

**Preparatory Actions for European Marine Observation and Data  
Network**

**SECOND PROGRESS REPORT  
FOR THE PERIOD  
AUGUST-SEPTEMBER 2009**

**Service Contract No. "MARE/2008/03 - Lot 3 Chemistry –  
SI2.531432"**

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## 1. INTRODUCTION

This report gives an overview of the activities undertaken during the two months of the project (4<sup>th</sup> of August – 3<sup>rd</sup> of October).

This period was mainly devoted to set-up the project activities. The Coordination Group participated to the SeaDataNet Technical Task Team meeting, organised by Ifremer in Antibes the 3<sup>rd</sup> and 4<sup>th</sup> of September. One session was dedicated to introduce the project activity, and the following points were added to the agenda:

- Short overview of on-going EMODNET pilots - by Alessandra Giorgetti
- Adoption of SeaDataNet V1 for Chemical Lot – data collection – proposal by Anders Windelin; technical options – proposal by Dick Schaap; specification of pool databases – proposal by Neil Holdsworth.

SeaDataNet and EMODNET participants deeply and constructively discussed the technical solution for data and metadata collection and validation. The conclusions are reported in the Appendix and were circulated to all EMODNET partners to start up data collection.

In parallel, the proposal for Parameter Selection for EMODNET Chemical Lot was finalised and circulated as well.

All updating related to the Chemical lot activities and all documents produced are available on the web site <http://nodc.ogs.trieste.it/nodc/projects/emodnet>.

## **2. CONCLUSIONS FROM TTT MEETING FOR EMODNET ACTIVITY**

**Subject:** Adoption of SDN V1 for EMODNET Chemical lot: technical solution for data collection and specification of pool data

Within EMODNET project metadata will be transferred using SDN XML metadata formats (CSR, EDMED, EDMERP, CDI).

Measured data will be transferred by NODCs in SDN ODV format (and as much as possible complimented by the CDI metadata entries) to the regional data pool for each of the 3 separate regions (ICES for Greater North Sea, MHI for the Black Sea, HCMR for the Mediterranean spots). CDI entries will be produced and managed by NODCs, using metadata information from the original data providers.

ICES will finalize the list of parameters for datasets to be gathered, based on the feedback from the lot partners (see attached file WP3\_TaskEMNC3.1\_ParameterSelection\_28SEP.doc). ICES will discuss this together with BODC to validate and to extend, where needed, the SDN Common Vocabularies related to variables (chemicals) (full mapping between EMODNET chemicals matrix and SDN P011 vocabulary for parameters), but also other relevant topics, such as platform classes, instrument types, and so on. Terms for Chemical Parameters in different media (Water, Biota and Sediment) might have to be completed.

Each regional pool will decide whether to import the data (ODV files) into a local database (ICES can supply his relational database schema under request) or keep them in a file management system.

For QC purpose, the ODV software will be used (at least for the basic checks) in each regional data pool, with common specifications. The final validation will be performed in the three regions looking at the interpolated fields obtained with DIVA. ICES will provide information on the QC methodology that is applied for OSPAR and HELCOM to the regional data pools, which will help them to set up a common QC procedure.

Data products will be produced by the three regional data pools carried in NetCDF (CF) files and will be made available afterwards on the web by means of a data products catalogue (via CAMIOON) and a WMS viewing services. The latter 2 will be adopted from the on-going developments for the Data Products access and display in SeaDataNet, which are primarily developed by the University of Gent and IFREMER. The data products WMS viewer will show interpolated chemical maps and error maps (RMSECV (root mean square error cross validation)), that also will be downloadable as GIS layers.

The EMODNET Chemical portal will give particular emphasis to data products, obtained in the three regions.

The portal will provide references to original data sets and their originators for each data product. That will be realized by an integration of the SeaDataNet CDI V1 query and shopping system (by MARIS). The data requests can be performed via the CDI V1 transaction system with downloading from the NODCs. However in some cases the datasets might not reside or be managed by the NODCs; for those cases an alternative requesting function will be added to the CDI V1 shopping mechanism, so that requests for datasets can be forwarded to external data holders (non-NODCs).

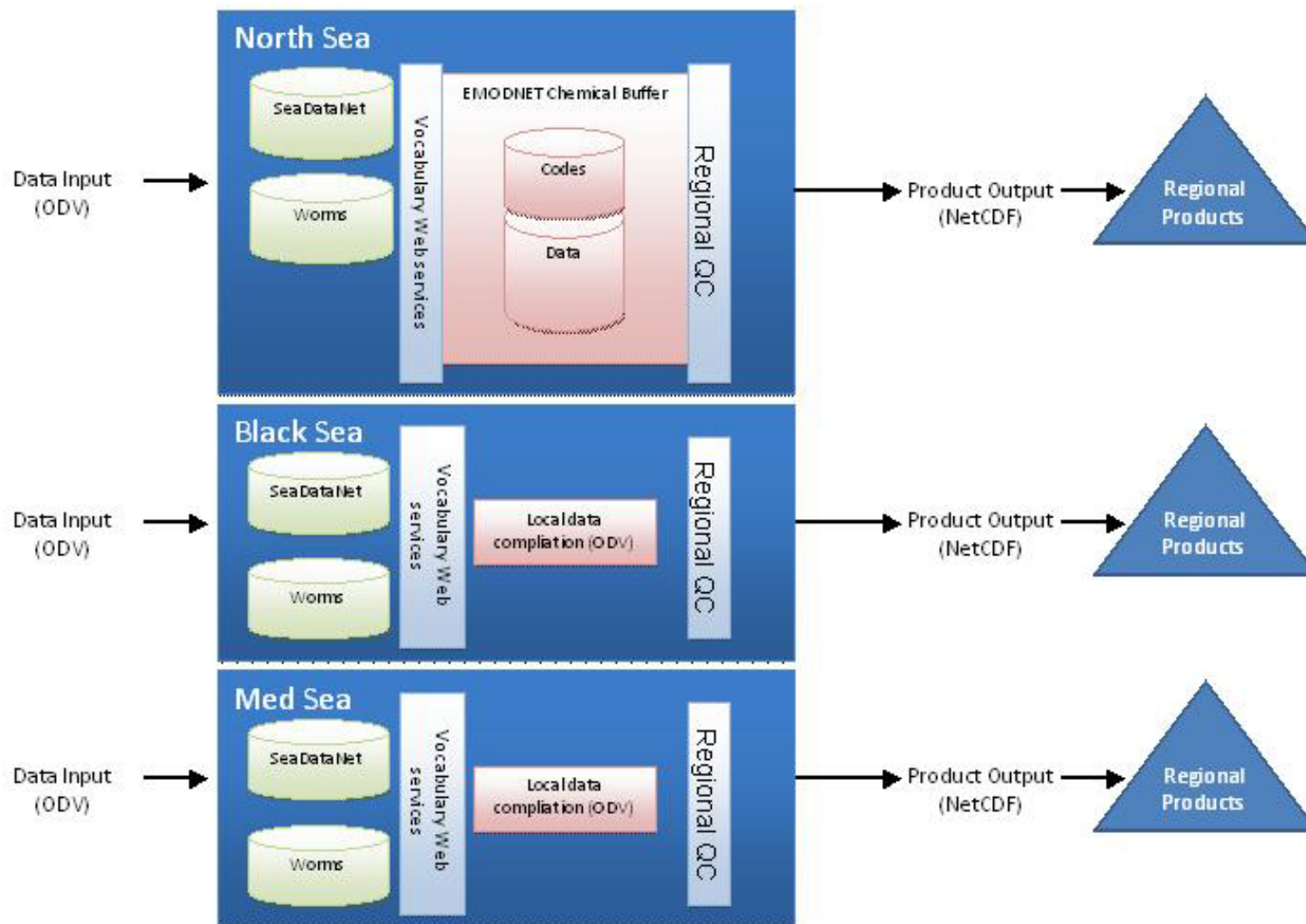
Once the list of chemical parameters has been fixed, then all partners must receive an instruction from OGS to start identifying and making arrangements for gathering copies of relevant datasets from national sources and complimenting these with sufficient metadata for completing CDI records of those datasets. Collected files must be converted to ODV, using the selected Vocabulary terms. Metadata must be prepared following the CDI V1 format and tools. New EDMO terms must be entered for possibly missing external data holders. Gathered datasets must be transferred to any of the 3 regional pools for further processing and QC. NODCs can make use of the EU support letter to motivate external sources of relevant data to cooperate and to provide copies of datasets and sufficient metadata.

Extra support from OSPAR, HELCOM, and BlackSeaCommission will be requested by letter from OGS (draft MARIS).

The situation per country can differ. In some countries all monitoring data and complimentary research data is managed by the NODC. In other countries there are different managing centre's, which need to be approached by the NODC for cooperation. In some countries all relevant datasets are already reported (e.g. to OSPAR => managed at ICES), while other countries only report a selection of their national monitoring to international bodies, such as OSPAR. The challenge for SeaDataNet is to bring together much more sources of relevant data than is achieved now by the international conventions and EEA based upon the international agreements and Directives. This way SeaDataNet must proof its added value!

ICES is requested to prepare an inventory of the present stations of relevant datasets, that it manages, so that North Sea NODCs can oversee what additional datasets might be available in their country.

# Data Product Flow



**PARAMETER SELECTION FOR EMODNET CHEMICAL LOT**

Selection of parameters for EMODNET chemical lot taking into consideration what the end users (in this case the EEA and Commission) are expecting to use the dataset for and the availability of data over geographic areas and over time.

EMNC id	Chemical group	Parameter	Monitoring programme <sup>1</sup>				EMMA indicator <sup>2</sup>	WFD Priority <sup>3</sup>	Data availability (years) <sup>4</sup>		
			OSPAR	HELCOM	BSIMAP	MedPol			North Sea	Black Sea	Med. spots
C1	Pesticides	Dichlorodiphenyltrichloroethane (DDT)		W, B	w, s		H1		10+	7+	10+
C2	Pesticides	Hexachlorobenzene (HCB)		W, B	w, s		D2	X	10+	7+	4+
C3	Antifoulants	Tributyltin (TBT)	S, b				D2	X	5+		
C4	Antifoulants	Triphenyltin (TPT)	S, b						5+		
C5	Pharmaceuticals	Oxytetracycline (C <sub>22</sub> H <sub>24</sub> N <sub>2</sub> O <sub>9</sub> )									
C6	Heavy metals	Mercury (Hg)	S, B	W, B	W, s	S, B	D2, H2	X	10+		
C7	Heavy metals	Cadmium (Cd)	S, B	W, B	W, s	S, B	D2, H2	X	10+	7+	10+
C8	Heavy metals	Lead (Pb)	S, B	W, B	W, s	S, B	D2, H2		10+	7+	10+
C9	Hydrocarbons	Anthracene (C <sub>14</sub> H <sub>10</sub> )	S, B		w, s	s, b		X	10	6+	2
C10	Hydrocarbons	Fluoranthene (C <sub>16</sub> H <sub>10</sub> )	S, B		w, s	s, b		(X)	10	6+	2
C11	Radionuclides	Tritium	W				D2		10+		
C12	Radionuclides	Cesium 137	W, B	w, s, b	w, s		D2		10+	10+	once
C13	Radionuclides	Plutonium 239	W, B				D2				
C14	Fertilisers/Nitrogen	Nitrate (NO <sub>3</sub> )	W	W	W	W	D1, I1		10+	8+	10+
C15	Fertilisers/Nitrogen	Phosphate (PO <sub>4</sub> )	W	W	W	W	D1		10+	8+	10+
C16	Organic matter	Organic Carbon (C)	w, s	w	w, s		D2		10+	(10)	4+
C17	Organic matter	Organic Nitrogen (N)					I1		10+	10+	4+

<sup>1</sup> Chemicals are noted as either mandatory for the matrix in block capitals or optional in lower case (W/w = Water, S/s = Sediment, B/b = Biota)

<sup>2</sup> The links refer to the table numbers in ANNEX II of the EMMA report.

<sup>3</sup> Water Framework Directive Priority Substance, [http://ec.europa.eu/environment/water/water-framework/index\\_en.html](http://ec.europa.eu/environment/water/water-framework/index_en.html)

<sup>4</sup> The data availability is indicative, rather than absolute. See WP2: *DataInventory3\_Selected\_Chemicals.xls* for full description of time series and matrix