

Efficient management of biological water quality data

ECOLOGY | WATER QUALITY | HYDROLOGY



Discover what's hidden in your data!

Designed to **manage and analyse biological observation data**, KiECO software provides you with efficient options of observing and analysing the ecological aspects of water bodies. Its unique added value consists of a **comprehensive approach to assess the biotic integrity of a water body** by linking biological data with **physical-chemical** and **hydrological** data that have been collected at the same time or close to the same time (see figure below). The system provides an extensive view of all data, interprets them and **analyses** correlations.

Application options

Developed in close cooperation with users, KiECO offers a range of functions designed to make your day-to-day work easier. The system provides optimum support for a wide range of tasks, among them:

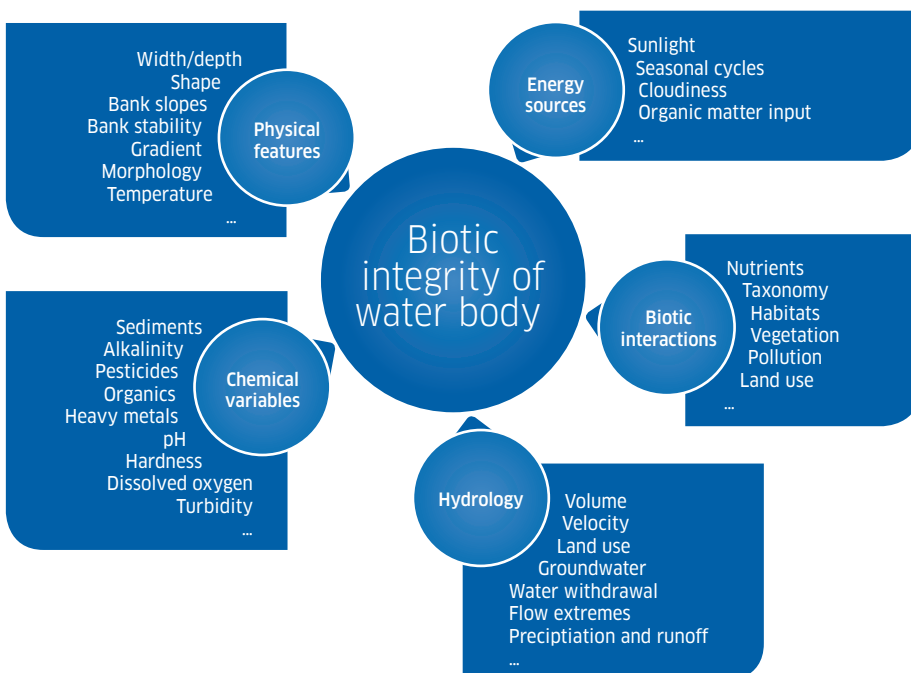
- Meeting the requirements under the EU Water Framework Directive (2000/60/EC)
- Utilisation of bioassessment
- Managing biological measuring programmes
- Preparing water quality maps for various purposes

- Fish specific investigations and fish kill assessments
- Water ecology reports and evaluations
- Monitoring of bathing waters

Benefits provided by KiECO

KiECO software offers three crucial advantages that set it apart from other available biological data management software:

- KiECO's full integration into WISKI (or HYDSTRA) and KiWQM allows the user to observe and analyse **biological, chemical-physical and hydrological data in one single system**. This function provides users with the means to discover all relevant correlation between factors, carry out holistic analysis and derive correct information.
- The system's **geographical** presentation options support the visual display of all aspects found in the biological sampling areas on a WISKI map.
- **Maximum flexibility** within all data structures facilitates customer-specific presentation of data management and viewing as well as data input, retrieval and output.



KiECO's biological data management and analysis functions

Management of biological samples

Wide range of data management and structuring functions:

- Definition of measuring programmes, research areas and habitats
- Flexible grouping system
- User-specific definition of biological research parameters by taxon (e.g. abundance, percentage share, size, gender, colour, etc.)
- Flexible definition of sample-specific attributes
- Files and documents (lab reports, photos, etc.) can be attached to the samples
- Insertion of user-specific comments

- All changes over time can be stored in the taxonomy
- Choice between configurable explorer views for classic taxonomy or user-specific views (by functional groups, area of interest, etc.)

Geographic presentation of research areas and habitats

KiECO's special feature consists of its comprehensive location-related functions and views that provide a **clear geographical view** of research areas and habitats as well as the overall condition of water bodies on the WISKI map:

- Storage of filter criteria
- Visualisation of filter results in tables or on WISKI map
- Data export from filter
- Comprehensive graphic visualisation options (including hydrological and/or physical-chemical data)

Import and input

KiECO offers the following data import and input functions:

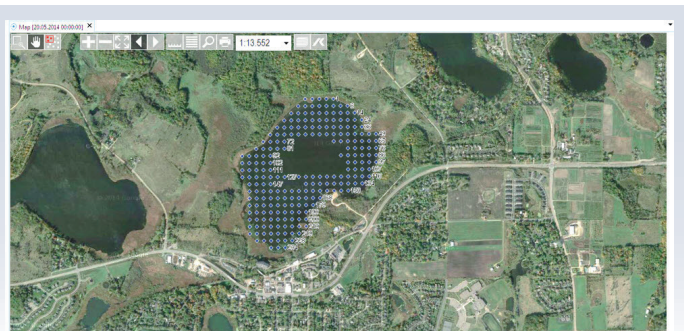
- Manual input via straightforward input mask
- Manual and automatic file import
- Flexible definition of import formats
- Formal data validation during import

Data analysis and biological data reports

Thanks to the integration of KiScript, the KISTERS script language, KiECO offers a range of data analysis and reporting options:

- Calculation of biotic indicators
- Taxon or habitat-specific analysis
- Analysis of user-defined periods or intervals
- Evaluations including linkage with hydrological and/or physical-chemical data
- Standard reports and customer-specific reports in MS Excel or Business Objects

This is merely a brief summary of the main functions offered by KiECO. If you have any further questions, please do not hesitate to contact us!



Sampling area (lake) with several observation spots

- Geographical presentation in the form of points, lines or polygons
- Individual data, details, attachments and comments can be retrieved from the map
- Full integration with KISTERS GIS products

Taxonomic tree

- Hierarchical classification of sample data in a taxonomic tree (according to Linné)
- Free definition of taxa and user-defined attributes (e.g. synonyms, authors, publications, URLs, etc.)
- Flexible design of the taxonomic tree (ranks, taxon)

Searching and visualizing biological data

The KiECO filter provides access to the **information embedded in your data** and guides you towards relevant analyses and statements:

- Search data by research area, habitat, taxon, sample, result
- User-defined filter criteria

The module KiECO enhances the water quality module KiWQM (for chemical water quality data) in the water information system WISKI (for hydrological data). KiECO can be activated in WISKI easily and without complex installation. The software is suitable for any biological data - not only water-related.