



# SeaDataCloud



2ème Atelier technique: Bonnes pratiques techniques au service de l'interopérabilité

[Retour d'expérience](#)

## Intégration, validation et accessibilité à long-terme des données de Cytométrie en Flux (FCM)

2ème Atelier technique-ODATIS, Brest, 5-6 juillet 2018  
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## Objectifs

Mettre en place un système de gestion des données de FCM interopérable avec l'infrastructure Européenne SeaDataNet en cohérence avec les standards et normes internationaux.



## Activités

- Définir un vocabulaire commun pour la FCM avec la collaboration du NERC-BODC, ICES, and JCOMMOPS
- Mettre en place une méthode de gestion de ce nouveau jeu de données
- Intégrer les données FCM avec le système SeaDataNet



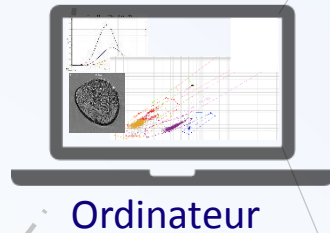
Cytomètre de paillasse



Cytomètre automatique

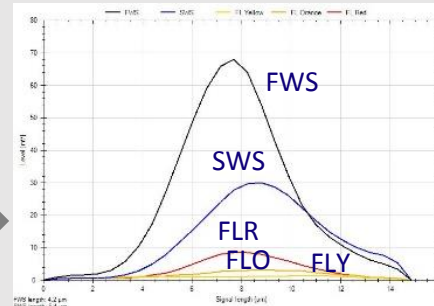


Echantillon d'eau

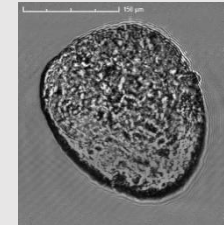


Ordinateur

1 cell

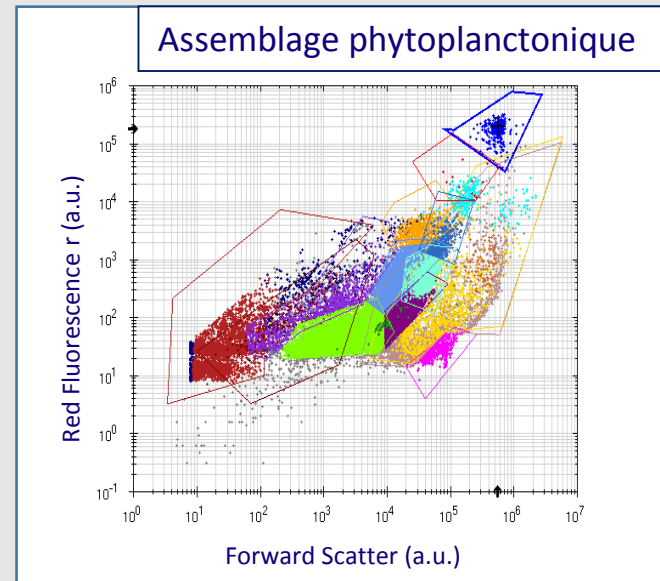


Propriétés optiques



Photo

1x10<sup>6</sup> cells



- Groupes autotrophiques/hétérotrophiques/abondance (comptage) par group
- Fluorescences/Diffusion par cell/ estimation de la taille après calibration de la diffusion
- Photos (taxon > 20 µm)



## Intégration, validation et accessibilité à long-terme des données de Cytométrie en Flux (FCM)

1

- Définition d'un vocabulaire commun

2

- Création d'un nouveau format de transport de données

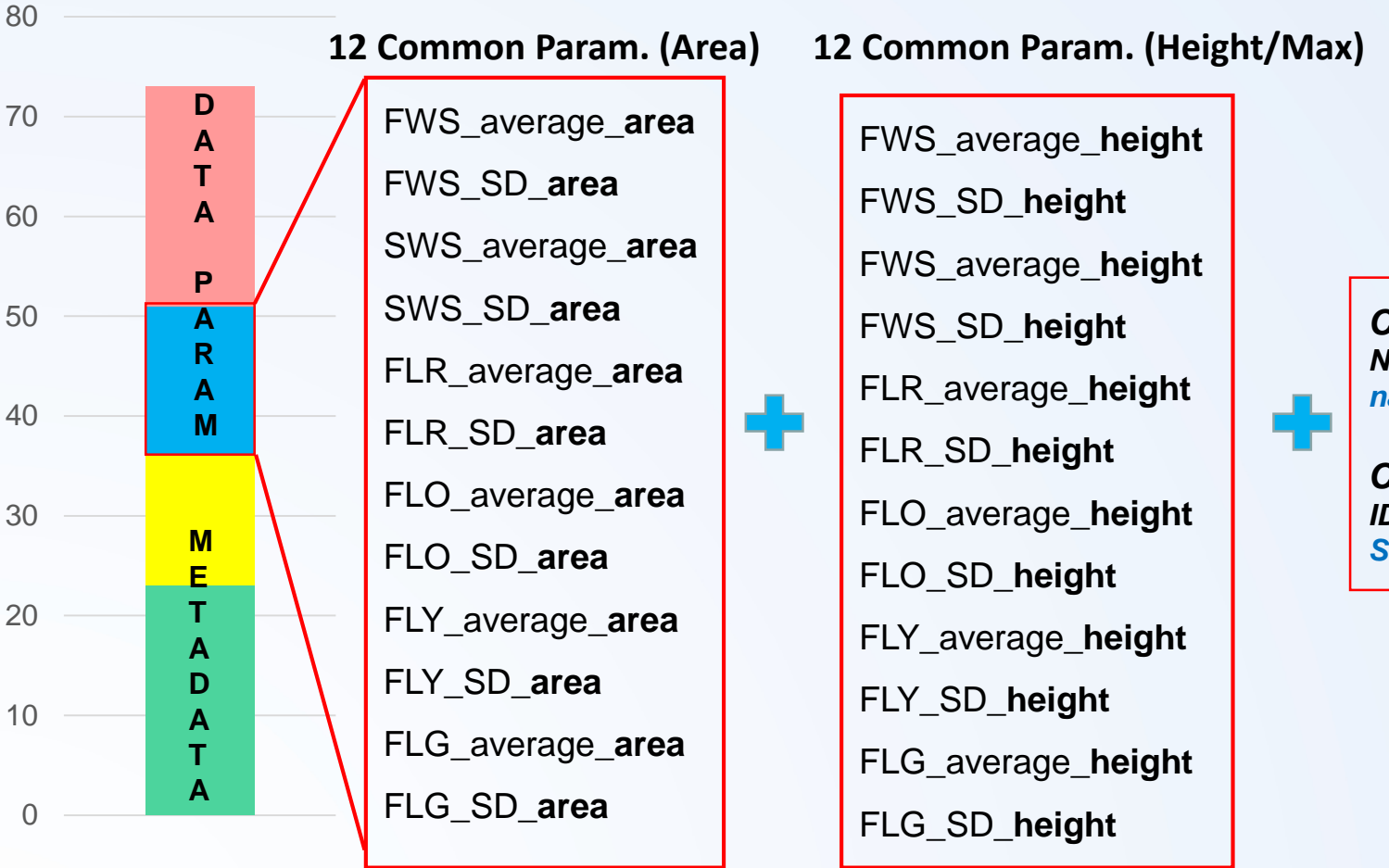
3

- Connexion à SDN

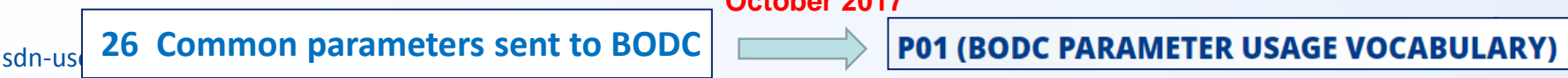


## 1. Vocabulaire commun de la FCM

- Analyse du vocabulaire existant (P01 list)
- Identification des paramètres en commun
- Analyse bibliographique (1983-2017)
- Questionnaire (58 questions)



■ Common Metadata   
 ■ Unique Metadata   
 ■ Common Data   
 ■ Unique data





## Flow Cytometry vocabulary standardization Questionnaire

This questionnaire is dedicated to set up a common standardized vocabulary of the flow cytometry (FCM) metadata and data. it will take approximately 15 minutes to be completed.

This questionnaire is carried out within the framework of SeaDataCloud H2020 project in order to standardize, validate and guarantee a long-term storage and access of flow cytometry datasets.

The questionnaire is divided into four main parts:

Part I: FCM Group names and definitions

Part II: FCM Metadata

Part III: Sample Metadata

Part IV: FCM Data

*There are 58 questions in this survey.*

Load unfinished survey

Next ▶

Exit and clear survey




Questionnaire sent to 180 FCM users all around the world



→ 38 réponses (2 mois)

 Réponses complètes (79%)

 Réponses incomplètes (21%)



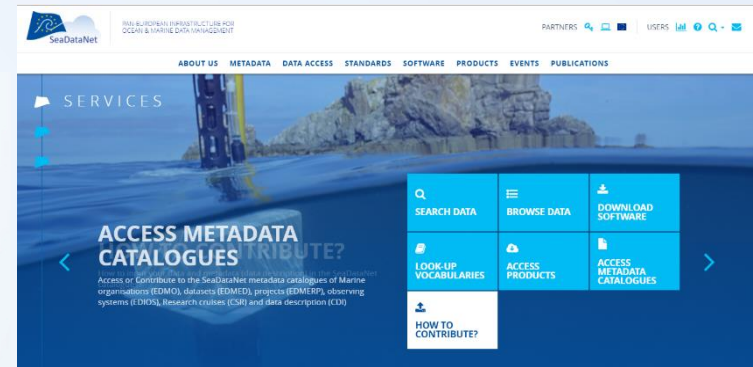




## Vocabulaire commun à la FCM → 44 codes

### BODC WEBSERVICES V2 (LIBRARIES) CL12

Library	Thesaurus	Title	Alt Title	Version	Members	Modified
C16		SeaDataNet sea areas	SDN sea areas	9	127	11/7/2012 2:00:06 AM
C17		ICES Platform Codes	ICES Platforms	712	5607	3/20/2018 2:00:05 AM
C19		SeaVoX salt and fresh water body gazetteer	SeaVoX water bodies	17	263	2/21/2018 2:00:03 AM
C32		International Standards Organisation countries	ISO countries	7	251	1/14/2016 2:00:02 AM
C34		Activity purpose categories	Purpose categories	4	22	8/27/2011 3:00:05 AM
C35		European Nature Information System	EUNIS3 Habitats	1	56	2/19/2010 2:01:37 AM



F02		SeaDataCloud Flow Cytometry Standardised Cluster Names	SDC flow cytometry cluster names	2	11	2/3/2018 2:00:02 AM
-----	--	--	----------------------------------	---	----	---------------------

P01		BODC Parameter Usage Vocabulary	BODC PUV	800	37732	3/14/2018 2:00:03 AM
-----	--	---------------------------------	----------	-----	-------	----------------------

P02		SeaDataNet Parameter Discovery Vocabulary	SeaDataNet PDV	107	435	2/13/2018 2:00:03 AM
-----	--	---	----------------	-----	-----	----------------------

L22		SeaVoX Device Catalogue	SeaVoX Device Catalogue	324	1280	3/6/2018 2:00:04 AM
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P06		BODC data storage units	BODC units	99	346	2/16/2018 2:00:02 AM
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## 2. New Data Transport Format

**SeaDataNet**

**DATAFILE FORMATS**

ODV, MEDATLAS, NETCDF  
DELIVERABLE D8.5

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### THE ODV FORMAT DATA MODELS

NAME	TYPE
Biological data	Time series
Chemical	Time series
Contaminant in Biota	Time series
Tide gauge	Time series
Tide gauge with instrument	Time series
Trajectory TSG	Time series
Contaminant in sediment	Profiles
CTD	Profiles
CTD with instruments	Profiles
XBT	Profiles



## <https://www.seadatanet.org/Standards/Data-Transport-Formats>

TemplateandExempleODV\_CDI\_FlowCytoMetry - Excel (Échec de l'activation du produit)

FICHIER ACCUEIL INSERTION MISE EN PAGE FORMULES DONNÉES RÉVISION AFFICHAGE

Coller Presse-papiers Police Alignement Nombre Date Mise en forme conditionnelle Mettre sous forme de tableau Styles de cellules Insérer Supprimer Format Trier et Rechercher filtrer sélection Édition

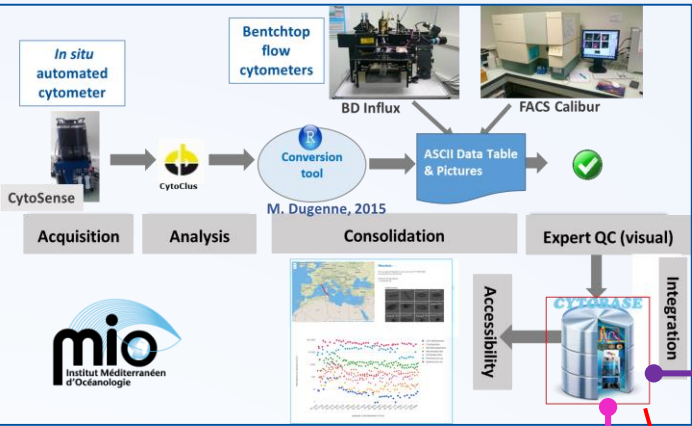
C4 : f\_x

	A	B	C	D
1				
2		<p>This file contains : the <b>general description of an ODV Flow Cytometry (FCM) File</b> for SeaDataNet and the <b>detailed description of ODV file Fields</b> that can be used as well as <b>an example of FCM dataset</b> with the CDI metadata (Orange sheets) and the corresponding data in the ODV FCM format (Blue sheets).</p>		
3		<p>Every ODV sheet contains a set of FCM data and has a <b>HEADER</b> and a <b>DATA TABLE</b>.</p> <p><u>The DATA TABLE contains the data</u> It exists in 2 type of fields: <b>6 fixed</b> fields and a various number of <b>additional</b> fields.</p> <p><u>The HEADER describes the fixed and additional fields</u> For each of the additional Fields it is required to describe:</p> <ul style="list-style-type: none"> <li>-<b>Subject</b>: This header contains the name of the column header of the additional field, and the prefix 'SDN:LOCAL:' indicating it is a local text string.</li> <li>-<b>Object</b>: This header contains the code from the 'SeaDataNet P01 vocabulary', corresponding to the local subject (codes available at <a href="http://vocab.nerc.ac.uk/collection/P01/current/">http://vocab.nerc.ac.uk/collection/P01/current/</a>).</li> <li>-<b>Units</b>: This header describes the units corresponding to the object, according to SeaDataNet P06 vocabulary (available at <a href="http://vocab.nerc.ac.uk/collection/P06/current/">http://vocab.nerc.ac.uk/collection/P06/current/</a>).</li> <li>-<b>Instruments</b>: This header should be entered optionally for the relevant datafields. It corresponds with SeaDataNet L22 vocabulary (available at <a href="http://vocab.nerc.ac.uk/collection/L22/current/">http://vocab.nerc.ac.uk/collection/L22/current/</a>).</li> </ul> <p><u>OBJECTIVE:</u> This format enables NODC's to make FCM data accessible using SeaDataNet infrastructure and makes it possible for NODC's to use SeaDataNet to exchange FCM data</p>		
4				
5				

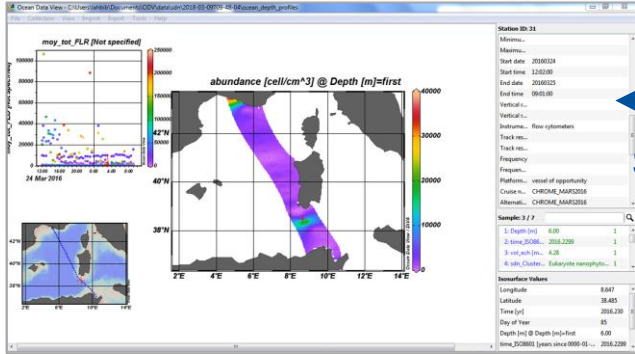
How to use General ODV template 20180302 ODV Fields\_20180302 FCM\_ODV\_exple\_20180302 FCM\_CDI\_fields\_20180302 FCM\_CDI\_fexple\_20180302



# 3. Connexion à SDN



**Ocean Data View**  
<https://odv.awi.de>  
 © 2017 Reiner Schitzer



**Metadata generation**

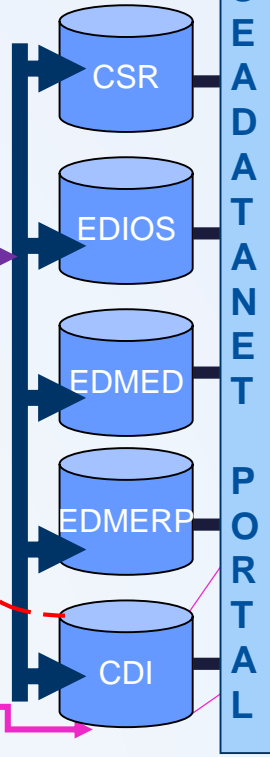


**MIKADO**

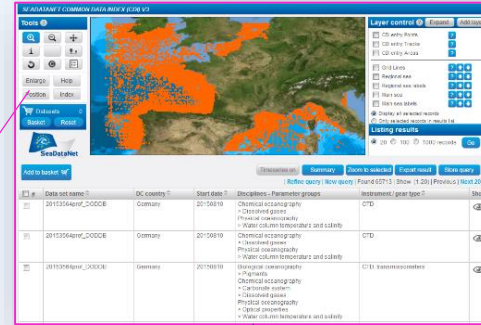
**Coupling table**

**Download Manager**

**IMPORT SDN Format**



**SEADATANET PORTAL**



MARINE logo and a **DOWNLOAD** button.

**Request Status Manager Menu Options**

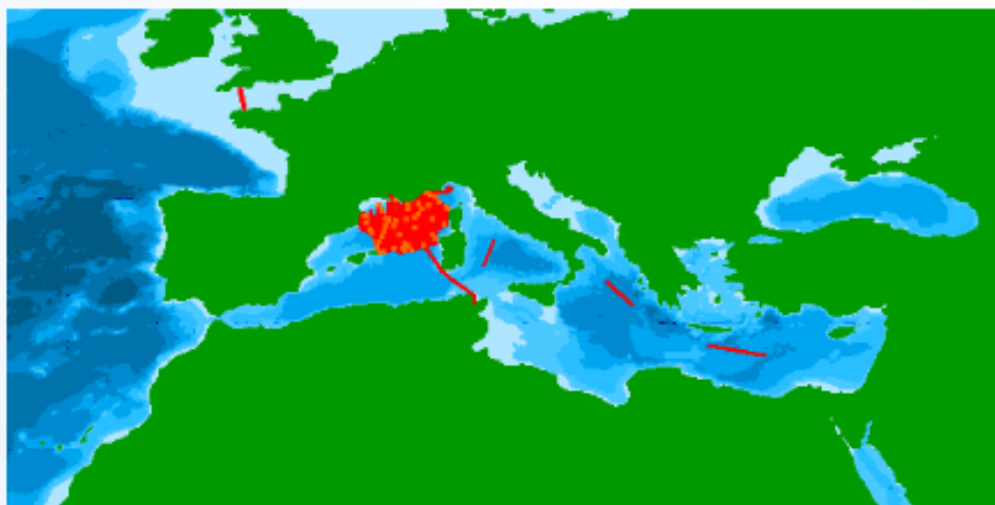
<b>User</b>	<b>Data provider</b>
Standing download requests	Standing download orders
History of download requests	History of all download orders
	Report of all orders
	Report of robot testing

**TOOLS**



ENLARGE HELP  
POSITION INDEX

Datasets **0**  
BASKET RESET



**LAYER CONTROL**

- CDI entry Points
- CDI entry Tracks
- CDI entry Areas
- Grid Lines
- Regional sea
- Regional sea labels
- Display all selected records
- Only selected records in results list

**LISTING RESULTS**

20  100  1000 records

ADD TO BASKET

TIMESERIES ON SUMMARY ZOOM TO SELECTED EXPORT RESULT STORE QUERY

Refine query New query Found 67 Show (1-20) Previous Next 20

<input type="checkbox"/> #	Data set name	DC country	Start date	Disciplines - Topics	Instrument / gear type	Show
<input type="checkbox"/>	BERRE MISE 2014_FCMW	France	20140626	Biological oceanography > Other biological measurements	flow cytometers	<input checked="" type="radio"/>
<input type="checkbox"/>	BioArgoMed_FCMW	France	20150706	Biological oceanography > Other biological measurements	flow cytometers	<input checked="" type="radio"/>
<input type="checkbox"/>	CEL2SAT_FCMW	France	20130521	Biological oceanography > Other biological measurements	flow cytometers	<input checked="" type="radio"/>
<input type="checkbox"/>	CHROME_MARS2016_FCMW	France	20160324	Biological oceanography > Other biological measurements	flow cytometers	<input checked="" type="radio"/>
<input type="checkbox"/>	DEWEX LEG1_FCMW	France	20130203	Biological oceanography > Other biological measurements	flow cytometers	<input checked="" type="radio"/>



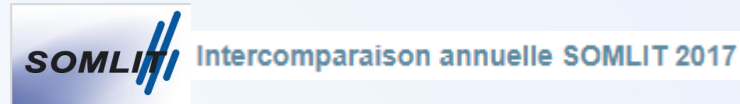
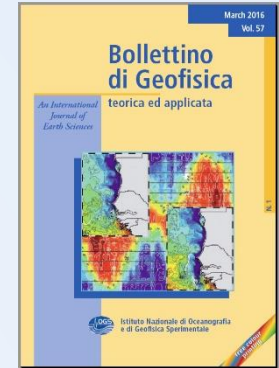
• Newsletter number 10, 30 November 2015

• Newsletter number 12, 3 April 2018



Heraklion 2016, 7th FerryBox Workshop

IMDIS 2016



2016  
2018

CytoBuoy Meeting 2017

04.04.2017 by Lucyna Włodarczyk



SIST 2016 : Séries Interopérables et Systèmes de Traitement

29-30 sept. 2016 Montpellier (France)



SIST 2018 : Séries Interopérables et Systèmes de Traitement

28-29 juin 2018 Guyancourt (France)

# Merci pour votre attention