

Metadata of the Lake Beysehir and Its Catchment, Turkey

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Metadata of the Lake Beysehir and Its Catchment, Turkey

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Keywords

Mediterranean, shallow lakes, large lakes

Short description of the dataset/summary

This database contains climatic, hydrologic, water quality and biological information for the Lake Beysehir catchment, Turkey. The dataset includes meteorological data (precipitation, air temperature, wind speed, solar radiation, relative humidity), discharges for the main inflows and lake outflow, lake water level, water chemistry data for inflows and lake. In addition, lake biological data (phytoplankton, zooplankton, fish and macrophyte) is available. Data was compiled during the METU-DPT-TEAB project, EU-FP7 REFRESH project and EU-FP7 MARS project.

General information

dataset entry ID:	MARS_09
name of the dataset:	
full name of the dataset:	Beysehir catchment (Turkey)
dataset short name:	TRBY
type of dataset:	species (taxonomic group) per site database including environmental information
data type:	point data/observation data
science keywords according to GCMD:	
topic:	Agriculture, Climate Indicators, Land Surface, Terrestrial Hydrosphere
keywords:	water quality, nutrients, water level, irrigation, phytoplankton, zooplankton, fish, macrophyte
ISO topic category according to ISO 19115:	
	Farming, Biota, Climatology/Meteorology/Atmosphere, Environment, Inland Waters

Technical and administrative specifications

data format:	Excel
operating system:	Win 7
data language:	English
current access level:	internal
currently available through GBIF :	no
exchange planned:	no
data in data repository:	no
update level:	update planned
documentation:	
type:	others/specify
others/details:	no documentation
Do you plan to publish the data on the Freshwater Biodiversity Data Portal:	no

contact details:

metadata contact person:

first, last name:	Meryem Beklioglu
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Intellectual property rights and citation

dataset publisher:	not published
dataset creator (data compiler):	
contact name:	Meryem Beklioglu
contact email:	meryem@metu.edu.tr
contact institution:	Middle East Technical University

data contributors to/owners of this dataset:

	multiple
number:	2

data contributor/owner 1:

contact name:	General Directorate of State Hydraulic Works
contact email:	http://www.dsi.gov.tr/
contact institute:	General Directorate of State Hydraulic Works
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 2:

contact name: Turkish State Meteorological Service
 contact email: <http://www.mgm.gov.tr/>
 contact institute: Turkish State Meteorological Service
 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): Bucak Tuba, Beklioglu Meryem, Cakiroglu Ayse Idil, Erdogan Seyda, Levi Eti
 title: Database of the Lake Beysehir and its Catchment, Turkey
 year: 2015

citation of the metadata:

author(s): Bucak T., Beklioglu M., Cakiroglu A.I., Erdogan S. & Levi E.
 title and journal (name, number, pages):
 Metadata of the Lake Beysehir and Its Catchment, Turkey. Freshwater Metadata Journal 11: 1-8
 year: 2016
 doi: <http://dx.doi.org/10.15504/fmj.2016.11>

General data specifications

regional coverage of the dataset:

scale of the dataset: catchment

spatial extent (bounding coordinates):

southernmost latitude [°]: 37.20
 northernmost latitude [°]: 38.20
 westernmost longitude [°]: 31.09
 easternmost longitude [°]: 32.08
 minimum altitude: 1027 metres
 maximum altitude: 2958 metres
 countries: Asia: Turkey

world climatic regions according to [Köppen](#):

Group C: temperate/mesothermal climates

ecosystem type:

rivers, lakes/ponds, wetlands

covered timeframe:

2010 - 2012

Site specifications

coordinate system/grid data:

latitude/longitude, format: DMS
 projected, UTM
 datum (e.g. WGS84): WGS84
 grid data available: no

ecosystem type classification:

rivers (classification according to WFD):
 altitude typology
 high: >800 m
 size typology based on catchment area
 large: 1000-10000 km²

lakes (classification mainly according to WFD):

altitude typology
 high: >800 m
 depth typology based on mean depth
 3-15m
 size typology based on surface area
 0,5 to 1 km², 1 to 10 km², 10 to 100 km², > 100 km²
 geology
 calcareous
 trophic state
 stratification

site coding available: no

number of sites: <100

exact number of sites: 15

Climate and environmental data

climate related data:

available parameters per catchment:

mean annual temperature January, July
 data source: Turkish State Meteorological Service
 mean annual temperature for each month
 data source: Turkish State Meteorological Service
 minimal, maximal and mean winter and summer temperatures
 data source: Turkish State Meteorological Service
 daily air temperatures
 data source: Turkish State Meteorological Service
 mean annual precipitation
 data source: Turkish State Meteorological Service
 winter and summer precipitation
 data source: Turkish State Meteorological Service
 evaporation
 data source: Turkish State Meteorological Service
 mean discharge
 data source: Turkish State Meteorological Service
 solar radiation, wind speed, relative humidity
 data source: Turkish State Meteorological Service
 comments: Most of the meteorological data is available from 1990s.

environmental data:

available parameters per catchment:

catchment size
 data source: Republic of Turkey ministry of forestry and water affairs
 catchment land cover/land use
 data source: Republic of Turkey Ministry of Food, Agriculture and Livestock, CORINE 2006

hydrological regime/flow regime
 data source: General Directorate Of State Hydraulic Works

available parameters per site:

catchment land use upstream of sampling site
 data source: CORINE 2006
 information on water uses (e.g., irrigation, fish ponds)

data source: General Directorate Of State Hydraulic Works
 hydrological regime/flow regime
 data source: General Directorate Of State Hydraulic Works
 discharge
 data source: General Directorate Of State Hydraulic Works
 comments: Water level data is available from beginning of 1900s, while water discharge data mostly available from 1993.
physico-chemistry data: total P, total dissolved P, nitrate, nitrite, total N, ammonium, alkalinity, oxygen content, water temperature, pH, conductivity, chlorophyll, Secci disc depth, suspended solids
 availability of physico-chemical data, if there is more than one sample per site:
 mean values per site
 comments: Physico-chemical data was obtained through sampling conducted between 2010-2012 during the METU-DPT-TEAB project and EU-FP7 REFRESH project.

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	
hydrologic stress (e.g. impoundment, flow velocity reduction, hydropeaking, water abstraction, flow velocity increase)	no	no	yes	

Biological data

biological data origin: from sampling
 specify project: METU-DPT-TEAB and EU FP7 REFRESH project
 organism group addressed: fish, zooplankton, phytoplankton, macrophytes

Sample specifications/sample resolution

fish:

sample information:

covered timeframe: 2010 - 2012
 historical data: no
 palaeo data: no
 season: summer
 temporal resolution/frequency of sampling:
 per year
 time series data: no

taxonomic resolution:

level: species
 percentage of species level data: 90

taxonomic coding:

taxalist according to: No standardised taxalist available.
 coding system: Taxa are listed with species name.
 example: *Pseudorasbora parva*

sample specifications:

type: quantitative (abundance data)
 number of samples: 2
 specification of method(s) used for sampling and sorting:
 Fish sampling was performed with Lundgren multi-mesh gill nets (length 30 m; height 1.5 m; 12 panels with mesh sizes of 5.0, 6.25, 8.0, 10.0, 12.5, 15.5, 19.5, 24.0, 29.0, 35.0, 43.0 and 55.0 mm). The nets were set overnight (for 12 hours) in both the littoral zone and pelagic zone. Fish were counted, measured (total length), and weighed (fresh mass).

zooplankton:**sample information:**

covered timeframe: 2010 - 2012
 palaeo data: yes
 season: spring, summer, autumn, winter
 temporal resolution/frequency of sampling:
 per month
 time series data: no
 comments: Samplings were conducted monthly between April 2010-March 2012.

taxonomic resolution:

level: genus
 percentage of species level data: 90

taxonomic coding:

taxalist according to: No standardised taxalist available.
 coding system: Taxa are listed with genus name.
 example: *Daphnia*

sample specifications:

type: quantitative (abundance data)
 replicate samples: yes
 number of samples: 22
 specification of method(s) used for sampling and sorting:
 20 liter of water taken from the deepest point of the lake is filtered in the field with 20 µg filter equipment and preserved in 4% lugol solution. Zooplankton are counted under the microscope at genus level. To calculate biomass, body length of the at least 25 individuals from all taxa are measured when it is possible.

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

phytoplankton:**sample information:**

covered timeframe: 2010 - 2012
 historical data: no
 season: spring, summer, autumn, winter
 temporal resolution/frequency of sampling:
 per month

time series data: yes
 comments: Samplings were conducted monthly between April 2010-March 2012.

taxonomic resolution:

level: genus
 percentage of species level data: 90

taxonomic coding:

taxalist according to: No standardised taxalist available.
 coding system: Taxa are listed with genus name.
 example: Scenedesmus

sample specifications:

type: quantitative (abundance data)
 replicate samples: yes
 number of samples: 22
 specification of method(s) used for sampling and sorting:
 Water sample was taken from the deepest point of the lake and preserved in 2% lugol solution. Samples are counted according to Utermöhl method under the inverted microscope at genus level. To calculate biovolume, dimensions of at least 25 individuals from all taxa are measured when possible.

macrophytes:**sample information:**

covered timeframe: 2010 - 2012
 historical data: yes
 palaeo data: yes
 season: summer
 temporal resolution/frequency of sampling:
 per year
 time series data: no
 comments: Samplings were performed in summer 2010 and summer 2012.

taxonomic resolution:

level: species
 percentage of species level data: 90

taxonomic coding:

taxalist according to: No standardised taxalist available.
 coding system: Taxa are listed with species name.
 example: Potamogeton pectinatus

sample specifications:

type: semi-quantitative
 replicate samples: yes
 number of samples: 2
 specification of method(s) used for sampling and sorting:
 Aquatic macrophytes (floating-leaved, submerged plants) were surveyed along parallel transect lines spaced out at even intervals around the lake. PVI% (Plant volume infested) was calculated using plant surface coverage, height and water depth.

Other specifications

GIS layers, shapes related to the dataset:

catchments, river-sub-basins

land use

availability of photos:

yes

availability of maps:

yes

quality control procedures:

Were any quality control procedures applied to your dataset?

no

Acknowledgements

This database was compiled through the 7th EU Framework Programme, Theme 6 (Environment including Climate Change) projects REFRESH (Adaptive strategies to Mitigate the Impacts of Climate Change on European Freshwater Ecosystems, Contract No.: 244121, <http://www.refresh.ucl.ac.uk/>) and MARS (Managing Aquatic ecosystems and water Resources under multiple Stress, Contract No.: 603378, <http://www.mars-project.eu>) and METU-DPT-TEAB (BAP-08-11-DPT.2010K121500-2) project.