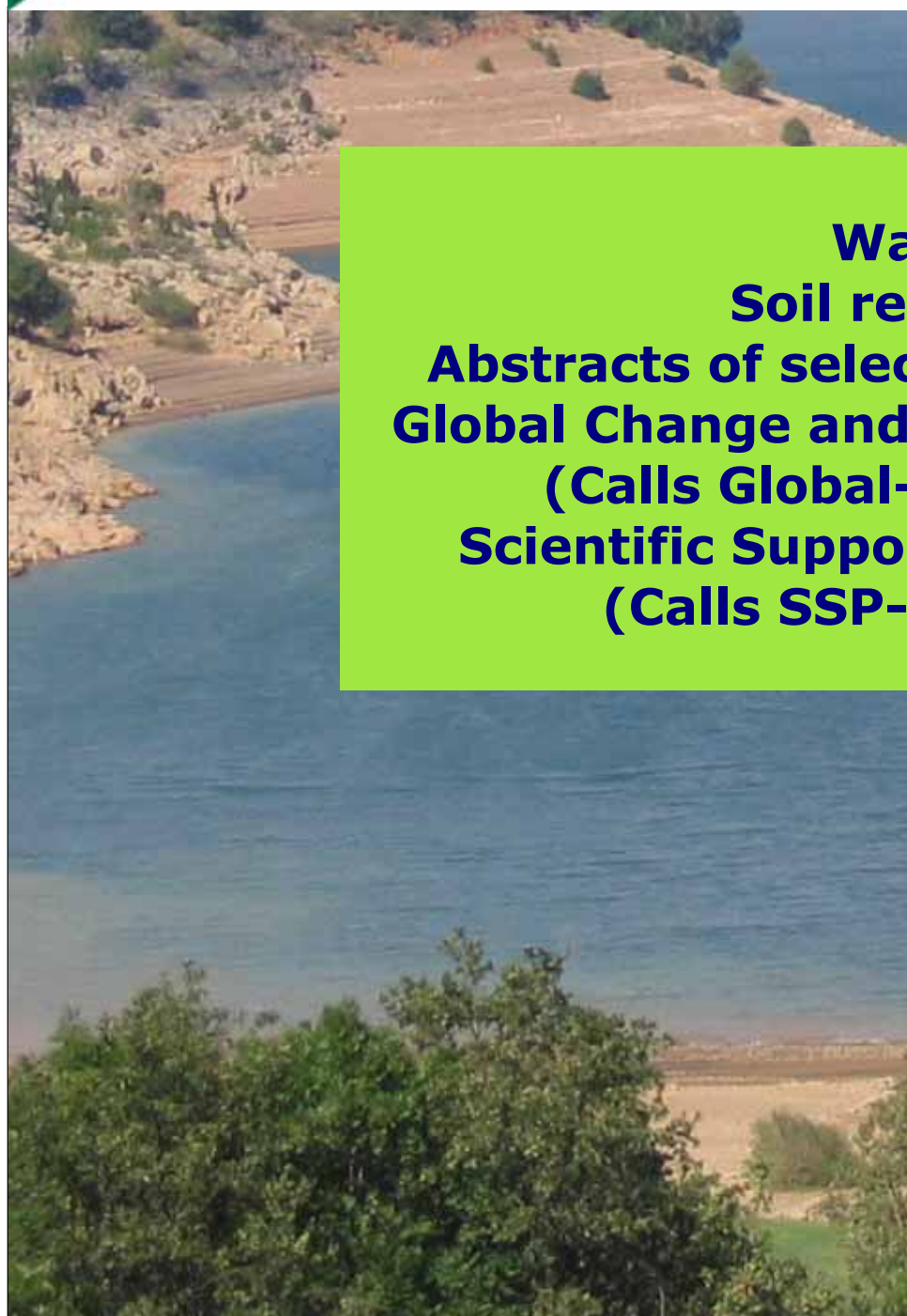




EUROPEAN  
COMMISSION

Community research



**Water cycle and  
Soil related aspects  
Abstracts of selected projects  
Global Change and Ecosystems  
(Calls Global-1 and 2) and  
Scientific Support to Policies  
(Calls SSP-1 and SSP-2)**

15/02/2006

**GLOBAL CHANGE AND ECOSYSTEMS**



Project URL:

<http://www.eurodemo.info/>

Title:	<b>European Platform for Demonstration of Efficient Soil and Groundwater Remediation</b>		
Area:	Water cycle, including soil-related aspects - Soil-groundwater protection and rehabilitation		
Instrument:	Co-ordination Action (CA)		
Project total cost:	988.899 €	Contract start date:	1/01/2005
EU contribution:	988.899 €	Duration:	36 months
Organisation:	Umweltbundesamt GmbH	Wien - Austria	
Co-ordinator:	Mr. Dietmar Müller		

## Abstract

EURODEMO aims to be the principal co-ordination activity concerning technology demonstration in the field of soil and groundwater management in the European Union. EURODEMO aims to achieve more efficiency with regard to funding targeted to technology demonstration, to improve the access to results from demonstration projects and to establish harmonised protocols for the documentation of demonstration results and the verification of demonstrated technology. Key activities will include (i) the co-ordination of scattered co-existing European funding programmes, (ii) the optimisation of demonstration funding by avoiding duplications and overlaps, (iii) the establishment of harmonised protocols for the documentation of demonstration results and for verification of technology efficiency and performance. Key clients benefiting from EURODEMO will be " funding organisations who can target their funds more efficiently by avoiding overlaps, by receiving reliable information on (European/global) demonstration demands, by establishing joint funding programmes, " potential technology demonstrators who can benefit from the better overview of funding opportunities, and " end users by having more confidence in demonstration results due to harmonised verification of and by having better access to demonstration results.

## Partners

Nb	Organisation	Town	Country
1	Umweltbundesamt GmbH	Wien	Austria
2	Contaminated Land: Applications in Real environments	London	United Kingdom
3	Bureau de Recherches Geologiques et Minieres	Paris	France
4	exSite Research Limited	Hilliam, Leeds	United Kingdom
5	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek	Delft	Netherlands
6	Openbare Afvalstoffenmaatschappij voor het Vlaamse Gewest	Mechelen	Belgium
7	r3 environmental technology Limited	Reading	United Kingdom
8	Land Quality Management Ltd	Nottingham	United Kingdom
9	Institut pro udržitelný rozvoj sídel o.s. Institute for Sustainable Development of Settlements	Praha 10	Czech Republic
10	Universität Stuttgart	Stuttgart	Germany
11	Fachhochschule Nordostniedersachsen	Lüneburg	Germany
12	Latvijas Universitate	Riga	Latvia
13	Bundesministerium für Land und Forstwirtschaft, Umwelt und Wasserwirtschaft	Wien	Austria
14	Institute for Ecology of Industrial Areas	Katowice	Poland
15	AGENCE DE L'ENVIRONNEMENT ET DE LA MAITRISE DE L'ENERGIE'	Angers	France
16	DEKONTA, a.s.	Usti Nad Labem	Czech Republic
17	Lietuvos Geologijos Tarnyba	Vilnius	Lithuania
18	Univerza v Ljubljani	Ljubljana	Slovenia
19	ALMA MATER STUDIORUM - Università di Bologna	Bologna	Italy
20	BUDAPESTI MUSZAKI ÉS GAZDASÁGTUDOMÁNYI EGYETEM (Budapest University of Technology and Economics)	Budapest	Hungary
21	Consorzio Venezia Ricerche	Venezia Marghera	Italy
22	Consiglio Nazionale delle Ricerche	Rome	Italy
23	Umweltbundesamt	Berlin	Germany
24	Stichting Kennisontwikkeling Kennisoverdracht Bodem	Gouda	Netherlands
25	MINISTERSTVO ŽIVOTNÍHO PROSTŘEDÍ ČESKÉ REPUBLIKY (Ministry of the Environment of the Czech Republic)	Prague 10	Czech Republic

Title:	<b>Biological procedures for diagnosing the status and predicting evolution of polluted environments</b>		
Area:	Water cycle, including soil-related aspects - Soil-groundwater protection and rehabilitation		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.665.000 €	Contract start date:	1/09/2004
EU contribution:	1.800.000 €	Duration:	36 months
Organisation:	Gesellschaft für Biotechnologische Forschung mbH	Braunschweig - Germany	
Co-ordinator:	Dr. Dietmar Helmut Pieper		

## Abstract

The objective of BIOTOOL is the generation and validation of novel conceptual and material instruments, rooted in biological processes, for diagnosing soil status and predicting evolution of contaminated soil and groundwater. The focus is on the assessment and evaluation of natural attenuation processes. This will require benchmarked monitoring tools and warning criteria to implement natural attenuation as the key groundwater and soil remediation strategy in Europe. It will be materialized through the application of a suite of state-of-the-art genomic, proteomic and analytical technologies to environmental samples and sites themselves. We will exploit the translocation of indicator chemicals from below ground into above-ground vegetation as a cheap and rapid monitoring tool for subsurface contamination. Diagnosis of the biological status and evolution models for polluted environments will be achieved through [i] the design and utilization of DNA and specifically DNA-array technology for examining the catabolic potential of any given particulate sample and [ii] the identification of protein biomarkers as descriptors of soil and groundwater quality and biological attenuation clocks. The progress in microbial community functional genomics and proteomics will be employed to gain a mechanistic understanding of prevailing stresses, global responses to chemical insults, plant/microbe interactions and microbial community adaptations that determine microbial-driven soil and groundwater processes. This will add a considerable predictive power to the genomic and proteomic approaches mentioned above. Determining the links between environmental factors and expression of degradation abilities will be crucial for strategies aiming at an optimal expression of the catalytic power of the indigenous microbial community. The robustness of diagnostic instruments for future normative applications will be validated in microcosms and used for ass

## Partners

Nb	Organisation	Town	Country
1	Gesellschaft für Biotechnologische Forschung mbH	Braunschweig	Germany
2	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
3	Technical University of Denmark	Kongens Lyngby	Denmark
4	Ecole Polytechnique Federale de Lausanne	Lausanne	Switzerland
5	Institute of Microbiology, AS CR	Prague 4	Czech Republic
6	National Environmental Research Institute	Roskilde	Denmark
7	UFZ - Umweltforschungszentrum Leipzig - Halle GmbH	Leipzig	Germany
8	KAP Ltd	Prague 7	Czech Republic
9	Bionostra, S.L.	Tres Cantos, (Madrid)	Spain

Title:	<b>SEDiment bioBARriers for Chlorinated Aliphatic Hydrocarbons in groundwater reaching surface water</b>		
Area:	Water cycle, including soil-related aspects - Soil-groundwater protection and rehabilitation		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	1.679.758 €	Contract start date:	1/01/2005
EU contribution:	1.098.691 €	Duration:	24 months
Organisation:	Vlaamse Instelling voor Technologisch Onderzoek	Mol - Belgium	
Co-ordinator:	Dr. Winnie Dejonghe		

## Abstract

Polluted groundwater in urban and industrial areas often represents a continuous source of (diffuse) contamination of surface waters. However, the fate of infiltrating groundwater pollutants might be influenced by the sediment in eutrophic water bodies. Such sediments form an interface between groundwater and surface water and possesses characteristic biological and physico-chemical degradation properties. Knowledge on natural attenuation of passing pollutants and the potential to stimulate and sustain occurring degradation processes are however scarce or non-existent. This is especially due to the lack of appropriate monitoring devices and tools to measure in situ mass balances of pollutants and reactants. In the SEDBARCAH project, we want to investigate the boundaries of the sediment zone as a barrier against the infiltration of chlorinated aliphatic hydrocarbons (CAH) into surface water and how we can turn this zone into a sustainable and efficient (stimulated) biobarrier technology for protection of surface waters from groundwater contamination. We will (i) determine the role of the microbial community present in sediments in the biodegradation of groundwater pollutants infiltrating a river bed; (ii) explore the boundary conditions and the possibility to increase and sustain removal activities in the sediment zone and (iii) select tools to follow such removal activities in situ. Therefore, a thorough investigation both in the field and in the laboratory of the physico-chemical and microbial processes occurring in these sediments will be performed and coupled to the CAH-degradation potential present in the sediment interface of two selected contaminated areas. In addition, methodologies to increase this degradation will be examined. The final goal of SEDBARCAH is to investigate the potentials of these (stimulated) sediment biobarriers as a groundwater remediation technology and a surface water pollution and risk prevention technology.

## Partners

Nb	Organisation	Town	Country
1	Vlaamse Instelling voor Technologisch Onderzoek	Mol	Belgium
2	Katholieke Universiteit Leuven	Leuven	Belgium
3	Wageningen University	Wageningen	Netherlands
4	AQUATEST a.s.	Praha 5	Czech Republic
5	GSF - Forschungszentrum fuer Umwelt und Gesundheit, GmbH	Neuherberg	Germany
6	C&E · Consulting und Engineering GmbH	Chemnitz	Germany
7	Umwelt- und Ingenieurtechnik GmbH Dresden	Dresden	Germany

Title:	<b>Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems</b>		
Area:	Water cycle, including soil-related aspects - Assessment of ecological impacts of global change on freshwater bodies, development of ecological indicators of ecosystem "health" and related remediation strategies		
Instrument:	Integrated Project (IP)		
Project total cost:	19.154.659 €	Contract start date:	1/02/2004
EU contribution:	12.647.141 €	Duration:	60 months
Organisation:	UNIVERSITY COLLEGE LONDON	London - United Kingdom	
Co-ordinator:	Dr Simon Patrick		

## Abstract

Freshwater ecosystems, under stress from land-use change and pollution, face additional pressures from climate change, directly and through interaction with other drivers of change. Euro-limpacs is concerned with the science required to understand and manage the ecological consequences of these interactions. It is relevant to the Water Framework Directive and other international directives and protocols and supports the EU's Charter on Sustainable Development. The Project comprises a consortium of leading scientists to integrate river, lake and wetland ecosystem science at the catchment scale. It focuses on the key drivers of aquatic ecosystem change (land-use, nutrients, acid deposition and toxic substances) and examines their interactions with global, especially climate, change using time-series analysis, space-for-time substitution, palaeolimnology, experiments and process modelling. It considers these interactions at 3 critical time-scales: (i) hours/days, concerned with changes in the magnitude and frequency of extreme events; (ii) seasons, concerned with changes in ecosystem function and life-cycle strategies of freshwater biota; (iii) years/decades, concerned with ecological response to environmental pressure, including stress reduction and ecosystem recovery. An innovative toolkit for integrated catchment analysis and modelling will be developed to simulate hydrological, hydrochemical and ecological processes at the catchment scale for use in assessing the potential impact of global change under different climate and socio-economic scenarios. A unified system of ecological indicators for monitoring freshwater ecosystem health, and new methods for defining reference conditions and restoration strategies will be developed. These will take into account the probable impacts of future climate change and the need for a holistic approach to restoration based on habitat connectivity. '

## Partners

Nb	Organisation	Town	Country
1	UNIVERSITY COLLEGE LONDON	London	United Kingdom
2	DANMARKS MILJØUNDERSØGELSE	Roskilde	Denmark
3	ROYAL HOLLOWAY AND BEDFORD NEW COLLEGE	Egham, Surrey	United Kingdom
4	UNIVERSITÄT DUISBURG-ESSEN	Essen	Germany
5	UNIVERSITY OF READING	Reading	United Kingdom
6	ALTERRA B.V.	Wageningen	Netherlands
7	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon	United Kingdom
8	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS	Madrid	Spain
9	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
10	NORSK INSTITUTT FOR VANNFORSKNING	Oslo	Norway
11	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
12	SUOMEN YMPÄRISTÖKESKUS	Helsinki	Finland
13	LEOPOLD FRANZENS UNIVERSITÄT INNSBRUCK	Innsbruck	Austria
14	THE UNIVERSITY OF LIVERPOOL	Liverpool	United Kingdom
15	UNIVERSITÄT FÜR BODENKULTUR	Vienna	Austria
16	CONSIGLIO NAZIONALE DELLE RICERCHE	Roma	Italy
17	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	Paris	France
18	EIDGENÖSSISCHE ANSTALT FÜR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWÄSSERSCHUTZ	Dübendorf	Switzerland
19	THE GOULANDRIS NATURAL HISTORY MUSEUM	Kifissia	Greece
20	ENTERA INGENIEURGESELLSCHAFT FÜR PLANUNG UND INFORMATIONSTECHNOLOGIE GbR	Hannover	Germany
21	HYDROBIOLOGICKÝ ÚSTAV, AKADEMIE VÍDEŇSKÉ REPUBLIKY	Ceske Budejovice	Czech Republic
22	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic



Project URL:

<http://www.eurolimpacs.ucl.ac.uk/>

23	HYDROMOD DR. K DUWE, K. PFEIFFER, J. POST, G. DUNKEL, DR DR H BAUMERT GBR	Wedel	Germany
24	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
25	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
26	MASARYKOVY UNIVERZITY V BRNE	Brno	Czech Republic
27	UNIVERSITAT DE BARCELONA	Barcelona	Spain
28	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH	Leipzig	Germany
29	UNIVERSIDAD DE GRANADA	Granada	Spain
30	UNIVERSITY OF ICELAND	Reykjavik	Iceland
31	UNIVERSITATEA DIN BUCURESTI	Bucharest	Romania
32	UNIVERSITE DE RENNES 1	Rennes	France
33	UNIVERSITEIT UTRECHT	N/A	Netherlands
34	WATER PROBLEMS INSTITUTE OF THE RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federatio
35	TRENT UNIVERSITY	Petersborough, Ontario	Canada
36	CESKA GEOLOGICKA SLUZBA	Prague	Czech Republic
37	MACAULAY INSTITUTE	Aberdeen	United Kingdom





Title:	IN SITU STIMULATION AND REMEDIATION OF CONTAMINATED FRACTURED SOILS		
Area:	Water cycle, including soil-related aspects - Ecological impact of global change, soil functioning and water quality		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.124.430 €	Contract start date:	1/06/2004
EU contribution:	1.100.000 €	Duration:	36 months
Organisation:	Geological Survey of Denmark and Greenland	Copenhagen K - Denmark	
Co-ordinator:	Dr. Edmund Gosk		

## Abstract

This project proposes pre-normative work aiming to design on site soil stimulation techniques for the cost-effective in situ remediation of NAPL-contaminated fractured soils of low permeability. Field-scale studies will be performed on fractured clay till site that has been heavily contaminated by NAPL. Integrated methods of multi-scale characterisation of fractured media will be employed to establish regional and local hydrological/geological models, and quantify the existing fracture networks. Chemical analyses on soil and groundwater samples and predictions of an existing macroscopic simulator of NAPL transport in fractured media (SIMUSCOPP) will set the initial conditions of contamination. The microbiological activity will be identified to evaluate the soil/water capacity for NAPL biodegradation. Hydraulic fracturing on three sites will be made and three soil stimulation scenarios differing with respect to the remediation methodology, will be carried out on all sites. The most adequate strategy will be recommended. From micro-structural properties/hydrodynamic conditions /fluid properties, and using lab-scale techniques/computational methods of the statistical physics of disordered media, the effective transport coefficients of four soil components will be determined: clay till, sand, natural fractures, artificial hydraulic fractures. From the local properties, the up-scaled transport coefficients will be determined and introduced as input data in the SIMUSCOPP simulator. The SIMUSCOPP will be extended to take into account (i) the artificial hydraulic fractures, and (ii) various remediation scenarios. Monitoring of the chemical status of soil and groundwater, and numerical predictions of the updated simulator will form databases which, in combination with cost benefit analysis, will enable us to set the criteria for the selection of the most cost-effective strategy of stimulation/remediation on similar NAPL contaminated sites.

## Partners

Nb	Organisation	Town	Country
1	Geological Survey of Denmark and Greenland	Copenhagen K	Denmark
2	Foundation for Research and Technology Hellas	Heraklion	Greece
3	Institut Français du Pétrole	Rueil Malmaison	France
4	Brøndborefirmaet Brøker	Holbæk	Denmark
5	HYDROGEOTECHNIKA Sp. z o. o.	Kielce	Poland

Title:	<b>Understanding river-sediment-soil-groundwater interactions for support of management of waterbodies (river basin &amp; catchment areas)</b>		
Area:	Water cycle, including soil-related aspects - River-soil-groundwater system functioning		
Instrument:	Integrated Project (IP)		
Project total cost:	20.222.364 €	Contract start date:	1/06/2004
EU contribution:	12.999.992 €	Duration:	60 months
Organisation:	Attempto Service GmbH	Tübingen - Germany	
Co-ordinator:	MA Elisabeth Frank		

## Abstract

Changes in climatic conditions, land use practices and soil and sediment pollution have large scale adverse impacts on water quantity and quality. The current knowledge base in river basin management is not adequate to deal with these impacts. AquaTerra is both integrating and developing knowledge to resolve this and disseminating it to stakeholders. In the water cycle, soil is a key element affecting groundwater recharge and the chemical composition of both subsurface and surface waters (the latter is additionally affected by sediments). The proper functioning of the river-sediment-soil- groundwater system is linked to key biogeochemical processes determining the filter, buffer and transformation capacity of soils and sediments. AquaTerra aims at a better understanding of the system as a whole by identifying relevant processes, quantifying the associated parameters and developing numerical models of the groundwater-soil-sediment-river system to identify adverse trends in soil functioning, water quantity and quality. The modelling addresses all relevant scales starting from micro-scale water/solid interactions, the transport of dissolved species, pollutants as well as suspended matter in soil and groundwater systems at the catchment scale, and finally the regional scale, with case studies located in major river basins in Europe. With this integrated modelling system, AquaTerra provides the basis for improved river basin management, enhanced soil and groundwater monitoring programs and the early identification and forecasting of impacts on water quantity and quality during this century. AquaTerra is committed to the dissemination and exploitation of project results through structured workshops, dedicated short courses, and the active participation of consortium partners in national and international conferences. The quality and direction of the project is supervised by a peer review panel.

## Partners

Nb	Organisation	Town	Country
1	Attempto Service GmbH	Tübingen	Germany
2	Eberhard Karls Universität Tübingen	Tübingen	Germany
3	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	Paris	France
4	Netherlands Organisation for Applied Scientific Research	Delft	Netherlands
5	University of Newcastle upon Tyne	Newcastle Upon Tyne	United Kingdom
6	Lancaster University	Lancaster	United Kingdom
7	Czech Technical University in Prague	Prague	Czech Republic
8	Danmarks Tekniske Universitet (Technical University of Denmark)	Kgs. Lyngby	Denmark
9	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Madrid	Spain
10	Wageningen University	Wageningen	Netherlands
11	Umweltforschungszentrum Halle Leipzig GmbH	Leipzig	Germany
12	Technische Universität Hamburg-Harburg represented by TUHH-Technologie GmbH	Hamburg	Germany
13	Eidgenössische Technische Hochschule Zürich	Zürich	Switzerland
14	Institute for Ecology of Industrial Areas	Katowice	Poland
15	Université de Neuchâtel	Neuchâtel	Switzerland
16	AGENCIA CATALANA DE L'AIGUA'	Barcelona	Spain
17	Akademia Górniczo-Hutnicza	Cracow	Poland
18	Europa Fachhochschule Fresenius	Idstein	Germany
19	Vlaamse instelling voor technologisch onderzoek	Mol	Belgium
20	BOKU - University of Natural Resources and Applied Life Sciences, Vienna	Vienna	Austria
21	Utrecht University	Utrecht	Netherlands
22	University of Liège	Liège	Belgium
23	UNIVERSITE LIBRE DE BRUXELLES	Brussels	Belgium
24	Université Henri Poincaré NANCY 1	Nancy	France
25	Faculté Universitaire Agronomiques de Gembloux	Gembloux	Belgium





Project URL:

<http://www.eu-aquaterra.de>

26	Université d'Avignon et des Pays de Vaucluse'	Avignon	France
27	Vrije universiteit Amsterdam	Amsterdam	Netherlands
28	Università degli Studi di Trento - Dipartimento di Ingegneria Civile ed Ambientale	Trento	Italy
29	Università degli Studi Padova	Padova	Italy
30	Vyzkumny ústav vodohospodársky T.G.Masaryka	Praha 6	Czech Republic
31	Institut Scientifique de Service Public	Liege	Belgium
32	Institute for Inland Water Management and Waste Water Treatment	Lelystad	Netherlands
33	Provincie Noord-Brabant	'S-Hertogenbosch	Netherlands
34	INSTITUT NATIONAL DE CERCETARE - DEZVOLTARE PENTRU PROTECTIA MEDIULUI - ICIM Bucuresti	Bucharest	Romania
35	Ministry for Protection of Natural Resources and Environment Republic of Serbia	Belgrade	Serbia and Monte
36	Water Research Institute	Bratislava	Slovakia
37	Technical University of Munich	München	Germany
38	ACTeon	Orbey	France
39	LAOP Consulting & Research - Laboratories for Applied Organic Petrology	Lauta	Germany
40	r3 environmental technology Limited	Reading	United Kingdom
41	AGUAS DE BARCELONA	Barcelona	Spain
42	GOBIO GmbH - Institut für Gewässeroekologie und angewandte Biologie	Hohenstein	Germany
43	AQUATEST a.s.	Prague	Czech Republic
44	Environmental Institute	Kos	Slovakia
45	WASY Gesellschaft für wasserwirtschaftliche Planung und Systemforschung mbH	Berlin	Germany

Title:	<b>New Approaches to Adaptive Water Management under Uncertainty</b>		
Area:	Water cycle, including soil-related aspects - Methodologies of integrated water resource management and transboundary issues		
Instrument:	Integrated Project (IP)		
Project total cost:	15.914.530 €	Contract start date:	1/01/2005
EU contribution:	11.999.961 €	Duration:	48 months
Organisation:	University of Osnabrueck	Osnabrueck - Germany	
Co-ordinator:	Prof. Claudia Pahl-Wostl		

## Abstract

The central tenet of the NeWater project is a transition from currently prevailing regimes of river basin water management into more adaptive regimes in the future. This transition calls for a highly integrated water resources management concept. NeWater identifies key typical elements of the current water management system and focuses its research on processes of transition of these elements to adaptive IWRM. Each key element is studied by novel approaches. Key IWRM areas where NeWater is expected to deliver breakthrough results include: 1. governance in water management (methods to arrive at polycentric, horizontal broad stakeholder participation in IWRM) 2. sectoral integration (integration of IWRM and spatial planning; integration with climate change adaptation strategies, cross-sectoral optimisation and cost-benefit analysis) 3. scales of analysis in IWRM (methods to resolve resource use conflicts; transboundary issues) 4. information management (multi stakeholder dialogue, multi-agent systems modelling; role of games in decision making; novel monitoring systems for decision systems in water management) 5. infrastructure (innovative methods for river basin buffering capacity; role of storage in adaptation to climate variability and climate extremes) 6. finances and risk mitigation strategies in water management (new instruments, role of public- private arrangements in risk-sharing) 7. stakeholder participation; promoting new ways of bridging between science, policy and implementation The development of concepts and tools that guide an integrated analysis and support a stepwise process of change in water management is the corner-stone of research activities in the NeWater project. To achieve its objectives the project is structured into six work blocks, and it adopts a management structure that allows effective exchange between innovative and cutting edge research on integrative water management concepts, with practical applications and testing through participatory stakeholders processes and selected river basins.

## Partners

Nb	Organisation	Town	Country
1	University of Osnabrueck	Osnabrueck	Germany
2	Alterra BV	Wageningen	Netherlands
3	Natural Environment Research Council	Swindon	United Kingdom
4	Centre National du Machinisme Agricole, du Génie Rural des Eaux et des Forêts	Antony	France
5	Geological Survey of Denmark and Greenland	Copenhagen K	Denmark
6	HR Wallingford Ltd	Wallingford, Oxfordshire	United Kingdom
7	International Institute for Applied Systems Analysis	Laxenburg	Austria
8	York University	York	United Kingdom
9	Tashkent Institute of Irrigation and Melioration	Tashkent	Uzbekistan
11	Universitaet Kassel	Kassel	Germany
12	Katholieke Universiteit Leuven	Leuven	Belgium
13	Cranfield University	Bedford	United Kingdom
14	Ecologic- Institute for International and European Environmental Policy	Berlin	Germany
15	Fondazione Eni Enrico Mattei	Milan	Italy
17	Maastricht University	Maastricht	Netherlands
18	Institute of Hydrodynamics, Academy of Sciences of the Czech Republic	Prague 6	Czech Republic
19	Institute of Natural Resources	Pietermaritzburg	South Africa
20	National Research Council	Roma	Italy
21	Instituto de Soldadura e Qualidade	Porto Salvo	Portugal
22	IUCN - International Union for the Conservation of Nature and Natural Resources	Gland	Switzerland
24	Manchester Metropolitan University	Manchester	United Kingdom
25	Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V.	München	Germany
26	National Scientific Centre for Medical and Biotechnical Research/National Academy of Sciences of Ukraine	Kiev	Ukraine



Project URL:

<http://www.newater.info/project/project.htm>

27	Potsdam Institute for Climate Impact Research	Potsdam	Germany
28	Technische Universiteit Delft	Delft	Netherlands
29	Rijksinstituut voor Integraal Zoetwaterbeheer en Afvalwaterbehandeling	Lelystad	Netherlands
30	Seecon Deutschland GmbH	Osnabrueck	Germany
32	Vyzkumny ustav vodohospodarsky T.G. Masaryka (T.G. Masaryk Water Research Institute)	Prague 6	Czech Republic
33	Universidad Complutense de Madrid	Madrid	Spain
34	UFZ - Umweltforschungszentrum Leipzig-Halle GmbH	Leipzig	Germany
36	Umeaa University	Umeaa	Sweden
37	UNIVERSITY OF EXETER	Exeter	United Kingdom
38	Universidad Politécnica de Madrid	Madrid	Spain
39	University of Twente	Enschede	Netherlands
40	Vrije Universiteit Amsterdam - Institute for Environmental Studies	Amsterdam	Netherlands
42	Wageningen University	Wageningen	Netherlands
43	Rheinische Friedrich-Wilhelms-Universität	Bonn	Germany



Title:	<b>Mitigation of Water Stress through new Approaches to Integrating Management, Technical, Economic and Institutional Instruments</b>		
Area:	Water cycle, including soil-related aspects - New approaches to water stress		
Instrument:	Integrated Project (IP)		
Project total cost:	14.086.618 €	Contract start date:	1/02/2005
EU contribution:	10.300.000 €	Duration:	48 months
Organisation:	CONSIGLIO NAZIONALE DELLE RICERCHE	Roma - Italy	
Co-ordinator:	Prof. Roberto Passino		

## Abstract

Water stress is a global problem with far-reaching economic and social implications. The mitigation of water stress at regional scale depends not just on technological innovations, but also on the development of new integrated water management tools and decision-making practices. The AquaStress IP delivers enhanced interdisciplinary methodologies enabling actors at different levels of involvement and at different stages of the planning process to mitigate water stress problems. This IP draws on both academic and practitioner skills to generate knowledge in technological, operational management, policy, socio-economic, and environmental domains. Contributions come from 36 renowned organizations from 17 Countries, including 6 SMEs. The IP will generate scientific innovations to improve the understanding of water stress from an integrated multisectoral perspective to support: - diagnosis and characterisation of sources and causes of water stress - assessment of the effectiveness of water stress management measures and development of new tailored options - development of supporting methods and tools to evaluate different mitigation options and their potential interactions - development and dissemination of guidelines, protocols, and policies - development of a participatory process to implement solutions tailored to environmental, cultural, economic and institutional settings - identification of barriers to policy mechanism implementation - continuous involvement of citizens and institutions within a social learning process that promotes new forms of water culture and nurtures long-term change and social adaptivity. The IP adopts a Case Study stakeholder driven approach and is organised in three phases; (i) characterisation of selected reference sites and relative water stress problems, (ii) collaborative identification of preferred solution options, (iii) testing of solutions according to stakeholder interests and expectations.

## Partners

Nb	Organisation	Town	Country
1	CONSIGLIO NAZIONALE DELLE RICERCHE	Roma	Italy
2	UNIVERSITY OF READING	Reading	United Kingdom
3	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	Lelystad	Netherlands
4	CRANFIELD UNIVERSITY	Bedford	United Kingdom
5	UNIVERSITY OF PIRAEUS	Piraeus	Greece
6	UNIVERSITY COLLEGE LONDON	London	United Kingdom
7	UNIVERSITAET OSNABRUECK	Osnabrueck	Germany
8	ALTERRA B.V.	Wageningen	Netherlands
9	RHEINISCH - WESTFALISCHE TECHNISCHE HOCHSCHULE AACHEN	Aachen	Germany
10	CENTRE NATIONAL DU MACHINISME AGRICOLE, DU GENIE RURAL DES EAUX ET DES FORETS	Antony	France
11	NATURAL ENVIRONMENT RESEARCH COUNCIL	Wallingford	United Kingdom
13	UNIVERSITAET HANNOVER	Hannover	Germany
14	UNIVERSITY OF EXETER	Exeter	United Kingdom
15	UNIVERSITAT DE BARCELONA	Barcelona	Spain
16	SC APA NOVA BUCURESTI SA	Bucharest	Romania
17	GEONARDO ENVIRONMENTAL TECHNOLOGIES LTD	Budapest	Hungary
18	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
19	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
20	AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA	Roma	Italy
21	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Athens	Greece
22	ISTITUTO AGRONOMO MEDITERRANEO DE BARI	Valenzano	Italy
23	HYDRODATA SPA	Torino	Italy



Project URL:

<http://www.aquastress.net/>

24	CENTRE DE COOPERATION INTERNATIONALE EN RECHERCHE AGRONOMIQUE POUR LE DEVELOPPEMENT	Paris	France
25	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
26	HIDROMOD - MODELACAO EM ENGENHARIA Lda	Lisboa	Portugal
27	DHI - INSTITUT FOR VAND OG MILJOE	Hoersholm	Denmark
28	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
29	INNOVATION & DEVELOPMENT CONSULTING	Brussels	Belgium
30	FACULDADE DE ENGENHARIA DA UNIVERSIDADE DO PORTO	Porto	Portugal
31	HYDROCONTROL - CENTRO DI RICERCA E FORMAZIONE PER IL CONTROLLO DEI SISTEMI IDRICI	Capoterra	Italy
32	POLITECHNIKA KRAKOWSKA	Cracow	Poland
33	UNIVERSITY OF ARCHITECTURE, CIVIL ENGINEERING AND GEODESY	Sofia	Bulgaria
34	AEOLIKI Foundation	Nicosia	Cyprus
35	INSTITUT NATIONAL AGRONOMIQUE DE TUNISIE	Tunis	Tunisia
36	INSTITUT AGRONOMIQUE ET VETERINAIRE HASSAN II	Rabat	Morocco



Title:	<b>Sustainable Management of Water Resources by Automated Real-Time Monitoring</b>		
Area:	Water cycle, including soil-related aspects - Technologies for monitoring and mitigating the impact of water scarcity		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	3.475.818 €	Contract start date:	1/06/2004
EU contribution:	2.400.000 €	Duration:	36 months
Organisation:	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon - United Kingdom	
Co-ordinator:	Dr Richard D Ogilvy		

## Abstract

ALERT aims to develop a radically different strategy for monitoring and managing the impact of climatic change and land-use practice on scarce water resources. Innovative ALERT technology will be designed that will allow the near real-time measurement of geoelectric, hydrology and hydrochemical properties, virtually "on demand", thereby giving early warning of potential threats to ecosystems, and vulnerable water systems. The project will focus primarily on coastal zones where aquifers are under threat from over-exploitation, rising sea levels, anthropogenic pollutants and seawater intrusion. New and proven sensors and data capture devices will be permanently deployed in-situ, within a unified platform (ALERT hydro-station) at a test site in Almería, Spain. The site will be interrogated from the office by novel modem/telemetric and satellite links to provide volumetric images of the subsurface at regular intervals; thereby obviating the need for expensive repeat surveys and manual intervention. New 3D/4D time-lapse image reconstruction algorithms will be developed for distributed buried and borehole arrays. The volumetric electrical images (in space and time) will be transformed into hydrology properties and processes through the further development of mathematical relationships, derived from controlled laboratory studies. These datasets will be used to constrain a predictive hydrogeological modelling capability. Innovative statistical techniques will be developed to assist up-scaling from the site model to catchment scale. A web-based GIS will be designed with new data fusion, risk analysis and decision support tools to facilitate the sustainable management of water resources in coastal zones. Scenario modelling based on stochastic and Bayesian networks will address the wider societal implications of the proposed work, including the economic, cultural and political issues, in the context of current and planned EU directives.

## Partners

Nb	Organisation	Town	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon	United Kingdom
2	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
3	KOBENHAVNS UNIVERSITET	Koebenhavn K	Denmark
4	UNIVERSIDAD DE ALMERIA	Almeria	Spain
5	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-La-Neuve	Belgium
6	ARISTOTELEIO PANEPISTIMIO THESSALONIKIS - ARISTOTLE UNIVERSITY OF THESSALONIKI	Thessaloniki	Greece
7	INDUSTRIAL RESEARCH INSTITUTE FOR AUTOMATION AND MEASUREMENTS	Warsaw	Poland
8	ESCO sp. zo.o	Warsaw	Poland
9	GEOTOMOGRAPHIE	Neuwied	Germany
10	UNIVERSITE CADI AYYAD	Marrakech	Morocco
11	INSTITUT NATIONAL AGRONOMIQUE DE TUNISIE	Tunis Mahrajene (Cite El)	Tunisia





Title:	<b>Promoting Twinning of River Basins for Developing Integrated Water Resources Management Practices</b>		
Area:	Water cycle, including soil-related aspects - Twinning European/third countries river basins.		
Instrument:	Co-ordination Action (CA)		
Project total cost:	1.710.000 €	Contract start date:	1/01/2004
EU contribution:	900.000 €	Duration:	48 months
Organisation:	OFFICE INTERNATIONAL DE L'EAU	Paris - France	
Co-ordinator:	Mr Alain Bernard		

## Abstract

A Basin Organisation is generally regarded as one of the best solutions to adopt for developing an Integrated Water Resources Management (IWRM) at a catchment level. There have then been many types of BO, some of them existing for several decades, and a lot in a development process ; they present a great diversity of legal statutes and economic schemes. None of these examples can be regarded as a model ; but, by facilitating direct exchanges on best practices, and as well on failed experiments, twinning can help Basin Organisations to improve their effectiveness : BO can profit from peers, regarding administrative, technical and institutional matters, or a quicker diffusion of the research outputs in the real life. The main goal of TWINBASINXN is to support effective use of research and development in the field of IWRM by promoting twinning of BO. This will be achieved by creating a world-wide forum dedicated to identifying and sharing knowledge and best practices. A Memorandum of Understanding (MoU) takes the form of a co-operation framework signed by a wide range of organisations, both public and private, which have an interest in the deployment of IWRM practices ; it is a voluntary agreement, entered into by organisations, prepared to be active participants in developing consensus on issues of common interest, and who are willing to commit both human and financial resources for this purpose, by participating in the operation of Specific Interest Groups (SIGs). This MoU implies public commitments from signatories, from which : to co-operate in the production of recommendations and guidelines for developing twinning and related services by co-operating in the specification of twinning activities - exchange of information, exchange of personnel - and of common knowledge representation systems and dissemination practices. The project will support staff mobility between twinned BO, for enhancing peer-to-peer exchanges and hands-on periods (0,5 to 2 months)

## Partners

Nb	Organisation	Town	Country
1	OFFICE INTERNATIONAL DE L'EAU	Paris	France
2	AGENCE DE L'EAU SEINE NORMANDIE	Nanterre	France
3	RESEAU INTERNATIONAL DES ORGANISMES DE BASSIN	Paris	France
4	EA GROUPEMENT DES PROFESSIONNELS DU SECTEUR DE L'EAU EN PROVENCE	Aix En Provence	France
5	RED MEDITERRANEA DE ORGANISMOS DE CUENCA	Valencia	Spain
6	SECRETARIA DE RECURSOS HIDRICOS - MINISTERIO DO MEIO AMBIENTE	Brasilia - Distrito Federal	Brazil
7	GLOBAL WATER PARTNERSHIP	Stockholm	Sweden
8	TECHWARE - TECHNOLOGY FOR WATER RESOURCES	Bruxelles	Belgium
9	UNIVERSITY OF PRETORIA	Pretoria	South Africa
10	ORSZAGOS VIZUGYI FOIGAZGATOSAG	Budapest	Hungary
11	SCIENTIFIC INFORMATION CENTER OF INTERSTATE WATER COORDINATION COMMISSION OF CENTRAL ASIA	Tashkent	Uzbekistan
12	JASA TIRTA I PUBLIC CORPORATION	Malang	Indonesia
13	NIGER BASIN AUTHORITY - AFRICAN NETWORK OF BASIN ORGANISATIONS	Niamey	Niger
14	AGENCE DE BASSIN HYDROGRAPHIQUE ALGEROIS - HODNA-SOUMMAM	Kouba Alger	Algeria
15	AGENCE DE BASSIN HYDRAULIQUE DU SEBOU	Fez	Morocco
16	ORGANISATION POUR LA MISE EN VALEUR DU SENEGAL	Dakar	Senegal
17	COMISION NACIONAL DEL AGUA	Mexico Df	Mexico
18	THE ROMANIAN WATERS NATIONAL ADMINISTRATION	Bucharest	Romania

Title:	<b>Twinning European and third countries river basins for development of integrated water resources management methods</b>		
Area:	Water cycle, including soil-related aspects - Twinning European/third countries river basins.		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.175.068 €	Contract start date:	1/12/2003
EU contribution:	1.389.893 €	Duration:	36 months
Organisation:	IVL SVENSKA MILJOEINSTITUTET AB	Stockholm - Sweden	
Co-ordinator:	Dr. Sam Ekstrand		

## Abstract

Strategic objectives: 1. To fill gaps in knowledge and methods in order to enable implementation of a harmonised IWRM approach that addresses the European Water Initiative, in five river basins. 2. To enable and perform assessment of vulnerability to climate change and anthropogenic development, and produce integrated river basin management plans, that includes optimal combinations of actions. To reach the strategic objectives of TWINBAS, a number of research tasks on hydrology, modelling of pollution flow, impact assessment, socio-economics, scenario analyses and action efficiency have to be carried through. For all these activity areas, the goal is to bring knowledge to a level where IWRM can be implemented for the five twinned river basins; Okavango (Botswana), Nura (Kazakhstan), Bio Bio (Chile) Thames (UK) and Norrstrom (Sweden). TWINBAS will have an important strategic impact by creating the practical means for implementing the EU Water Initiative 'Water for Life'. The nature and width of the gaps in knowledge vary between the different case study rivers, and therefore the research required differs between the river basins. The research and the IWRM components of TWINBAS are organised according to the EU Water Framework Directive (WFD) so that the WFD guideline documents can be utilised. The proposal also addresses the EU Water Initiative, which promotes development that is demand led from the less developed countries. The strong component of public participation and stakeholder involvement will ensure that each component has local ownership and addresses priorities identified within the region. The river basins selected represent a wide variety of water use problems, and a variety of political and societal systems. Thus, the applicability of the WFD approach will vary for the third country basins, and methodology applied will be a modification of the WFD process TWINBAS aims at enabling development of water management action plans #

## Partners

Nb	Organisation	Town	Country
1	IVL SVENSKA MILJOEINSTITUTET AB	Stockholm	Sweden
2	DHI - INSTITUT FOR VAND OG MILJOE	Hoersholm	Denmark
3	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
4	COMISION NACIONAL DEL MEDIO AMBIENTE	Santiago De Chile	Chile
5	ALMATY INSTITUTE OF POWER ENGINEERING AND TELECOMMUNICATIONS	Almaty	Kazakhstan
6	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon	United Kingdom
7	RHODES UNIVERSITY	Grahamstown	South Africa



Title:	<b>A Regional Model for Integrated Water Management in Twinned River Basins</b>		
Area:	Water cycle, including soil-related aspects - Twinning European/third countries river basins.		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.964.140 €	Contract start date:	1/03/2004
EU contribution:	2.460.160 €	Duration:	36 months
Organisation:	UNIVERSITAET HOHENHEIM	Stuttgart - Germany	
Co-ordinator:	Prof. Karl Stahr		

## Abstract

The project "RIVERTWIN" aims in adjusting, testing and implementing an integrated regional model for the strategic planning of water resources management in twinned river basins under contrasting ecological, social and economic conditions. The regional model will take into account the impacts of demographic trends, economic and technological development, the effects of global climate and land use changes on the availability and quality of water bodies in humid temperate, subhumid tropical as well as semiarid regions. The existing integration framework will be first tested in a European river basin with high data availability and data density. The Transferability of the model to other regions with different economic level, ecological standards and with low data availability will be jointly tested by the project team and river basin organisations in two river basins in Westafrica and Uzbekistan. Here, the problem of adequate human resources and the uncertainties of input data for the implementation of computer based decision support tools will be addressed. Capacity building through training of end users supports the transfer of the research results into application. In cooperation with stakeholders and potential users integrated scenarios of economic growth, land use and climate change will be developed and the model will be used to assess the implications for water management under the respective scenario assumptions. The twinning of river basins will promote mutual transfer of know-how and technology between European and Third countries. Based on the results, river basin management plans can be prepared. Through its holistic basin wide approach, the project contributes to the EU water directive, the Millennium Goals defined by the WSSD and the EU water initiative for Africa and Newly Independent States.

## Partners

Nb	Organisation	Town	Country
1	UNIVERSITAET HOHENHEIM	Stuttgart	Germany
2	UNIVERSITAET STUTTGART	Stuttgart	Germany
3	STICHTING ONDERZOEK WERELDOEDSELVOORZIENING VAN DE VRIJE UNIVERSITEIT	Amsterdam	Netherlands
4	ARISTOTELEIO PANEPISTIMIO THESSALONIKIS - ARISTOTLE UNIVERSITY OF THESSALONIKI	Thessaloniki	Greece
5	STOCKHOLM ENVIRONMENT INSTITUTE	Stockholm	Sweden
6	INSTITUT NATIONAL DES RECHERCHES AGRICOLES DU BENIN	Cotonou	Benin
7	DIRECTION DE L'HYDRAULIQUE	Cotonou	Benin
8	UNIVERSITE D' ABOMEY CALAVI	Cotonou	Benin
9	SCIENTIFIC INFORMATION CENTER OF INTERSTATE WATER COORDINATION COMMISSION OF CENTRAL ASIA	Tashkent	Uzbekistan
10	SJE - SCHNEIDER & JORDE ECOLOGICAL ENGINEERING GMBH	Stuttgart	Germany
11	TERRA FUSCA, MAROHN & LANGE GbR	Stuttgart	Germany



Title:	<b>FLOODWATER RECHARGE OF ALLUVIAL AQUIFERS IN DRYLAND ENVIRONMENTS</b>		
Area:	Water cycle, including soil-related aspects - Twinning European/third countries river basins.		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.605.295 €	Contract start date:	1/07/2004
EU contribution:	1.700.000 €	Duration:	36 months
Organisation:	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Madrid - Spain	
Co-ordinator:	Dr Gerardo Benito		

## Abstract

The WADE project aims to assess long-term (decades to centuries) water resources in selected semiarid to hyperarid ephemeral river basins by determining long-term transmission losses from floods and quantifying floodwater recharge into alluvial aquifers. An innovative approach will be applied based on three principal research themes. 1) Palaeoflood hydrology will be used to determine long-term flood magnitude and frequency in order to quantify the frequency of recharging flood events. 2) Surface and sub-surface hydrology will be monitored in order to quantify transmission losses through the river bed into the alluvial aquifers. The combination of these two methodologies will be able to quantify long-term aquifer recharge through flooding. 3) The final research theme focuses on the socio-economic issues related to the use of alluvial aquifer groundwater within the study catchments. The research will be undertaken in 4 research basins, twinning catchments in Spain and Israel with study catchments in Namibia and South Africa.

## Partners

Nb	Organisation	Town	Country
1	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Madrid	Spain
2	THE HEBREW UNIVERSITY OF JERUSALEM	Jerusalem	Israel
3	HYDROISOTOP GMBH	Schweitenkirchen	Germany
4	DESERT RESEARCH FOUNDATION OF NAMIBIA	Windhoek	Namibia
5	THE UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
6	UNIVERSITY OF CAPE TOWN	Rondenbosch	South Africa
7	INSTITUT NATIONAL DE LA RECHERCHE SCIENTIFIQUE	Sainte-Foy (Quebec)	Canada
8	BEN GURION UNIVERSITY OF THE NEGEV	Beer Sheva	Israel
9	MINISTRY OF AGRICULTURE, WATER AND RURAL DEVELOPMENT	Windhoek	Namibia
10	SURPLUS PEOPLE PROJECT	Athlone, Cape Town	South Africa
11	KAMIESBURG MUNICIPALITY	Garies	South Africa
12	NAMA KHOI MUNICIPALITY	Springbok	South Africa



Title:	Integration of European Wetland research in a sustainable management of water cycle		
Area:	Specific Support Actions - Consolidating knowledge on the role of wetlands in the water cycle.		
Instrument:	Specific Support Action (SSA)		
Project total cost:	529.958 €	Contract start date:	1/01/2004
EU contribution:	529.958 €	Duration:	12 months
Organisation:	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	Paris - France	
Co-ordinator:	Dr. Philippe NEGREL		

## Abstract

The final goal of the EUROWET project is to integrate the substantial multidisciplinary European research in wetlands to help attain the sustainable management of the water cycle. This will be achieved by the translation of state-of-the art science developed at both national and European levels, into practical guidance for end-users. This will be achieved by a comprehensive review, expert assessment and a focussed dissemination strategy. There is considerable scientific knowledge and technical experience gained in diverse aspects of wetland science and management including hydrology, biogeochemistry, ecology restoration, socio-economic and policy analysis. However the results of research and management experience are still too fragmentary and not sufficiently orientated to problem-solving or simply inadequately framed to be effectively transferred to, or used by, stakeholders and policy-makers. Simultaneously the general outcome of the scientific research has been increased awareness of the significance of wetlands in delivering goods and services important for human welfare including quality of life, biodiversity conservation and maintenance or enhancement of environment quality. Despite this wetlands continue to be degraded and lost throughout Europe without adequate consideration of the wider benefits to be achieved from this management. The new Water Framework Directive (WFD) promotes a unique opportunity to redress this problem by means of the holistic, integrated approach to water management. There is currently in preparation horizontal guidance on Wetlands as part of the Common Implementation Strategy (CIS) process. There is however work still to be done on providing more specific scientific and technical guidance on the effective implementation of the Directive with respect to wetlands. This is particularly the case in relation to Integrated River Management, the CIS cluster within which wetlands are being considered in the WFD.

## Partners

Nb	Organisation	Town	Country
1	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	Paris	France
2	ROYAL HOLLOWAY AND BEDFORD NEW COLLEGE	Egham, Surrey	United Kingdom

Title:	<b>Background cRiteria for the IDentification of Groundwater thrEsholds</b>		
Area:	Sustainable Management of Europe's natural resources - Environmental assessment		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.963.086 €	Contract start date:	
EU contribution:	1.876.825 €	Duration:	24 months
Organisation:	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	Paris - France	
Co-ordinator:	Dr. Anne Marie FOUILLAC		

## Abstract

The Commission proposal of Groundwater Directive COM(2003)550 developed under Article 17 of the Water Framework Directive (2000/60/EC) sets out criteria for the assessment of the chemical status of groundwater, which is based on existing Community quality standards (nitrates, pesticides and biocides) and on the requirement for Member States to identify pollutants and threshold values that are representative of groundwater bodies found as being at risk, in accordance with the analysis of pressures and impacts carried out under the WFD. In the light of the above, the objectives of BRIDGE are : i) to study and gather scientific outputs which could be used to set out criteria for the assessment of the chemical status of groundwater, ii) to derive a plausible general approach, how to structure relevant criteria appropriately with the aim to set representative groundwater threshold values scientifically sound and defined at national river basin district or groundwater body level, iii) to check the applicability and validity by means of case studies at European scale, iv) to undertake additional research studies to complete the available data, v) and to carry out an environmental impact assessment taking into account the economic and social impacts. The project shall be carried out at European level, involving a range of stakeholders and efficiently linking the scientific and policy-making communities. Considering the requirement of the diary of the Groundwater Daughter Directive proposal, which implies that groundwater pollutants and related threshold values should be identified before December 2005 and listed by June 2006, the duration of the project should be 24 months. In that way the proposed research will contribute to provide research elements that will be indispensable for preparing discussions on further steps of the future Groundwater Directive.

## Partners

Nb	Organisation	Town	Country
1	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	Paris	France
2	UMWELTBUNDESAMT GMBH	Wien	Austria
3	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
5	UNIVERSITEIT GENT	Gent	Belgium
6	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Budapest	Hungary
7	UNIVERSITE DE LIEGE	Liège	Belgium
8	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V	Mol	Belgium
9	Danish Environmental Protection Agency	Copenhagen	Denmark
10	Danmarks og Grønlands Geologiske Undersøgelse	Copenhagen	Denmark
11	ACTeon	Orbey	France
12	UMWELTBUNDESAMT	Berlin	Germany
13	HESSISCHES LANDESAMT FUER UMWELT UND GEOLOGIE	Wiesbaden	Germany
14	INSTITUTO GEOLÓGICO Y MINERO DE ESPAÑA	Madrid	Spain
15	ENVIRONMENT AGENCY	Almondsbury , Bristol	United Kingdom
16	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
17	NATIONAL AGRICULTURAL RESEARCH FOUNDATION	Maroussi-Athens	Greece
18	AUTORITA DI BACINO DEL FIUME TEVERE	Roma	Italy
19	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
20	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK-TNO	Delft	Netherlands
21	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
22	LIETUVOS GEOLOGIJOS TARNYBA	Vilnius	Lithuania
23	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
24	EXECUTIVE ENVIRONMENT AGENCY - Bulgaria	Sofia	Bulgaria
25	TARTU UELIKOOL	Tartu	Estonia





Project URL: <http://nfp-at.eionet.eu.int:8980/irc/eionet-circle/bridge/info/data/en/index.htm>

---

26	APPLICATION EUROPEENNE DE TECHNOLOGIES ET DE SERVICES	Artigues Pres Bordeaux	France
27	AKADEMIA GORNICZO-HUTNICZA	Krakow	Poland
28	OFFICE INTERNATIONAL DE L'EAU	Paris	France



Title:	<b>Relationships between ecological and chemical status of surface waters</b>		
Area:	Sustainable Management of Europe's natural resources - Environmental assessment		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	7.445.996 €	Contract start date:	1/12/2003
EU contribution:	3.997.952 €	Duration:	36 months
Organisation:	SUOMEN YMPARISTOKESKUS	Helsinki - Finland	
Co-ordinator:	Dr Seppo Rekolainen		

## Abstract

The strategic objective of the REBECCA proposal is to provide relevant scientific support for the implementation of the Water Framework Directive (WFD). The two specific aims of the project are, firstly, to establish links between ecological status of surface waters and physico-chemical quality elements and pressures from different sources, and, secondly, to develop and validate tools that member states can use in the process of classification, in the design of their monitoring programs, and in the design of measures in accordance with the requirements of the WFD. These objectives will be achieved by collating existing knowledge and analyzing knowledge gaps, and using this information as a basis for analyzing the dose-response relationships between pressures and chemical/biological quality elements based on existing data. Furthermore, REBECCA will explore, develop and improve models and statistical tools, which can be used in assessing the links between the ecological and chemical quality elements; or to assess critical/target loads and other objectives for pressures. These tools will be validated in selected test sites. The results of the project will be disseminated throughout the project life-time to stakeholders at EU and national levels, particularly to the Working Groups of the Common Implementation Strategy (CIS) for the WFD, and used to develop a Toolbox containing detailed information of the methods, tools and models.

## Partners

Nb	Organisation	Town	Country
1	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
2	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Bruxelles	Belgium
3	NORSK INSTITUTT FOR VANNFORSKNING	Oslo	Norway
4	DANMARKS MILJØUNDERSØGELSER	Roskilde	Denmark
5	DHI - INSTITUT FOR VAND OG MILJØ	Hoersholm	Denmark
6	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
7	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon	United Kingdom
8	CENTRE NATIONAL DU MACHINISME AGRICOLE, DU GENIE RURAL, DES EAUX ET DES FORETS	Antony	France
9	CONSIGLIO NAZIONALE DELLE RICERCHE	Roma	Italy
10	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
11	THE PROVOST, FELLOWS AND SCHOLARS OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN HEREINAFTER TRINITY COLLEGE DUBLIN	Dublin	Ireland
12	SLOVENSKY HYDROMETEOROLOGICKÝ ÚSTAV	Bratislava	Slovakia
13	INSTITUTO NACIONAL DE INVESTIGACAO AGRARIA E DAS PESCAS / IPIMAR	Lisboa	Portugal
14	UNIVERSITEIT ANTWERPEN / UNIVERSITAIRE INSTELLING ANTWERPEN	Wilrijk	Belgium
15	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE DELTA DUNARII	Tulcea	Romania
16	STIFTELSEN NORSK INSTITUTT FOR NATURFORSKNING	Trondheim	Norway
17	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	Lelystad	Netherlands
18	TALLINNA TEHNIKA ÜLIKOOL	Tallinn	Estonia
19	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden



Title:	<b>Horizontal Standards on Organic Micropollutants for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste</b>		
Area:	Sustainable Management of Europe's natural resources - Environmental assessment		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.674.949 €	Contract start date:	1/10/2003
EU contribution:	1.627.652 €	Duration:	36 months
Organisation:	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten - Netherlands	
Co-ordinator:	Dr. Hans A. Van der Sloot		

## Abstract

The working documents on revision of the Sewage Sludge Directive (86/278/EEC) and on Biowaste and the Soil Protection Communication call for standards for sampling and analysis of sludges, treated biowastes and soils. They list hygienic and biological parameters, and inorganic and organic contaminants. The European Directives are intended to prevent unacceptable release of contaminants, impairment of soil function, or exposure to pathogens, and to protect crops, human and animal health, the quality of water and the wider environment when sludges and treated biowastes are used on land. Analytical results are to some extent defined by the methods of determination, it is therefore desirable that methods are defined before setting limit values. The European Commission wishes to cite European (CEN) standards in order that there is harmonised application of the directives and that reports from Member States (MS) can be compared. This proposal to develop standards for organic compounds in sludge, soil and biowaste, presented by the consortium under the name "HORIZONTAL-ORG", will be carried out under the umbrella of the main project HORIZONTAL "Development of horizontal standards for soil, sludge and biowaste". This ensures full integration in the CEN system through a BT Task Force specially set up in for this project and direct supervision by DG ENV and MS, which form the Steering Committee of HORIZONTAL. HORIZONTAL-ORG's objective is to produce standardised methods for sampling and analysing organic micropollutants in sludges, treated biowastes and soils written in CEN format. Where possible these will be horizontal across the different media. Validation of the methods is an essential part of the development as it quantifies performance in terms of repeatability and reproducibility. The consortium is very well connected in CEN and ISO and thus provides an excellent basis for implementation of the deliverables. '

## Partners

Nb	Organisation	Town	Country
1	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
2	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Bruxelles	Belgium
4	UNIVERSITY OF READING	Reading	United Kingdom
5	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Madrid	Spain
6	INSTYTUT UPRAWY, NAWOZENIA I GLEBOZNAWSTWA	Pulawy	Poland
7	UMWELTBUNDESAMT	Berlin	Germany
8	EUROFINS DANMARK A/S	Galten	Denmark
9	EUROFINS A/S	Galten	Denmark
10	BUNDESANSTALT FUER MATERIALFORSCHUNG UND -PRUEFUNG	Berlin	Germany
11	ALTERRA B.V.	Wageningen	Netherlands
12	GIE ANJOU - RECHERCHE	Paris	France
13	UMWELTBUNDESAMT GMBH	Wien	Austria
14	DIN DEUTSCHES INSTITUT FUER NORMUNG E.V.	Berlin	Germany
15	TIM EVANS ENVIRONMENT	Ashtead	United Kingdom
16	FODOR JOZSEF ORSZAGOS KOZEGESZSEGUGYUI KOZPONT ORSZAGOS KOZEGESZSEGUGYUI INTEZET	Budapest	Hungary
17	VYSKUMNY USTAV PODOZNALECTVA A OCHRANY PODY	Bratislava	Slovakia



Title:	<b>Screening method for Water data Information in support of the implementation of the Water Framework Directive</b>		
Area:	Sustainable Management of Europe's natural resources - Environmental assessment		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	6.735.725 €	Contract start date:	1/01/2004
EU contribution:	4.034.000 €	Duration:	36 months
Organisation:	ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS	Paris - France	
Co-ordinator:	Mme Catherine GONZALEZ		

## Abstract

The monitoring requirements for successfully implementing the WFD will directly depend upon available measurement techniques of demonstrated quality, which will be able to deliver reliable data at an affordable cost. Besides the necessary "classical" laboratory analyses, screening methodologies will play a key role in the WFD implementation, in particular for the detection of accidental pollution or the control of water bodies at risk. The WFD will represent a powerful management tool only if monitoring data are of reliable and comparable quality. The costs of wrong decisions based on erroneous data could be tremendous, which justifies that Community efforts are made to ensure that data are produced according to a proper quality assurance regime. In the light of the above, the objectives of SWIFT-WFD should focus on the production of quality control tools for validation purposes of screening methods, an inventory of existing screening test (chemical and biological) methods through laboratory-based (tank experiments) and/or field interlaboratory studies based on a selection of reference aquatic ecosystems at European scale, and with classical laboratory-based analyses to validate their results and demonstrate their equivalence for parameters regulated by the WFD. In parallel, the project should consider the development of new "low-cost", innovative, screening techniques (both for chemical and biological parameters) and their validation using the same approach (interlaboratory testing and comparison with laboratory-based methods). In addition, exchange of knowledge, transfer of technologies and training related to water monitoring will represent a key issue for ensuring the comparability of data produced by screening methods

## Partners

Nb	Organisation	Town	Country
1	ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS	Paris	France
2	UNIVERSITY OF PORTSMOUTH HIGHER EDUCATION CORPORATION	Portsmouth	United Kingdom
3	ENTE PER LE NUOVE TECNOLOGIE, L' ENERGIA E L'AMBIENTE	Roma	Italy
4	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	Paris	France
5	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELTPOLITIK gGmbH	Berlin	Germany
6	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Madrid	Spain
7	ALCONTROL UK Ltd	Rotherham	United Kingdom
8	UNIVERSIDAD COMPLUTENSE DE MADRID	Madrid	Spain
9	MERMAYDE	Bergen	Netherlands
10	CHALMERS TEKNISKA HOGSKOLA AB	Goeteborg	Sweden
11	VESZPREMI EGYETEM	Veszprem	Hungary
12	LGC Ltd	Teddington Middlesex	United Kingdom
13	ACTEON	Orbey	France
14	VRIJE UNIVERSITEIT BRUSSEL	Bruxelles	Belgium
15	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
16	UNIVERSITAT DE BARCELONA	Barcelona	Spain
17	NETHERLANDS INSTITUTE FOR FISHERIES RESEARCH	Ijmuiden	Netherlands
18	UNIVERSITY OF SOFIA "ST. KLIMENT OHRIDSKI"	Sofia	Bulgaria
19	TECHNISCHE UNIVERSITAET WIEN	Wien	Austria
20	SCIENCES, TERRITOIRES ET SOCIETES	Montpellier	France
21	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Bruxelles	Belgium
22	SZENT ISTVAN EGYETEM	Godollo	Hungary



Project URL:

<http://www.swift-wfd.com>

23	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	Paris	France
24	UNIVERSIDAD DE OVIEDO	Oviedo	Spain
25	LITHOS GEOSCIENCES	Ranco Va	Italy
26	UNIVERSITE DE BORDEAUX I	Talence	France
27	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	Lelystad	Netherlands
28	STATE GEOLOGICAL INSTITUTE OF DIONYZ STUR	Bratislava	Slovakia
29	TECHNISCHE UNIVERSITAET GRAZ	Graz	Austria
30	CESKA ZEMEDELKA UNIVERSITA V PRAZE	Praha 6 - Suchdol	Czech Republic
31	POLITECHNIKA WARSZAWSKA	Warszawa	Poland
32	ASSOCIAZIONE PER LO SVILUPPO DELLA QUALITA AMBIENTALE	Roma	Italy
33	XPRO CONSULTING Ltd	Nicosia	Cyprus
34	TECHNISCHE UNIVERSITAET MUENCHEN	Muenchen	Germany
35	SECOMAM	Domont	France
36	INSTITUTUL NATIONAL DE CERCETARE - DEZVOLTARE PENTRU PROTECTIA MEDIULUI	Bucuresti	Romania
37	POVODI LABE, S. P.	Hradec Kralove	Czech Republic
38	LATVIJAS UNIVERSITATE	Riga	Latvia
39	LATVIJAS VIDES AGENTURA	Jurmala	Latvia
40	AQUAMETRIS	Liverdum	France

Title:	<b>METHODS FOR THE CONCENTRATION AND DETECTION OF ADENOVIRUSES AND NOROVIRUSES IN EUROPEAN BATHING WATERS WITH REFERENCE TO THE REVISION OF THE BATHING WATER DIRECTIVE 76/160/EEC</b>		
Area:	Sustainable Management of Europe's natural resources - Environmental assessment		
Instrument:	Specific Targeted Research Project (STREP)		
Project total cost:	2.847.858 €	Contract start date:	
EU contribution:	2.247.624 €	Duration:	27 months
Organisation:	University College of Wales Aberystwyth	Aberystwyth - United Kingdom	
Co-ordinator:	Prof. David Victor Kay		

## Abstract

The Project will provide a procedure for analysis of EU bathing waters for noroviruses and adenoviruses by validated comparisons of methods for processing water samples to achieve the best virus recovery consistent with cost and feasibility of use in routine monitoring laboratories. Objectives are (a) compare methods for norovirus and adenovirus detection in recreational waters (b) derive a combination of concentration and detection techniques to provide a reproducible system of testing bathing waters for the target viruses (c) furnish scientific evidence to provide support for norovirus and adenovirus testing of environmental samples in respect of their role as the appropriate viral indicator of faecal pollution (c) prepare the technology for Accession States as part of the development of their environmental and social programmes (d) share technology between laboratories to achieve wider competence in the virological analysis of environmental materials. Detection by PCR and cell culture together with the concentration procedure will provide a combined technique. PCR products will be sequenced and data analysed to derive strain and serotype information. The work addresses the research objectives of SSP 8.1 task 1.5 directly through relevance to the revision of the Bathing Water Directive. Inter-Laboratory comparisons and a large field based surveillance Phase are integrated to ensure that the new combined method will have immediate applicability in EU bathing water monitoring. It will be done by 16 Participant Laboratories in a unified approach to derive a harmonised combined method to provide credibility for future monitoring regimes give the potential to place a virus parameter on a footing equal to the bacterial indicators. Inclusion of Laboratories representative of the Accession States will ensure rapid dissemination to enhance the monitoring of their bathing waters and thus sustain the development of their own tourism and that of the European tourism worldwide.

## Partners

Nb	Organisation	Town	Country
1	University College of Wales Aberystwyth	Aberystwyth	United Kingdom
2	Università di Pisa	Pisa	Italy
3	Central Science Laboratory	London	United Kingdom
4	Rijksinstituut voor Volksgezondheid en Milieu	Bilthoven	Netherlands
5	UNIVERSITA DEGLI STUDI DI ROMA TOR VERGATA	Rome	Italy
6	Landesgesundheitsamt Baden-Württemberg	Stuttgart	Germany
7	Université Henri Poincaré - Nancy	Nancy	France
8	Environment Agency	Bristol	United Kingdom
9	Universitat de Barcelona	Barcelona	Spain
10	Bayerisches Landesamt für Gesundheit und Lebensmittelsicherheit	Erlangen	Germany
11	Umweltbundesamt (German Environmental Agency)	Berlin	Germany
12	PANSTWOWY INSTYTUT WETERYNARYJNY - PANSTWOWY INSTYTUT BADAWCZY W PULAWACH	Pulawy	Poland
13	ISTITUTO SUPERIORE DI SANITA	Roma	Italy
14	Faculdade de Farmacia da Universidade do Porto	Porto	Portugal
15	STATE GENERAL LABORATORY	Nicosia	Cyprus
16	Health Protection Agency	London	United Kingdom