

ICOS

INTEGRATED
CARBON
OBSERVATION
SYSTEM



Wallonie



Service public
de Wallonie



Gembloux Agro-Bio Tech
Université de Liège



ICOS - WB

UCL
Université
catholique
de Louvain





Lonzée (LTO)



La Robinette (RTO)



Dorinne (DTO)



Vielsalm (VTO)



Gembloux Agro-Bio Tech
Université de Liège



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de Liège



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ICOS-WB Terrestrial Observatories : State of the art



Lonzée (LTO)
Crop rotation
EC Since 2004
ICOS upgrade (L2) :
01/14 (EC) ; 12/14 (meteo)



Vielsalm (VTO)
Mixed mature forest
EC Since 1996
ICOS upgrade (L2) :
04/14 (EC) ; 03/15 (meteo)



La Robinette (RTO)
Young mixed forest
EC 2007-2012
ICOS upgrade (L2):
06/15 (tower); Fall/15 (EC)

Structure ICOS-WB : Task mutualisation



Flux data ; Micrometeorology ;
Data quality check;



Biomass sampling and treatment;
biometric data



Lonzée (LTO)
Site Coordinator :
C. Moureaux



Vielsalm (VTO)
Site Coordinator :
C. Vincke



La Robinette (RTO)
Site Coordinator :
M. Carnol



Flux data ; Micrometeorology ; Data quality check

- Done :
 - Upgrade of LTO
 - Upgrade of VTO
- In progress:
 - Upgrade of RTO
 - Data quality check procedure
 - Harmonisation of historical data (VTO, LTO)
 - Preparation of a scientific paper on IRGA protocol



Biomass sampling and treatment; biometric data

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- Done :
 - Sampling plots installation (3 sites)
 - Sampling treatment laboratory ready (washing, grinding, drying, storage)
 - Biomass inventory (VTO, RTO)
 - Biomass sampling (LTO)
- In progress:
 - Sampling at all sites (2015)
 - Participation to sampling protocols



Participation to ICOS ETC / MSA

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- Coordination of IRGA ICOS Protocol
- Participation to other protocols (storage, micromet,...)
- Participation to biomass sampling protocols

Vielsalm – Additional recent and future activities

- Water Balance (Sap flow, Eddy covariance, Modelling, Soil water content); **Rémy Soubie**.(FRIA)
- Comparison between different methods of phenology analysis;
- Interannual variability of carbon sequestration (18 years); **Quentin Hurdebise**.



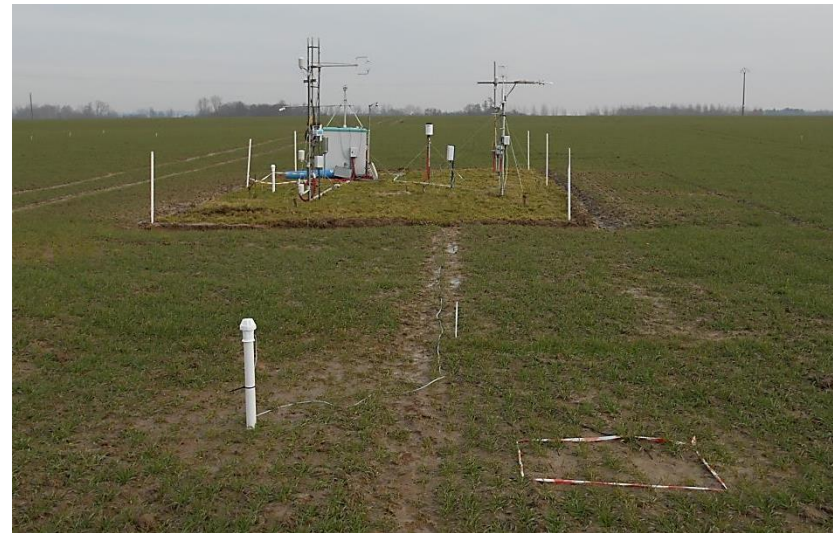
Vielsalm – Additional recent and future activities

- BVOC measurement campaigns (in coll. with BISA,); **Quentin Laffineur** (BELSPO)
- Soil CO₂ efflux, soil CO₂ profiles and isotopes (coll. INRA, Univ Freiburg); **Stéphanie Goffin**. (FRIA).
- Methodological considerations (data quality).



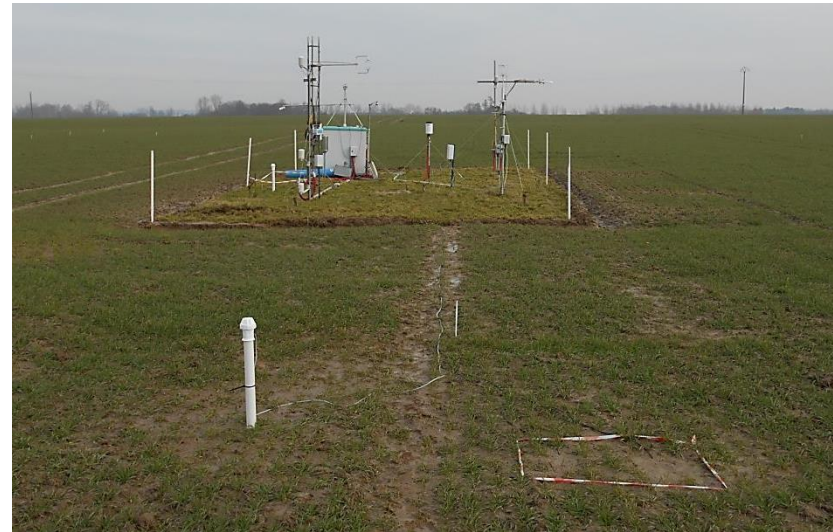
Lonzée – Additional recent and future activities

- Carbon balance of crop rotation (**Christine Moureaux**) (ARC)
- Discrimination of TER between autotrophic and heterotrophic components; (**Marie Suleau**). (ARC)
- Soil sampling (Phenology Underground – J Weedon, UA coord);
- BVOC measurement campaign (coll. BISA,); **Aurélie Bachy**. (FNRS)



Lonzée – Additional recent and future activities

- N₂O measurements
 - QCLAS validation (coll. Univ. Reims); Giovanni Salerno (PHC)
 - Chamber measurements ;(AgriGES program); Donat Regaert (ARC)
 - Continuous EC measurements (NO(EC)₂ project. (FNRS); Margaux Lognoul



La Robinette – Additional activities

- Deposition and losses of nutrients and DOC;
- Nutrients and DOC in soil solution and at outlet;
- Soil respiration;
- Nutrient deposition through litter;
- Soil Carbon content;
- Biogeochemical processes;
- Critical Load assessment;
- Biological indicator of soil quality.



Non ICOS site : Grazed Grassland at Dorinne (SPW DG03)

- EC and micrometeorological measurements; Ossénatou Mamadou, **Elisabeth Jérôme (SPW)**
- Impact of grazing on net ecosystem exchange; **Elisabeth Jérôme (SPW)**
- Grassland Carbon Balance;
- Impact on GHG emission of grazing management. **Louis Gourlez de la Motte.**
- Methane emission by cows in the field ; **Pierre Dumortier (ARC)**
- BVOC emission by grassland (coll. BISA,); **Aurélie Bachy (FNRS)**



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