Project Number 282910

ÉCLAIRE

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

Seventh Framework Programme

Theme: Environment

D23.5: Concept for an ÉCLAIRE Summer School in year 2

Due date of deliverable: **30/09/2012** Actual submission date: **07/12/2012**

Start Date of Project: **01/10/2011** Duration: **48 months**

Organisation name of lead contractor for this deliverable :
UNIVERSIDAD POLITECNICA DE MADRID (UPM)

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Dissemination Level		
PU	Public	☒
PP	Restricted to other programme participants (including the Commission Services)	☐
RE	Restricted to a group specified by the consortium (including the Commission Services)	☐
CO	Confidential, only for members of the consortium (including the Commission Services)	☐

1. Objectives:

The objective of this deliverable is to define the concept of the ÉCLAIRE Summer School scheduled for 2013. This concept is based on the training needs identified in the young scientists' training survey, the results of which are described in the ÉCLAIRE Training Plan (D23.1).

2. Summer School Concept

Title: Measurement and modelling of biosphere-atmosphere exchanges of trace gases and aerosols

Location and event hosts: INRA Thiverval-Grignon (near Paris), France

Duration: 2 weeks (Potential dates: 1-12 July 2013 or 20-31 May 2013)

Maximum number of students: 40

Preliminary Course Structure:

Modules	Sessions	Type
1. Modelling soil-plant-atmosphere exchange of reactive trace gases	a) Basic theory (turbulent transfer, resistance analogy, stomatal and boundary layer resistances)	Theory
	b) Experience with a SVAT model: the Surfatm-O_3 model	Practical class using data from 2a
	c) Modelling NH_3 emissions from soils and slurry. The SAVA model for NH_3	Practical class
2. Advanced techniques in soil-plant-atmosphere exchange of reactive trace gases	a) NO_x and O_3 eddy covariance flux measurement	Lab and field work to provide data for 1b
	b) NH_3 volatilisation measurements by inverse modelling	Practical class
	c) Aerosol particle flux measurements	Lab and field work
3. Ecosystem functioning with emphasis on nitrogen and ozone	a) Ecosystem functioning, plant physiology and ozone impacts (Course)	Theory
	b) Modelling crops and nitrogen at the country scale (CERES-EGC)	Practical class
	c) Experience with another model from the ÉCLAIRE Community (e.g. Orchidee)	Practical class
4. Pollutants and GHG exchanges at several scales and validation methods	a) Modelling N transfer at the landscape scale	Theory
	b) Measuring NH_3 with badges at the landscape scale	Lab and field work
	c) Monitoring methods for NO_x, O_3, SO_2, NH_3, VOCs, aerosols (NEU methodology)	Theory + data analysis
5. Introduction to statistical methods	a) Basics statistics (course)	Theory
	b) Statistical methods for data analysis (course)	Theory
	c) Statistical method for model evaluation	Theory + practical

3. Approximate cost

An approximate estimate of the cost (EUR) of the event is presented below to aid the allocation of resources. These costs are based on an estimated 30 external (i.e. from outside Paris) students and 4 external lecturers. Local students and lecturers are assumed not to require travel and subsistence costs.

		Number	Unit cost	Days	Cost
Travel Costs	Students	30	300		9000
	Lecturers	4	300		1200
Accommodation	Students (2 per room)	15	80	12	14400
	Lecturers (1 per room)	4	80	12	3840
Subsistence	Students	30	50	12	18000
	Lecturers	4	50	12	2400
Other costs (e.g. Local admin costs, Venue hire, Transport)					5000
				Total	**53840**

The event will be funded by a combination of unallocated Training budget, INRA science budget and potential co-funders (EGU, COST Action ABBA, …) (to be confirmed).

4. Deviations and reasons:

This deliverable has been produced approximately two months later than planned in order to receive feedback on the summer school concept following its announcement at the 2nd General Assembly held in Edinburgh in October 2012.

5. Publications:

No publications have arisen from this deliverable.

6. Meetings:

No meetings were necessary for this deliverable.

7. List of Documents/Annexes:

None