

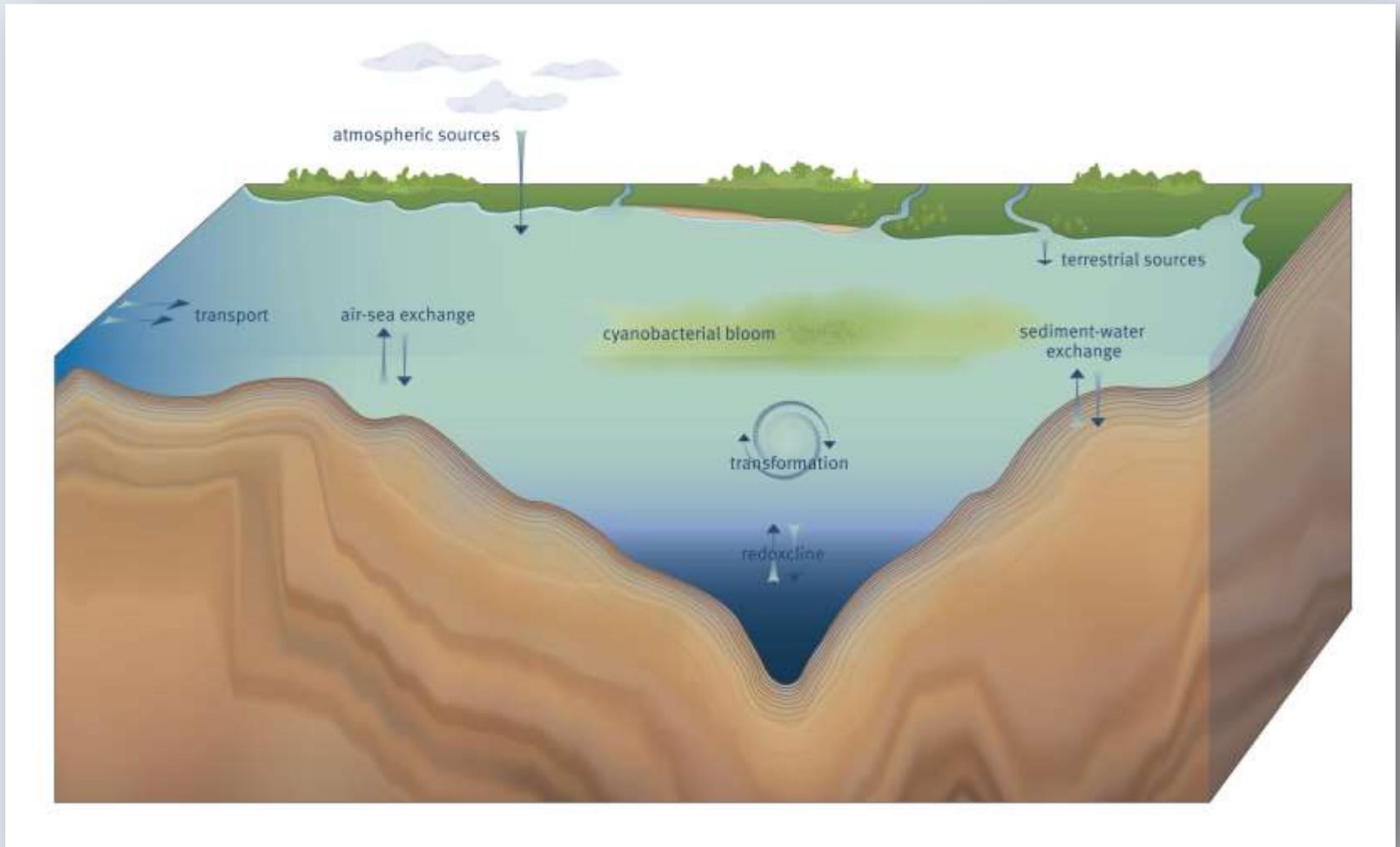
# Das marine Metadateninformationssystem „IOWMETA“

## Konzeption und Implementierung

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- Aufgabenstellung: den Bestand der Umweltmessdaten des IOW öffentlich auffindbar und durchsuchbar machen
- Lösung: ISO 191xx für Umweltmessdaten  
ISO 19115 für Metadaten  
Web Services
- Konzeption & Implementierung



## Art der Daten

- Ozeanographisch: Salzgehalt, Temperatur, Sauerstoff, Nährstoffe, Pegel, Strömung
- Biologisch: Vorkommen & Verbreitung von Arten in Wassersäule und Sediment, DNA
- Sediment: Korngrößen & Verteilungskarten
- Satelliten- & Modelldaten
- Historische Daten (seit 1877)
- Langzeitreihen (ab ~1930)
- Experimentdurchläufe,...

## Speichersysteme

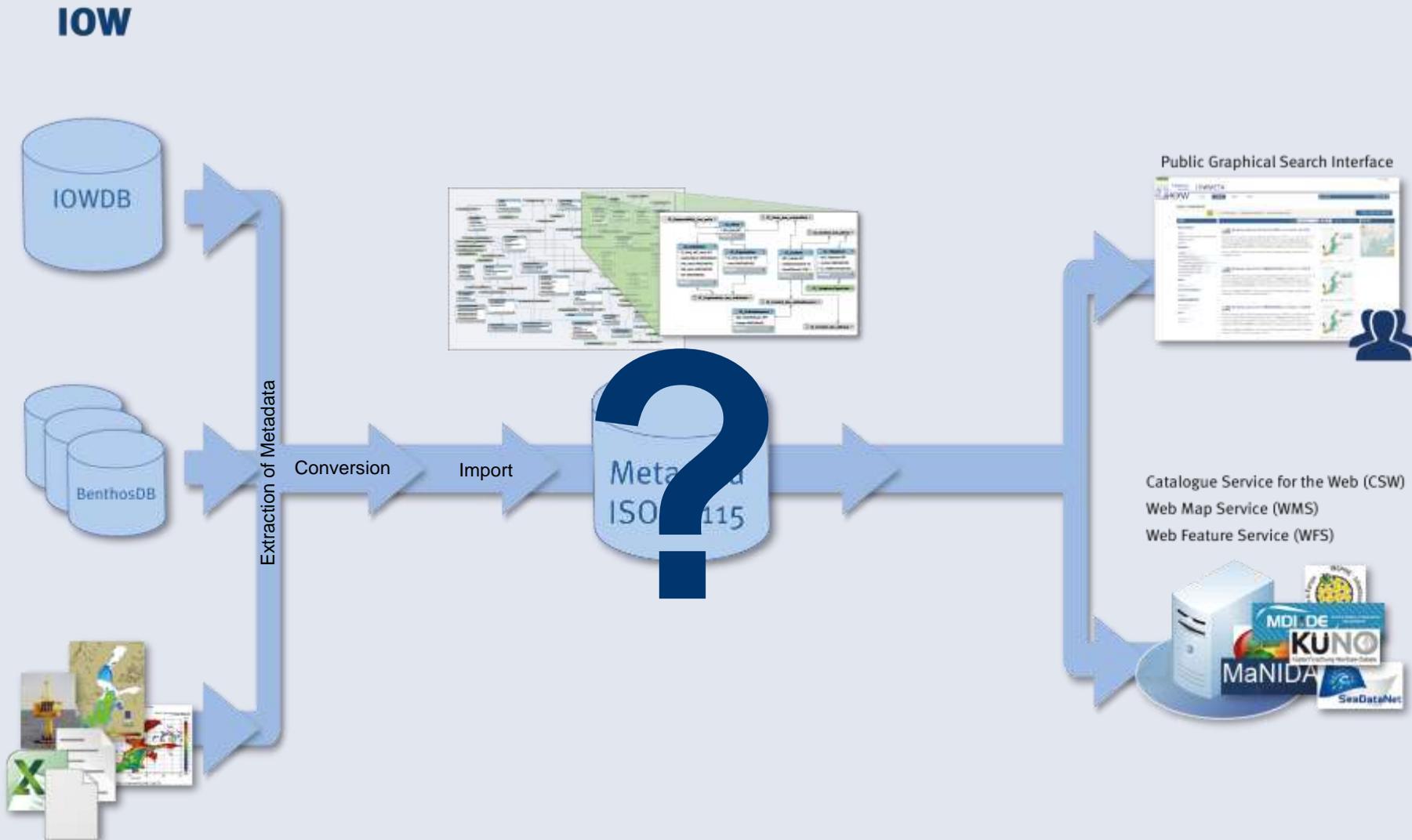
- Ozeanographische Datenbank des IOW (IOWDB): strukturiert, qualitätsgeprüft, zentraler Zugriff (>65 Mio Messpunkte)
- Lokale Datenbanken in Arbeitsgruppen: strukturiert, kein allgemeiner Zugriff
- Zentrale oder lokale Dateisysteme: unstrukturiert, unsicher, unbekannter Zugriff

## Kein öffentlicher Zugriff!

IOWDB Timeline: data per year - new parameters - events and innovations



**Messdaten und Metadaten kombiniert und vermischt!**



IOWDB

IOWMETA (ISO 19115)

**stations**

- stid INT(11)
- proid SMALLINT(6)
- sttypeid SMALLINT(6)
- stnr SMALLINT(6)
- stname VARCHAR(20)
- lon\_start INT(11)
- lat\_start INT(11)
- depth\_start INT(11)
- time\_start DATETIME
- lon\_end INT(11)
- lat\_end INT(11)
- depth\_end INT(11)
- time\_end DATETIME
- pos\_meth SMALLINT(6)
- depth\_meth SMALLINT(6)
- wind\_dir SMALLINT(6)
- wind\_vel SMALLINT(6)
- visual\_range SMALLINT(6)
- air\_pressure SMALLINT(6)
- air\_temp SMALLINT(6)
- humid\_temp SMALLINT(6)
- humidity INT(11)
- vapour\_pressure SMALLINT(6)
- dew\_point SMALLINT(6)
- water\_temp SMALLINT(6)
- radiation SMALLINT(6)

4 more...

Indexes

**EX\_GeographicBoundingBox**

- EX\_GeographicExtent\_idEX\_GeographicExtent INT
- westBoundLongitude DECIMAL(10,6)
- eastBoundLongitude DECIMAL(10,6)
- southBoundLatitude DECIMAL(10,6)
- northBoundLatitude DECIMAL(10,6)

Indexes

**EX\_TemporalExtent**

- idEX\_TemporalExtent INT
- extent VARCHAR(45)

Indexes

**EX\_VerticalExtent**

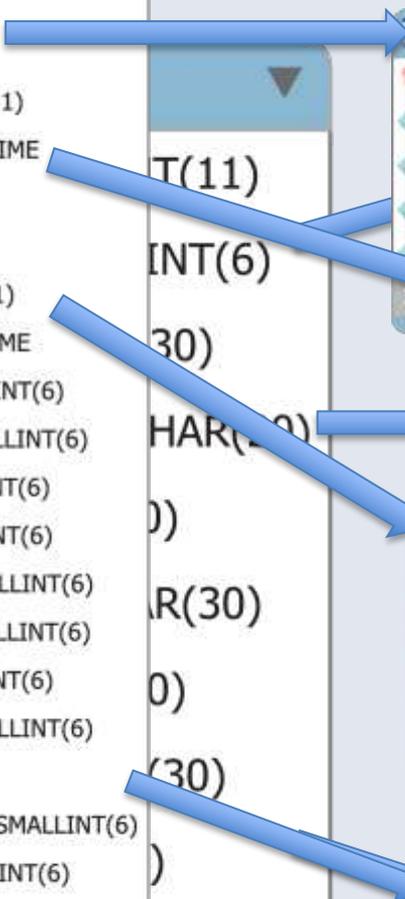
- idEX\_VerticalExtent INT
- minimumValue FLOAT
- maximumValue FLOAT
- verticalCRS VARCHAR(45)

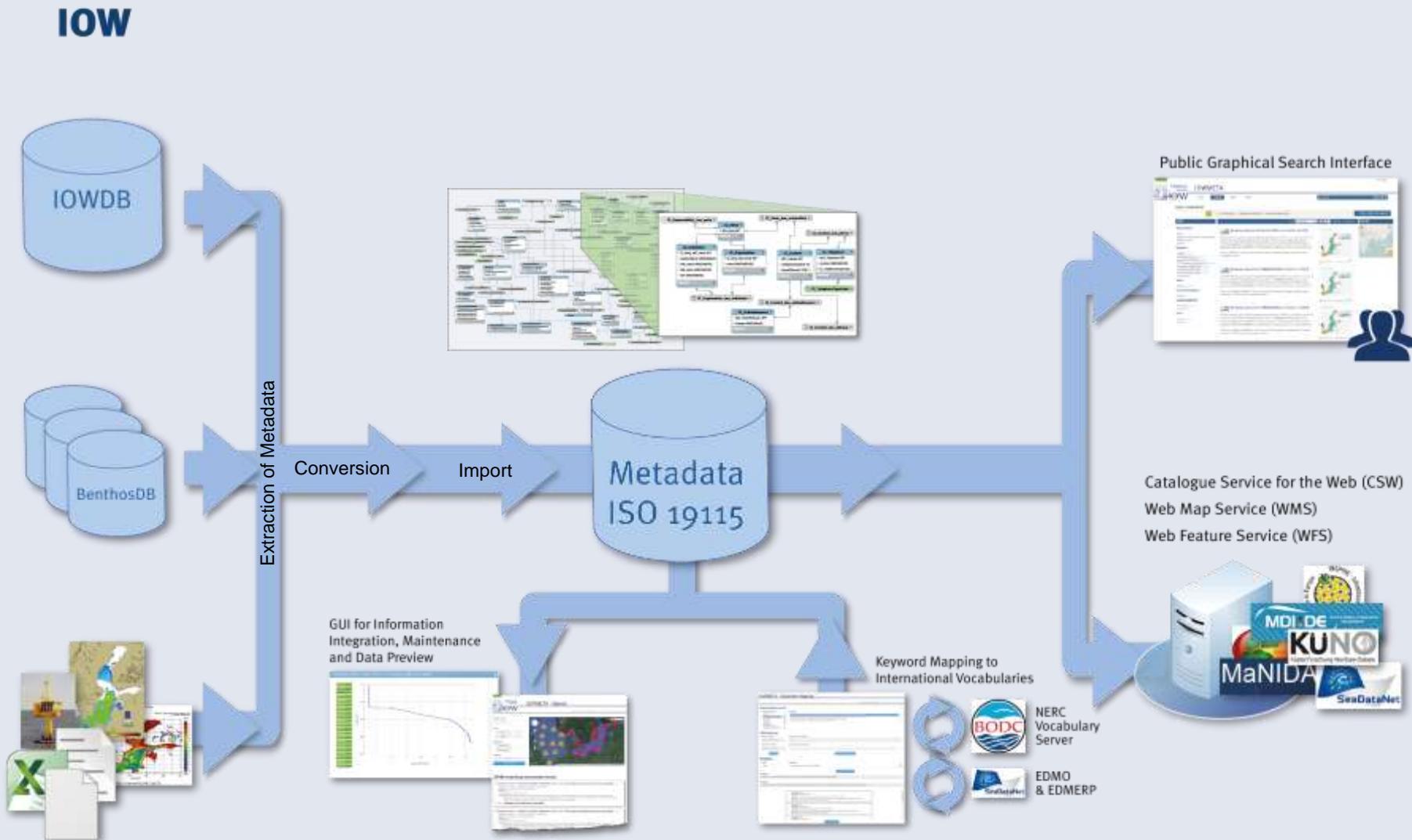
Indexes

**MD\_Keywords**

- idMD\_Keywords INT
- type INT
- thesaurusName INT

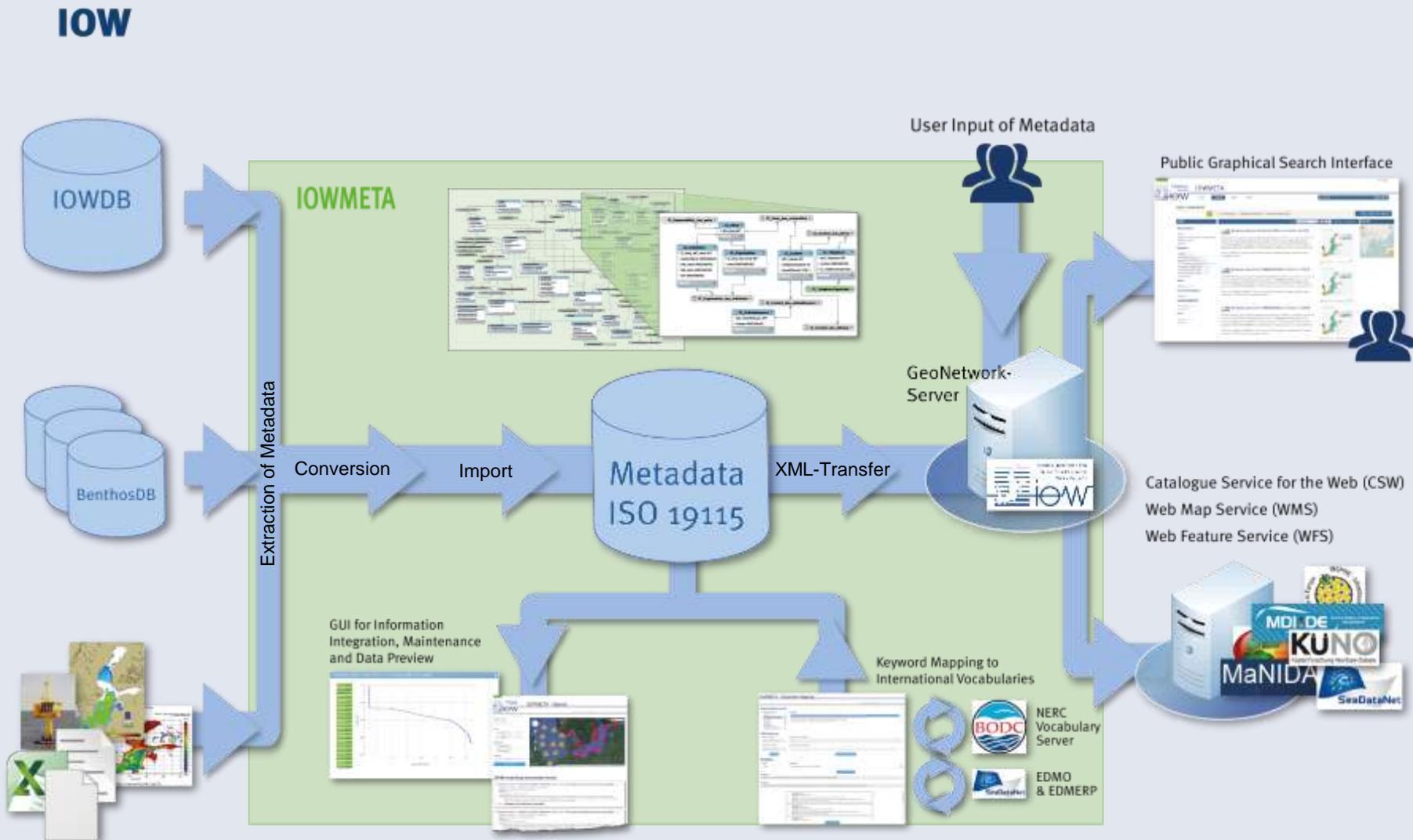
Indexes

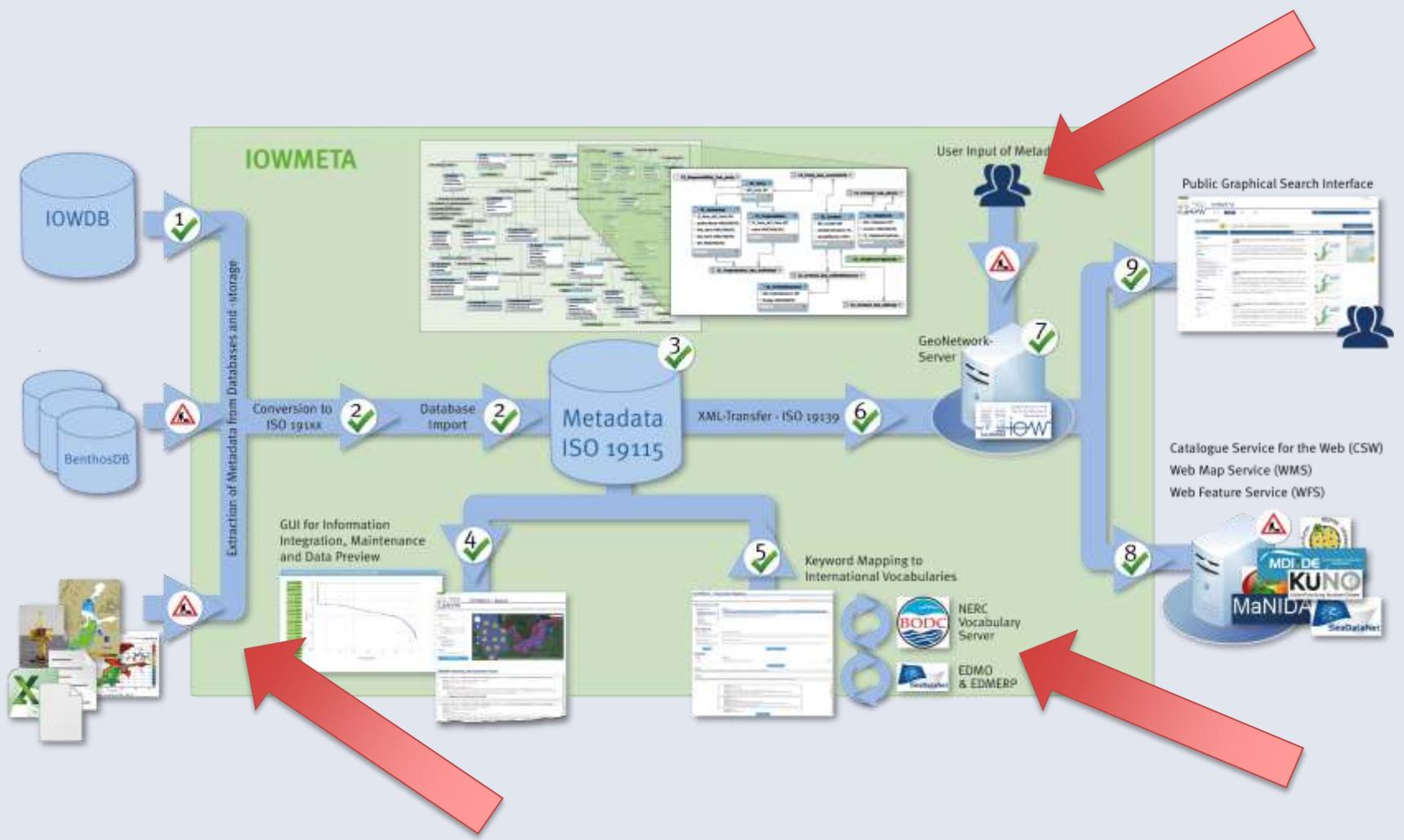


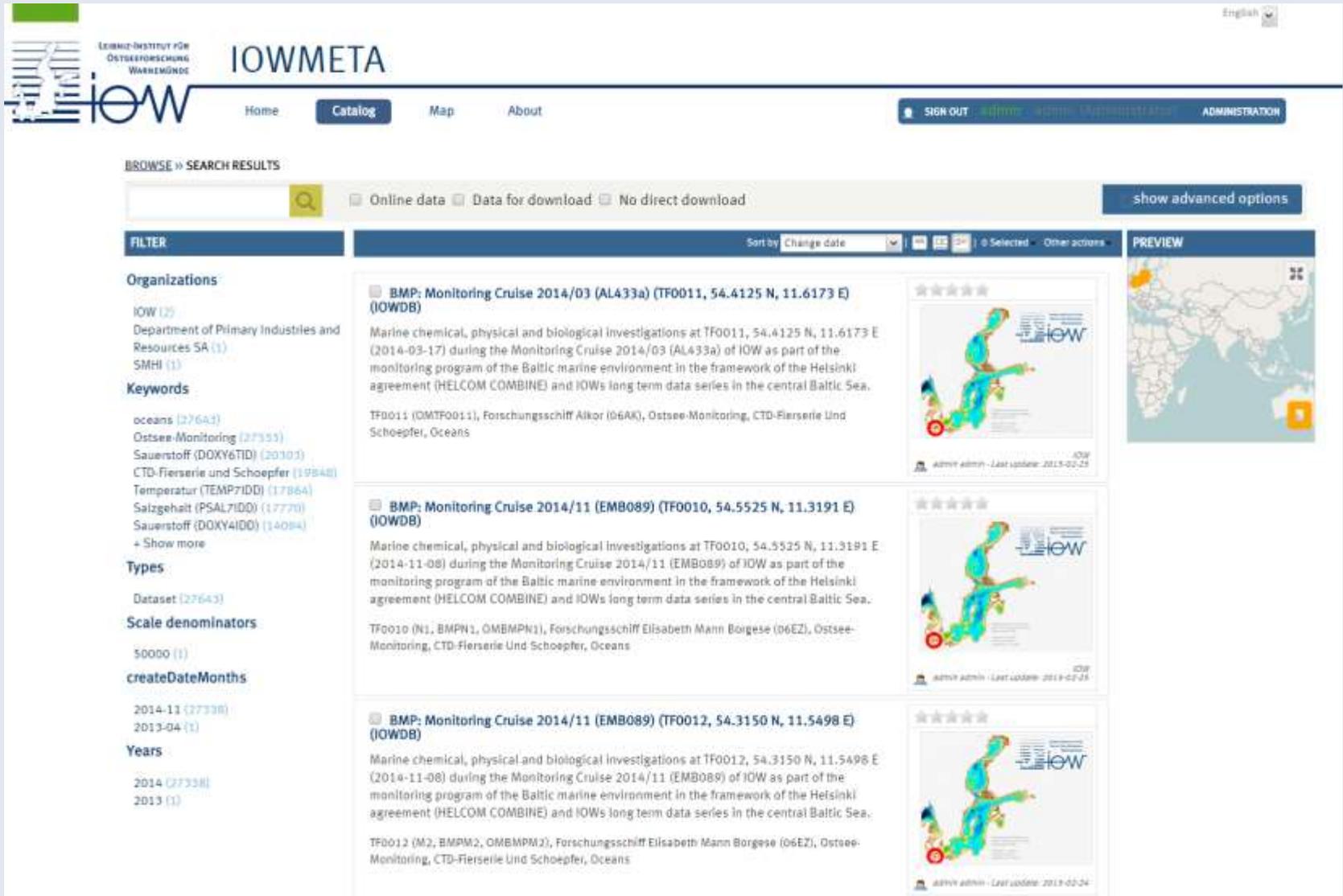


IOWDB	IOWMETA	Internationales Vokabular
Sauerstoff (DOXY6TID)	Oxygen	Unique Identifier: „SDN:P01::DOXYWITX“
gelöster Sauerstoff durch Titration (nach Winkler) bestimmt	Dissolved oxygen (O <sub>2</sub> ) measured in millimole/m <sup>3</sup> in the hydrosphere with the method Titration, Winkler (1888). P&M standard, U non standard.	Concentration of oxygen {O <sub>2</sub> } per unit volume of the water body [dissolved plus reactive particulate phase] by Winkler titration

- 350+ Parameter und Messmethoden
- 100+ Projekte & Organisationen
- ~400 Plattformen & Schiffe
- ~30 Seegebiete (Ostsee)







The screenshot displays the IOWMETA web application interface. At the top, there is a navigation bar with links for Home, Catalog, Map, and About. A search bar is present with a magnifying glass icon and a search button. Below the search bar, there are filters for 'Online data', 'Data for download', and 'No direct download'. A 'show advanced options' button is also visible.

The main content area is divided into three columns: FILTER, SEARCH RESULTS, and PREVIEW.

**FILTER**

- Organizations**
  - IOW (2)
  - Department of Primary Industries and Resources SA (1)
  - SMHI (1)
- Keywords**
  - oceans (27643)
  - Ostsee-Monitoring (27355)
  - Sauerstoff (DOXY6TID) (20305)
  - CTD-Fierserie und Schoepfer (19848)
  - Temperatur (TEMP7IDD) (17864)
  - Salzgehalt (PSAL7IDD) (17770)
  - Sauerstoff (DOXY4IDD) (14084)
  - + Show more
- Types**
  - Dataset (27643)
- Scale denominators**
  - 50000 (1)
- createDateMonths**
  - 2014-11 (27338)
  - 2013-04 (1)
- Years**
  - 2014 (27338)
  - 2013 (1)

**SEARCH RESULTS**

Sort by: Change date

0 Selected - Other actions

**PREVIEW**

The search results list three entries, each with a preview map of the Baltic Sea:

- BMP: Monitoring Cruise 2014/03 (AL433a) (TF0011, 54.4125 N, 11.6173 E) (IOWDB)**  
Marine chemical, physical and biological investigations at TF0011, 54.4125 N, 11.6173 E (2014-03-17) during the Monitoring Cruise 2014/03 (AL433a) of IOW as part of the monitoring program of the Baltic marine environment in the framework of the Helsinki agreement (HELCOM COMBINE) and IOWs long term data series in the central Baltic Sea.  
TF0011 (DMTF0011), Forschungsschiff Aikor (06AK), Ostsee-Monitoring, CTD-Fierserie Und Schoepfer, Oceans
- BMP: Monitoring Cruise 2014/11 (EMB089) (TF0010, 54.5525 N, 11.3191 E) (IOWDB)**  
Marine chemical, physical and biological investigations at TF0010, 54.5525 N, 11.3191 E (2014-11-08) during the Monitoring Cruise 2014/11 (EMB089) of IOW as part of the monitoring program of the Baltic marine environment in the framework of the Helsinki agreement (HELCOM COMBINE) and IOWs long term data series in the central Baltic Sea.  
TF0010 (N1, BMPN1, OMBMPN1), Forschungsschiff Elisabeth Mann Borgese (06EZ), Ostsee-Monitoring, CTD-Fierserie Und Schoepfer, Oceans
- BMP: Monitoring Cruise 2014/11 (EMB089) (TF0012, 54.3150 N, 11.5498 E) (IOWDB)**  
Marine chemical, physical and biological investigations at TF0012, 54.3150 N, 11.5498 E (2014-11-08) during the Monitoring Cruise 2014/11 (EMB089) of IOW as part of the monitoring program of the Baltic marine environment in the framework of the Helsinki agreement (HELCOM COMBINE) and IOWs long term data series in the central Baltic Sea.  
TF0012 (M2, BMPM2, OMBMPM2), Forschungsschiff Elisabeth Mann Borgese (06EZ), Ostsee-Monitoring, CTD-Fierserie Und Schoepfer, Oceans

Vielen Dank für Ihre Aufmerksamkeit!





LEIBNIZ-INSTITUT FÜR  
OSTSEEFORSCHUNG  
WARNEMÜNDE

### IOWMETA - Data Management

Copyright © 2011-2015, IOW, Department IT: [Susanne Feistel](#), [Susanne Jürgensmann](#), [Steffen Bock](#)

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[Search](#)

[Help](#)

**Daten aus IOWDB**

[Keyword Mapping](#)

[IOWMETA CleanUp \(TEST\)](#)

[Solr Index](#)

## Import aus der IOWDB

**Topprojekte (1)**

- 1 - Ostsee-Monitoring
- 2 - Dauerstation Darsser Schwelle
- 3 - WEKOS
- 4 - OEKEX
- 5 - WEDS
- 6 - MEAK
- 7 - DYNOCs
- 8 - Pommersche Bucht, TRUMP
- 9 - Diverse Ausfahrten

**Projekte (n)**

- 890 - Terminfahrt 2014/11
- 889 - Terminfahrt 2014/07
- 888 - Terminfahrt 2014/05
- 887 - Terminfahrt 2014/03
- 886 - Terminfahrt 2014/02
- 880 - Terminfahrt 2013/11
- 875 - Terminfahrt 2013/08
- 870 - Terminfahrt 2013/05
- 860 - Terminfahrt 2013/02

Protokoll

**Stids**

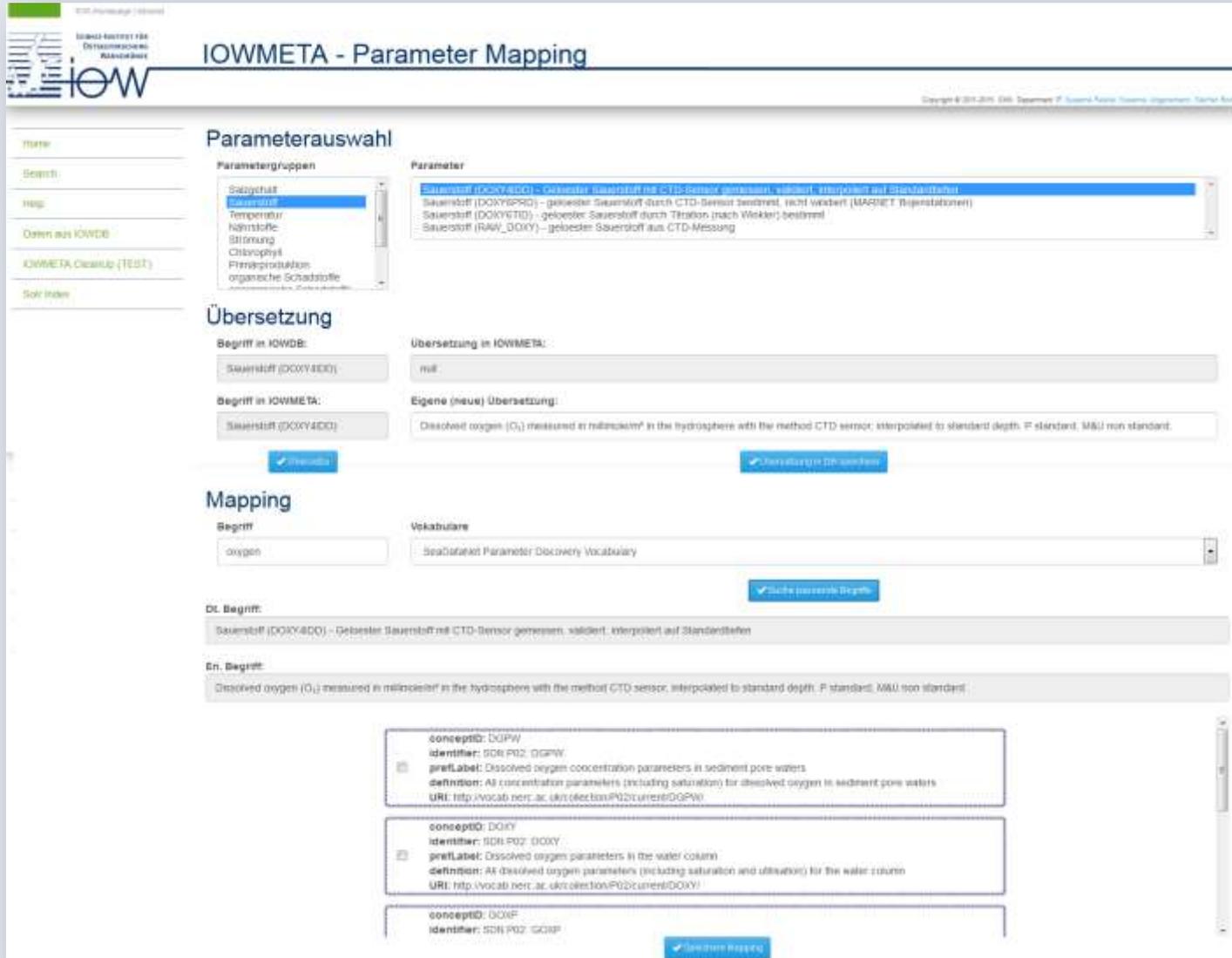
von:

bis:

**Metadaten von früheren Imports überschreiben? (noch nicht implementiert)**

**Fortschritt**

0/97 (0%) Dokumente verarbeitet  
0 Dokumente übersprungen



The screenshot displays the 'IOWMETA - Parameter Mapping' interface. It is divided into several functional sections:

- Navigation:** Includes fields for 'Name', 'Search', 'Map', and buttons for 'Daten aus IOWDB' and 'IOWMETA Cleanup (TEST)'. A 'Soft Index' link is also present.
- Parametergruppen (Parameter Groups):** A list of categories such as Salinität, Temperatur, Nährstoffe, etc., with 'Sauerstoff' selected.
- Parameter:** A list of specific parameters, with 'Sauerstoff (DOXY4DO)' selected. A detailed description for this parameter is shown below: 'Sauerstoff (DOXY4DO) - gelöster Sauerstoff mit CTD-Sensor gemessen, validiert, interpoliert auf Standardtiefen'. Other parameters listed include 'Sauerstoff (DOXY6PD)', 'Sauerstoff (DOXY6TD)', and 'Sauerstoff (RAW\_DOXY)'.
- Übersetzung (Translation):**
  - Begriff in IOWDB:** 'Sauerstoff (DOXY4DO)'
  - Übersetzung in IOWMETA:** 'null'
  - Begriff in IOWMETA:** 'Sauerstoff (DOXY4DO)'
  - Eigene (neue) Übersetzung:** 'Dissolved oxygen (O<sub>2</sub>) measured in micromole/l in the hydrosphere with the method CTD sensor, interpolated to standard depth, F standard, MAU non standard.'
- Mapping:**
  - Begriff:** 'oxygen'
  - Vokabulare:** 'Seabatarel Parameter Discovery Vocabulary'
- DL-Begriff (German Concept):** 'Sauerstoff (DOXY4DO) - Gelöster Sauerstoff mit CTD-Sensor gemessen, validiert, interpoliert auf Standardtiefen'
- En-Begriff (English Concept):** 'Dissolved oxygen (O<sub>2</sub>) measured in micromole/l in the hydrosphere with the method CTD sensor, interpolated to standard depth, F standard, MAU non standard'
- Concepts List:** A scrollable list of concepts with their identifiers and definitions:
  - conceptID: DGPW**, identifier: SDR-P02-DGPW, definition: Dissolved oxygen concentration parameters in sediment pore waters
  - conceptID: DOXY**, identifier: SDR-P02-DOXY, definition: Dissolved oxygen parameters in the water column
  - conceptID: DOXF**, identifier: SDR-P02-DOXF, definition: Dissolved oxygen parameters in the water column