Metadata

Kharaa Yeröö River Basin Water Quality Database

General information

name of the dataset:

full name of the dataset: *Kharaa Yeröö River Basin Water Quality Database*

dataset short name: *MoMo Water Quality Database*

type of dataset (more information): *environmental characteristics database*

specify: *water quality and environmental monitoring data*

data type: *point data/observation data*

short description of the dataset/summary:

In the framework of the BMBF funded project on Integrated Water Resources Management in Central Asia (Model region Mongolia, MOMO project, www.iwrm-momo.de) the objectives focused on supplementing, validating and extending the existing surveillance monitoring to the entire river basin for the time series 2006-2017.

The MOMO monitoring programme was set up in order to observe seasonal variation in various water quality parameters along the main river course and its tributaries. A detailed sampling survey was carried out along the Kharaa River in the spring, summer and autumn of 2006 to 2017, extending from the headwaters in the Khentii Mountains to the outlet of the river basin. An additional continuous monthly monitoring programme for surface water quality was carried out upstream (Deed Guur) and downstream of Darkhan city (Buren Tolgoi) including the outlet of WWTP Darkhan in the time between 2007 and 2017.

This strategy provides information for the efficient and effective design of future monitoring programmes with a focus on operational or investigative issues. The types of water sampling programmes included initial surveys as well as investigative and operational monitoring, point-source characterization, intensive surveys, fixed-station-network monitoring, groundwater monitoring, and special surveys involving chemical and biological monitoring. The water analyses have a focus on nutrients, heavy metals and metalloids, chloride, boron and the main physical water parameters. The dataset comprises also fluvial sediment analyses on heavy metals. In addition in 2017 a special hygienic monitoring (total coliforms, E. coli and fecal coliforms) has been carried out and was included in this database.

keywords according to GCMD:

topic: *Terrestrial Hydrosphere*

ISO topic category according to ISO 19115:

Environment, Inland Waters

INSPIRE keywords according to GEMET:

Environmental monitoring facilities

own science keywords:	*river, fluvial sediments, freshwater systems, nutrients, heavy metals, metalloids, groundwater, water chemistry, pollution*
related project:	*Integrated Water Resources Management (IWRM) in Central Asia: Model Region Mongolia (MoMo)*
funding:	*German Federal Ministry of Education and Research (BMBF project No. 033W016DN)*

Technical and administrative specifications

data format:	*Access*
others/details:	*PostgreSQL*
operating system:	*all Windows systems*
data language:	*English*
current access level:	*web (public)*
web address:	*https://nimbus.igb-berlin.de/index.php/s/Wi0Fd78izfydYY2*
currently available through GBIF:	*no*
exchange planned:	*no*
data in data repository:	*no*
Do you plan to publish the data on the Freshwater Biodiversity Data Portal:	*no*
update level:	*completed, update planned*
documentation:	
type:	*manual*
language:	*English*

contact details:

metadata contact person:	
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Intellectual property rights and citation

dataset publisher (after publication is already published): *MoMo consortium*
dataset creator (data compiler):
contact name: *Jürgen Hofmann*
contact email: *j.hofmann@igb-berlin.de*
contact institution: *Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)*
data contributors to/owners of this dataset:
multiple
number: *24*
provider 1:
provider institute: *Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)*
contact name: *Jürgen Hofmann*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.
provider 2:
provider institute: *formerly: Helmholtz-Centre for Environmental Research (UFZ)*
contact name: *Ralf Ibisch*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.
provider 3:
provider institute: *German-Mongolian Institute for Resources and Technology (GMIT)*
contact name: *Daniel Karthe*
contact email: *karthe@gmit.edu.mn*
criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.
provider 4:
provider institute: *Advanced System Technology (AST) Branch of Fraunhofer IOSB*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.
provider 5:
provider institute: *formerly: Helmholtz-Centre for Environmental Research (UFZ)*
contact name: *Michael Schäffer*
contact email: *schaeffer@bafg.de*
criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.
provider 6:
provider institute: *formerly: Helmholtz-Centre for Environmental Research (UFZ)*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be

used without restrictions, but must be acknowledged and cited correctly.

provider 7:

provider institute: *formerly: Helmholtz-Centre for Environmental Research (UFZ)*
contact name: *Philipp Theuring*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 8:

provider institute: *Helmholtz-Centre for Environmental Research (UFZ)*
contact name: *Michael Rode*
contact email: *michael.rode@ufz.de*
criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 9:

provider institute: *Institute of Geography and Geoecology (IGG), Mongolian Academy of Sciences (MAS)*
contact name: *Saulyegul Avlyush*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 10:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 11:

provider institute: *Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)*
contact name: *Vanessa Bremerich*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 12:

provider institute: *formerly: Mongolian University of Science and Technology (MUST)*
contact name: *Gerel Osor*
contact email:
criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 13:

provider institute: *formerly: Helmholtz-Centre for Environmental Research (UFZ)*
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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be

used without restrictions, but must be acknowledged and cited correctly.

provider 14:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 15:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 16:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 17:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 18:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 19:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 20:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 21:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 22:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

provider 23:

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criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

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contact email: *dietrich.borchardt@ufz.de*
criteria for using the data in a publication/scientific analysis:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but must be acknowledged and cited correctly.

citation of this dataset:

author(s): *Hofmann, J., Ibisch, R., Karthe, D., Scharaw, B., Schäffer, M., Hartwig, M., Theuring, P., Rode, M., Avlyush, S., Watson, V., Bremerich, V., Osor, G., Kaus, A., Westphal, K., Pfeiffer, M., Priess, J., Schweitzer, C., Krätz, D., Gröning, J., Hürdler, J., Batbayar, G., Heldt, S., Büttner, O. & Borchardt, D.*
title and journal (name, number, pages):
Kharaa Yeröö River Basin Water Quality Database.
year: *2018*

citation of the metadata:

author(s): *Hofmann J., Ibisch R., Karthe D., Scharaw B., Schäffer M., Hartwig M., Theuring P., Rode M., Avlyush S., Watson V., Bremerich V., Osor G., Kaus A., Westphal K., Pfeiffer M., Priess J., Schweitzer C., Krätz D., Gröning J., Hürdler J., Batbayar G., Heldt S., Büttner O. & Borchardt D.*
title and journal (name, number, pages):
Metadata describing the Kharaa Yeröö River Basin Water Quality Database. Freshwater Metadata Journal 0: 0-0
year: *0000*
doi (if applicable): *https://doi.org/10.15504/fmj.0000.0*

General data specifications

regional coverage of the dataset:

spatial extent of the dataset: *catchment*

continents: *Asia*

spatial extent (bounding coordinates):

southernmost latitude [°]: *46.8761*

northernmost latitude [°]: *50.2525*

westernmost longitude [°]: *102.1911*

easternmost longitude [°]: *107.4601*

minimum altitude: *599 metres*

maximum altitude: *1478 metres*

countries: *Asia: Mongolia*

Site specifications

coordinate system/grid data:	*latitude/longitude, format: DD*
datum (e.g. WGS84):	*WGS84*
grid data available:	*no*
site coding:	
site coding available:	*yes*
	alphanumerical
number of digits:	*12*
example:	*Sel_Kh01_001*
number of sites:	*100 - 1000*
exact number of sites:	*246*

Climate and environmental data

climate related data: *no climate data available*

available per: *site*

spatial resolution of the data (if not catchment/site related): *others/specify*

comments: *The Kharaa Yeröö River basin belongs partly to cold semi-arid climates (BSk) and sub-alpine/boreal climate (Dwc) according to the KÖPPEN classification scheme.*

environmental data:

no environmental data per catchment available

no environmental data per site avaiable

physico-chemical data: *Array, Array, Array, Array, Array, Array, Array, Array, Array, Array, Array, Array, Array, Array, Array*

other physico-chemical parameters: *air temperature, antimony, arsenic, barium, beryllium, bismuth, boron, bromide, cadmium, chromium, chromium(VI), cobalt, copper, cyanide, diphosphorus pentoxide, dissolved inorganic carbon, dissolved inorganic nitrogen, dissolved nitrogen, dissolved organic carbon, dissolved organic nitrogen, Eschericha coli, fecal coliforms, fluoride, iron, lead, lithium, manganese, mercury, molybdenum, nickel, organic matter in suspended solids, oxygen concentration, oxygen saturation, phosphate, potassium, rubidium, silicic acid, silver, soluble reactive phosphorus, strontium, thallium, tin, titanium, total dissolved solids, total hardness, total coliforms, turbidity, uranium, vanadium, water quality index, zinc*

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

stressors influencing the sites:

reference sites available: *yes*

stressor	restored sites available	data before/after restoration available	stressor gradient available	comments
eutrophication	no	no	yes	
hydromorphological degradation	no	no	yes	
organic pollution	no	no	no	
toxic stress	no	no	yes	
general degradation	no	no	yes	

Other specifications

GIS layers, shape files related to the dataset:

hydrological information (as HydroBASINS)
catchments, river-sub-basins
land use
protected areas
population density
environmental variables (freshwater or terrestrial)

availability of photos: *yes*

availability of maps: *yes*

quality control procedures:

quality control protocols and comments:

The quality of data resulting from water and wastewater sampling surveys included the following six major activities: (a) formulating the particular objectives of the water sampling program, (b) collecting representative water samples, (c) maintaining the integrity of the water samples through proper handling and preservation, (d) adhering to adequate chain-of-custody and sample identification procedures, (e) practicing quality assurance in the field by using, and (f) properly analyzing the pollutants in the water samples. These areas were equally important for insuring that environmental data are of the highest validity and quality.