

DATA AVAILABILITY FOR MODELLING DIFFUSE LOSSES OF NUTRIENTS IN EUROPEAN CATCHMENTS

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ABSTRACT

The EUROHARP project performs a comparative study of nine models for quantification of nutrient losses from diffuse sources, in particular agricultural sources. These models are currently used by research institutes in Europe to provide information for national authorities to be used in the implementation of national and international commitments such as the Nitrates Directive, the Urban Waste Water, EEA's EUTOWATERNET and the Water Framework Directive. The study will be carried out in 17 catchments throughout Europe covering significant gradients in climate, soil conditions, hydrology, land use and agricultural practices.

The EUROHARP project has established a database in which data collected from the 17 catchments are stored, based on the data requirements of the various models.

The level of complexity varies among the nine EUROHARP models as does the data requirements, but following a strict data exchange protocol, about 7,000,000 records have been entered in the data base.

This presentation will provide an overview of the data availability and the potential constraints – with regard to modelling of diffuse agricultural sources in catchments located in a large number of European countries in a north-south, and east-west gradient. The data include information about issues such as topography, meteorology, land-use, fertiliser and manure application, hydrology, soil, groundwater conditions, atmospheric conditions, stagnant water conditions, vegetation/crops and erosion, as well as long time series of monitoring in lakes, reservoirs and rivers within the catchments.

The first presentation of data collected in such a pan-European scale will provide a very useful insight into the data availability and the problems water management authorities may encounter at local, regional and national levels in order to obtain as accurate and sufficient information as required for example when establishing the link between pressures and impacts, and the work to be carried out when developing River Basin Management Plans in the implementation of the Water Framework Directive. It also shows the varying character of data availability and large differences in the length of monitoring time series from one catchment or country to another, and thereby also the potential difficulties in a transparent calibration as well as validation of the applied models for quantifying diffuse agricultural sources.