

## **DATA INFRASTRUCTURE AND GEOGRAPHIC INFORMATION SYSTEM FOR DESERTIFICATION SURVEY IN AFRICA CIRCUM- SAHARIAN ZONE: ROSELT <sup>1</sup>PROGRAM**

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The fundamental purpose of ROSELT program is to improve knowledge of the mechanisms, causes, consequences and scope of desertification in arid and semi-arid zones of the circum-Saharan area. ROSELT is a key programme running by the Sahara and Sahel Observatory (OSS), co-ordinated by IRD<sup>2</sup>, CIRAD<sup>3</sup> and INSAH<sup>4</sup>, as a long term environmental monitoring and a research platform. The network of 25 Circum-Saharan observatories in 11 countries is in charge of the ecosystem characterisation, its monitoring survey and the changes assessment. To be able to, in one hand, harmonize data collection and data processing methodology, and in the other hand, take into account the heterogeneous data structure, volume and nature, is necessary to setting up of same tools to provide management, data processing and sharing the information produced.

With this framework two complementary approaches were suggested to the ROSELT network:

- Local Environmental Information System for data management and data processing (LEIS<sup>5</sup>) integrating surveyed data from the observatory and environmental scientist expertise to reach the goal of decision-making

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<sup>1</sup>Observatory Network for Long Term Ecological Survey (Réseau d'Observatoires pour le Surveillance Ecologique à Long Terme)

<sup>2</sup> IRD : Research Institute for Development (Institut de Recherche pour le Développement)

<sup>3</sup> CIRAD : Agronomical International Research Center for Development (Centre International de Recherche Agronomique pour le Développement)

<sup>4</sup> INSAH :Sahel Institute (Institut du Sahel)

<sup>5</sup> LEIS : Local Environmental Information System

products (ecosystem changes indicators). These systems are installed and available locally.

- Regional Data Infrastructure enabling data consolidation for local databases. It works with the help of two services: a production and management metadata tool referencing local data and a mediation service allowing communication between local metadata bases and data bases. This mediation service provides a coherent and global view of the available data from the observatories network

For this purpose the dynamic within the network was based onto sharing conceptual definitions (ontology, methodological guides for surveys and data processing), developing the necessary tools to reach the objectives, training sessions, charter for management and circulation of data especially for data status and duties of network members.

Our communication will present in detail these two complementary approaches, particularly on the specificity of each tool implemented in the observatories. Perspectives on using this approach at national level for environmental monitoring in the circum-Saharan zone are given.

**CONFERENCE**  
**ON WATER OBSERVATION AND INFORMATION SYSTEM**  
**FOR DECISION SUPPORT**

**BALWOIS**

**ABSTRACTS**

**25-29 May 2004**  
**Ohrid, Republic of Macedonia**



EUROPEAN COMMISSION



Institut de recherche  
pour le développement



MINISTRY OF ENVIRONMENT  
AND PHYSICAL PLANNING

**Conference on  
Water Observation and Information System  
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**Edited by: M. Morell  
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A. Selenica  
Z. Spirkovski**

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# Conference on Water Observation and Information System for Decision Support

Under the auspices of  
EUROPEAN COMMISSION

patronized by  
MINISTRY OF ENVIRONMENT AND PHYSICAL PLANNING  
REPUBLIC OF MACEDONIA

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JULIJANA MINEVSKA

Publisher :

Ministry of Environment and Physical Planning of Republic of Macedonia

Web Site : [www.balwois.net](http://www.balwois.net)

CIP - Каталогизација во публикација  
Народна и универзитетска библиотека "Св. Климент Охридски",  
Скопје

556:551.58 (063)  
626/628 (063)  
502.51 (063)

CONFERENCE on Water observation and information systems for  
decision support (2004 ; Ohrid)

BALWOIS : abstracts / Conference on Water observation and information  
systems for decision support, 25-29 May 2004 Ohrid,  
Republic of Macedonia ; edited by M. [Marc] Morell... [и др.]. –  
Skopje : Ministry of environment and phisical planning , 2004. –  
482 стр. : илустр. ; 30 см

ISBN 9989-110-26-3

1. Gl.stv.nasl. 2. Morell, Marc

а) Хидрологија - Собири б) Водни еко-системи - Собири  
в) Водостопанство - Собири г) Животна средина - Собири  
COBISS.MK-ID 57111050

ISBN 9989-110-26-3

NOTE: This volume contains original authors' abstracts reviewed and accepted by the  
Conference Scientific Committee.