Hydrochemical database of inflows and outflow of Võrtsjärv

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Keywords

hydrochemical data, Vortsjarv, lake inflow and outflow, water quality, streams, surface water, nutrients, carbon

Short description of the dataset/summary

This database contains the hydrochemical data (different C, P, N, Si forms) that were collected during the target-financed project SF0170011s08 ("Will climate change alter the relative importance of catchment and in-lake processes in the carbon balance of shallow lakes?") from Lake Võrtsjärv. We focus on time series of water samples in intensivly monitored main inflows and outflow of Võrtsjärv during six years (2008-2013). Samples were taken at least monthly. Additionally, the database contains information on environmental parameters (T, pH, oxygen, conductivity) measured in the field when water samples were taken. Supplementary hydrological data are separately available and can be linked to the hydrochemical database.

General information

dataset entry ID:	FWM_2
name of the dataset:	
full name of the dataset:	Hydrochemical database of inflows and outflow of Võrtsjärv
dataset short name:	Võrtsjärv in&out
type of dataset:	environmental characteristics database
data type:	point data/observation data
science keywords according to GCMD:	
topic:	Terrestrial Hydrosphere
ISO topic category according to ISO 19115:	
	Environment, Inland Waters
own science keywords:	water chemistry/water quality, nutrients, surface water, rivers/streams, Vortsjarv

Technical and administrative specifications

data format: Excel
operating system: all Windows systems
data language: English
current access level: internal
web address: not available
currently available through GBIF: no
exchange planned: no
Do you plan to publish the data on the Freshwater Biodiversity Data Portal: yes
update level: completed
documentation:
type: internal description
language: English

contact details:
metadata contact person:
first, last name: Sirje Vilbaste
phone: +372 7311896
email: sirje.vilbaste@emu.ee
institution: Centre for Limnology, Estonian University of Life Sciences
address: Kreutzwaldi 1
postal code, city: 51014, Tartu
country Estonia
web address: http://www.emu.ee/
technical contact person:
first, last name: Peeter Pall
email: peeter.pall@emu.ee
scientific contact person:
first, last name: Tiina Noges
email: tiina.noges@emu.ee

Intellectual property rights and citation

dataset publisher: not published
dataset creator (data compiler):
contact name: Sirje Vilbaste
contact email: sirje.vilbaste@emu.ee
contact institution: Centre for Limnology, Estonian University of Life Sciences
data contributors to/owners of this dataset: multiple
number: 3
data contributor/owner 1:
contact name: Sirje Vilbaste
contact email: sirje.vilbaste@emu.ee
contact institute: Centre for Limnology, Estonian University of Life Sciences
criteria for using this part of the dataset:
The dataset needs to be requested from dataset creator with specific conditions of use.

other/additional criteria: Data provider must be offered co-authorship for publications using this dataset. Data must be publicly acknowledged and cited correctly.

data contributor/owner 2:

contact name: Peeter Pall
contact email: peeter.pall@emu.ee
contact institute: Centre for Limnology, Estonian University of Life Sciences

criteria for using this part of the dataset: The dataset needs to be requested from dataset creator with specific conditions of use.

data contributor/owner 3:

contact name: Malle Viik
contact email: malle.viik@emu.ee
contact institute: Centre for Limnology, Estonian University of Life Sciences

criteria for using this part of the dataset: The dataset needs to be requested from dataset creator with specific conditions of use.

citation of this dataset:

author(s): Vilbaste, S., Pall, P. & Viik, M.
title and journal (name, number, pages): Hydrochemical database of inflows and outflow of Võrtsjärv
year: 2014

citation of the metadata:

author(s): Vilbaste S., Pall P. & Viik M.
title and journal (name, number, pages): Hydrochemical database of inflows and outflow of Võrtsjärv. Freshwater Metadata Journal 6: 1-7
year: 2015
doi: https://doi.org/10.15504/fmj.2015.6

dataset related references:

reference 1:
author(s): Cremona, F., T. Kõiv, P. Nõges, P. Pall, E.-I. Rõõm, T. Feldmann, M. Viik & T. Nõges
title: Dynamic carbon budget of a large shallow lake assessed by a mass balance approach. Hydrobiologia 731: 109-123. DOI 10.1007/s10750-013-1686-3
year: 2014

reference 2:
author(s): Piirsoo, K., M. Viik, T. Kõiv, K. Käiro, A. Laas, T. Nõges, P. Pall, A. Selberg, L. Toomsalu & S. Vilbaste
title: Characteristics of dissolved organic matter in the inflows and in the outflow of Lake Võrtsjärv, Estonia. Journal of Hydrology 475: 306-313. DOI 10.1016/j.jhydrol.2012.10.015
year: 2012

reference 3:
author(s): Pall, P., S. Vilbaste, T. Kõiv, A. Kõrs, K. Käiro, A. Laas, P. Nõges, T. Nõges, K. Piirsoo, L. Toomsalu & M. Viik
title: Fluxes of carbon and nutrients through the inflows and outflow of Lake Võrtsjärv, Estonia. Estonian Journal of Ecology 60: 39-53. DOI 10.3176/eco.2011.1.04
year: 2011

General data specifications

regional coverage of the dataset:
spatial extent of the dataset: national
spatial extent (bounding coordinates):
southernmost latitude [°]: 58 07 21
northernmost latitude [°]: 58 24 28
westernmost longitude [°]: 25 54 34
easternmost longitude [°]: 26 09 34
minimum altitude: 31 metres
maximum altitude: 35 metres
comments: Estonia
European ecoregions according to Illies (WFD):
Baltic Province (ER15)
ecosystem type: rivers
covered timeframe: 2008 - 2013

Site specifications

coordinate system/grid data: latitude/longitude, format: DMS
grid data available: no
site coding available: no
number of sites: <100
exact number of sites: 6
comments: Five main inflows and outflow of Vortsjarv

Climate and environmental data

climate related data:
available parameters per catchment:
mean annual temperature January, July
data source:
http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud
mean annual temperature for each month
data source:
http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud
minimal, maximal and mean winter and summer temperatures
data source:
http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud
daily air temperatures
data source:
http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud
mean annual precipitation
data source:
http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud
winter and summer precipitation
data source:
http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud
evaporation
data source:

http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud

mean discharge

data source: http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud

comments: Climate related data are separately available at http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud and can be linked to the Hydrochemical database.

environmental data:

available parameters per catchment:

catchment size

data source: CORINE map

catchment geology

data source: geological maps

catchment land cover/land use

data source: CORINE map

population density

presence of barriers/dams/reservoirs (fragmentation)

data source: local database of barriers

hydrological regime/flow regime

data source: http://www.ilmateenistus.ee/ilmatarkus/publikatsioonid/aastaraamatud

available parameters per site:

catchment land use upstream of sampling site

data source: CORINE map

distance to next migration barrier upstream

data source: local database of barriers

distance to next migration barrier downstream

data source: no one before river mouth

distance to the next lake upstream

data source: http://register.keskkonnainfo.ee/envreg/main

river length

data source: http://register.keskkonnainfo.ee/envreg/main

distance to source

data source: www.ilmateenistus.ee/siseveed/vaatlusandmed

distance to mouth

data source: www.ilmateenistus.ee/siseveed/vaatlusandmed

stream order (according to Strahler)

data source: http://register.keskkonnainfo.ee/envreg/main

slope

data source: www.ilmateenistus.ee/siseveed/vaatlusandmed

altitude

data source: www.ilmateenistus.ee/siseveed/vaatlusandmed

hydrological regime/flow regime

data source: www.ilmateenistus.ee/siseveed/vaatlusandmed

discharge

data source: www.ilmateenistus.ee/siseveed/vaatlusandmed

mean depth

data source: Järvekülg, A. (Ed). 2001. Estonian Rivers. Tartu Ülikooli Kirjastus. 750 pp.

substrate composition

data source: http://seire.keskkonnainfo.ee

comments: Environmental data are separately available in different databases and can be linked to the hydrochemical database.

physico-chemical data: total P, ortho P, nitrate, nitrite, total N, ammonium, TOC (total organic carbon), oxygen content, water temperature, pH, conductivity

other physico-chemical parameters:

TC, TIC, DC, DIC, DOC, DSi

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

per sample

stressors influencing the sites:

reference sites available: no

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

Other specifications

GIS layers, shape files related to the dataset:

catchments, river-sub-basins
land use
protected areas

availability of photos: yes

availability of maps: yes

quality control procedures:

Were any quality control procedures applied to your dataset?

no

Acknowledgements

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References

Cremona, F., T. Kõiv, P. Nõges, P. Pall, E.-I. Rõõm, T. Feldmann, M. Viik & T. Nõges, 2014. Dynamic carbon budget of a large shallow lake assessed by a mass balance approach. Hydrobiologia 731: 109-123. https://doi.org/10.1007/s10750-013-1686-3

Järvekülg, A., 2001. Eesti jõed (Rivers of Estonia). EPMÜ Zooloogia ja Botaanika Instituut, Tartu Ülikooli Kirjastus, Tartu, 750 pp. (in Estonian)

Pall, P., S. Vilbaste, T. Kõiv, A. Kõrs, K. Käiro, A. Laas, P. Nõges, T. Nõges, K. Piirsoo, L. Toomsalu & M. Viik. , 2011. Fluxes of carbon and nutrients through the inflows and outflow of Lake Võrtsjärv, Estonia. Estonian Journal of Ecology 60: 39-53. https://doi.org/10.3176/eco.2011.1.04

Piirsoo, K., M. Viik, T. Kõiv, K. Käiro, A. Laas, T. Nõges, P. Pall, A. Selberg, L. Toomsalu & S. Vilbaste., 2012. Characteristics of dissolved organic matter in the inflows and in the outflow of Lake Võrtsjärv, Estonia. Journal of Hydrology 475: 306-313. https://doi.org/10.1016/j.jhydrol.2012.10.015