

Title :	Session 3a: C1 Introduction & Overview
Time :	Tues 25/10/11, 11:00-13:00
Chair :	Eiko Nemitz NERC/CEH
Attendees :	27 C1 partners (full list available from Eiko Nemitz)
Minutes by :	Eiko Nemitz NERC/CEH

Aim To provide an overview of the C1 project to all C1 partners and to identify challenges and unclarities.

Presentations by:

- Eiko Nemitz, NERC/CEH - overview of WP1: Field studies on exchange processes
- Thomas Mentel, Juelich - overview of WP2: Controlled studies on exchange processes
- Klaus Butterbach-Bahl, KIT – overview of WP3: Modelling emission processes
- Chris Flechard, INRA – overview of WP4: Surface exchange modelling

Topics discussed with Issue, decisions/conclusions and actions

WP 1

- The timing of intensive campaigns across flux network could be triggered at different times at different sites, e.g. by reaching the same phenological point or soil temperature.
- Some key processes will only be addressed fully in the integrated Po Valley campaign, which needs to be adequately resourced.
- A LIDAR/SODAR/Ceilmeter would be useful during the Po Valley campaign.
- The satellite derives the best concentration NH₃ fields for conditions of clear skies and strong temperature gradients. This should be borne in mind when timing the PEGASOS Zeppelin excursions to Bosco Fontana; solution is 10 km horizontal, over 500 m vertical.
- Would be good if we could quantify what % of ozone is deposited to foliage vs. % deposition to soil → add in-canopy tower to some sites?
- FRI (Laszlo Horvath) offers to provide soil sampling/analysis for the Bosco Fontana campaign.

WP 2

- Regarding the incubation measurements:
 - New measurements will address litter emissions in addition to soils (focusing on the 9 ECLAIRE flux sites)
 - NH₃ emission measurements will be included (at zero background), using the CEH AiRRmonia systems (although this instrument may also be available from other groups)
 - It would be good if someone could add VOC measurements (Silvano Fares later during the meeting offered analysing some cartridges).
 - O₃ exchange measurements: should do some tests first, whether this can be resolved with the soil surface to wall ratio of the current cuvettes; should soil fluxes be studied for different ozone concentrations?
 - Work will not address NH₃ volatilised from manure applied to these soils

- INRA are embarking on a national project to study NH₃ emissions from manure applied to different soils; Benjamin Loubet should encourage Sophie Genermont to use ECLAIRE soils
- INRA will also measure O₃ deposition to soils with cuvettes with a high surface/wall ratio; these data may be of interest to ECLAIRE; in arable systems, 30-40% of the O₃ deposition should be to soil.
- Silvano Fares offered to submit bVOC emissions from litter at Castelporziano to ECLAIRE database.
- VOC deposition work (by CNR) is included in proposal but was not explicitly mentioned in the WP overview. Silvano to remind Francesco Loreto to cover this in the experimental programme.
- The Juelich chamber experiments on the overall ozone balance of plants should conduct some explanatory measurements that include soil.

WP 3

- The process modeling of agricultural NH₃ emissions will need to benefit also from national activities of the ECLAIRE groups (INRA, France; Denmark)
- Need to talk to Almut to flag how soil VOC emissions will be treated in the emission upscaling work.
- INRA Grignon are developing a national proposal to study VOC emissions from organic matter application to fields.

WP 4

- The discussion of this WP was short due to time constraints.

Data management

- The data management of the WP1 flux data will follow the NitroEurope model.
- We need to think carefully how we can capture the WP2 data for long-term archiving. This will probably be done using the database function of attaching free format files with good metadata, rather than the relational database itself.

Decisions

Action	Due	Who
Clarify ECLAIRE work programme on VOC deposition and report back to C1 & WP2 leaders	30 Nov 2011	Silvano Fares / Francesco Loreto
Provide a link to INRA national work on soil/organic matter gas exchange measurements of VOCs, O ₃ , NH ₃ ;	Ongoing	Benjamin Loubet
Talk to Sophie Genermont if ECLAIRE soils could be used for national study of manure emission measurements	30 Nov 2011	Benjamin Loubet
Investigate availability of Ceilometer/ LIDAR/ SODAR for Bosco Fontana campaign	28 Feb 2012	Rainer Gasche, IMK; Eiko Nemitz and any others.
Clarify with Almut Arneht how soil emissions are treated in emission upscaling	30 Nov 2011	Component Leader
Test suitability of incubators for ozone deposition measurements to soils	Depending on work plan	Sophie Z.-B., BOKU
Conduct exploratory measurements of vegetation O ₃ fate including soils	Depending on work plan	Thomas Mentel, Juelich
Develop plan for capturing WP2 data and feed back to groups involved	31 Jan 2012	C1 Data manager (Mhairi Coyle)