

Microclimate Cave Monitoring System

*Professional
Supervision &
Original Cave State
Conservation*



Microclimate Cave Monitoring System

FEATURES:

- Data logger remote configuration, monitoring and software update
- Compact design
- Easy manipulation (interchangeable loggers)
- Easy data access through the web-interface
- Battery equipped data loggers as the ensurance of continuous operation

Introduction

Microclimate cave monitoring system aim is a detail measurement, recording and storing of data of selected natural parameters of cave environment.

Cave monitoring system is a unique integrated system consisting of permanent and mobile data loggers, communication network, data collection and central database and management system.

The core of monitoring system are installed loggers where the measured data are ingested. All loggers in the cave are connected to the common communication bus. The outside logger with the GSM signal coverage is used for all collected data transmission. Mobile monitoring systems are portable stations with loggers and sensors. They are intended for short time measurements or for measurements on site without wiring. These stations works as autonomous systems with a local data storage on batteries.

The central system automatically collects data from all loggers and database provides quality control and easy access to measured data.

The System Components

Data logger	AMS 111 II (mobile/permanent installation)
Sensors	according to requirements
Remote PC	according to requirements
Software	AMS 111 II Data logger SW, Data collection system, AWS Explorer, Network manager, EnviDB



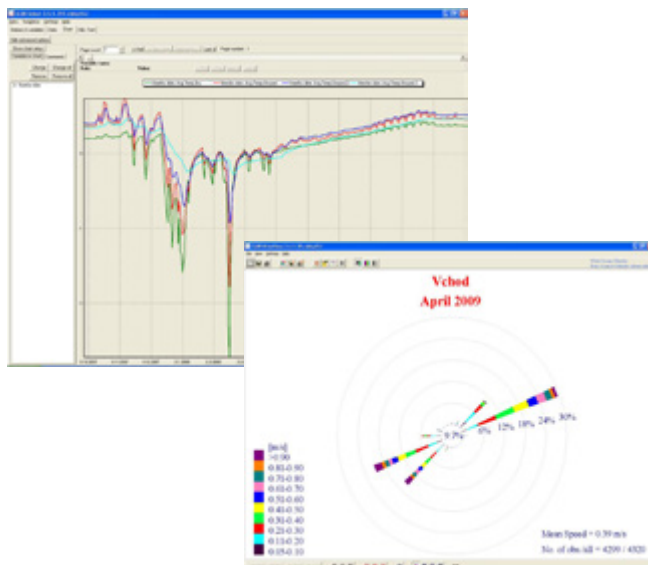
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Main purpose of the central database is to:

- Automate procedures for the data management and processing
- Integrate data from collection system
- Provide data storage for environmental data and meta-data
- Perform quality control
- Single point of access for end-user services for data provision, distribution and publication

The metadata are inevitable part of climate data itself. The CLDB allows storing various metadata inside the database. Metadata are organized in three groups - station geography, observation description and element description.

Data quality control is performed because it is crucial to ensure that only unique, high quality observations are submitted to database processing.



Installed Cave Systems

The largest cave monitoring system in the world

Czech Republic

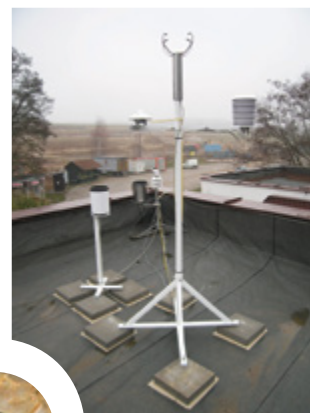
- Katerinska Cave
Permanent cave system and mobile cave system – more than 70 sensors and 10 data loggers

Slovenia

- Postojna Cave
Permanent cave system - 10 sensors and 2 data loggers

Slovak Republic

- Domic Cave
 - Gombasecka Cave
 - Dobsinska Ice Cave
 - Demanovska Cave of Liberty
 - Demanovska Ice Cave
 - Jasovska Cave
 - Ochtinska Aragonite Cave
- 7 Permanent cave systems and 12 mobile systems – more than 300 sensors and cca 75 data loggers**



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Monitoring and Information Systems

