



**IGB**

Leibniz Institute of Freshwater Ecology  
and Inland Fisheries



# ***FRED Workshop***

IGBs data storage environment

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# Research Data Management

encompasses all methods and procedures to preserve the value of  
research data in long term

# RDM Fair

- ▶ **F**indable
- ▶ **A**ccessible
- ▶ **I**nteroperable
- ▶ **R**eusable

# Components @ IGB

- ▶ CTP Data Management
  - Intranet
  - data@igb-berlin.de
- ▶ FRED
- ▶ CONNY
- ▶ GeoNode
- ▶ GitLab

# What is FRED?

**F**reshwater **R**esearch and **E**nvironmantal **D**atabase

FRED is IGBs central repository to exchange, archive and publish research data.

## What is FRED?

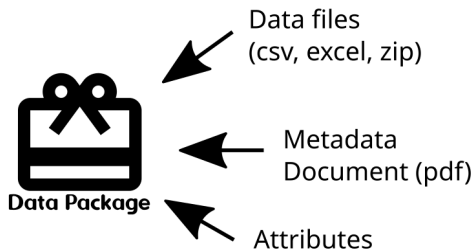
<https://fred.igb-berlin.de>

To login, please use your central account data (like e-Mail or windows login).

Accessible for external users. They can have accounts too for cooperational work.

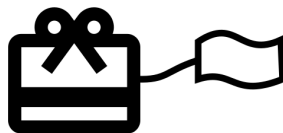
## Structure of FRED

The key concept is called a Data Package!



## Attributes of a package

- ▶ studysite
- ▶ sampling location
- ▶ time information (from till, frequency)
- ▶ parameter
- ▶ methods
- ▶ contact person
- ▶ related publications





## Rights on a package

Not every data you put into FRED are automatically open. But the Metadata attributes are!



# Rights on a package

## package level

- ▶ read
- ▶ edit
- ▶ grant

Can be assigned to certain persons or a group.

## document level

- ▶ open
- ▶ restricted

A document which is open, overrules the package level settings!

# Search and find data in FRED

- ▶ free text search
- ▶ search on map
- ▶ search by attributes
  - Studysites
  - Samplingsites
  - Parameter
  - Species groups



## Upload Data to FRED

- ▶ create package
- ▶ upload data and metadata
- ▶ set attributes
- ▶ set contact persons and allocate a license
- ▶ allocate a DOI

There is a step by step assistance tool - currently under development.

## DOI Concept

- ▶ DOI Service provided by DataCite.org
- ▶ easy to cite in a paper
- ▶ FRED provides the package site as a landing page for the DOI
- ▶ FRED provides DOI versioning for one package
- ▶ FRED generates an machine readable (XML) metadata document to enhance interoperability

# Connectivity Database CONNY

## managing RAW data

- ▶ key concept is a time series measurement data
- ▶ data are stored directly in a postgresQL database which is accessible within IGB
- ▶ can be connected to measurement equipment
  - Measurement stations Mueggelsee, Arendsee, Stechlin
  - LakeLab Neuglobsow
  - public survey - Boddenhecht project

# CONNY

- ▶ Offer tools for quality review DIS-Editor
- ▶ connect your own R or Python scripts to analyze data
- ▶ FRED integration
- ▶ connect on websites or mobile apps

# CONNY - DIS Editor

DIS-Editor - Ver. 2.2.2 - User: thomas

Name	profile datetime	specified depth	water	conductivity	depth
Short name	pr_dt	sp_depth	w_temp	cond	depth
Unit	YYYY-MM-DD	m	°C	µS/cm	m
Broader term	MEZ		water physics	water chemistry	
Device			EXO2-	EXO2-	EXO2-
Comment			18L102404	18L102404	18G101271
Type	datetime	numeric	numeric	numeric	numeric

	1	2	3	4	5
0	2021-07-01 00:00:00	0,5	23.1638	809.31	0.48
1	2021-07-01 00:00:00	1	23.156	809.41	0.99
2	2021-07-01 00:00:00	1,5	23.1527	809.33	1,5
3	2021-07-01 00:00:00	2	23.16	809.289	2,02
4	2021-07-01 00:00:00	2,5	23.1657	809.139	2,498
5	2021-07-01 00:00:00	3	23.1616	809.052	3,01
6	2021-07-01 00:00:00	3,5	23.163	809.008	3,51
7	2021-07-01 00:00:00	4	23.1574	809.109	4,033
8	2021-07-01 00:00:00	4,5	23.1578	808.923	4,48
9	2021-07-01 00:00:00	5	23.1655	808.851	5,001
10	2021-07-01 00:30:00	0,5	23.1572	808.688	0,5135
11	2021-07-01 00:30:00	1	23.1615	808.758	1,013
12	2021-07-01 00:30:00	1,5	23.1621	808.757	1,4945
13	2021-07-01 00:30:00	2	23.154	808.921	1,989
14	2021-07-01 00:30:00	2,5	23.157	808.699	2,507
15	2021-07-01 00:30:00	3	23.1497	808.669	3,01
16	2021-07-01 00:30:00	3,5	23.1541	808.733	3,51
17	2021-07-01 00:30:00	4	23.1467	808.744	4,012
18	2021-07-01 00:30:00	4,5	23.12	808.987	4,5155
19	2021-07-01 00:30:00	5	23.0949	808.957	4,9885

Globalstrahl | Daten erstellen | Statistik | Info  
 DIS-Daten | Datei | Bearbeiten | Zeitkorrektur

30 Tage ab 2021-07-01 00:00:00

nur Lesen  neu laden

Auswahl Variablen  mit Filter

nur Metadaten

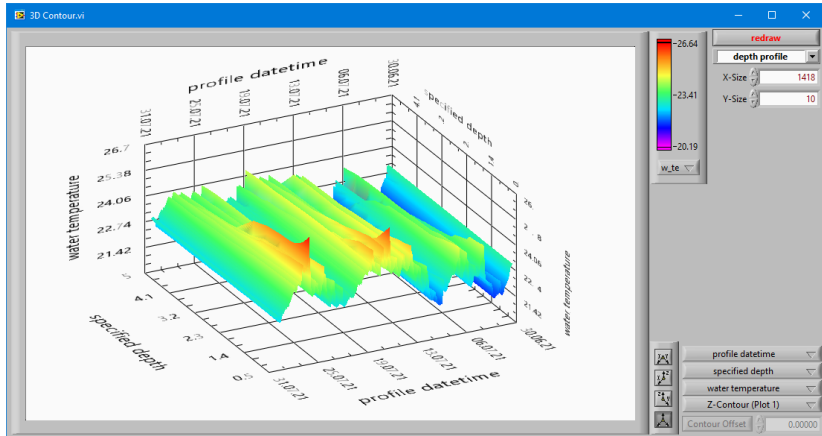
Suche: 591 : Müggelsee 210 insitu profile 2019 -

general properties | comments

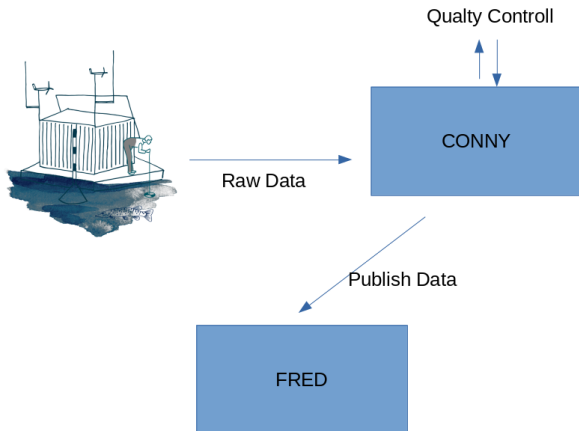
id: 591  
 created: 2021-08-12 10:24:03  
 uuid: de:igb:6114daa28d820  
 title\_eng: Müggelsee 210 insitu profile 2019 - ongoing  
 abstract\_eng: Müggelsee station (210) EXO2-multiparam  
 start\_datetime: 2019-08-30 14:02:43  
 end\_datetime: 2021-11-17 12:50:43  
 time\_res: 00:30:00  
 horizontal\_res:  
 vertical\_res: 0.500  
 has\_dataset: 1  
 by\_user: 452  
 user\_name: Daniel Langenhaun  
 user\_login: Daniel Langenhaun



# CONNY - DIS Editor

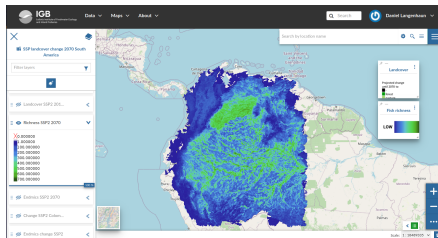


# Workflow



# Geonode

- ▶ RasterLayer
- ▶ Vectorlayer
  - Polygons
  - Polylines
  - Points
- ▶ Maps (composition of layers)



# GeoNode

geo.igb-berlin.de

Geonode items can be referenced in FRED packages.

# Support

data@igb-berlin.de fred@igb-berlin.de

# workshop

To create a real package

[fred.igb-berlin.de](https://fred.igb-berlin.de)

Just playing around

<https://its-fred2.igb-berlin.de>