

River Monitoring System - RIMSYS

A cooperation project between Switzerland and the Republic of Macedonia



Objectives

- Document long-term changes in water pollution
- Implement legal and operational water protection measures

Goals

- Revitalisation / reconstruction of 18 monitoring stations
- Refurbishment and instrumentation of environmental laboratory
- Data management and publication



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Partners Involved

- Financing Agencies: - Ministry of Environment and Physical Planning (MoEPP)
- Swiss Agency for Development and Cooperation (SDC)
- Implementing Agency: - Hydrometeorological Service (HMS)
- Project Support Unit: - URBAS, represented by ITECO Engineering Ltd with local partner Timelproject
- Project Scientific Advisor: - Swiss Federal Institute for Environmental Science and Technology (EAWAG)
- Software Support: - A.P. KERN Ltd, Switzerland

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Monitoring Stations

RIMSYS monitoring network

- 18 monitoring stations at the main rivers
- equipped with modern measuring instruments
- teletransmission of data to the Institute (HMS)
- calibration tools



Monitoring Stations

Planning and design

- Local expertise (HMS)
- International support



Construction

- Local contractors
- Supervision by HMS and MoEPP



Instrumentation

- Water level
- Temperature
- pH
- Turbidity
- Electroconductivity



Electrification

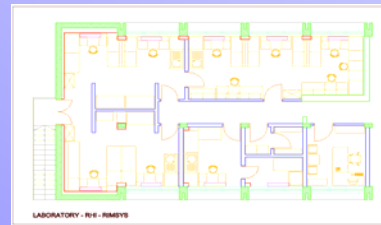
- Power grid
- Batteries and solar panels



Environmental Laboratory

Main characteristics

- Area of 150 m² at HMS
- Modern laboratory furniture
- Equipment for chemical and bacteriological analysis of samples
- New analysis instruments will complement the equipment already present at the Institute
- Training on the job for the local staff



Data Management

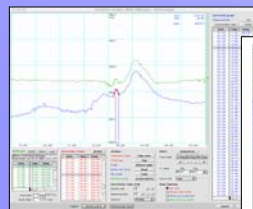
Data Management System:
HydroPro™ (by **KERN**)

- Reliable System
- Modules for hydrometry and water quality data

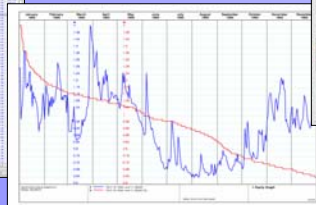


Training on the job

Data Management



Data Analysis



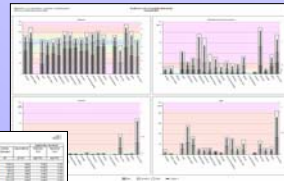
Data Editing



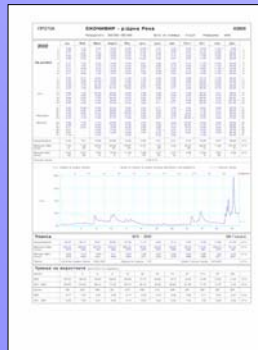
Publication of Data

- Publication of yearbook for hydrometry and water quality data
- Publication of selected data in internet (www.meteo.gov.mk)

Graphics



Tables

A large data table with multiple columns and rows, displaying numerical data in a structured format.

Yearbook sheet

Internet



Next steps

Monitoring stations

- Conclusion of construction works
- Instrumentation and electrification
- Operation and maintenance
- Training on the job of the staff

Environmental laboratory

- Installation of furniture and analysis instruments
- Training on the job of the staff

In general

- Evaluation of the project and decision about possible future build-ups



Possible build up phases

Data collection

- Extension of the RIMSYS network with integration of other national or local monitoring stations

From Monitoring to Alarm Systems

- Integration of the RIMSYS monitoring stations into a forecasting system against floods and/or water contaminations

Coordination and data transfer

- Important is the coordination with other ongoing projects in this sector

