

Title : S4a: Definition of flux network program
Time : Tues 25 OCT 2011 14:45-16:30
Chair : Eiko Nemitz CEH/NERC
Attendees : 38 (full list available)
Minutes by : Christof Ammann ART

Aim

Presentations

Short presentation of each WP1 network site by site PI/representative

- Forests: Hyytiala (FI, UHEL/FMI); Speulder Bos (NL, ECN); Ispra Forest (IT, JRC)
- Grasslands: Auchencorth (UK, CEH); Posieux (CH, ART); Bugac (HU, ERTI-FR)
- Arable: Grignon (FR, INRA); Brescia (IT, UNICATT)

Presentation by Alessandro Cescatti (JRC) on measurement strategy to quantify absorbed PAR

Topics discussed with Issue, decisions/conclusions and actions

Site specific issues:

- Oensingen: ART announces change of site from cut site at Oensingen to grazed site at Posieux (CH-Pos) – still intensive grassland
Plan is to measure NH₃ fluxes by HT-PTRMS, but this is cross sensitive to NH₄⁺. How can we correct?
- Bugac: Problem in running AMANDA at Bugac due to shortage of qualified personnel and power at site. The importance was emphasised to find a solution.

Common issues for all sites:

- Issue: Start date of 15-month continuous measurement period
- Benjamin, Giacomo: too early after intensive campaign in Castelporziano
- Taina, David Simpson: good to cover more growth season month (with high VOC emissions...)
- Decision: Start on 1 August 2012 (as planned), groups with problems indicated above may start a few weeks later
- Issue: Timing of intensive 6-week campaigns
- Discussion about synchronicity at all sites
- Do we want/need a winter campaign
- Decision: Keep original dates in DOW (Feb/Mar (possibly to match EMEP IMP) and Jun/Jul 2013)
- Issue: Eddy covariance flux measurements for ozone are mandatory for the entire 15 month period. Several fast ozone analysers are commercially available (Sextant, Enviscope, ...)
We should explore possibility to make additional trunk-space O₃ flux measurements at selected sites.

- Issue:** NO flux measurements (method)
- Decision:** They don't have to be done necessarily with auto-chambers. But a method suitable for the site (e.g. adequate detection limit) has to be used.
Alternative methods:
- eddy covariance NO flux (together with NO-NO₂-O₃ profiles for chemical correction)
- gradient approach for NO-NO₂-O₃ (including chemical correction)
- Issue:** Leaf surface wetness measurements:
Eiko: these measurements are important to interpret non-stomatal resistance; clip sensor on the leaves should be used. Sensors alone (without RESI-Logger-box) are probably cheap
- Action:** Eiko will check availability and price of the sensors
- Issue:** Potentially necessary additional site information/parameters:
- Juha-Peka: phenological development stages of vegetation would be useful
- Sönke: leaf nitrogen status (vertical profile) would be useful for carbon exchange modelling; also leaf level measurements of G_{max}
- Christof: for NO parameterisation, very shallow-depth SWC (few cm) would be useful, but measurement problematic (suitable sensors?)
- Benjamin: faster chemical (profile) measurements are also useful in polluted regions due to fast varying concentrations.
- Issue:** Alessandro Cescatti: presentation of importance of monitoring of diffuse/direct and transmitted and reflected radiation at a high temporal resolution (1 min). Additionally architectural parameters (depending on vegetation development).
- Action:** Alessandro Cescatti will provide suggestion for protocol and instrument prizes.

Decisions

Action	Due	Who
Discuss availability wetness clip sensors with Juergen and provide measurement solution / protocol	31 Jan 2012	Eiko Nemitz & Mhairi Coyle (NERC/CEH)
Provide measurement protocol for quantification of absorbed PAR and suggest sensor for reflected PAR measurement	30 Nov 2011	Alessandro Cescatti (JRC)
Provide protocol for angular photography at forest sites, for central analysis of canopy architecture at JRC	31 Jan 2012	Alessandro Cescatti (JRC)
Develop suggestion of mandatory measurements and circulate to the nine sites for commenting (will follow up with conference call)	15 Dec 2011	Eiko Nemitz (NERC/CEH) & Christof Ammann (ART)
Continue discussion of site-specific measurement / instrumentation issues offline and develop solutions	30 Jun	WP1 Co-ordinator (Eiko Nemitz, NERC/CEH)