Metadata of the Regge & Dinkel catchment for the MARS project

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Keywords
macrophytes, macrofauna, fish, physico-chemical parameters, Regge, Dinkel, Netherlands, streams, freshwater

Short description of the dataset/summary
This data set contains an overview of biological and environmental data from the Regge and Dinkel catchment, the Netherlands. The main factors that impact this catchment are hydrological alteration, groundwater abstraction and drainage, point source and diffuse nutrient loading.
The data has been collected between 2000 and 2012 by the waterboard Vechtstromen and contains macroinvertebrate, macrophyte, fish, and physico-chemical parameters. The dataset is available upon request from the waterboard Vechtstromen.

General information

- dataset entry ID: MARS_17
- name of the dataset: Regge & Dinkel catchment (The Netherlands)
- type of dataset: species (taxonomic group) per site database including environmental information
- data type: point data/observation data
- science keywords according to GCMD:
  - topic: Biosphere, Biological Classification, Terrestrial Hydrosphere
  - keywords: macroinvertebrates, macrophytes, fish, physico-chemical parameters, streams, rivers, freshwater
- ISO topic category according to ISO 19115:
  - Biota, Environment, Inland Waters
Technical and administrative specifications

data format: csv
operating system: all Windows systems
data language: others/specify
    specify: Dutch
current access level: restricted access
    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

    comments: The data is public, but should be requested at the waterboard Vechtstromen, see https://www.vechtstromen.nl/algemeen (in Dutch).

update level: update planned
    others/details: See river basin management plan:
    http://www.vechtstromen.nl/waterbeheerplan/uitvoering/gebruiken-we-onze/metev-meten-monitoren/ (in Dutch)

documentation:
    type: internal description
    language: others/specify
    specify: Dutch

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Intellectual property rights and citation

dataset creator (data compiler):
    contact name: Waterschap Vechtstromen
    contact email: info@vechtstromen.nl
    contact institution: Waterschap Vechtstromen
data contributors to/owners of this dataset: single

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

citation of this dataset: author(s): Waterschap Vechtstromen
title: Macrofyten-, macrofauna- en visdata Dinkel stroomgebied 2000-2012
year: 2015

citation of the metadata: author(s): Kramer L. & Kuijper M.
title and journal (name, number, pages): Metadata of the Regge & Dinkel catchment for the MARS project. Freshwater Metadata Journal 19: 1-8
year: 2016
doi: http://dx.doi.org/10.15504/fmj.2016.19

General data specifications

regional coverage of the dataset: catchment

scale of the dataset:

spatial extent (bounding coordinates):
southernmost latitude [°]: N 52°05'00"
northernmost latitude [°]: N 52°29'00"
westernmost longitude [°]: E 6°26'00"
easternmost longitude [°]: E 7°08'00"
countries: Europe: Netherlands

world climatic regions according to Köppen:
Group C: temperate/mesothermal climates

freshwater ecoregions of the world (FEOW) according to WWF:
Europe: Central & Western Europe

European ecoregions according to Illies (WFD):
Central Plains (ER14)

ecosystem type: rivers, lakes/ponds

covered timeframe: 2000 - 2012

Site specifications

coordinate system/grid data: latitude/longitude, format: DD

projected, local
datum (e.g. WGS84): EPSG:28992

grid data available: no

comments: The coordinate system used is Rijksdriehoekscoördinaten (Amersfoort/RD New). It expresses in meters the distance to a central point in Amersfoort, the Netherlands.

ecosystem type classification:
rivers (classification according to WFD):

altitude typology
lowland: <200 m
size typology based on catchment area
small: <100 km², medium: 100-1000 km²
geology
siliceous

lakes (classification mainly according to WFD):
altitude typology
lowland: <200 m

site coding:
site coding available: yes, numerical
number of digits: 5
example: 30-001
number of sites: 100 - 1000
comments: Not all parameters were measured at each site and/or every year.

Climate and environmental data
climate related data:
available parameters per catchment:
daily air temperatures
data source: http://www.knmi.nl/over-het-knmi/about
winter and summer precipitation
data source: http://www.knmi.nl/over-het-knmi/about
evaporation
data source: http://www.knmi.nl/over-het-knmi/about
mean discharge
data source: Waterboard Vechtstromen

environmental data:
available parameters per catchment:
catchment size
data source: Waterboard Vechtstromen
available parameters per site:
information on water uses (e.g., irrigation, fish ponds)
data source: Waterboard Vechtstromen
discharge
data source: Waterboard Vechtstromen

physico-chemistry data:
total P, ortho P, nitrate, nitrite, total N, ammonium, sulphate, chloride,
magnesium, calcium, oxygen content, BOD5 (biochemical oxygen demand),
water temperature, pH, chlorophyll, suspended solids
availability of physico-chemical data, if there is more than one sample per site:
per sample
comments: Depending on the site, one or multiple samples were taken during 2000-2012.
stressors influencing the sites:
reference sites available: no
### Stressor data

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Restored sites available</th>
<th>Data before/after restoration available</th>
<th>Stressor gradient available</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eutrophication</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Hydrologic stress (e.g. impoundment, flow velocity reduction, hydropaking, water abstraction, flow velocity increase)</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td></td>
</tr>
</tbody>
</table>

### Biological data

**Biological data origin:**
- From sampling
- River Basin Management Plan - Waterboard Vechtstromen

**Organism group addressed:**
- Fish, macro-invertebrates (Mollusca, Ephemeroptera, Odonata, Plecoptera, Coleoptera, Trichoptera, Chironomidae), macrophytes

### Sample specifications/sample resolution

#### Fish

**Sample information:**
- Covered timeframe: 2000 - 2012
- Historical data: no
- Palaeo data: no
- Season: spring, autumn

**Temporal resolution/frequency of sampling:**
- The temporal resolution depends on sampling location. Some locations were measured more frequently (yearly) than others (some only once).
- Time series data: yes

**Comments:**
- For more specific information and/or longer term information please contact waterboard Vechtstromen.

**Taxonomic resolution:**
- Level: species
- Percentage of species level data: 99

**Comments:**
- The percentage of species level data is an estimate. This dataset also contains fish sizes.

**Taxonomic coding:**
- Taxalist according to: WNS code
- Reference(s): WNS stands for 'Waarnemingssoort' (type of measurement), a Dutch coding system. If needed the data can also be requested with latin species names for easier international use.
- Coding system: WNS code
- Example: GASTACUL

**Sample specifications:**
- Type: quantitative (abundance data)
replicate samples: no  
number of samples: 902  
specification of method(s) used for sampling and sorting: Fishing, electrical fishing, seine fishing, sight.  
sample type (e.g. habitat specific samples, composite samples etc.): Composite samples.  

### Macro-invertebrates:

**Sample information:**
- **covered timeframe:** 2000 - 2012  
- **historical data:** no  
- **palaeo data:** no  
- **season:** spring, autumn  
- **temporal resolution/frequency of sampling:** The temporal resolution depends on sampling location. Some locations were measured more frequently (yearly) than others (some only once).  
- **time series data:** no  
- **comments:** This part of the data contains mainly data between 2007-2011. For more specific information and/or longer term information please contact waterboard Vechtstroomen.  

**Taxonomic resolution:**
- **level:** order, family, genus, species  
- **percentage of species level data:** 65  
- **comments:** The percentage of species level data is an estimate.  

**Taxonomic Coding:**
- **taxalist according to:** WNS code  
- **reference(s):** WNS stands for ‘Waarnemingssoort’ (type of measurement), a Dutch coding system. If needed the data can also be requested with latin species names for easier international use.  
- **coding system:** WNS code  
- **example:** TUFICIAE  

**Sample specifications:**
- **type:** quantitative (abundance data)  
- **replicate samples:** no  
- **number of samples:** 1296  
- **specification of method(s) used for sampling and sorting:** Sampling is usually done by multi-habitat sampling with a standard macrofauna handnet. Sample sorting is done up to species level and lifestage. For specifics see the Handbook Hydrobiologie (Dutch).  
- **sample type (e.g. habitat specific samples, composite samples etc.):** Composite samples.  
- **specific sample location (e.g. littoral, profundal, transect, shoreline, hyporheic zone, etc.):** Depending on the sampling site: littoral, profundal, and hyporheic zone.
macrophytes:
sample information:
covered timeframe: 2000 - 2012
historical data: no
palaeo data: no
season: spring, autumn
temporal resolution/frequency of sampling:
The temporal resolution depends on sampling location. Some locations were measured more frequently (yearly) than others (some only once)
time series data: yes
taxonomic resolution:
level: species, other
other taxonomic levels: type
percentage of species level data: 90
comments: The percentage of species level data is an estimate. The types are: emerging, floating and submerged species.
taxonomic coding:
taxalist according to: WNS code
reference(s): WNS stands for 'Waarnemingssoort' (type of measurement), a Dutch coding system. If needed the data can also be requested with latin species names for easier international use.
coding system: WNS code
element: URTICDIO
sample specifications:
type: semi-quantitative
replicate samples: no
number of samples: 1280
specification of method(s) used for sampling and sorting:
Depending on the size of the sampling area the whole system or parts of the system are sampled according to the Handboek Hydrobiologie. Per sampled area the cover per species and species type are estimated (Tansley scale).
sample type (e.g. habitat specific samples, composite samples etc.): Composite samples.
specific sample location (e.g. littoral, profundal, transect, shoreline, hyporheic zone, etc.): Depending on the water body: Littoral, between 0-1m depth, lake/river floor.

Other specifications
GIS layers, shapes related to the dataset:
catchments, river-sub-basins
availability of photos: no
availability of maps: yes
quality control procedures:
Were any quality control procedures applied to your dataset? no
Acknowledgements

The data was provided by the Waterboard Vechtstromen and the Royal Netherlands Meteorological Institute (KNMI). This work was funded by the MARS project funded by the European Union under the 7th Framework Programme, Contract No. 603378.

References
