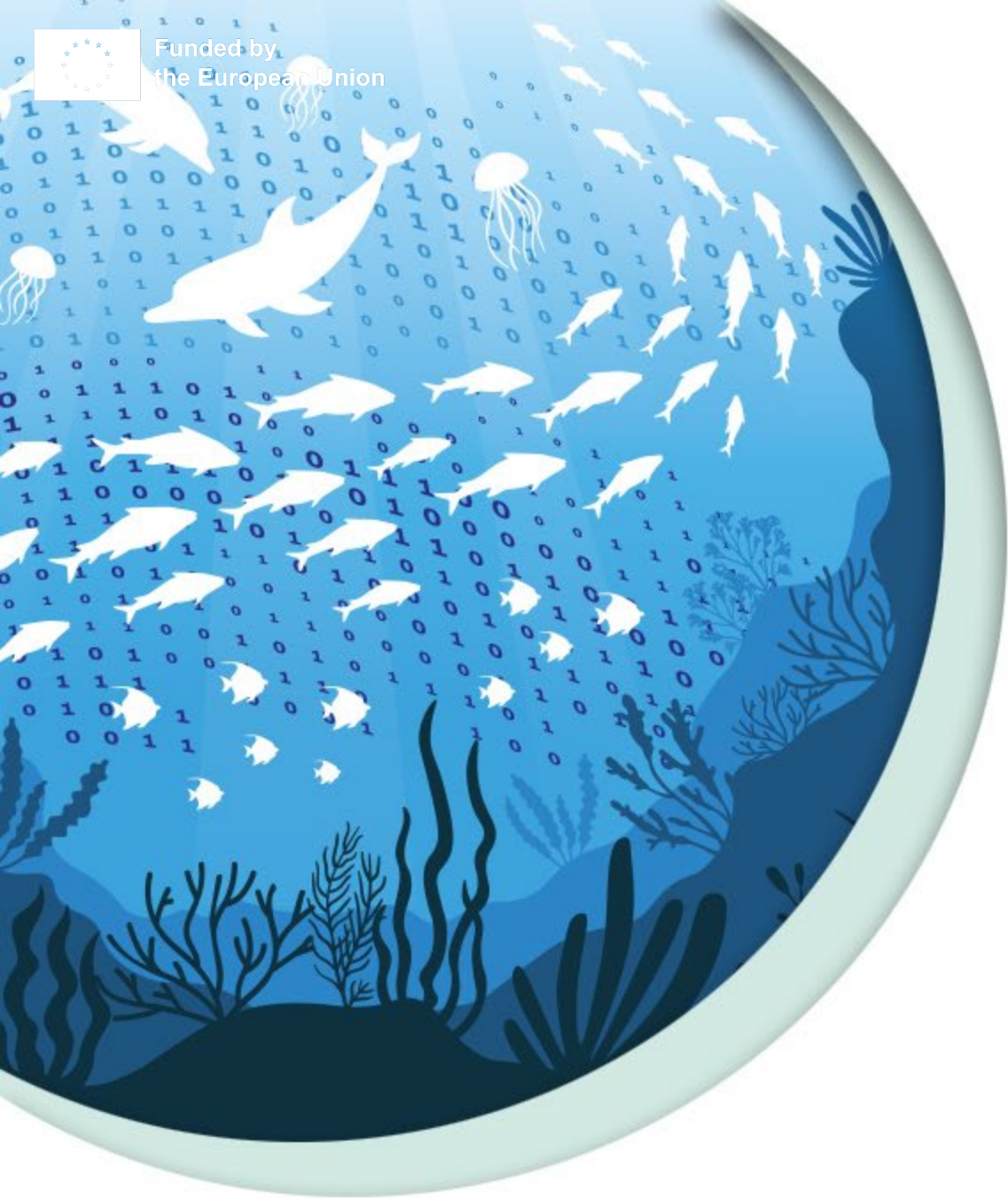




Funded by  
the European Union



# DTO-BioFlow

Integration of biodiversity monitoring  
data into the Digital Twin Ocean

DwC eMoF table for  
measurements or facts

Breakout session

# Concepts



## Measurements

Quantitative

- ≡ Water temperature: **16 Celsius**
- ≡ Organism biomass: **35 Kg/m<sup>3</sup>**
- ≡ Length of the organism: **23 cm**
- ≡ Duration of the net tow: **2h**
- ≡ Concentration of NO<sub>3</sub> in water: **3.56 mg/L**

## Facts

Qualitative



- ≡ Sampling instrument name: **Agassiz Trawl**
- ≡ Habitat type: **Mixed seaweeds**
- ≡ Life stage of the organism: **Adult**
- ≡ Sea state: **4**
- ≡ Sex of the organism: **Female**

# Concepts

## Biotic

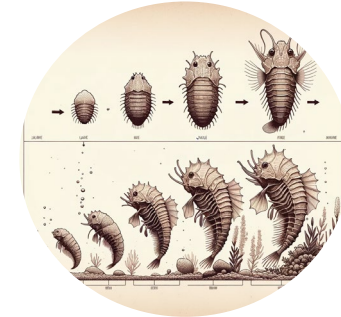
Link to occurrences



Organism quantifications



Species biometrics



Organism characteristics

## Abiotic

Do not link to occurrences



Abiotic measurements



Sampling methodologies



Habitat descriptions

# Standardisation: BODC NVS vocabs

eventID	occurrenceID	measurementType	measurementTypeID	measurementValue	measurementValueID	measurementUnit	measurementUnitID
ost_1	ost_1:occ1	Fish length (mm)	<a href="http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX">http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX</a>	12.6		millimetres	<a href="https://vocab.nerc.ac.uk/collection/P06/current/UXMM/">https://vocab.nerc.ac.uk/collection/P06/current/UXMM/</a>
ost_1	ost_1:occ2	Body_length_in_m m	<a href="http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX">http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX</a>	10		mm	<a href="https://vocab.nerc.ac.uk/collection/P06/current/UXMM/">https://vocab.nerc.ac.uk/collection/P06/current/UXMM/</a>
ost_1	ost_1:occ2	Life stage	<a href="http://vocab.nerc.ac.uk/collection/P01/current/LSTAGE01/">http://vocab.nerc.ac.uk/collection/P01/current/LSTAGE01/</a>	Adult	<a href="https://vocab.nerc.ac.uk/collection/S11/current/S1116/">https://vocab.nerc.ac.uk/collection/S11/current/S1116/</a>	Not applicable	<a href="https://vocab.nerc.ac.uk/collection/P06/current/XXXX/">https://vocab.nerc.ac.uk/collection/P06/current/XXXX/</a>
ost_1		Sampling duration	<a href="http://vocab.nerc.ac.uk/collection/P01/current/AZDRZ201/">http://vocab.nerc.ac.uk/collection/P01/current/AZDRZ201/</a>	2		hours	<a href="https://vocab.nerc.ac.uk/collection/P06/current/UHOR/">https://vocab.nerc.ac.uk/collection/P06/current/UHOR/</a>
ost_1		Gear	<a href="http://vocab.nerc.ac.uk/collection/P01/current/NMSPINST/">http://vocab.nerc.ac.uk/collection/P01/current/NMSPINST/</a>	Agassiz trawl	<a href="https://vocab.nerc.ac.uk/collection/L22/current/T00L1252/">https://vocab.nerc.ac.uk/collection/L22/current/T00L1252/</a>	Not applicable	<a href="https://vocab.nerc.ac.uk/collection/P06/current/XXXX/">https://vocab.nerc.ac.uk/collection/P06/current/XXXX/</a>

# Standardisation: BODC NVS vocabs

equivalent				equivalent		equivalent	
eventID	occurrenceID	measurementType	measurementTypeID	measurementValue	measurementValueID	measurementUnit	measurementUnitID
ost_1	ost_1:occ1	Fish length (mm)	<a href="http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX">http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX</a>	12.6		millimetres	<a href="https://vocab.nerc.ac.uk/collection/P06/current/UXMM/">https://vocab.nerc.ac.uk/collection/P06/current/UXMM/</a>
ost_1	ost_1:occ2	Body_length_in_m	<a href="http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX">http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX</a>	10		mm	<a href="https://vocab.nerc.ac.uk/collection/P06/current/UXMM/">https://vocab.nerc.ac.uk/collection/P06/current/UXMM/</a>
ost_1	ost_1:occ2	Life stage	<a href="http://vocab.nerc.ac.uk/collection/P01/current/LSTAGE01/">http://vocab.nerc.ac.uk/collection/P01/current/LSTAGE01/</a>	Adult	<a href="https://vocab.nerc.ac.uk/collection/S11/current/S1116/">https://vocab.nerc.ac.uk/collection/S11/current/S1116/</a>	Not applicable	<a href="https://vocab.nerc.ac.uk/collection/P06/current/XXXX/">https://vocab.nerc.ac.uk/collection/P06/current/XXXX/</a>
ost_1		Sampling duration	<a href="http://vocab.nerc.ac.uk/collection/P01/current/AZDRZ01/">http://vocab.nerc.ac.uk/collection/P01/current/AZDRZ01/</a>	2		hours	<a href="https://vocab.nerc.ac.uk/collection/P06/current/UHOR/">https://vocab.nerc.ac.uk/collection/P06/current/UHOR/</a>
ost_1		Gear	<a href="http://vocab.nerc.ac.uk/collection/P01/current/NMSPINST/">http://vocab.nerc.ac.uk/collection/P01/current/NMSPINST/</a>	Agassiz trawl	<a href="https://vocab.nerc.ac.uk/collection/L22/current/T00L1252/">https://vocab.nerc.ac.uk/collection/L22/current/T00L1252/</a>	Not applicable	<a href="https://vocab.nerc.ac.uk/collection/P06/current/XXXX/">https://vocab.nerc.ac.uk/collection/P06/current/XXXX/</a>

abiotic

Standardisation of free text

no need to standardize numbers

units don't apply to facts

# Choosing the right terms

<http://vocab.nerc.ac.uk/collection/{listID}/{version}/{termID}/>



<http://vocab.nerc.ac.uk/collection/P01/current/OBSINDLX>

## The NERC Vocabulary Server (NVS)

Service Status

[NVS Home](#) | [Vocabularies](#) | [Thesauri](#) | [Search NVS](#) | [SPARQL](#) | [Other Tools](#) | [About NVS](#)

### Search for a term in a vocabulary collection

Enter search string using % as wildcard if required. Example: chlorophyll%sediment.

Identifier  Preferred label  Alternative label  Definition  Exact match  Case sensitive [toggle advanced options](#)

### Search for a term across vocabulary collections

Enter search string

Identifier  Preferred label  Alternative label  Definition  Exact match  Case sensitive

### Search for vocabulary collections

Enter search string using % as wildcard if required. Example: parameter%vocabulary.

Identifier  Title  Short title  Description  Governance  Exact match  Case sensitive

### Explore mappings

# Choosing the right terms

☰ Collection suitability

☰ Vocab term suitability and integrity

## Concentration of phosphate {PO43- CAS 14265-44-2} per unit volume of the water body [unknown phase]

**URI** <http://vocab.nerc.ac.uk/collection/P01/current/PHOSZZXX/>  
**Within Vocab** BODC Parameter Usage Vocabulary  
**Alternative Labels** PO4  
**Definition** Concentration of phosphate per unit volume of the water column. Phosphate may be expressed in terms of mass or quantity of substance.

## Water body phosphate

**URI** <http://vocab.nerc.ac.uk/collection/P35/current/EPC00007/>  
**Within Vocab** EMODnet Chemistry aggregated parameter names  
**Alternative Labels** PO4  
**Definition** Concentration of phosphate per unit volume of a river, estuary, sea or ocean by any method in filtered or unfiltered water.

## phosphate

**URI** <http://vocab.nerc.ac.uk/collection/S27/current/CS026904/>  
**Within Vocab** BODC parameter semantic model chemical substances  
**Alternative Labels** PO43-  
**Definition** Unavailable

# Choosing the right terms

## measurementTypes

- ≡ [P01](#)- BODC Parameter Usage Vocabulary

## measurementValues

- ≡ [S11](#)- Biological entity life stage terms
- ≡ [S10](#)- BODC parameter semantic model biological entity gender terms
- ≡ [L05](#)- SeaDataNet device categories
- ≡ [L22](#)- SeaVoX Device Catalogue
- ≡ [C17](#)- ICES Platform Codes

## measurementUnits

- ≡ [P06](#)- Approved data storage units

WHEN I FIGURE OUT THAT THE GAME

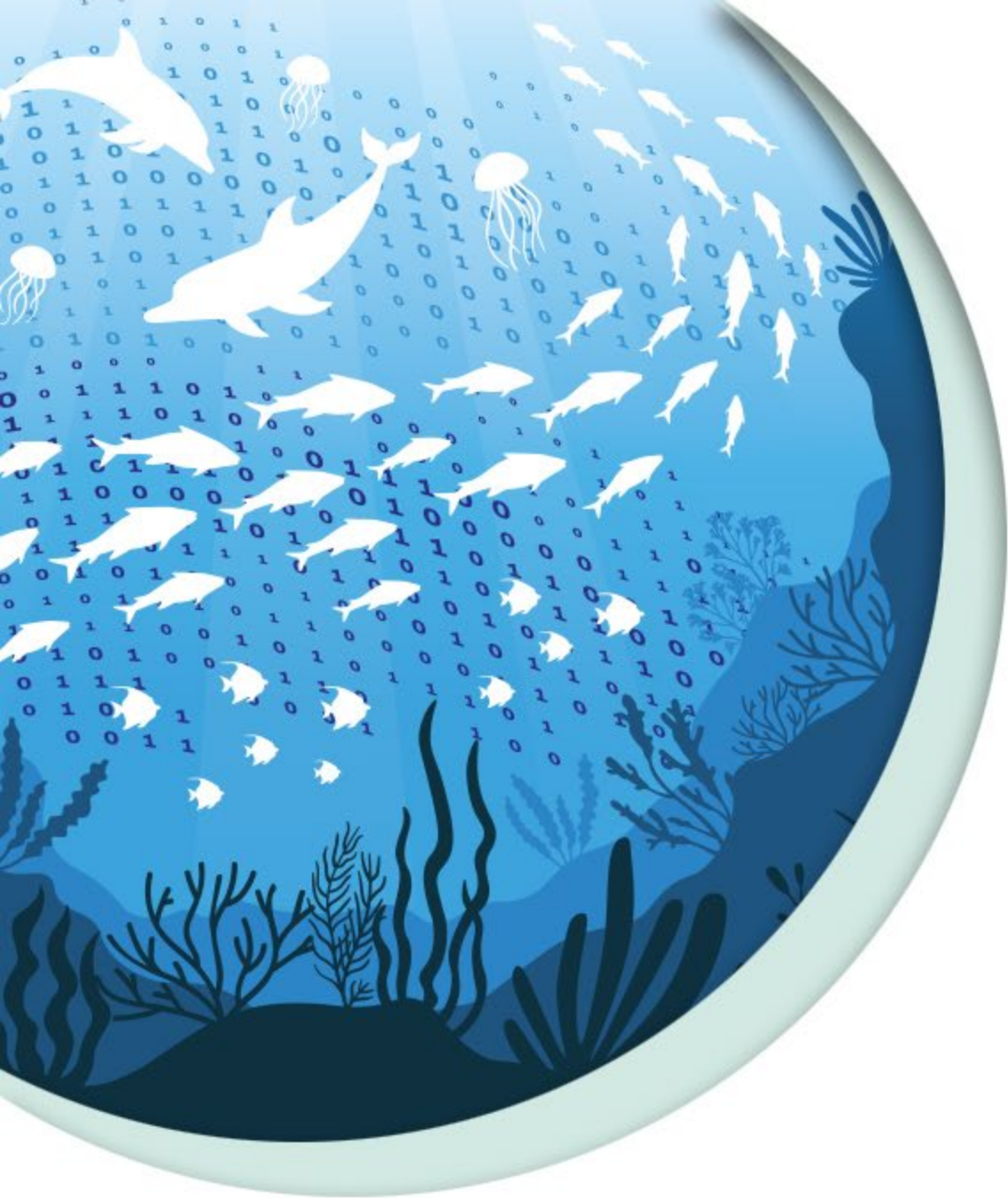


HAS A CHEAT CODE



# Relevant sources

≡ [BODC NVS Search](#)



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THANKS!