



Project Number 282910

ÉCLAIRE

Effects of Climate Change on Air Pollution Impacts and Response Strategies for European Ecosystems

Seventh Framework Programme

Theme: Environment

D10.2 One year ecosystem response data on plant responses to experimental changes

Due date of deliverable: **01/04/2013**

Actual submission date: **05/07/2013**

Start Date of Project: **01/10/2011**

Duration: **48 months**

Organisation name of lead contractor for this deliverable :
DTU

Project co-funded by the European Commission within the Seventh Framework Programme		
Dissemination Level		
PU	Public	<input type="checkbox"/>
PP	Restricted to other programme participants (including the Commission Services)	<input checked="" type="checkbox"/>
RE	Restricted to a group specified by the consortium (including the Commission Services)	<input type="checkbox"/>
CO	Confidential, only for members of the consortium (including the Commission Services)	<input type="checkbox"/>

1. Executive Summary

Application of ecosystem models to ecosystem experiments requires 3 types of data:

- Site characteristics: Variables describing key characteristics of plants, soils, atmosphere, water etc,
- Driving variables: Climate and management variables providing the “pressure” on the system
- Response variables: Measurements of various responses in the ecosystem as a consequence of the change in drivers.

Response variables are need for the ecosystem models to evaluate and validate the model structure and model outputs. These variables are determined in part by the scientific focus of the project (research questions) and in part by the models.

The response data agreed within ECLAIRE are:

Physical response data:

- Soil temperature
- Soil moisture

Ecophysiological data

- Photosynthesis
- Stomatal conductance

Carbon storage data

- Soil and plant carbon pools
- TOC fluxes

The response data are uploaded to the ECLAIRE database.

Objectives:

Providing response data from the experiments to the modellers

2. Activities:

Upload response data from all ecosystem experiments

3. Results:

Data from the experiments uploaded to the database or made available otherwise:

	Exp. design	Species	Treatment	Soil T	Soil mois.	Photosynt.	Stom. Conduct.	Soil and plant carbon pools	TOC fluxes
Forest									
<i>Brescia (IT)</i>	<i>OTC</i>	<i>Quercus robur</i>	<i>O3, N</i>						
<i>Brescia (IT)</i>	<i>OTC</i>	<i>Carpinus betulus</i>	<i>O3, N</i>						
<i>Bangor (UK)</i>	<i>OTC</i>	<i>Betula pendula</i>	<i>O3, N</i>						
Shrubland									
<i>Brandbjerg (DK)</i>	Open air	<i>Deschampsia Flex., Calluna Vulg.</i>	<i>CO2, T, H2O (O3)</i>	Hourly 2006-2013	Hourly 2006-2013	Monthly Campaigns 2006-2008 + 2011-2013	Monthly Campaigns 2006-2008 + 2011-2013	Annual 2006-2013	Monthly 2006-2013
Grassland									
Swiss Alps (CH)	Open air		<i>O3, N</i>						
<i>Madrid (ES)</i>		Trifol. striatum, Trifol. cherleri, Ornit. Compres., Cynos. Echin., Briza max., Sil. gallica	<i>O3, N</i>						
Agriculture									
<i>Risø (DK)</i>	<i>Ecotrone</i>	<i>Barley, Oil seed rape</i>	<i>T, H2O, CO2, O3</i>	<i>Data available on request. Results are reported in: Add references</i>					
<i>Madrid (ES)</i>	<i>OTC</i>	<i>lettuce, spinach, escarole and</i>	<i>O3, N</i>						

		<i>chard</i>							
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4. Milestones achieved:

Data uploaded

5. Deviations and reasons:

Delay because of delays in experimental setup and in database setup

6. Publications:

None

7. Meetings:

None

8. List of Documents/Annexes:

ECLAIRE Database

References: