



SEVENTH FRAMEWORK PROGRAMME

THEME 6: Environment (including Climate Change)



Adaptive strategies to Mitigate the Impacts of Climate Change on European Freshwater Ecosystems

Collaborative Project (large-scale integrating project)
Grant Agreement 244121
Duration: February 1st, 2010 – January 31st, 2014

Deliverable 2.2a: Database for results of experimental data

Lead contractor: **Alterra**

Other contractors involved: **Swedish University of Agricultural Sciences (SLU); Consejo Superior de Investigaciones Científicas (CSIC); Centre National de Recherche Scientifique, Evolution and Diversité Biologique (CNRS-EDB) ; Aarhus Universitet- National Environmental Research Institute (AU); University of Duisburg-Essen, Department of Applied Zoology/ Hydrobiology (UDE)**

Due date of deliverable: **Month 9**
Actual submission date: **Month 12**

Work package: WP2.1 (*Temperature constraints on management success in rivers*); WP2.3 (*Nutrients and organic material constraints on management success in rivers*)

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Estimated person months: 2

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Dissemination Level (add X to PU, PP, RE or CO)

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)

WP2 WATER MANAGEMENT AND CLIMATE CHANGE IMPACTS IN RIVERS

Introduction

WP2 aims to understand better processes of multiple stresses, induced by climate and land-use/management change, upon managed and restored European river ecosystems. WP2 focuses on ecosystem metabolisms as a key ecosystem function, in particular on the different sensitivity of primary production, respiration and trophic structure and interaction parameters to changes in flow, temperature and nutrients. A four-tiered methodological approach will be used to link these processes to adaptation, mitigation and restoration measures:

- (i) broad reviews of the effects of climate change on river ecosystem functioning/biodiversity,
- (ii) time-series and space-for-time substitution analyses of existing data series to extract thresholds, indicators and reference conditions,
- (iii) intensive field experimental studies focused on small lowland streams to disentangle key (multiple) drivers and ecosystem responses (Figure 5), and
- (iv) associated mesocosm experiments to assess functioning of multiple stress effects on selected indicators.

There are six tasks. Tasks 1-3 include combined experiments with WP4. The field experiments will be repeated in six climate regions along the latitudinal climate gradient and under two levels of nutrient load (equivalent to two different land-use/management regimes with two lowland streams per climate region). The mesocosm experiments will be conducted at three out of six sites, along this gradient. The focus will be on five 'core topics': biogeochemical functioning, habitat structure and functioning, connectivity, ecosystem metabolism and biodiversity.

This deliverable includes the database for results of experimental data. The focus are the shading-temperature-nutrient relations studied in Task 1 and Task of WP2.

The components and the database structure are given in the following two figures, respectively:

Microsoft Access - [shading database : Database (Access 2000 file format)]

File Edit View Insert Tools Window Help

Open Design New

Objects	Name	Description
Tables	Create table in Design view	
	Create table by using wizard	
	Create table by entering data	
	dates translation	
	diatom catch	
	diatom sample	
	logger data	
	logger readout data	
	logger readout velocity and depth data	
	macrofauna abio per logger	oxygen, temperature, width, substrate estimation (parameters measured by each logger)
	macrofauna abio per surber	depth, current velocity, substrate estimation (parameters measured for each surber)
	macrofauna catch	
	macrofauna sample	
	macrophyte inventory	
	Q data	
	Q location	
	STR 1	data from the temperature and light intensity loggers
	STR 10	data from the temperature and light intensity loggers
	STR 11	data from the temperature and light intensity loggers
	STR 12	data from the temperature and light intensity loggers
	STR 2	data from the temperature and light intensity loggers
	STR 3	data from the temperature and light intensity loggers
	STR 4	data from the temperature and light intensity loggers
	STR 5	data from the temperature and light intensity loggers
	STR 6	data from the temperature and light intensity loggers
	STR 7	data from the temperature and light intensity loggers
	STR 8	data from the temperature and light intensity loggers
	STR 9	data from the temperature and light intensity loggers
	streams general info	
	substrate estimations	
	water chemistry	data from water samples, pH and EC



