2013	TRUNK ORC-CAN ORC-MICT	Agnès Ducharne, Jan Polcher	Patricia de Rosnay, Tristan d'Orgeval, Martial Mancip, Matthieu Guimberteau, Aurélien Campoy, Frédérique Cheruy, Fuxing Wang, Joséfine Ghattas	free
Routing	Vivant 2002 Polcher 2003 de Rosnay et al. 2003 Ngo-Duc 2005 Ngo-Duc et al. 2007 d'Orgeval et al. 2008 Guimberteau 2012 Guimberteau et al. 2012a, 2012b	TRUNK	Jan Polcher, Matthieu Guimberteau	Anne-Charlotte Vivant, Patricia de Rosnay, Thanh Ngo-Duc, Tristan d'Orgeval, Agnès Ducharne	Contact developers
Soil freezing	Gouttevin et al. 2012	TRUNK ORC-MICT	Gerhard Krinner	Isabelle Gouttevin, Philippe Ciais	free
Permafrost carbon	Koven	ORC-MICT	Philippe Ciais	Shushi Peng, Tao Wang, Gerhard Krinner	Contact developers
New snow multi-layer	Wang et al. 2013	TRUNK	Tao Wang, Catherine Ottlé	Philippe Ciais, Aaron	Contact developers

Next ORC retreat

- 19 – 20 November in Jussieu
- Objectives:
 - “Clean/Uniformize” the model outputs
 - Using XIOS new output module
 - Analyse collectively current model runs
- Participation of everyone
 - Little group to prepare the output diagnostics
 - Active participation during the meeting
- Social dinner all-together
- → Register under the doodle

ORCHIDEE
today...



ORCHIDEE
tomorrow...



Need
collaboration
from
EVERYONE
!