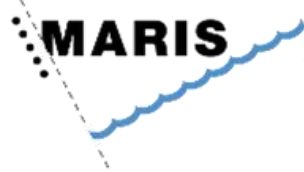


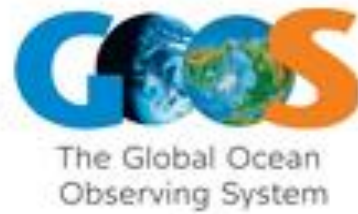
27-29 May 2024 



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International conference on Marine Data and Information Systems





Food and Agriculture
Organization of the
United Nations



ICES
CIEM

International Council for
the Exploration of the Sea
Conseil International pour
l'Exploration de la Mer



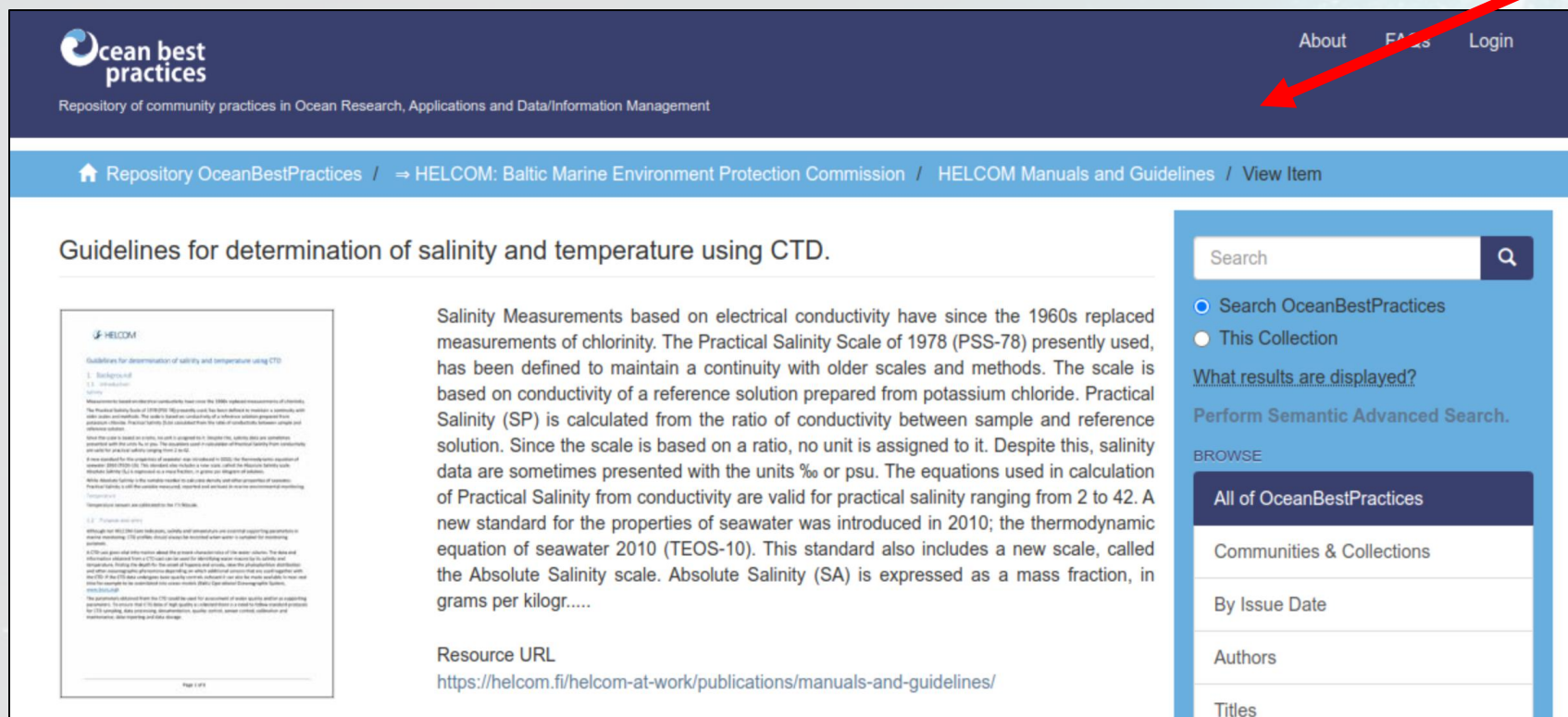
Making methods available through a globally distributed system: Ocean Practices Federated Network (OPFN)

Cristian Muñoz Mas, Marc Taconet, Neil Holdsworth, Peter Pissierssens, Ruth Anderson, Gercende Courtois, Pauline Simpson, Pier Luigi Buttigieg, Jay Pearlman, Tamsin Vicary, Ffion Bell, Anton Ellenbroek, Tiziano Di Condina, Aureliano Gentile, Kiran Viparthy

29 May 2024, Bergen
IMDIS2024

User needs

Single point of discovery
Relevant search results
Quality of content



Please provide me with the links to the Best practices to measure salinity in the baltic sea



Searched 4 sites

Here are some valuable resources for best practices in measuring salinity in the Baltic Sea:

1. HELCOM Guidelines for Determination of Salinity and Temperature using CTD:

- This document provides detailed guidelines on using CTD (Conductivity, Temperature, and Depth) sensors to measure salinity and temperature in the Baltic Sea. It explains the Practical Salinity Scale of 1978 (PSS-78) and the more recent Absolute Salinity scale introduced in TEOS-10.
- You can access the guidelines [here](#).

2. Good Practice Guide for Improving Accuracy of Salinity Measurements:

- This guide offers best practices for ensuring accurate salinity measurements, which is crucial for consistent and reliable data collection in marine environments, including the Baltic Sea.
- You can find more information on this guide [here](#).

3. HELCOM Manuals and Guidelines:

- HELCOM (Helsinki Commission) provides a comprehensive collection of manuals and guidelines that include protocols for salinity measurement, aiming to standardize methods across the Baltic Sea region.
- Explore more about HELCOM guidelines [here](#).

These resources will help you implement standardized and accurate methods for measuring salinity in the Baltic Sea, ensuring consistency and reliability in your data.



What is OPFN ?

OPFN is a **global network**,

connecting isolated and fragmented
Methodology Management Systems across the
world,

and **enabling centralized discovery and
distributed access**

to **relevant and quality assured** ocean-related
methods, best practices, and standards



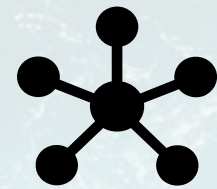
Benefits of the OPFN



Enhanced discovery opportunities



Autonomy and control



Deeper interoperability

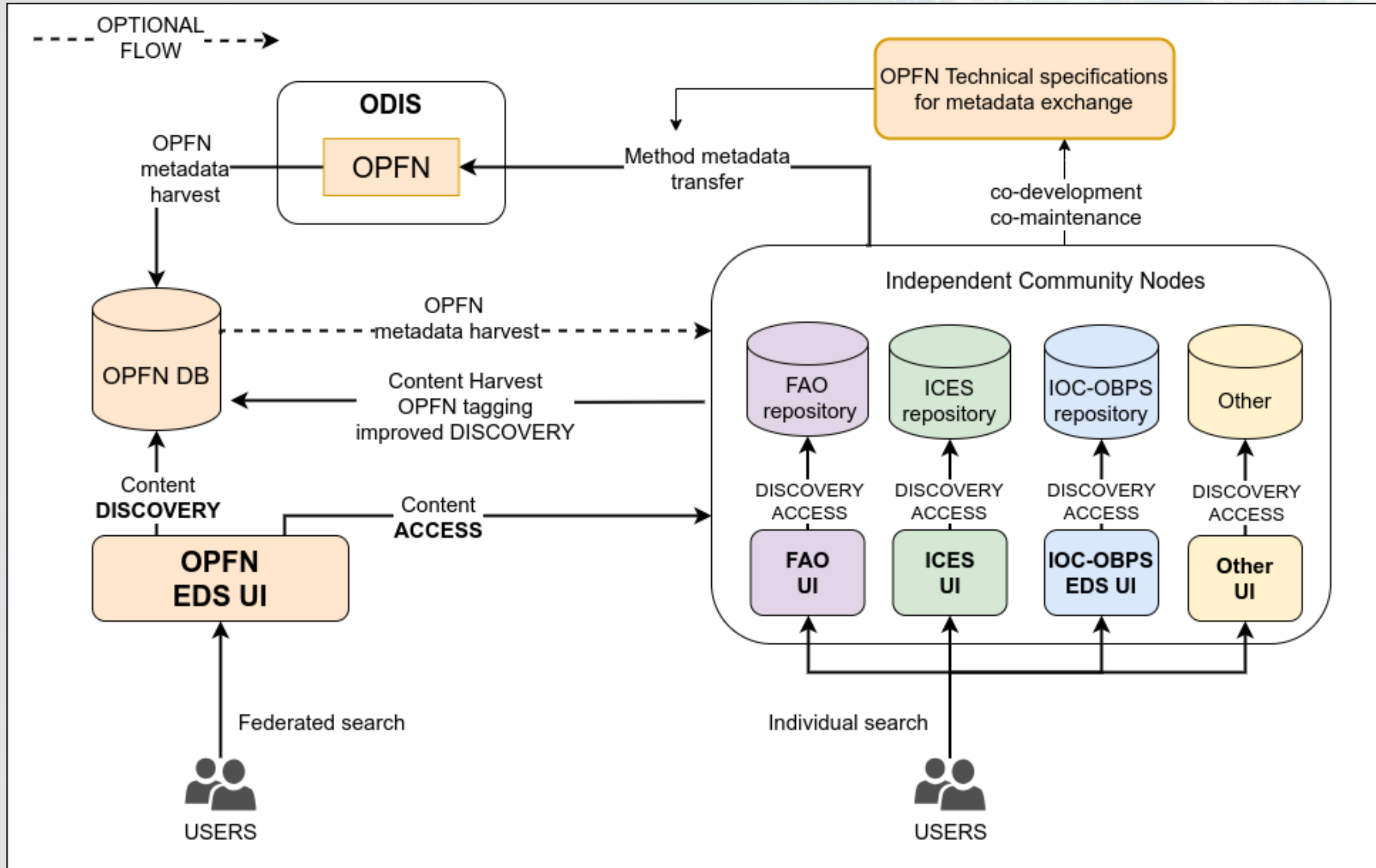


Adaptability and updates



Improved practices

OPFN Conceptual Architecture





Initial nodes: OpenASFA

- All records published on OpenASFA are freely searchable on the FAO Fisheries and Aquaculture website – currently over 25,000 records.
- JSON LD is included on all records on the search interface and can be shared with Ocean Info Hub (currently being finalised)
- Improvements to the search interface are planned, i.e. better use of vocabularies and advanced search options.

Aquatic Sciences and Fisheries Abstracts (ASFA)

Custom search

Refine search *Showing 1-30 of 26477 results*

By year

- 2021 (5839)
- 2022 (4891)
- 2020 (3051)
- 2023 (2186)
- 2019 (1924)
- 2017 (1316)
- 2018 (1144)
- 2016 (970)
- 2015 (846)
- 2014 (585)

show more

By collections

- Support to SDG 14.4.1 (Southeast Asia)

[2023] In Silico Structural Analysis, Classification, and Functional Annotation of an Uncharacterized Protein from an Aquatic Fungus *Lindgomyces ingoldianus*

Keywords: phylogeny, structures, protein synthesis
Publisher: Central Fisheries Research Institute, Turkey
Links: https://www.genaqua.org/uploads/pdf_70.pdf

An uncharacterized protein from *Lindgomyces ingoldianus* was initially annotated to contain various domains with promising biotechnological applications. Thus, this study was conducted to determine the structural characteristics, classification, and...

[2023] Canada GLOBEFISH Market Profile - 2020

Keywords: fish trade, market research, market prices, fishery products, marketing, fish consumption
Publisher: Food and Agriculture Organization of the United Nations, Italy
Links: <http://www.fao.org/3/cc5536en/cc5536en.pdf>

Established in 1984, GLOBEFISH is a multi-donor funded project in the Fisheries Division of the Food and Agriculture Organization of the United Nations (FAO), responsible for providing up-to-date market and

Initial nodes: ICES Library



ICES
CIEM

International Council for
the Exploration of the Sea

Conseil International pour
l'Exploration de la Mer

- Hosted on figshare (Digital Science product), launched March 2022.
- Own community standards: TIMES, Data guidelines, (management) Advice guidelines, technical guidelines for Advice (i.e. Aquaculture overviews), policies (data, code of conduct etc.)
- Certain published series identified as Best Practices. Plus individual publications such as specific policies or Expert Group outputs that constitute Best Practice.

ICES Publications / ICES Techniques in Marine Environmental Science (TIMES)

sort by: Publication date ▾

ICES Survey Protocols – Offshore Beam Trawl Surveys, Coordinated by Working group on Beam Trawl Surveys (WGBEAM)
Report published on 2023-01-25
Ingeborg J. de Boois ▾

Determination of chlorophyll in seawater
Report published on 2022-11-18
Pamela Walsham ▾

ICES Manual for Seafloor Litter Data Collection and Reporting from Demersal Trawl Samples
Report published on 2022-11-07
ICES

ICES Survey Protocols – Manual for Nephrops Underwater TV Surveys, coordinated under ICES Working Group on Nephrops Surveys (WGNEPS)

TIMES 65.pdf (3.01 MB) ⓘ ⬇ 1/39 ⬆ ⬇ 🔍 ⌵

ICES Survey Protocols – Manual for Nephrops Underwater TV Surveys, coordinated under ICES Working Group on Nephrops Surveys (WGNEPS)

Cite Download (3.01 MB) Share Embed + Collect ⋮

Version 2 ▾ Report posted on 2022-03-10, 14:21 authored by Helen Dobby, Jennifer Doyle, Jonas Jonasson, Patrik Jonsson, Ana Leocadio, Colm Lordan, Adrian Weetman, Kai Wieland

USAGE METRICS ⓘ

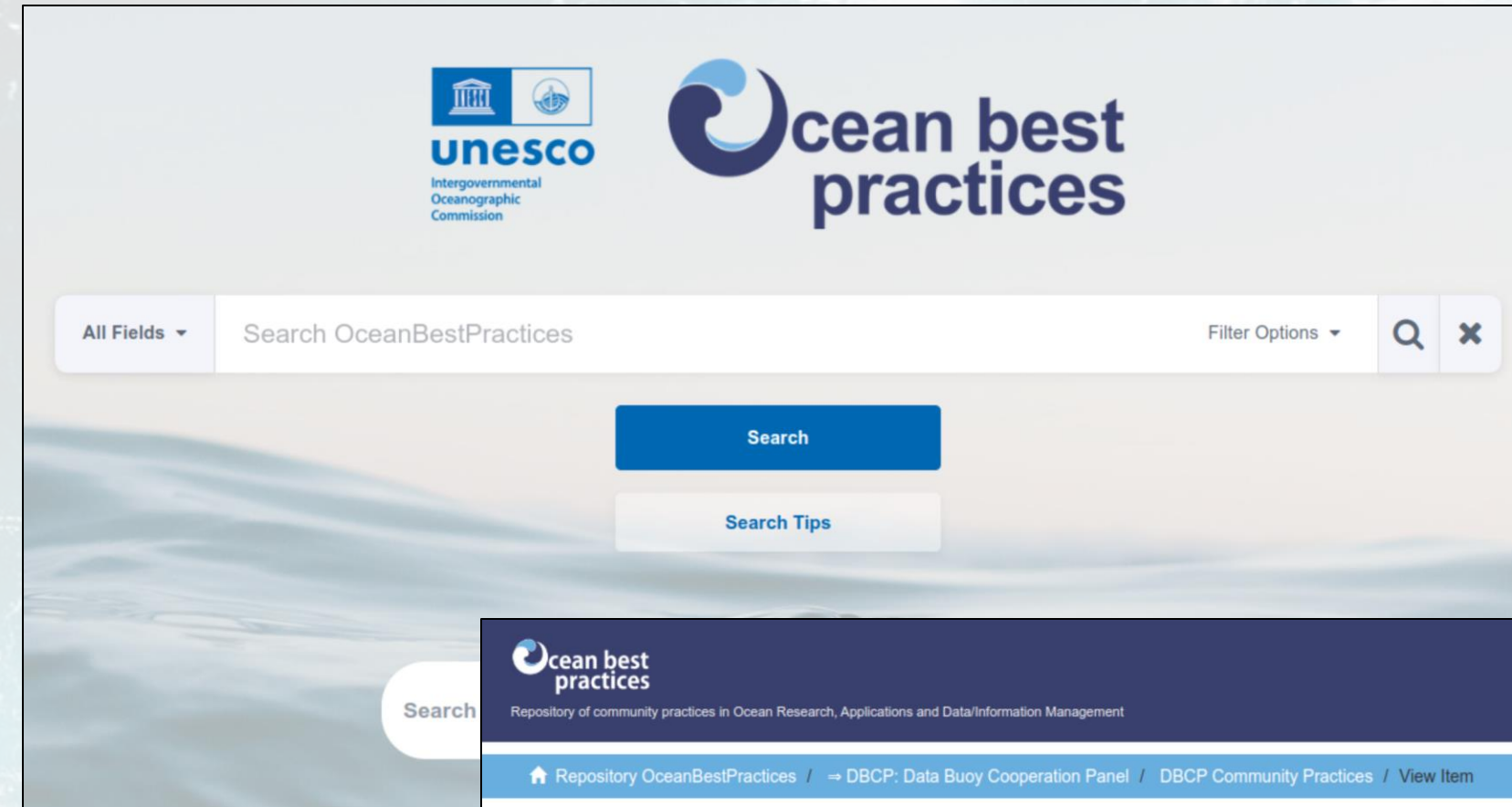
2075 views	560 downloads	9 citations ⓘ
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Underwater television (UWTV) surveys for Nephrops are considered to be independent of the diel and

Initial nodes: OBPS Repository



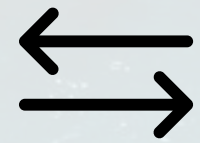
- The OBPS Repository provides the ocean community with a sustained open access full text archive of methodological documents, multimedia files, and other digital records which either serve as best practices or are intended to be their precursors.
- Ocean Observation practices was its quoted scope, but that boundary has been expanded. Currently 2,121 records.
- Additionally, the OBPS provides technologies to make its holdings Findable, Accessible, Interoperable, and Reusable (FAIR)



Challenges of the OPFN



Governance - What, Where, How, When, Who



Interoperability layer – cross-domain vocabularies



Quality Assurance

Integration with the EU Landscape for sharing Methods


EU Aquaculture Assistance Mechanism

EC Ocean Best Practices & Standards System

The screenshot displays the website interface for the EU Aquaculture Assistance Mechanism. At the top, the European Commission logo is visible on the left, and a 'Log in' button and a search bar are on the right. A dark blue navigation bar contains the title 'EU Aquaculture Assistance Mechanism' and a menu with items: Home, About, Key Documents, Knowledge base (selected), Country info, Funding, Events, Media, EU Member States area, Users area, FAQ, and Contact. Below the navigation bar, a breadcrumb trail reads 'Home > Knowledge base > Good practices and experiences'. The main heading is 'Good practices and experiences', followed by a descriptive paragraph: 'This section of the knowledge base provides a collection of best practices, experiences, and innovative solutions to foster the sustainable development of the aquaculture sector in the EU.' On the left, a 'Filter by' section includes a 'Keyword Search' input field, and three dropdown menus for 'Topic(s)', 'Geographical Coverage', and 'Date', each with a 'Select' option. At the bottom of the filters are 'Search' and 'Clear filters' buttons. On the right, the results are titled 'Good practices and experiences (24)'. It shows 'Showing results 1 to 10' and a date filter for 'February, 2023'. The first result is titled 'Possibilities and examples for energy transition of fishing and aquaculture sectors', with a brief description: 'As with other economic activities in the EU, there is a growing need for fishing and aquaculture to transition and move away as soon as possible from fossil fuels. This is not only as a contribution to the objectives of the European Green Deal...'. Below this, a date filter for '2022' is shown, followed by another result titled 'Best Practices in Aquaculture: the European Aquaculture Technology and Innovation Platform (EATIP) and the Ocean Best Practices System (OBPS) Workshop'. Its description states: 'The development of best practices is an important part of the recently launched European Strategic guidelines for a more sustainable and competitive EU aquaculture. The workshop stimulated the sharing of knowledge and promoted best practice...'

Next Steps (II): Linking data-to-methods

https://data-erddap.emodnet-physics.eu/erddap/info/ERD_EP_TS_RVFL_NRT_METADATA/index.html



EMODnet

ERDDAP > info > ERD_EP_TS_RVFL_NRT_METADATA

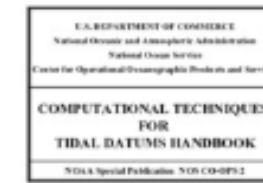
Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	W M S	Source Data Files	Title	Summary	FGDC, ISO, Metadata	Background Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	EMODnet Physics - Collection of river flow rate (RVFL) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_RVFL_NRT_METADATA

The Dataset's Variables and Attributes

Row Type	Variable Name	Attribute Name	Data Type	Value
attribute	NC_GLOBAL	cdm_data_type	String	Other
attribute	NC_GLOBAL	Conventions	String	COARDS, CF-1.10, ACDD-1.3, NCCSV-1.2
variable	BEST_PRACTICES_DOI		String	
attribute	BEST_PRACTICES_DOI	long_name	String	BEST PRACTICES DOI
variable	DATA_DOI		String	
attribute	DATA_DOI	long_name	String	DATA DOI

<http://dx.doi.org/10.25607/OBP-190>

Computational techniques for tidal datums handbook.



This handbook is intended to provide education and training for both internal and external audiences to NOAA. It presents the National Ocean Service (NOS) methodology for the computation of tidal datums and explains how to use the Center for Operational Oceanographic Products and Services (CO-OPS) water level data and bench mark information available on the internet for tidal datum computations. Fundamental background for tide measurement and data processing is also reviewed. Detailed descriptions of tidal datum procedures, the background mathematical formulas, and example spreadsheets are interwoven in the various sections. The handbook is designed to be both a technical reference and a guidance document for the practical determination of tidal datums using tide gauge measurements. It does not present methods for surveying, or address the problems associated with instrument installation, calibration.....

Resource URL

Publisher: <https://tidesandcurrents.noaa.gov/pub.html>
 Dataset: https://data-erddap.emodnet-physics.eu/erddap/tabledap/ERD_EP_TS_RVFL_NRT_METADATA.html

View/Open

PDF (2.321Mb)

Date
2003

Corporate Author
NOAA NOS Center for Operational Oceanographic Products and Services

Status
Published

Pages
98pp. & Appendices



Metadata
Show full item record

Publisher

NOAA, NOS Center for Operational Oceanographic Products and Services
Silver Spring, MD

Series/Nr

NOAA Special Publication NOS CO-OPS:2

Document Language
en

Essential Ocean Variables (EOV)
Sea surface height

Best Practice Type
Best Practice
Guide

Citation

NOAA NOS Center for Operational Oceanographic Products and Services (2003) Computational techniques for tidal datums handbook. Silver Spring, MD, NOAA NOS Center for Operational Oceanographic Products and Services, 98pp & Appendices (NOAA Special Publication NOS CO-OPS 2). DOI: <http://dx.doi.org/10.25607/OBP-190>

URI

<http://hdl.handle.net/11329/631>
<http://dx.doi.org/10.25607/OBP-190>

Collections

NOAA Special Publication NOS CO-OPS [3]

Next Steps: Ocean Practices Maturity Levels

Carlo Mantovani, Jay Pearlman, Anna Rubio, Rachel Przeslawski, Mark Bushnell, Pauline Simpson, Lorenzo Corgnati, Enrique Alvarez, Simone Cosoli, Hugh Roarty



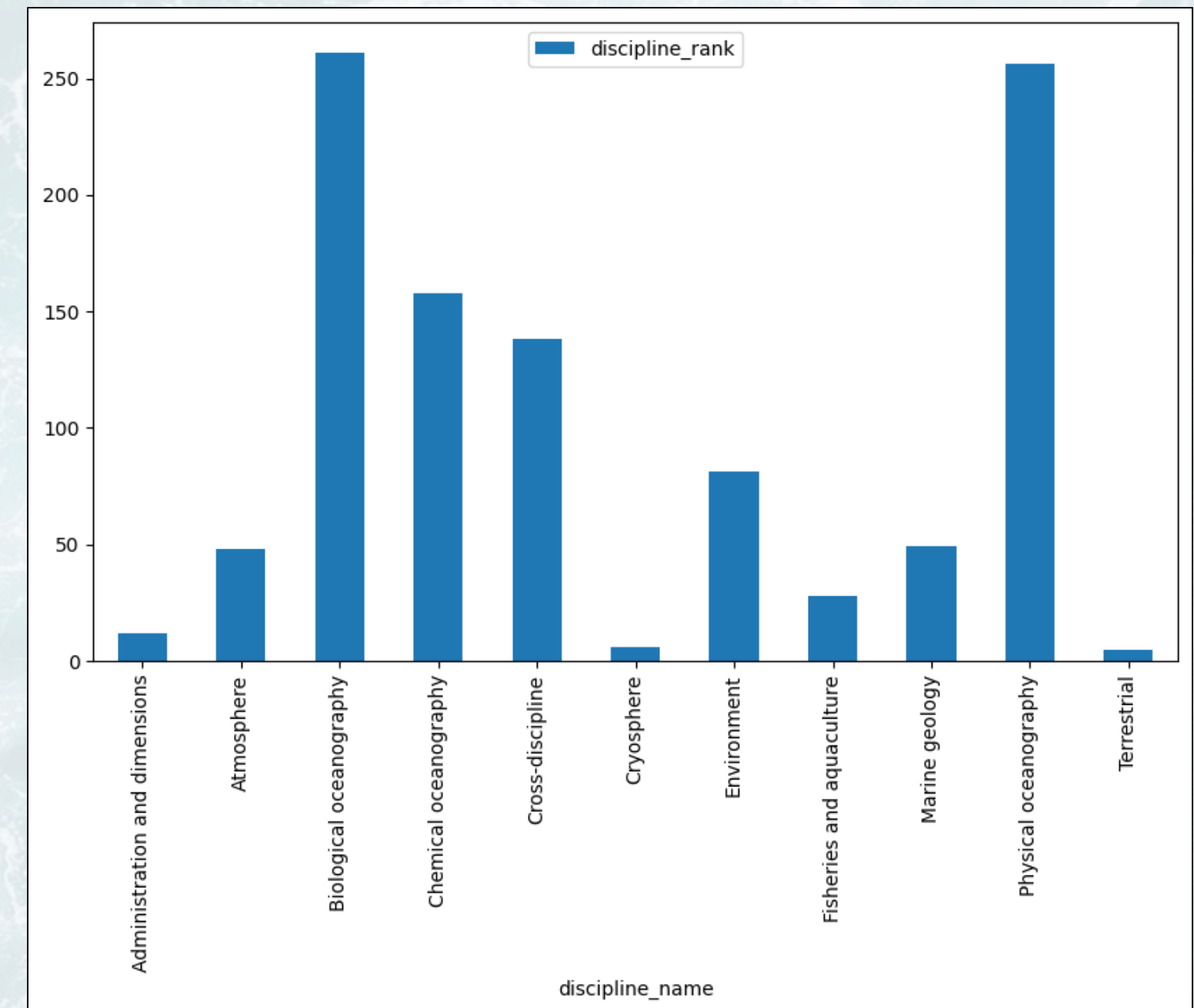
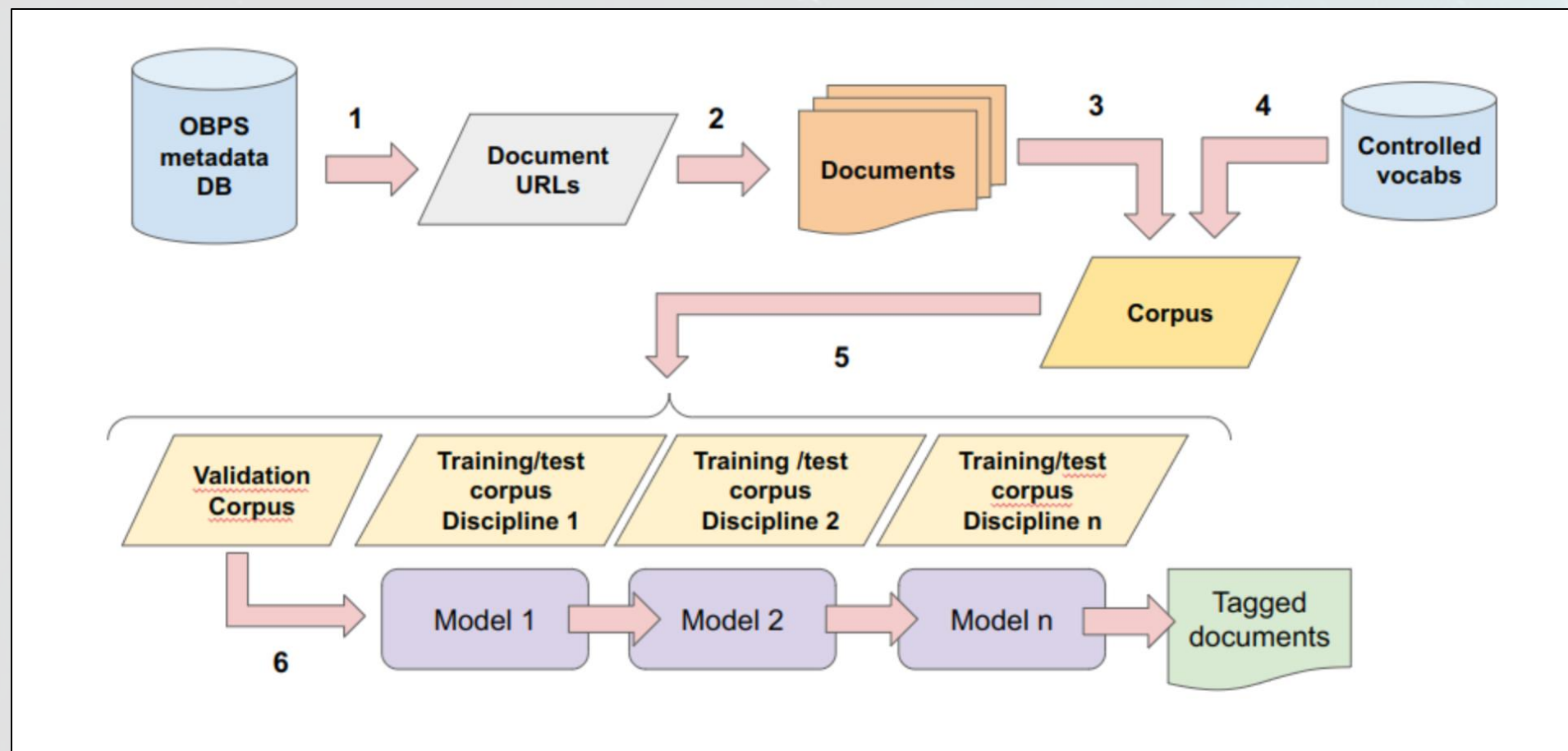
Level		Description of items to achieve the level
1	Formation of Practice	1. Practice is <i>ad hoc</i> with little documentation.
2	Emerging Practice - Repeatable	1. Practice is defined and may be documented. (.50) 2. Practice is repeatable by the process creator. (.50) <i>Each of the above provides a score increment toward Level 2. Items from Level 2 and 3 may be used to achieve Level 2.</i>
3	Good Practice - Defined and documented	1. Practice is formally documented and supported by searchable metadata. (.30) 2. Practice documentation is openly available in a sustained repository with a DOI. (.30) 3. Practice documentation is sufficient for the practice to be replicated by practitioners with prior knowledge in similar processes. (.30) 4. Practice document formats and metadata conform at least to some existing guidelines. (.10) <i>Each of the above attributes provides a score increment toward Level 3. Items from Level 3 and 4 may be used to achieve Level 3. All items in Level 2 will have to be completed prior to achieving Level 3.</i>

Level		Description of items to achieve the level
4	Better Practice - Developed and Adopted	2. Practice is recognized and actively used by multiple institutions but not formally endorsed. (.25) 3. Practice document describes how practitioners can verify their successful implementation of the practice. (.20) 4. Practice documentation is sufficient for the practice to be replicated by new users (.20) 5. Guidelines are available for evolution of practice and its documentation, such as updates or reviews and also have procedures for user feedback (.20) 6. Practice documentation has standardized formats and metadata conforming to OBPS or other global standards. (.10) 7. Practice documents and metadata are machine-readable (.05) <i>Each of the above attributes provides a score increment toward Level 4. Attributes from Level 4 and 5 may be used to achieve Level 4. All items in Level 3 will have to be completed prior to being at Level 4.</i>
5	Best Practice - Mature	1. Practice is reviewed and endorsed by a multi-institutional expert panel following endorsement protocols. (.35) 2. Practice is adopted regionally or globally. (.20) 3. Practice includes process for quality assessment (.15) 4. Practice has specific protocols for supporting improvements including user feedback loops (.10) 5. Implementation of practice has formal monitoring tools. (.10) 6. Practice has documented materials for training (.10) <i>Each of the above attributes provides a score increment toward Level 5. All items in both 4 and 5 must be satisfied for practice to be at Level 5</i>

Next Steps (III): Supervised ML for automating metadata curation

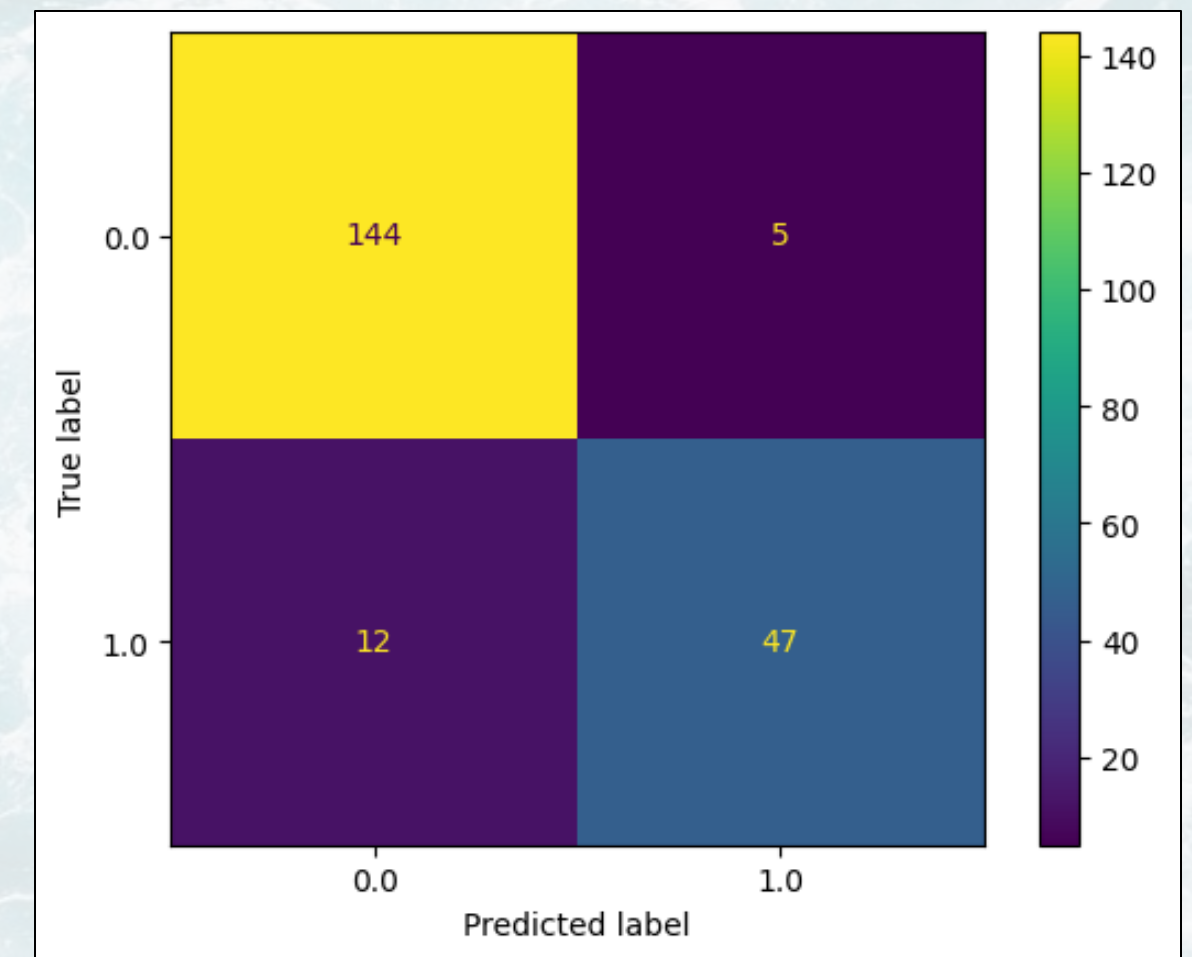
Proof of Concept for automated tagging of records according to SDN P08 Parameter Disciplines using content from OBPS

UNBALANCED DATASETS
SMALL CORPUS OF DOCUMENTS



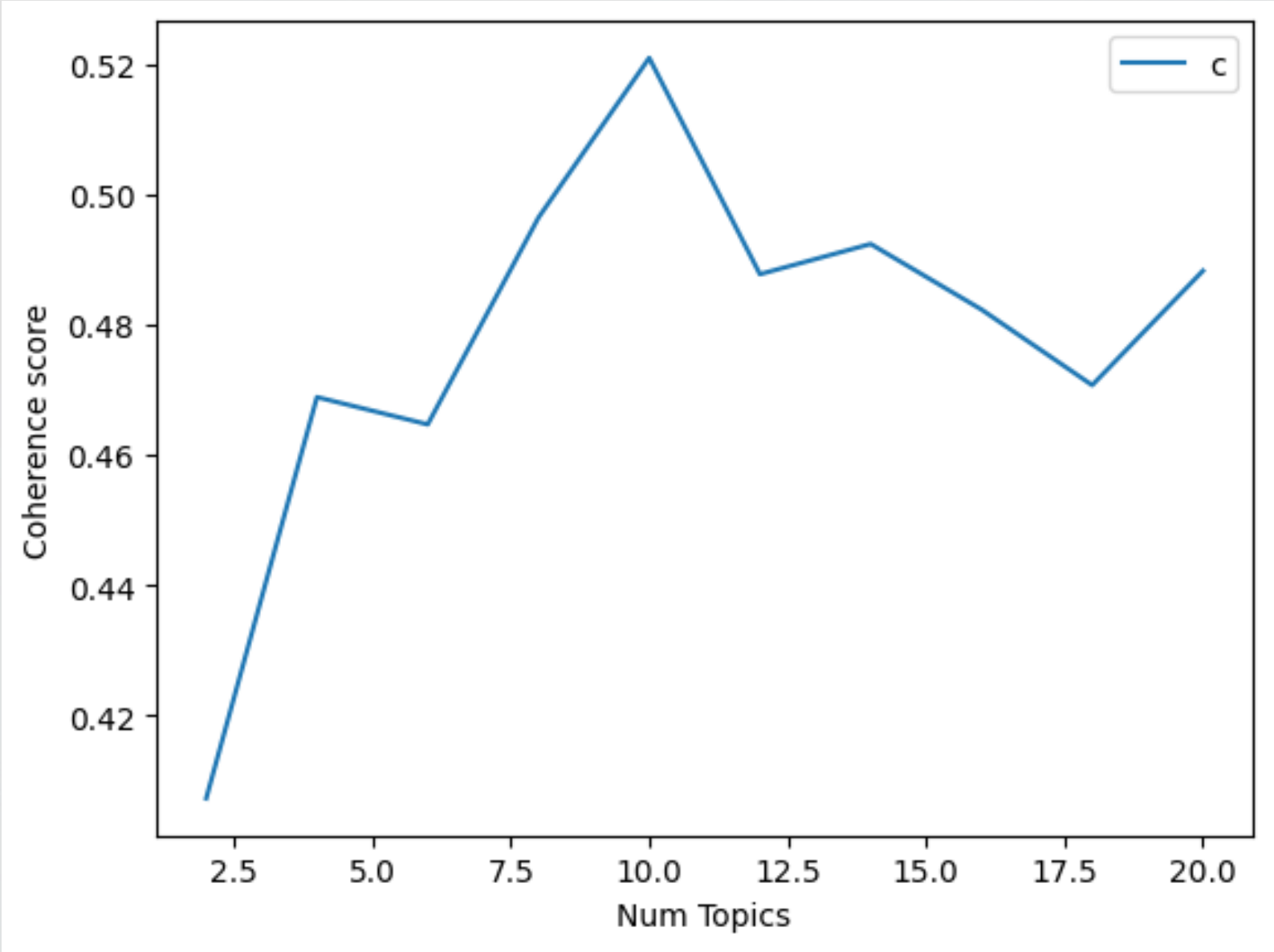
Next Steps (III): Supervised ML for automating metadata curation

Document	Physical Oceanography	Chemical Oceanography	Biological Oceanography	Fisheries & Aquaculture
XBT Operational Best Practices for Quality Assurance	1	0	0	0
A Practical Handbook of Seawater Analysis	0	1	0	0
Recommendations for Plankton Measurements on OceanSITES Moorings With Relevance to Other Observing Sites	0	0	1	0
Best Practices in Aquaculture, EATIP-OBPS Workshop, Tuesday, 05 April 2022, 11.00 - 14.30 UTC (Online), Proceedings.	0	0	0	1



- 73-85% class 1 Accuracy
- 87-94% class 0 Accuracy

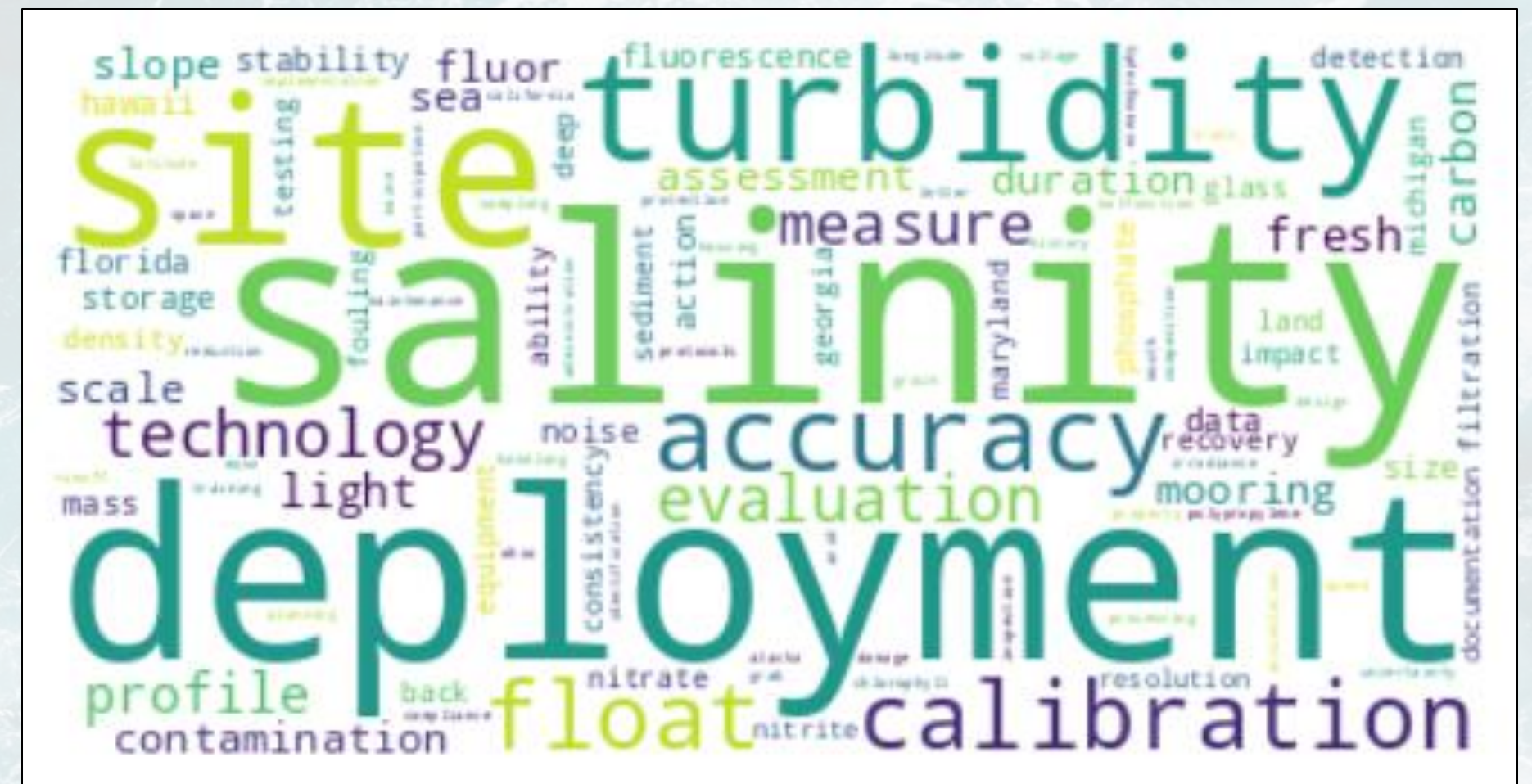
Next Steps (III): Unsupervised ML for enhancing discoverability



Next Steps (III): Unsupervised ML for enhancing discoverability

Topic 8

- Argo Quality Control Manual for CTD and Trajectory Data.
- Performance Verification Statement for the YSI 6600 EDS Sonde and 6136 Turbidity Sensor.
- Performance Verification Statement for the In-Situ Troll 9500 Turbidity Probe.
- Performance Verification Statement for the AQUATEC AQUAlogger 210TY Turbidity Probe
- Performance Verification Statement for the WET Labs ECO-BB-SB Turbidity Probe
- Performance Verification Statement for the McVan Analite NEP395 Turbidity Probe



Summary

- OPFN is emerging as a shared effort guided through UNESCO-IOC, FAO and ICES
- OPFN will provide centralized discovery and distributed access
- ODIS-Architecture used as interoperability layer
- OPFN needs a governance structure
- Future work to be linked to OPFN:
 - Establishing maturity levels
 - Linking data-to-methods and methods-to-methods
 - Using ML for enhancing search and automating metadata curation

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