

## **STIMUL/ORCHIDEE meeting –Wednesday, 12 December, 2018/VISIO**

Time: 11h-12.30h

### **Attendance:**

Nathalie De Noblet, Devaraju Narayanappa, Anna Lungarska, Thierry Brunelle, Stephane De Cara

### **On the Agenda:**

- 1) Interactions between NLU and ORCHIDEE.
- 2) What NLU can provide to ORCHIDEE in terms of land use/land cover types
- 3) Details on the potential yield generated by LPJmL used as inputs by NLU (like, Meteorological forcing data, CO2 levels, years of simulation etc.)

### **The following are the main OUTCOMES of the meeting:**

We have summarized what we think is the main outcome in the flowchart at the end of this summary. It shows how the various models will interact in STIMUL.

With regard to Land use distribution information for ORCHIDEE, Thierry Brunelle (and Stephane De Cara) explained us that NLU can provide variations in, respectively, pastures and crops extent (also perennial and annual crops), the sum of both being constant. But NLU does not provide different types of crop units.

AROPAJ on the other hand provides both the changes in extent of crops & pasture, together with the allocation within the crop area between various crop types.

ORCHIDEE will thus receive information regarding changes in areas of total crops and pasture from both NLU and AROPAJ (those can be quite different) and subdivision of the total crop area into various crop types from AROPAJ only.

Forest area will be provided by the econometric model (see figure) and sent to all 3 models: ORCHIDEE but also NLU & AROPAJ. The objective is that all models share the exact same fractional area covered by the sum of crops+pasture.

NLU uses Potential yields from LPJmL. What is important for them is the spatial distribution and the level of potential yields.

Anna, will re-check the details of the STICS simulations with regard to climate forcing. Also, Anna mentioned that for the new simulations to be provided to ORCHIDEE, we need to discuss with Pierre Alain.

There is still a need to define what yields will be provided by LPJmL, STICS and ORCHIDEE in order to make sure we'll be comparing similar variables.

**NEXT ACTIONS:****THIERRY BRUNELLE:**

Send an email to the person in-charge (Christoph Muller) of the LPJmL simulations (for potential yields) with a copy to Dev and Nathalie so that Dev can explain to Christopher, the details required. Christoph and Thierry can start filling out the questionnaire Dev set up.

**ANNA:**

Re-check the Meteorological forcing details used for STICS simulations and send to DEV, and the availability of potential yield for validation

**DEV:**

Send the crop Areas used in ORCHIDEE for the present day to all and compare with theirs (possibly with AROPAJ for present day??). To make sure ORCHIDEE has right representations of crop areas over Europe (Figures for different crop types in ORCHIDEE are already sent to all).

**NOTE:** Nathalie and Dev Summarized the Understanding of the WORK-FLOW after the meeting in the form of FLOW-CHART (see below figure) with regards to ORCHIDEE simulations. Please feel free to correct/tell us if something is misunderstood here.

## STIMUL workflow with regard to ORCHIDEE simulations

Reality (to be checked?)

