Ferrybox data and quality control implementation in MyOcean

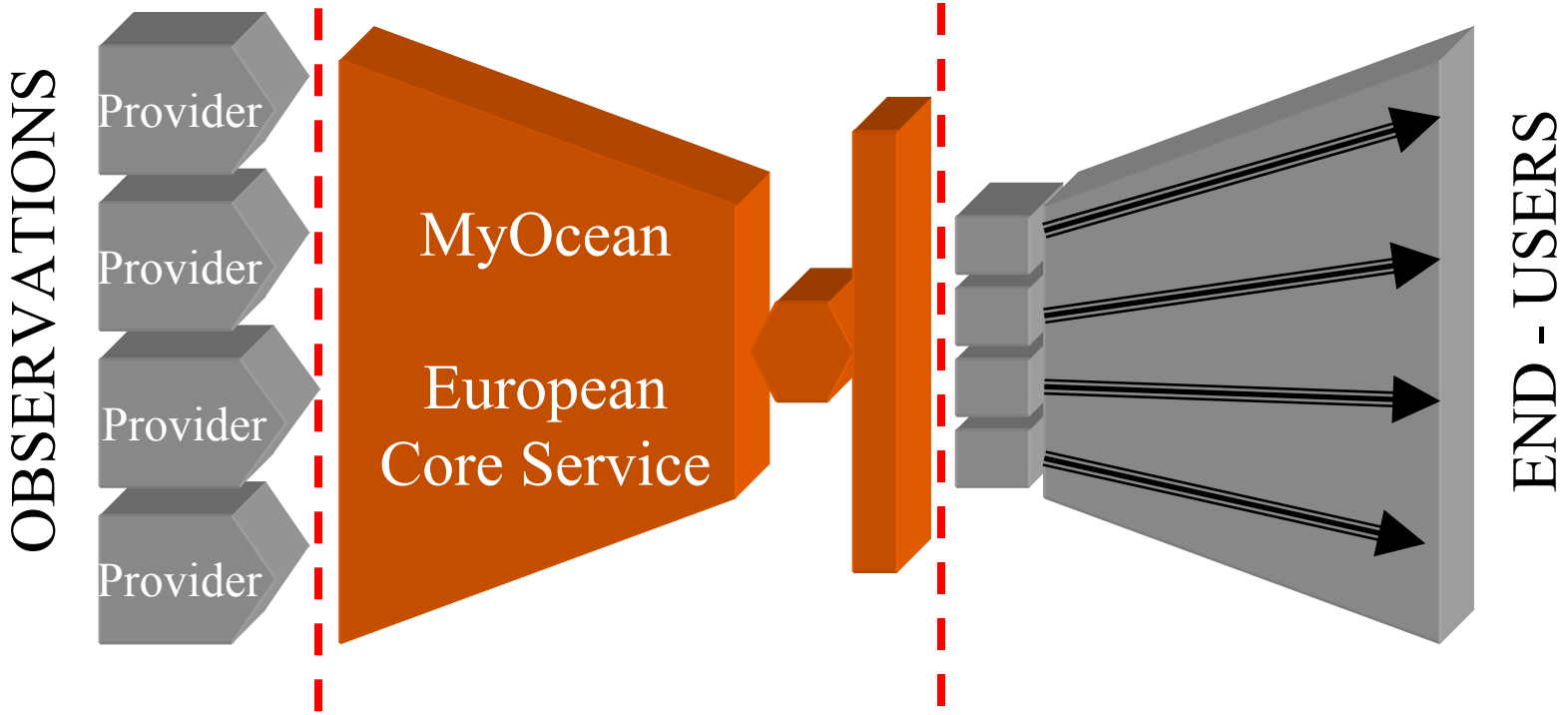
Pierre Jaccard
Kai Sørensen
Dominique Durand
Are Folkestad
NIVA

Outline

- Simple MyOcean overview
- Management of ferrybox data
- How to access ferrybox data

MyOcean Overview

Scope of responsibility

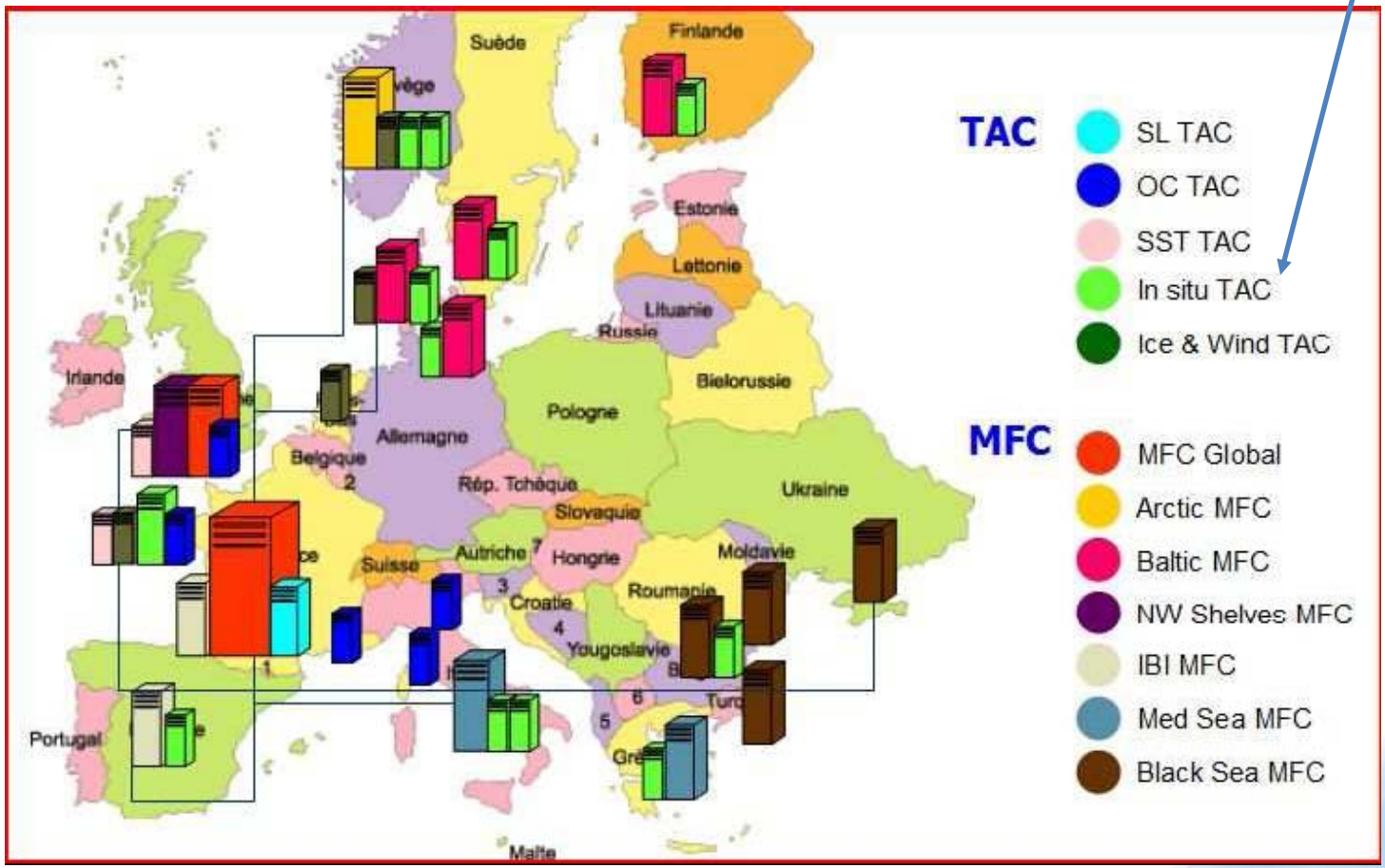


Data Assembly, production and distribution

Harmonization of formats and quality control

Members

Ferrybox

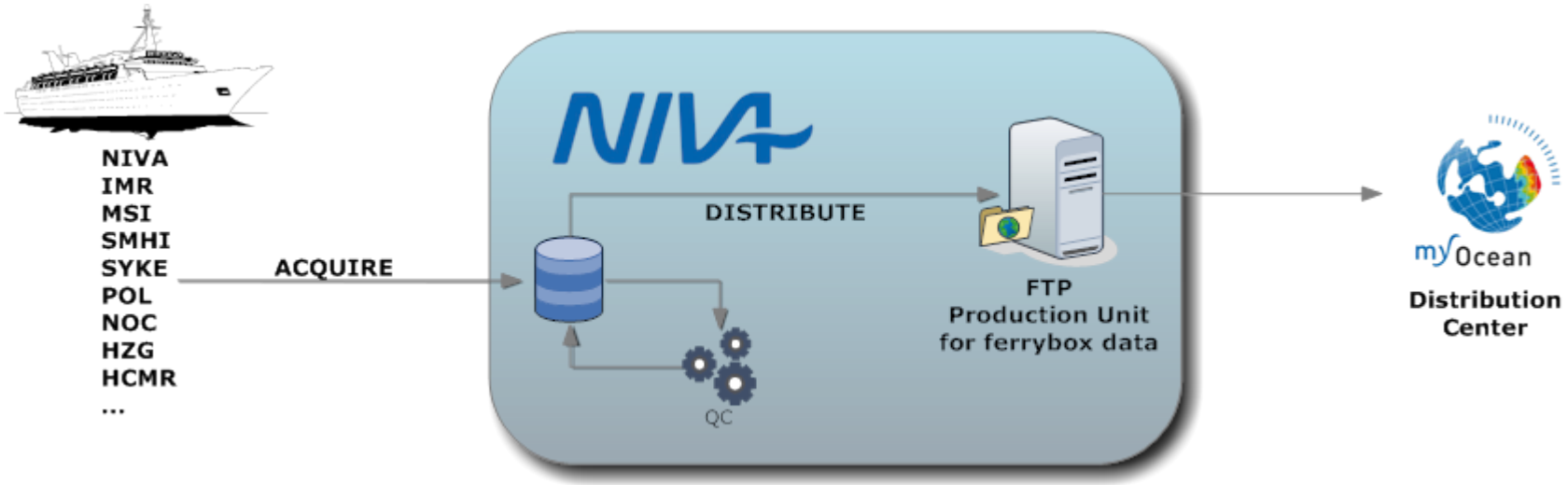


Areas

Ferrybox

- 1. Global
- 2. Arctic
- 3. Baltic
- 4. NWS
- 5. IBI
- 6. Med Sea
- 7. Black Sea

NIVA's Role



- Collect
- Process
- Export
- Manage the MyOcean ferrybox FTP Production Unit

Production Unit
for ferrybox data

Implemented and Expected

MS Color Fantasy
MS Trollfjord
MS Norbjørn
MS Bergensfjord
MS Vesterålen
MS Baltic Princess
MS Finnmaid
MS Liverpool Seaways

MS Silja Serenade
MS Norrøna
MS Transpaper
MS Nuka Arctica
MS Armorique
MS Pont Aven

MS Lysbris
MS Tor Dania
MS Funny Girl
MS Olympic Champion
MS Victoria
MS Brahe
…

Management of Ferrybox Data

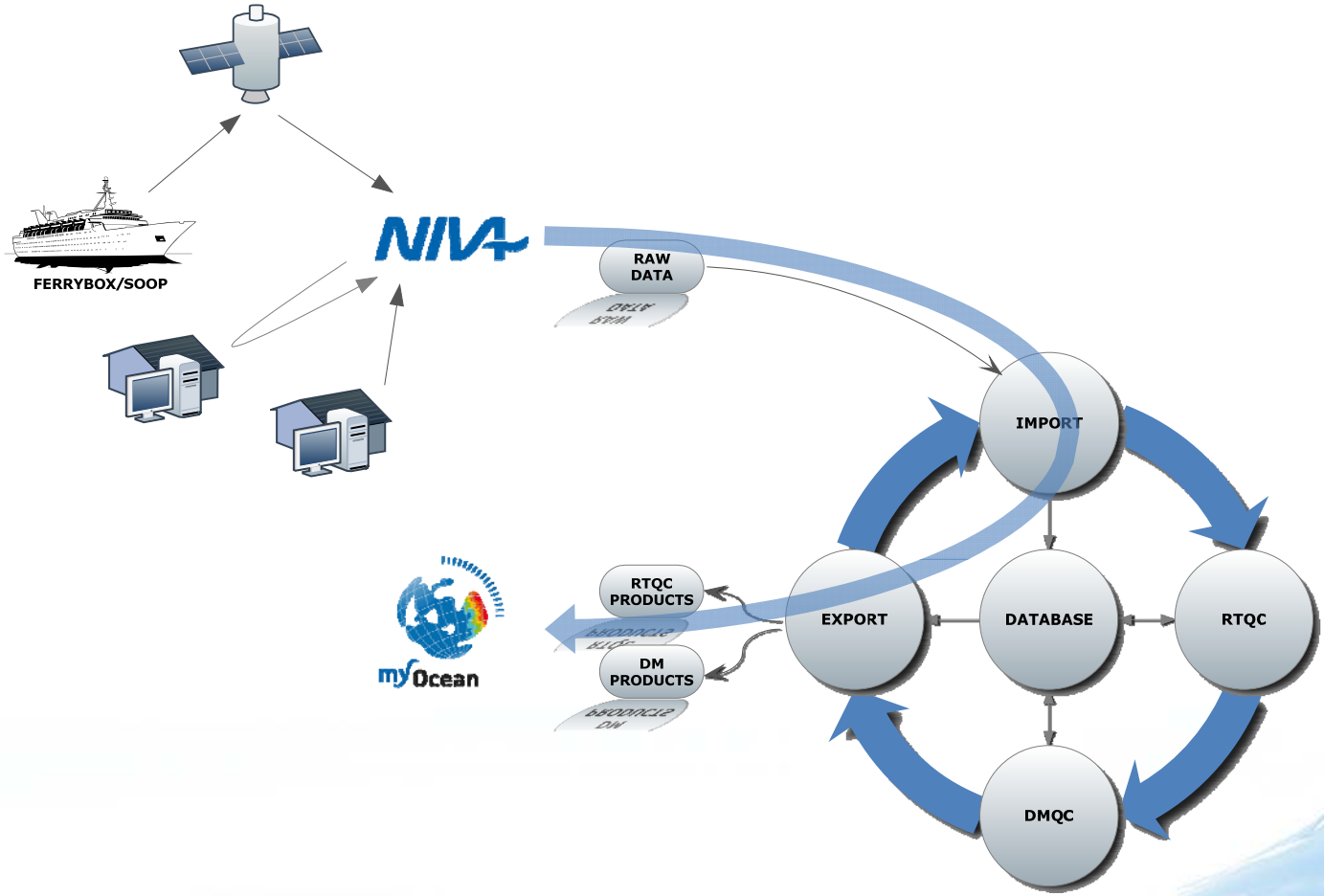
Database

Oracle

72’661’701 (31.08.2011@8)

MyOcean	**Not MyOcean**
Provider	Sensor producer
Ship/Platform	Sensor model
Parameter	Sensor serial number
Unit	Sensor installation
	Support for handling/control events and classes
	Processing flags
	QC flag for each test

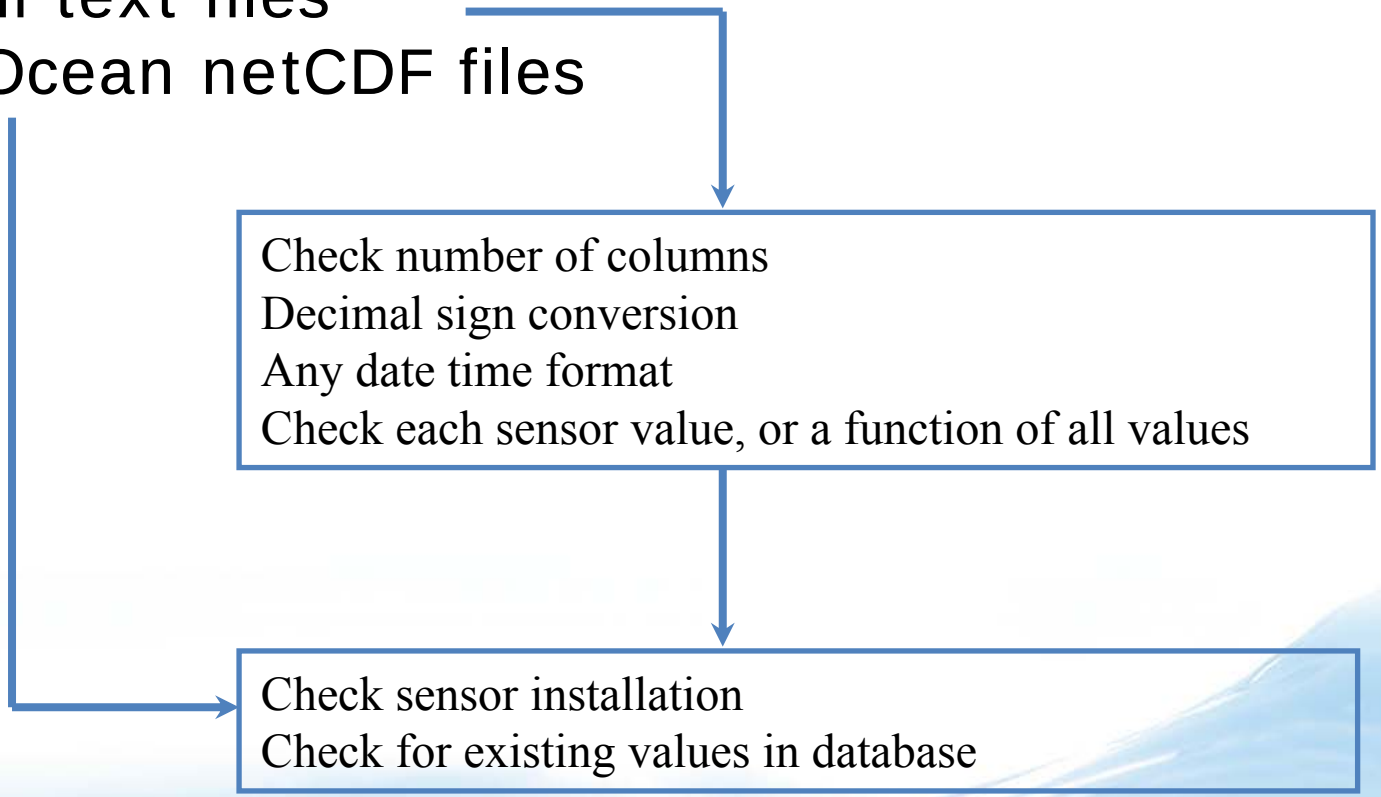
Data Flow


FERRYBOX/SOOP
NIVA
RAW DATA
IMPORT
EXPORT
DATABASE
RTQC
DMQC
RTQC PRODUCTS
DM PRODUCTS
myOcean

Importing Data

Any formats

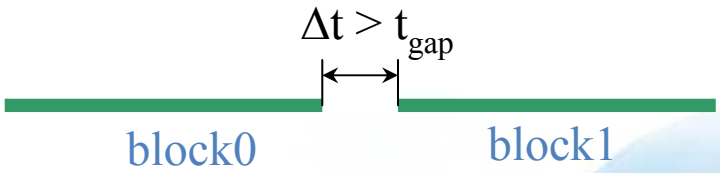
- Ascii text files
- MyOcean netCDF files



RTQC Overview

ARGO, GOSUD, MERSEA, SEADATANET

- Blocks <= 1day ± 1hr
- Processing by blocks of consecutive data
- Flags are added separately
- Values are not modified



Flags

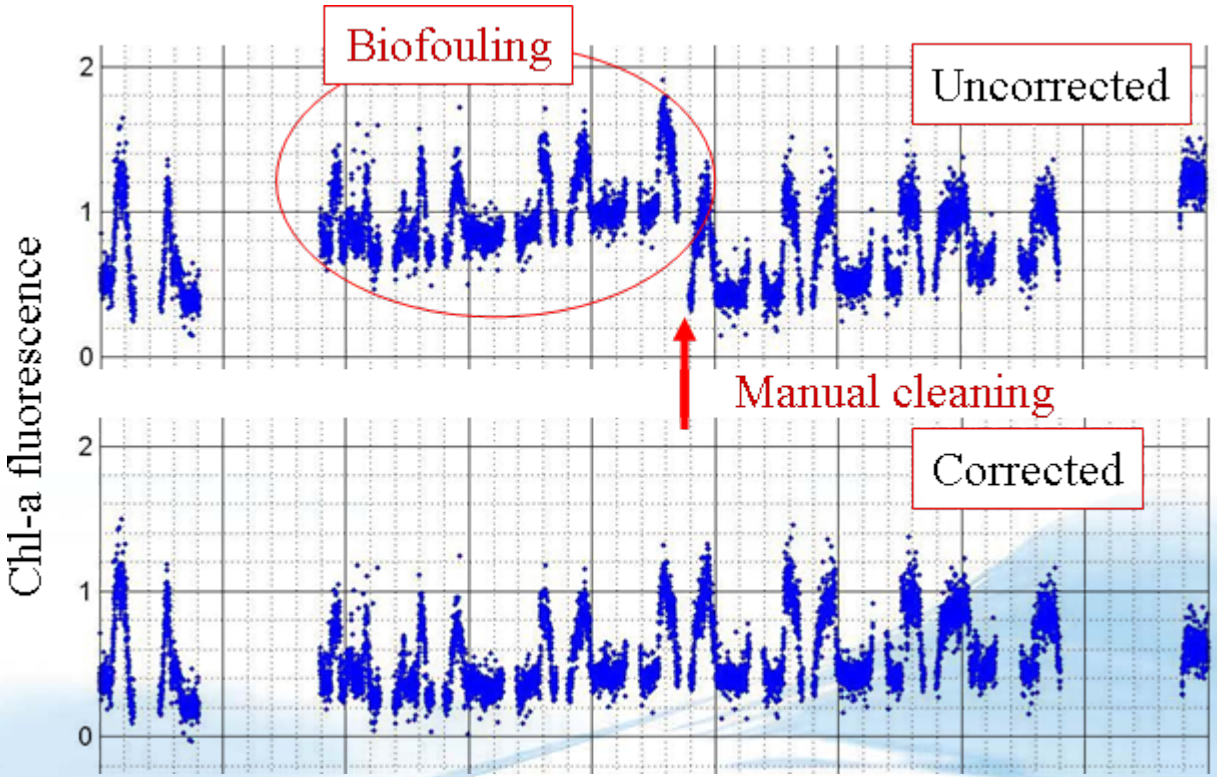
Code	Meaning	Comment
0	**No QC was performed**	**-**
1	**Good data**	**All real-time QC tests passed.**
2	**Probably good data**	**-**
3	Bad data that are potentially correctable	These data are not to be used without scientific correction.
4	**Bad data**	**Data have failed one or more of the tests.**
5	Value changed	Data may be recovered after transmission error.
6	Not used	-
7	Not used	-
8	Interpolated value	Missing data may be interpolated from neighbouring data in space or time.
9	Missing value	-

RTQC Tests

- Minimum block length
- Impossible Date
- Impossible Location
- Frozen Date/Location/Speed
- Pump/Flow/Obstruction value
- Pump/Flow/Obstruction/Speed history
- Frozen T/S/FLU/OXY
- Global Range Speed/T/S/FLU/OXY
- Regional/Temporal Range T/S/FLU/OXY
- Gradient and Spikes

More RTQC Tests BGC

- Instrument Comparison
- Parameter Relationship
- Calibration Status
- Subsequential Trips



DMQC Overview

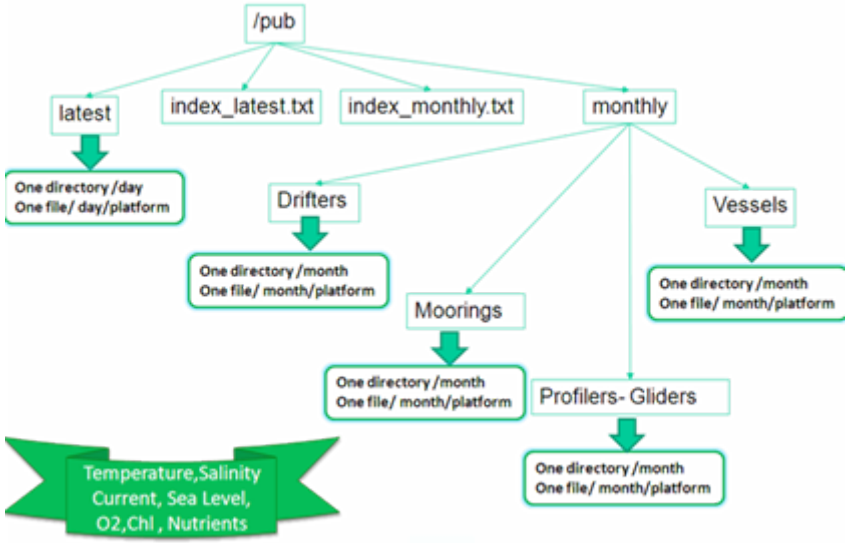
GOSUD, SEADATANET

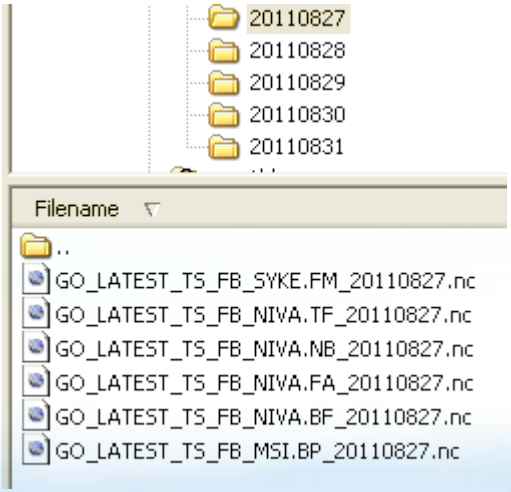
- SeaDataNet
- Analysis from samples
- Biofouling corrections

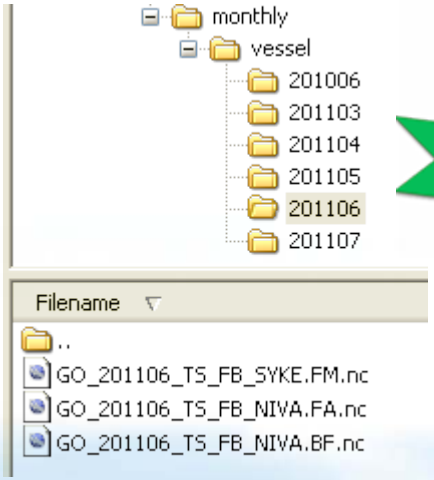
Export

OCEANSITE, CF NAMES, UNITS

- netCDF v3
- OceanSites v1.1







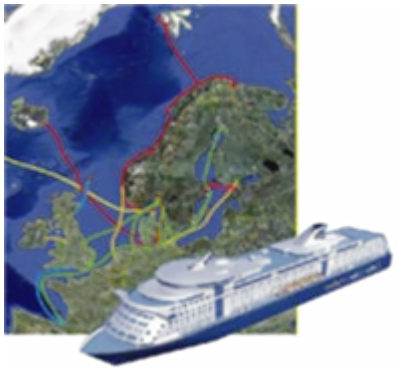
netCDF Content

Name	Value
comment	
distribution_statement	These data are the property of NIVA and follow MyOcean standards; the...
author	Anna Birgitta Ledgang, Pierre Jaccard
format_version	1.1
citation	These data were collected by Norwegian Institute for Water Research, ...
data_mode	R
quality_control_indicator	7
references	www.niva.no,www.ferrybox.no
data_assembly_center	NIVA, Norwegian Institute for Water Research
wmo_platform_code	LMSD
id	GO_LATEST_TS_FB_NIVA.FA_20110830
naming_authority	OceanSITES
qc_manual	MyOcean WP15 Real Time Quality Control
institution_references	www.niva.no,www.ferrybox.no
geospatial_lat_max	59.9091
geospatial_vertical_max	5.0
title	MyOcean Ferrybox data from NIVA-FA
netcdf_version	3.6.1
site_code	GO
date_update	2011-08-30T12:32:18Z
day	20110830
source	Ferrybox
geospatial_lon_max	11.3677
provider	NIVA
update_interval	daily
data_type	OceanSITES trajectory data
ferrybox_platform	FA, M/S COLOR FANTASY
geospatial_lat_min	57.6428
time_coverage_start	2011-08-30T00:00:04Z
pi_name	Kai Soerensen
conventions	OceanSITES Manual, CF-1.1
institution	NIVA, Norwegian Institute for Water Research
platform_code	MYO_GO_NIVA_FA
geospatial_lon_min	10.5638
time_coverage_end	2011-08-30T08:14:21Z
area	BALTIC SEA,KATTEGAT,SKAGERRAK
summary	MyOcean Ferrybox measurements from NIVA-FA
cdm_data_type	Station
contact	kai.sorensen@niva.no
quality_index	2
geospatial_vertical_min	5.0
imo_platform_code	9278234
history	

Name	Value
_FillValue	999999.0
comment	
DM_indicator	R
sensor_depth	5.0
resolution	0.0
uncertainty	0.0
ancillary_variables	TEMP_QC
valid_min	-2.0
QC_indicator	2
precision	0.0
long_name	sea water temperature in-situ ITS-90 scale
standard_name	sea_water_temperature
cell_methods	TIME:point DEPTH:point LATITUDE:point LONGITUDE:point
QC_procedure	7
units	degrees_Celsius
ferrybox_sensor	CTD_TEMPERATURE
valid_max	40.0
accuracy	0.0

Access to Ferrybox Data

How to Get Data



- Register on www.myocean.eu

To be able to download products you need first to REGISTER, for this:

a. Read the MyOcean Commitments (paragraph 2)

b. Read the conditions of use described in the MyOcean licence (Annex)

c. Fill in and sign the Service Level Agreement (SLA) **Download the SLA** and return it to MyOcean to get a login & password.