



UNESCO CHAIR AND NETWORK
For the Sustainable Management of Water and Conflict
Resolution

**THE INTERNATIONAL NETWORK OF WATER-
ENVIRONMENT CENTRES FOR THE BALKANS
INWEB**

ACTIVITY REPORT

01 Jan – 31 Dec 2009

December 31st 2009

**UNITWIN/UNESCO Chairs Programme
Progress report**

Period of activity: 01 January 2009 – 31st December 2009

Title of the UNESCO Chair and Network: International Network of Water Environment Centres for the Balkans (INWEB)

Report established by: Jacques Ganoulis

Function / Title: Chair holder and Coordinator / Professor

To be sent by electronic mail to both: s.bahri@unesco.org and i.nichanian@unesco.org

or to UNESCO, Division of Higher Education
7, place Fontenoy – 75352 Paris 07 SP
Fax: 33 1 45 68 56 26/27/28

Summary

The principal objective of INWEB and its related cooperation programmes is to promote and ensure a "Sustainable Management of Water and Conflict Resolution", with special attention to transboundary issues in South Eastern Europe (SEE, the Balkans). INWEB is an active network, composed of main partners from all the 10 Balkan countries. The principal outcomes/results/impact obtained in this period may be summarised as follows:

- Promotion of demonstration transboundary basin of Mesta/Nestos River (UNESCO Hydrology for Environment, Life and Policy programme (HELP). The HELP programme has an impact on bridging the gap between science and policy and achieving the UN Millennium Development Goals.
Web site: <http://unescohelp2007.com>
- Web site: <http://www.tmth.edu.gr/>
- Publication of a UNESCO ISARM brochure including the inventory of 65 transboundary aquifers "Internationally Shared Aquifers in the Balkan Region: Preliminary Assessment", completing Phase I of ISARM/Balkans. The inventory is the result of the UNESCO-ISARM initiative in South Eastern Europe (SEE) coordinated by UNESCO-IHP Secretariat (Paris) in collaboration with UNESCO-BRESCE (Venice) and the United Nations Economic Commission for Europe (UNECE) and carried out by the UNESCO Chair INWEB. The main objective was to collect and analyse new data and hydrogeological maps on transboundary aquifers in SEE with special reference to transboundary karst aquifers. This inventory, which incorporates new information and uses new Internet-based technologies like Google Earth and map server techniques, is also available on the Internet
Web site: <http://www.inweb.gr/>
- Preparation of publication of selected papers presented during the IV International Symposium on Transboundary Waters Management, Thessaloniki, 15-18 Oct 2008 (to appear in UNESCO Technical Publications, Groundwater Series).

I. Address and Contact

	Address of the Host Institution	Address of the Chairholder (or coordinator) Other contact person
Name		Jacques Ganoulis
Function/Title		Coordinator/Professor
University/Institution	Aristotle University of Thessaloniki	Aristotle University of Thessaloniki
Faculty/Department/Centre		Department of Civil Engineering, Division of Hydraulics and Environmental Engineering
P.O. Box		University Campus
Street	University Campus	
Postal Code	54124	54124
City	Thessaloniki	Thessaloniki
Province	Macedonia	Macedonia
Country	Greece	Greece
Phone		(+30)(2310 99 56 82
Fax		(+30)(2310) 99 67 81
E-mail		iganouli@civil.auth.gr
Website of UNESCO Chair or UNITWIN Network		www.inweb.gr
Website of Host Institution	www.auth.gr	

II. Available resources

For each type of resource placed at the disposal of the Chair/Network, please specify its source (cf. Annex 1)

1. Human resources

Provided by Host Institution Aristotle University of Thessaloniki (AUTH)

- Status of the Chair in the organisational structure of the Institution (number of posts contributing to the Chair)
UNESCO Chair & Network hosted by AUTH
1 full Prof., 1 Secretary, 1 Technical Assistant
- Number of academic staff (part time), full professors, researchers, lecturers
2 full Prof., 3 assistant. Prof., 3 researchers
- Number of visiting staff
Variable (one or two)
- If there are other staff or groups contributing to the Chair or Network, please indicate their number and status (postgraduate students, advisors, consultants, experts, NGOs, etc)
All 10 active members of INWEB
3 graduate students, 3 experts, 1 Non-Governmental Organisation (NGO)
- Number of administrative staff
2 part time

2. Other resources

- Financial contributions (indicate amount, source and purpose)
Amount is variable, depending on specific projects.
Provided by various institutions financing specific projects.
Projects have specific objectives.
- Material resources (indicate their nature and use)
Provided by AUTH:
Telephone, fax, stationery, heating, lighting, electricity.
Internet connection, office equipment.
All used for running the UNESCO Chair and Network INWEB.
- Space placed at the disposal of the Chair and Network
Provided by AUTH:
Office space (approx 20m²).
Meeting room (up to 150 persons).
Reception area (approx 50 m²).
All shared with other functions of the Aristotle University of Thessaloniki.

III. Activities

1. **UNESCO IHP, UNESCO BRESCE (ROSTE), ECE, GEF, UNDP and ESCWA Research, Capacity Building and Training Programmes, meetings, conferences and workshops.**

1.1 Title: Sound Management of the Dinaric Karst Transboundary Aquifer System (DiKTAS). This project (Preparation Phase Grant -PPG- of the Full Size Project -FSP-) was under preparation during 2007, and commenced in 2008.

Duration: 2 years

Target groups: Scientists, policy makers, diplomats, public institutions and administrators.

Geographical coverage for partners and participants: Croatia, Serbia, Montenegro, Bosnia & Herzegovina, Albania, FYR Macedonia (with Slovenia, Italy, Greece).

Intended use of results:

- reduced environmental stress derived from the disintegrated management of its water and land resources and the means to link these towards the preservation of the unique aquatic habitats that depend on the Dinaric Karst waters.
- a sound foundation, in terms of political agreements, drawing on scientific hydrogeological analyses, to identify the issues that are significant for Karst aquifers in terms of transboundary impacts
- a strengthened regional and national capacity to address the risks emanating from transboundary impacts of land use on the Karst Aquifer and to its ecosystems and biodiversity, based on regular data exchange
- demonstration of the viability of innovative solutions and approaches to manage and mitigate the risks in priority regions where urgent actions are deemed to be necessary.

Website: <http://dinaric.iwlearn.org/>

1.2 Title: Hydrology for the Environment, Life and Policy (HELP) Programme: The case of the Mesta/Nestos River:

Duration: 2004 - indefinite

Target groups: Public institutions and administrators, all citizens

Geographical coverage for partners and participants: Europe, Africa, and Asia

Intended use of results:

- Developing tools for IWRM
- Application to the transboundary Mesta/Nestos River catchment (Greece-Bulgaria).
- Implementation of EU Water Framework Directive

Website: <http://www.unesco.org/water/ihp/help>

2. **EU and National Research, Cooperation and Policy Programmes**

2.1: Monitoring of Marine Environment in Northern Greece. Greek Ministry of Environment, 2009

2.2 Research on Sustainable Management of Water Resources in Drama Prefecture, Northern Greece, 2009

2.3 Environmental Risk Assessment from Nitrates in the Nestos River Delta. Latsis Foundation, 2009-2010

INWEB was also a partner involved in the preparation of 3 further EU research and cooperation initiatives, submitted under the EU 7th Framework scheme, which were not approved.

2.5 Sustainable large scale water sharing schemes to counteract risks related to long-term climate changes effects on the hydrological cycle (NEREIDES) (3 year project).

2.6 A New Strategy for Hydropower in Europe (HP Strategy). (2 year project).

- 2.7 Climate Change Impacts on Snow- and Ice-derived Water Resources and Adaptation Strategies in Mediterranean Mountain Regions (MountSnowMed) (4 year project).
- 2.8 Support and Training for SMEs Production Plants in MED Area for the Implementaiton of Environmental Technologies Dedicated to the Elimination of Priority Pollutants Identified by WFD” SMEDET-WFD. Submitted to MED Programme 2010 – 2012.
- 2.9 Transnational Mitigation of the Organotin Contamination of the Mediterranean Sea TraMOTMed. Submitted to MED PProgramme 2010 – 2012
- 2.10 Preparation for THALIS:Regenerating Potential Fresh Water Resources from Coastal Karstic Springs: The Case of Almyros, Heraklion. Submitted to Hellenic Ministry of Education, Lifelong Learning and Religion, Thales programme: Enhancing Interdisciplinary and Inter-Institutional Research and Innovation to attract high-level researchers from abroad to participate in joint basic and applied research programmes of excellence.

3. Dissemination of Knowledge, Results and Achievements

3.1 International conference on Cooperation, Security and Diplomacy, Nov 2009

18th-20th November 2009, San Diego, USA

UNESCO Chair/INWEB in cooperation with UNESCO/PC-CP programme presented the following theme: "Engaging Stakeholders in Transboundary Water Resources Management: Lessons Learnt from Cases in South Eastern Europe (SEE)" at the international conference entitled "Greening Borders: Cooperation, Security and Diplomacy." The event was hosted by the Joan B. Kroc School of Peace Studies, San Diego, USA, from 18th-20th November 2009.

Greening Borders was an environmental conflict resolution conference that addressed controversies related to bi-national water use and management, development and growth, and public health in the larger San Diego -Tijuana border region.

<http://www.sandiego.edu/peacestudies>

3.2 UNESCO Chair INWEB lecture at University of the Aegean, Nov 2009

30th November 2009. Mytilene, Greece

UNESCO Chair/INWEB coordinator Prof. J. Ganoulis delivered a lecture on 30th November 2009 on "Integrated Management of Water Resources in Coastal Areas: applications in Greece" to post graduate students at the Department of Marine Sciences at the University of the Aegean, Greece.

http://www3.aegean.gr/aegean/en/intro_en.htm

3.3 Femise Annual Conference, Nov 2009

14th-15th November 2009, Brussels, Belgium

The university network FEMISE's annual conference gathers members' institutes and affiliates from the North and South of the Mediterranean to address and exchange views on issues related to the EU-Med Partnership and Neighbourhood policies and their effects on the economic and social aspects of the Mediterranean Partners countries. The conference serves also as a platform for networking among members of the association and with other distinguished invitees.

<http://www.femise.org>

3.4 Sustainability of the Karst Environment - Dinaric Karst and other Karst Regions, Sep 2009

September 23rd-26th, 2009, Plitvice Lakes, Croatia

The objective of the international interdisciplinary scientific conference Sustainability of the karst environment - Dinaric karst and other karst regions was to give a theoretical and practical contribution to the concept of sustainable development in karst regions, with a special emphasis on the experiences achieved in the Dinaric karst region.

The conference itself was held at the Plitvice Lakes (World Heritage Site), one of the most fascinating phenomena on Earth.

UNESCO Chair INWEB contributed to the presentation of the GEF project on the Dinaric karst.

<http://www.cek.hr/page.aspx?PageID=36>

3.5 Environmental Informatics and Industrial Environmental Protection: Concepts, Methods and Tools, Sep 2009

9th-11th September-2009, Berlin, Germany

The EnviroInfo 2009 conference was a meeting place for experts and practitioners on leading ICT technologies and aims to report about state-of-the-art applications of ICT as well as newest developing trends in the field of environmental informatics. It covered cross-cutting topics like applications of geographical information systems, environmental modelling and simulation, risk management, material and energy flow management, climate change, tools and database applications and other aspects with regard to the main topic ICT and the environment.

At the special session on ICT for Sustainable Use of Natural Resources UNESCO Chair INWEB presented the work on Web-based Interactive Databases of Shared Water Resources for Ecosystems Preservation.

<http://www.enviroinfo2009.org/>

3.6 33rd IAHR congress, Aug 2009

9th-14th August 2009, Vancouver, Canada

The 33rd International Association of Hydraulic Engineering & Research (IAHR) Biennial Congress was held in Vancouver, Canada from 9-14 August 2009. It was an important international industry event themed "Water Engineering for a Sustainable Environment," and focused on the central roles of hydraulic engineering and hydroinformatics in water engineering for a sustainable environment, and how these roles link to broader aspects of environment sustainability in watershed and coastal settings. Resources. UNESCO Chair INWEB presented a paper (see publications)

<http://content.asce.org/conferences/iahr09/>

3.7 The 18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation, Jul 2009

13th-17th July 2009, Cairns, Australia

Interfacing Modelling and Simulation with Mathematical and Computational Sciences MSSANZ and IMACS brought together a broad spectrum of scientists who applied mathematical modelling, simulation, statistical, engineering, spatial and computer science methodologies and skills in solving practical problems coming from a wide range of endeavours including: environmental and global change modelling, water resources management, health care, biological simulation and engineering. For them, the practical matter under investigation and the available data are the driving forces behind the methodology chosen for the task, or in developing techniques required to analyse new models. The Congress is the first time MSSANZ and IMACS have combined their meetings and they provided a rich forum for the exchange of knowledge about modelling and simulation. UNESCO Chair INWEB presented a paper (see publications)

<http://www.mssanz.org.au/modsim09/>

4. Academic activities

1.1 Education (leading to certification)

4.1.1 Title: Environmental Protection and Sustainable Development

Duration: 1 Semester

Target groups: Graduate students, 10 male, 15 female (variable)

Geographical coverage for partners and participants: National

(The course is run in cooperation with the Division of Hydraulics and Environmental Protection, Department of Civil Engineering, AUTH).

Expected results: Enhanced knowledge on environmental protection and sustainable development.

4.1.2 Title: Decision Theory and Risk Analysis

Duration: 1 Semester

Target groups: Graduate students, 10 male, 15 female (variable)

Geographical coverage for partners and participants: National

(The course is run in cooperation with the Division of Management and Regional Development, Department of Civil Engineering, AUTH).

Expected results: Enhanced knowledge on decision support and risk management in planning and operation of civil and environmental engineering activities.

5. Conferences/ Meetings

5.1 INWEB General Assembly

12th January 2009, Thessaloniki, Greece

Participants: Total (9)

Greece (9)

5.2 INWEB Board of Management meeting

15th February 2009, Thessaloniki, Greece

Participants: Total (7)

Greece (5), Slovenia (1), Croatia (1)

6. Interuniversity Exchanges/ Partnerships

EU Socrates Programme. 2-5 student exchanges per year between France, Germany, Austria and Greece.

7. Publication and multimedia materials

Publication of a UNESCO ISARM brochure including the inventory of 65 transboundary aquifers "Internationally Shared Aquifers in the Balkan Region: Preliminary Assessment", completing Phase I of ISARM/Balkans.

Articles in refereed conference proceedings

- 4.1 Skoulikaris, Ch., Ganoulis, J., and Monget J.M. 2009. Integrated modelling of a new dam: a case study from the "HELP" Mesta/Nestos River In: Anderssen, R.S., R.D. Braddock and L.T.H. Newham (eds) 18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation. Modelling and Simulation Society of Australia and New Zealand and International Association for Mathematics and Computers in Simulation, July 2009, pp. 4050-4056. ISBN: 978-0-9758400-7-8.

<http://www.mssanz.org.au/modsim09/114/skoulikaris.pdf>

- 4.2 Skoulidakis, Ch., Ganoulis, J., and Monget J.M. 2009. Impact of Climate Change on River Water Flow: The Case of the Transboundary Mesta/Nestos River Between Bulgaria and Greece In: Proc. 33rd IAHR Congress: Water Engineering for a Sustainable Environment, Vancouver, Canada, Aug. 2009, pp. 1108-1115, ISBN: 978-94-90365-01-1.

IV. Outcomes

The UNESCO Chair/INWEB is a network of academic and non-academic institutions. Each of the 10 Balkan member countries has a focal point for its own country's members. Concentrating on transboundary issues, the UNESCO Chair/INWEB promotes a multi-disciplinary approach to water resources management issues, involving scientists, engineers, economists, legal experts and sociologists. It encourages initiatives from the bottom up, and promotes joint training projects and the sharing of expertise.

The main outcomes of INWEB in 2007 were various research, cooperation and training activities aiming to ensure a "Sustainable Management of Water and Conflict Resolution", particularly in SE Europe (the Balkans). These activities address European policies and initiatives on environment and water, and affect in particular European cooperation in the Balkans and between EU and candidate countries like Croatia, Bulgaria and Romania. INWEB's activities generate a cooperation mechanism in support of the EU Water Initiative, and help to meet the following Millennium Development Goals related to water:

- Halve, by the year 2015, the proportion of people without access to safe drinking water every day until 2015, an additional 120,000 people should have access to safe drinking water
- Halve, by the year 2015, the proportion of people who do not have access to basic sanitation every day until 2015, an additional 240,000 people should be provided with sanitation
- Develop integrated water resources management and efficiency plans by 2005

These outcomes have a short and long term impact on socio-economic development and on better ways of Integrated Water Management. INWEB shares the idea proposed by different UNESCO projects like HELP (Hydrology, Environment, Life and Policy) and PCCP (from Potential Conflict to Cooperation Potential) and also the *EU Water Initiative* that state that at present the "water crisis is mainly a crisis of governance".

One of the main problems of water governance is the "paradigm lock", which is the lack of communication between scientists and professional decision makers. In order to break the "paradigm lock" and to make water governance more effective, INWEB promotes the linking of education, research and professional in the field, as well as partnerships between public, private and civil society actors.

INWEB also enhances the integration of research groups in the Balkans that are involved in integrated water resources management at the catchment scale and strengthens thereby the European Research Area by:

- developing approaches for integrated regional modelling as well as integrated scenarios
- creating links between ongoing and planned research programmes and coordinating initiatives at the national and international level

Dissemination remains a major feature of INWEB, ensuring that the practical use of project results will reach substantially beyond the immediate participants of the project. The most important dissemination channels and tools that INWEB uses are:

- a regularly updated website as the central dissemination platform and knowledge repository, containing all project documents, links to stakeholders and news (see www.inweb.gr)
- press releases and newsletters about key project events for wide circulation of project news

V. Forthcoming activities

(Please outline the action plan for the current biennium)

The principal forthcoming activities of INWEB are foreseen as follows:

- facilitate the exchange of information in the fields of water and environment
- promote an integrated system of research, training, information and documentation activities in the fields of integrated water management, ecology, environmental sciences, economy, conflict resolution and international waters.
- provide advice and expertise to assist developing countries, particularly the Balkan countries, in:
 - establishing inter-sectoral pilot projects;
 - facilitating links between local, regional and global levels, and harmonising top-down and bottom-up approaches whilst taking into account social issues;
 - raising public awareness and contributing to public education in the fields of water and environmental protection;
 - promoting training and professional development by providing distance learning;
 - updating inventories of existing transboundary water systems;
 - creating and maintaining databases on water and the environment compatible to European Union standards and mainly related to transboundary water bodies (rivers, lakes, and coastal waters)
 - developing guidelines and protocols for the prevention of potential conflicts and the resolution of existing conflicts over water resources and values.

	ACTION PLAN 2010-2011		
		2010	2011
1	UNESCO/ISARM/Balkans programme	x	x
2	Participation in the GEF/UNESCO/DIKTAS project	x	x
3	UNESCO/PC-CP programme	x	x
4	Upgrade INWEB as UNESCO sponsored Cat.2 Centre	x	x

VI. Development prospects

Actions aimed at obtaining a stable permanent status of the Chair/Network in the structure of the Institution

Short and medium term: Expanding education and training activities. Research in Karst and integrated modelling of water resources phenomena.

Long term:

- Developing a MSc programme on Transboundary Waters and Conflict Resolution
- Expanding research activities
- Broadening partnerships
- Mobilization of resources

Annexes

Annex 1

Sources of financial and material contributions

Host Institution: Office space, secretariat, communication tools and related expenses, other costs (electricity, consumables, etc)

Partner universities/ institutions: in kind contribution (man-days), travelling expenses

Governmental bodies and other public institutions: Research grants, in kind contribution (personnel)

UNESCO and other UN Agencies: Costs for organising meetings and workshops, travelling, expertise

Other private sources: Research foundations (grants)

Annex 2

Target groups

(Please specify for each category number of male and female)

Target group	Male	Female	Total
Undergraduate students			
Graduate students	20	30	50
Postgraduate students	3	1	4
Academics	5	2	7
Public administrators		1	1
Employees from industry or other private organizations (<i>please, specify</i>)			
Teachers from primary education			
Teachers from secondary education			
Teachers from technical and vocational education			
Teachers from adult education			
Others groups (<i>Please specify</i>)			

Geographical Coverage

- **National**
- **Regional/Interregional/International**

Please specify countries and regions

Regions	Countries
Africa	MENA Countries
Arab States	MENA Countries
Asia/Pacific	
Eastern and Central Europe	Balkan Countries
Western Europe and North America	
Latin America and the Caribbean	