Metadata

Metadata of the Danube Delta Database

Exported from the Freshwater Biodiversity Data Portal, http://data.freshwaterbiodiversity.eu
Visit the Freshwater Metadatabase, http://data.freshwaterbiodiversity.eu/metadb/about_metadata

General information

name of the dataset:

full name of the dataset:	*Metadata of the Danube Delta Database*
dataset short name:	*DELTA*
type of dataset (more information):	*species (taxonomic group) per site database including environmental information*
specify:	*aquatic macrophytes, fish, macro-invertebrate*
data type:	*point data/observation data, shape files*
short description of the dataset/summary:	*A description of biological and ecological data of the Danube delta lakes and channels is presented. The biological indicators refer to aquatic macrophytes, fish, zoo-plankton, and macro-invertebrates. Environmental data include physio-chemical data as well as hydrological parameters.*

science keywords according to GCMD:

topic:	*Biosphere, Biological Classification, Terrestrial Hydrosphere*
keywords:	*Danube delta , aquatic macrophytes, fish, zoo- plankton, macro-invertebrate*

ISO topic category according to ISO 19115:

Biota, Environment, Inland Waters

Technical and administrative specifications

data format:	*Excel*
operating system:	*all Windows systems*
data language:	*English*
current access level:	*restricted access, internal*
currently available through GBIF:	*no*
exchange planned:	*no*
update level:	*continously updated*
documentation:	
type:	*internal description*
language:	*English*
Do you plan to publish the data on the BioFresh data portal:	*no*
contact details:	

metadata contact person:	
first, last name:	*Jenica Hanganu*
email:	*jenica.hanganu@ddni.ro*
institution:	*Danube Delta National Institute for Research and Development*
address:	*Babadag 165*
postal code, city:	*820112 Tulcea*
country	*Romania*
technical contact person:	
first, last name:	*Ion Grigoras*
email:	*ion.grigoras@ddni.ro*
scientific contact person:	
first, last name:	*Ion Navodaru*
email:	*ion.navodaru@ddni.ro*

Intellectual property rights and citation

(if the database is already published):

dataset creator (data compiler):

contact name:	*Jenica Hanganu*
contact email:	*jenica.hanganu@ddni.ro*
contact institution:	*Danube Delta National Institute for Research and Development*

data contributors to/owners of this dataset:

	multiple
number:	*4*

provider 1:

provider institute:	*Danube Delta National Institute for Research and Development*
contact name:	*Ion Navodaru, Aurel Nastase*
contact email:	*ion.navodaru@ddni.ro*
criteria for using the data in a publication/scientific analysis:	
	The dataset needs to be requested from dataset creator with specific conditions of use.
comments:	*Fish database*

provider 2:

provider institute:	*Danube Delta National Institute for Research and Development*
contact name:	*Iuliana Mihaela Tudor*
contact email:	*mihaela.tudor@ddni.ro*
criteria for using the data in a publication/scientific analysis:	
	The dataset needs to be requested from dataset creator with specific conditions of use.
comments:	*Zoo-plankton database*

provider 3:

provider institute:	*Danube Delta National Institute for Research and Development*
contact name:	*Orhan Ibram*
contact email:	*orhan.ibram@ddni.ro*
criteria for using the data in a publication/scientific analysis:	
	The dataset needs to be requested from dataset creator with specific conditions of use.
comments:	*Macro-invertebrates database*

provider 4:

provider institute:	*Danube Delta National Institute for Research and Development*
contact name:	*Jenica Hanganu, Mihai Doroftei*
contact email:	*jenica.hanganu@ddni.ro , mihai.doroftei@ddni.ro*
criteria for using the data in a publication/scientific analysis:	
	The dataset needs to be requested from dataset creator with specific conditions of use.
comments:	*Aquatic macrophytes database*

citation of this dataset:

author(s):	*Hanganu J., Navodaru I., Tudor I. M., Ibram O., Doroftei M., & Nastase A.*
title:	*Danube Delta database*
year:	*2014*

citation of the metadata:

author(s):	*Hanganu J., Navodaru I., Tudor I. M., Ibram O., Doroftei M., & Nastase A.*
title and journal (name, number, pages):	
	Introduction of the Danube Delta Database. Freshwater Metadata Journal 8: 1-11

year:	*2015*
doi (if applicable):	*http://dx.doi.org/10.15504/fmj.2015.8*

General data specifications

regional coverage of the dataset:

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

spatial extend (bounding coordinates):

southernmost latitude [°]:	*44°20'56.16"*
northernmost latitude [°]:	*45°26'57.30"*
westernmost longitude [°]:	*28°28'51.10"*
easternmost longitude [°]:	*29°49'37.16"*
minimum altitude:	*0.0 metres*
maximum altitude:	*47 metres*
countries:	*Europe: Romania*
comments:	*Danube Delta Biosphere Reserve - Romania*

Site specifications

coordinate system/grid data:	*latitude/longitude*
	projected
datum (e.g. WGS84):	*EPSG 31700*
grid data available:	*no*
resolution:	*1/25000*
site coding available:	*yes*
	alphanumerical
example:	*ROSCI 0065 Danube Delta*
number of sites:	*<100*
exact number of sites:	*15*

Climate and environmental data

climate related data:

available per: *per catchment*

spatial resolution of the data (if not catchment/site related): *50 km*

available parameters:

mean annual temperature January, July
http://www.meteoromania.ro/anm/?page_id=138 data source
mean annual temperature for each month
http://www.meteoromania.ro/anm/?page_id=138 data source
minimal, maximal and mean winter and summer temperatures
http://www.meteoromania.ro/anm/?page_id=138 data source
daily air temperatures
http://www.meteoromania.ro/anm/?page_id=138 data source
mean annual precipitation
http://www.meteoromania.ro/anm/?page_id=138 data source
winter and summer precipitation
http://www.meteoromania.ro/anm/?page_id=138 data source
evaporation
http://www.meteoromania.ro/anm/?page_id=138 data source
mean discharge
http://www.meteoromania.ro/anm/?page_id=138 data source

environmental data:

available parameters per catchment: *catchment size*
http://www.icpdr.org/main/danube-basin data source
available parameters per catchment: *catchment land cover/land use*
GIO Land Monitoring 2011-2013 in the framework of regulation (EU) No 911/2010 data source
available parameters per catchment: *hydrological regime/flow regime*
Sokrut et al., 2012 data source: 1D/2D for the lower Danube and Danube delta
available parameters per site: *catchment land use upstream of sampling site*
GIO Land Monitoring 2011-2013 in the framework of regulation (EU) No 911/2010 data source
available parameters per site: *catchment land use along a buffer strip (100m width on both sides) upstream (10km) of the sampling site*
GIO Land Monitoring 2011-2013 in the framework of regulation (EU) No 911/2010 data source
available parameters per site: *information on floodplain inundation duration*
Sokrut et al., 2012 data source: 1D/2D for the lower Danube and Danube delta
available parameters per site: *information on riparian vegetation (incl. information on modification)*
Hanganu et al., 2002 data source
available parameters per site: *information on embankment (incl. information on modification)*
DTM of the Danube delta and Danube river data source
available parameters per site: *information on channel form (incl. information on modification)*
DTM of the Danube delta and Danube river data source
available parameters per site: *information on cross section (incl. information on modification)*
Sokrut et al., 2012 data source: 1D/2D for the lower Danube and Danube delta
available parameters per site: *distance to next migration barrier upstream*
DTM of the Danube delta and Danube river data source
available parameters per site: *distance to the next lake upstream*

	DTM of the Danube delta and Danube river data source:
available parameters per site:	*distance to the next main village/town upstream*
	DTM of the Danube delta and Danube river data source:
available parameters per site:	*river length*
	http://www.icpdr.org/main/danube-basin data source:
available parameters per site:	*distance to source*
	http://www.icpdr.org/main/danube-basin data source:
available parameters per site:	*distance to mouth*
	http://www.icpdr.org/main/danube-basin data source:
available parameters per site:	*stream order (according to Strahler)*
	DTM of the Danube delta and Danube river data source:
available parameters per site:	*slope*
	DTM of the Danube delta and Danube river data source:
available parameters per site:	*hydrological regime/flow regime*
	Sobek simulation: 1D/2D for the lower Danube and Danube delta data source:
available parameters per site:	*discharge*
	Sobek simulation: 1D/2D for the lower Danube and Danube delta data source:
available parameters per site:	*current velocity*
	Sobek simulation: 1D/2D for the lower Danube and Danube delta data source:
available parameters per site:	*maximum depth*
	Sobek simulation: 1D/2D for the lower Danube and Danube delta data source:
available parameters per site:	*mean depth*
	Sobek simulation: 1D/2D for the lower Danube and Danube delta data source:
available parameters per site:	*information on instream habitat (incl. information on modification)*
comments:	*Hanganu, J., Dubyna, D., Zhmud, E., Grigoras, I., Menke, U., Drost, H., Stefan, N., & Sârbu, I. (2002). Vegetation of the Biosphere Reserve "Danube Delta" with Transboundary Vegetation Map on a 1: 150000 scale. Danube Delta National Institute, Romania; M.C. Kholodny - Institute of Botany & Danube Delta Biosphere Reserve, Ukraine and RIZA The Netherlands. RIZA Rapport 2002049, Lelystadt.*
physico-chemistry data:	*total P, ortho P, total dissolved P, nitrate, nitrite, total N, ammonium, sulphate, chloride, sodium, magnesium, calcium, alkalinity, TOC (total organic carbon), oxygen content, BOD5 (biochemical oyxgen demand), water temperature, pH, conductivity, chlorophyll, Secci disc depth, suspended solids, substrate, sediment/soil parameters*
availability of physico-chemical data, if there is more than one sample per site:	*mean values per site*
comments:	

stressors influencing the sites:

reference sites available: *yes*

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

hydrologic stress (e.g. impoundment, flow velocity reduction, hydropeaking, water abstraction, flow velocity increase)	yes	yes	yes	

Biological data

biological data origin:	*from sampling*
specify project:	*Danube delta monitoring programm and other national and international collaboratives projects*
organism group addressed:	*fish, macro-invertebrates (Mollusca, Ephemeroptera, Odonata, Coleoptera, Trichoptera, Chironomidae), zooplankton, macrophytes*

Sample specifications/sample resolution

fish:

sample information:

covered timeframe:

year from - to: *1996 - 2014*

historical data: *no*

palaeo data: *no*

season: *spring, summer, autumn*

temporal resolution/frequency of sampling:

per season and/or per year

time series data: *no*

taxonomic resolution: *family, genus, species*

percentage of species level data: *100*

taxonomic coding:

taxalist according to: *Kotelat & Freyhof 2007*

citation: *Kottelat M. and J. Freyhof 2007. European Freshwater Fishes. Kottelat, Cornol, Switzerland and Freyhof, Berlin, Germany. 646p. ISBN 978-2-8399-0298-4.*
Banarescu P., 1964. Pisces Osteichthyes. Fauna Republicii Populare Romane. Bucuresti, 963p.
Froese, R. and D. Pauly. Editors. 2015. FishBase. World Wide Web electronic publication. www.fishbase.org, version (04/2015).

coding system: *no number coding system for taxa*

example: *genus & species: Esox lucius*

sample specifications: *quantitative (abundance data)*

number of samples: *500*

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

scientific fishing with: research seine, commercial gillnets, nordic gillnets, electric fishing

citation: *CEN, 2005. Water quality - Sampling of Fish with multi-mesh gillnets. EN 14757:2005:E.*
CEN, 2003. Water quality - Sampling of fish with electricity. EN 14011:2003:E.

sample type (e.g. habitat specific samples, composite samples etc.):

composite samples

specific sample location (e.g. littoral, profundal, transect, shoreline, hyporheic zone, etc.):

large rivers, canals, shallow lakes, littoral sea

other important sample related informations:

relative abundance and biomass data (Catch per Unit Fishing Effort - CPUE)

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macro-invertebrates:

sample information:

covered timeframe:

year from - to: *2000 - 2014*

historical data: *no*

palaeo data: *no*

season: *spring, summer, autumn*

temporal resolution/frequency of sampling:

minimum 3/year

time series data: *no*
taxonomic resolution: *family, genus, species*
percentage of species level data: *100*
taxonomic coding:
taxalist according to: *Fauna Europaea*
citation: *de Jong, Y.S.D.M. (ed.) (2013) Fauna Europaea version 2.6. Web Service available online at http://www.faunaeur.org*
sample specifications: *quantitative (abundance data), semi-quantitative*
replicate samples: *no*
number of samples: *700*
specification of method(s) used for sampling and sorting:
Sampling with Ekman-Birge grab and hand-net; samples sieved with 500 micrometer mesh size; samples preserved in 70% ethanol.
citation: *ISO 10870: 2012-10 Water quality - Guidelines for the selection of sampling methods and devices for benthic macroinvertebrates in fresh waters*
sample type (e.g. habitat specific samples, composite samples etc.):
composite sample
specific sample location (e.g. littoral, profundal, transect, shoreline, hyporheic zone, etc.):
shallow lakes and channels

zooplankton:

sample information:
covered timeframe:
year from - to: *2000 - 2014*
historical data: *no*
palaeo data: *no*
season: *spring, summer, autumn*
temporal resolution/frequency of sampling:
minimum 3/year
time series data: *no*
taxonomic resolution: *family, genus, species*
percentage of species level data: *100*
taxonomic coding:
taxalist according to: *Fauna Europaea*
citation: *de Jong, Y.S.D.M. (ed.) (2013) Fauna Europaea version 2.6. Web Service available online at http://www.faunaeur.org*
sample specifications: *quantitative (abundance data), qualitative*
number of samples: *1000*
specification of method(s) used for sampling and sorting:
The frequency and location of zooplankton sampling is dictated by the purpose of the study. Locate sampling stations as near as possible to those selected for phytoplankton, benthic organisms and physical-chemical sampling. Surface water samples were collected from the lakes in five stations per lake and three stations per Danube branch stations.
Zooplankton is collected by filtering 30 liters of water from the surface of the water body through plankton net (55 µm mesh size) and fixed immediately with absolute ethanol, into plastic container.
Sedimentation is the preferred method of concentration because it is non-selective and non-destructive (unlike filtration or centrifugation which can damage many of the rotiferans and cladocera species).

From each sample 1 ml sub-sample is placed in a Sedgwick-Rafter counting cell for identification and enumeration under optical microscope at 20X to 40X magnification. From each sample, depending on sample location and concentration 1-4 ml sub-samples were analyzed.

citation: *Clesceri L. S., Greenberg A. E., Trussell R. R., (ed.) Crumpton W. G., Murray A. P., Paterson R. A., Sellner K. G., Suidan M. T., Sullivan B. F., Swartz R., Sweeney R. A. & Walsh G. E. (1989) Biological examination of water. Part 10000, Standard Methods for the examination of water and waste water 17th Edition. Washington American Public Health Association: 10-194*

sample type (e.g. habitat specific samples, composite samples etc.):
composite samples

specific sample location (e.g. littoral, profundal, transect, shoreline, hyporheic zone, etc.):
transect

macrophytes:

sample information:

covered timeframe:

year from - to: *1996 - 2014*

historical data: *no*

palaeo data: *no*

season: *spring, summer, autumn*

temporal resolution/frequency of sampling:
per year

time series data: *no*

taxonomic resolution: *order, family, sub-family, genus, species*

percentage of species level data: *100*

taxonomic coding:

taxalist according to: *Flora Europaea*

citation: *http://en.wikipedia.org/wiki/Flora_Europaea*

coding system: *Natura 2000; EU-code*

example: *1428, Marsilea quadrifolia*

sample specifications: *quantitative (abundance data), qualitative, presence/absence*

replicate samples: *no*

number of samples: *700*

specification of method(s) used for sampling and sorting:
The Kohler survey method. During visits of the lakes by canoe a varying number of relevees per lake was sampled, depending on lake size, allocated time, observed variation in the vegetation.
Each relevee had a diameter of c. 5 m; total plant cover, and cover of individual plant species and filamentous algae were established using both visual observation and by rake operation. For each species the percentage cover projected at the bottom was estimated using a 5-point scale.

citation: *Kohler, A. (1978): Methoden der Kartierung von Flora und Vegetation von Süßwasserbiotopen. Landschaft + Stadt 10 (2): 73-85.*

sample type (e.g. habitat specific samples, composite samples etc.):
habitat specific samples

specific sample location (e.g. littoral, profundal, transect, shoreline, hyporheic zone, etc.):
transect

other important sample related informations:

Environmental factors considered were: depth (m), lake size (ha), amplitude (m) cumulative residence time (days), soil organic matter content (%), and soil clay fraction (%).
The lakes were ordinated along Principal Component axes (PCA, in CANOCO, Ter Braak, 1991).
The main ordination shows three directions: 1) clear mineral lakes with a dense vegetation; 2) turbid mineral lakes with a sparse vegetation; 3) isolated plaur lakes.

Other specifications

GIS layers, shapes related to the dataset:

species distribution
hydrological information (as HydroSHEDS)
catchments, river-sub-basins
land use
dams/reservoirs/barriers
protected areas
environmental variables (freshwater or terrestrial)

availability of photos: *no*

availability of maps: *no*

quality control procedures:

Were any quality control procedures applied to your dataset?

no