



Metadata

Biological and environmental database of the Ruhr catchment (Germany)

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General information

name of the dataset:

full name of the dataset: *Biological and environmental database of the Ruhr catchment (Germany)*

type of dataset ([more information](#)): *species (taxonomic group) per site database including environmental information*

data type: *point data/observation data*

short description of the dataset/summary:

The database of the EU project MARS contains point data of macroinvertebrates, fish and macrophytes including hydromorphological, physico-chemical and land use information. Most biotic and physico-chemical data have been collected as part of an extensive national monitoring survey. Land use information (ATKIS land cover data) was GIS-based generated for fixed buffer strips with different widths and lengths.

science keywords according to [GCMD](#):

topic: *Biosphere, Biological Classification*

keywords: *macroinvertebrates, macrophytes, fish, freshwater, river, hydromorphology, land use, physico-chemical parameters*

ISO topic category according to [ISO 19115](#):

Biota, Environment, Inland Waters

Technical and administrative specifications

data format: *Access*
operating system: *all Windows systems*
data language: *English*
current access level: *internal*
currently available through [GBIF](#): *no*
exchange planned: *no*
data in data repository: *no*
update level: *continuously updated*
documentation:
type: *internal description*
language: *English*

Do you plan to publish the data on the Freshwater Biodiversity Data Portal:
no

contact details:

metadata contact person:

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technical contact person:

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scientific contact person:

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Intellectual property rights and citation

(if the database is already published):

dataset creator (data compiler):

contact name: *Alexander Gieswein*
contact email: *alexander.gieswein@uni-due.de*
contact institution: *University of Duisburg-Essen*

data contributors to/owners of this dataset:

number: *multiple*
4

provider 1:

provider institute: *Department of Aquatic Ecology, University of Duisburg-Essen*
contact name: *Alexander Gieswein*
contact email: *alexander.gieswein@uni-due.de*
criteria for using the data in a publication/scientific analysis:
The dataset needs to be requested from dataset creator with specific conditions of use.

provider 2:

provider institute: *Landesamt für Natur, Umwelt und Verbraucherschutz NRW*
contact name: *Michael Holland*
contact email: *Michael.Holland@lanuv.nrw.de*
criteria for using the data in a publication/scientific analysis:
The dataset needs to be requested from dataset creator with specific conditions of use.

provider 3:

provider institute: *Ruhrverband*
contact name: *Petra Podraza*
contact email: *petra.podraza@ruhrverband.de*
criteria for using the data in a publication/scientific analysis:
The dataset needs to be requested from dataset creator with specific conditions of use.

provider 4:

provider institute: *Limares*
contact name: *Jelka Lorenz*
contact email: *jelka.lorenz@limares.de*
criteria for using the data in a publication/scientific analysis:
The dataset needs to be requested from dataset creator with specific conditions of use.

citation of this dataset:

author(s): *Alexander Gieswein*
title: *Biological and environmental database of the Ruhr catchment (Germany)*
year: *2014*

citation of the metadata:

author(s): *Gieswein A.*
title and journal (name, number, pages):
Metadata describing the biological and environmental database of the Ruhr catchment (Germany). Freshwater Metadata Journal 0: 0-0
year: *0000*
doi (if applicable): *http://dx.doi.org/10.15504/fmj.0000.0*

General data specifications

regional coverage of the dataset:

scale of the dataset: *catchment*
continents: *Europe*

spatial extent (bounding coordinates):

southernmost latitude [°]: *50,923073*
northernmost latitude [°]: *51,528715*
westernmost longitude [°]: *6,723155*
easternmost longitude [°]: *8,622136*
minimum altitude: *17 metres*
maximum altitude: *674 metres*
countries: *Europe: Germany*

Site specifications

coordinate system/grid data:	<i>latitude/longitude projected</i>
datum (e.g. WGS84):	<i>WGS84; GCS_ETRS_1989</i>
grid data available:	<i>no</i>
site coding:	
site coding available:	<i>yes numerical</i>
number of digits:	<i>4</i>
example:	<i>0150</i>
number of sites:	<i>>1000</i>
exact number of sites:	<i>1435</i>

Climate and environmental data

climate related data: *no data available*

environmental data:

available parameters per catchment: *catchment size*
GIS data source:

available parameters per site: *catchment land use along a buffer strip (100m width on both sides)*
upstream (10km) of the sampling site
GIS data source:
Site use data

available parameters per site: *distance to source*

available parameters per site: *slope*
GIS data source:

available parameters per site: *altitude*
GIS data source:

comments: *Catchment land use in buffer strips with different widths and lengths.*

physico-chemistry data: *total P, total N*

availability of physico-chemical data, if there is more than one sample per site:
mean values per site

stressors influencing the sites:

reference sites available: *no*

stressor	restored sites available	data before/after restoration available	stressor gradient available	comments
hydromorphological degradation	no	no	no	

Biological data

biological data origin:

specify project:

from sampling

compilation of national monitoring and different project survey data

organism group addressed:

fish, macro-invertebrates (Mollusca, Crayfish, Ephemeroptera, Odonata, Plecoptera, Coleoptera, Trichoptera, Chironomidae), macrophytes

Sample specifications/sample resolution

fish:

sample information:

covered timeframe:

year from - to: 2002 - 2013

historical data: no

palaeo data: no

season: spring, summer, autumn, winter

temporal resolution/frequency of sampling:

sampling frequency is highly variable, varying from single to annual sampling

time series data: no

comments: *diverse mix of national monitoring and different project sampling data*

taxonomic resolution:

genus, species

percentage of species level data: 99

taxonomic coding:

taxalist according to: *Mauch et al. 2003*

citation: *Mauch, E., Schmedtje, U., Maetze, A. & Fischer, F., 2003. Taxaliste der Gewässerorganismen Deutschlands zur Kodierung biologischer Befunde, Informationsberichte Heft 1/03. Bayerisches Landesamt für Wasserwirtschaft, München.*

coding system: *Dv-Nr*

example: *9020*

sample specifications:

quantitative (abundance data)

replicate samples: no

number of samples: 506

specification of method(s) used for sampling and sorting:

electro fishing, WFD method

citation: *Dußling, U., Berg, R., Klinger, H. & Wolter, C., 2004. Assessing the ecological status of river systems using fish assemblages. Assessing the ecological status of river systems using fish assemblages. Handbuch Angewandte Limnologie, 20. Erg. Lfg. 12/04: 1-84.*

macro-invertebrates:

sample information:

covered timeframe:

year from - to: 2001 - 2013

historical data: no

palaeo data: no

season: spring, summer, autumn, winter

temporal resolution/frequency of sampling:

sampling frequency is highly variable, varying from single to annual sampling

time series data: no

comments: *diverse mix of national monitoring and different project sampling data*

taxonomic resolution:

family, genus, species

percentage of species level data: 46

taxonomic coding:

taxalist according to: *www.freshwaterecology.info*
coding system: *ID-fwe*
example: *5291*
sample specifications: *quantitative (abundance data)*
number of samples: *1629*
specification of method(s) used for sampling and sorting:
Multi-Habitat-Sampling (MHS)
citation: *Haase, P., Lohse, S., Pauls, S., Schindehütte, K., Sundermann, A., Rolaufts, P. & Hering, D., 2004. Assessing streams in Germany with benthic invertebrates: development of a practical standardised protocol for macroinvertebrate sampling and sorting. Limnologica 34 (4): 349-365.*

macrophytes:

sample information:

covered timeframe:
year from - to: *2006 - 2013*
historical data: *no*
palaeo data: *no*
season: *summer, autumn*
temporal resolution/frequency of sampling:
sampling frequency is highly variable, varying from single to annual sampling
time series data: *no*
comments: *diverse mix of national monitoring and different project sampling data*

taxonomic resolution:

genus, species
percentage of species level data: *95*

taxonomic coding:

taxalist according to: *Mauch et al. 2003*
citation: *Mauch, E., Schmedtje, U., Maetze, A. & Fischer, F. 2003: Taxaliste der Gewässerorganismen Deutschlands zur Kodierung biologischer Befunde, Informationsberichte Heft 1/03. Bayerisches Landesamt für Wasserwirtschaft, München.*

coding system: *DV-Nr*
example: *2074*

sample specifications:

semi-quantitative
replicate samples: *no*
number of samples: *447*
specification of method(s) used for sampling and sorting:
WFD method

citation: *Schaumburg, J., Schranz, C., Meilinger, P., Stelzer, D., Hofmann, G., Foerster, J., Gutowski, A., Schneider, S., Köpf, B. & Schmedtje, U., 2005. Makrophyten und Phytobenthos in Fließgewässern und Seen - Das deutsche Bewertungsverfahren: Entwicklung, Praxistest und Ausblick. Limnologie Aktuell 11: 63-75.*

Other specifications

GIS layers, shapes related to the dataset:

catchments, river-sub-basins
land use
others (specify): *Hydromorphological data available for each 100m stretch of the streams in the basin (20 parameters per 100m stretch).*
Digital Elevation Model (10m grid size).

availability of photos: *no*

availability of maps: *no*

quality control procedures:

Were any quality control procedures applied to your dataset?
no