

COURSE TITLE:

FROM MONITORING TO DATA ANALYSIS

COURSE DESCRIPTION:

With the development of analytical and in general sampling methods, the number and size of environmental datasets are continuously increasing. Therefore during the education of environmental scientists special attention should be paid to teach the students, exactly, how these datasets are obtained and how should these be handled. The main aim of the subject is to show the students, at the beginning of their studies, what are the basic characteristics of these datasets, how were these obtained, what are the common errors and mistakes related to them and what are the biggest difficulties when it comes to work with them. Moreover the subject wants to provide preliminary knowledge for the obligatory *Advanced calculations in environmental science* subject. Main competence areas to be developed:

The student will gain knowledge about:

- How a dataset is formed from environmental monitoring
- What are the critical points where the dataset could become non-representative
- What are the basic data manipulation techniques to make an obtained dataset „clearer”
- What problems may under-representativeness result in

At the end of the course the student will be capable of:

- Obtaining an overview on what sort of dataset he/she will have to deal with
- Transforming the obtained dataset to make it as easy to use as possible, i.e. handling missing values, typos etc.

LITERATURE:

József Kovács, Péter Tanos, János Korponai, Ilona Kovácsné Székely, Károly Gondár, Katalin Gondár-Sőregi and István Gábor Hatvani (2012). Analysis of Water Quality Data for Scientists, Water Quality Monitoring and Assessment, Dr. Voudouris (Ed.), ISBN: 978-953-51-0486-5, InTech, DOI: 10.5772/32173

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