Development of advanced access and viewing services following SeaDataNet D5.6 and D8.7 and EMODNet Chemistry

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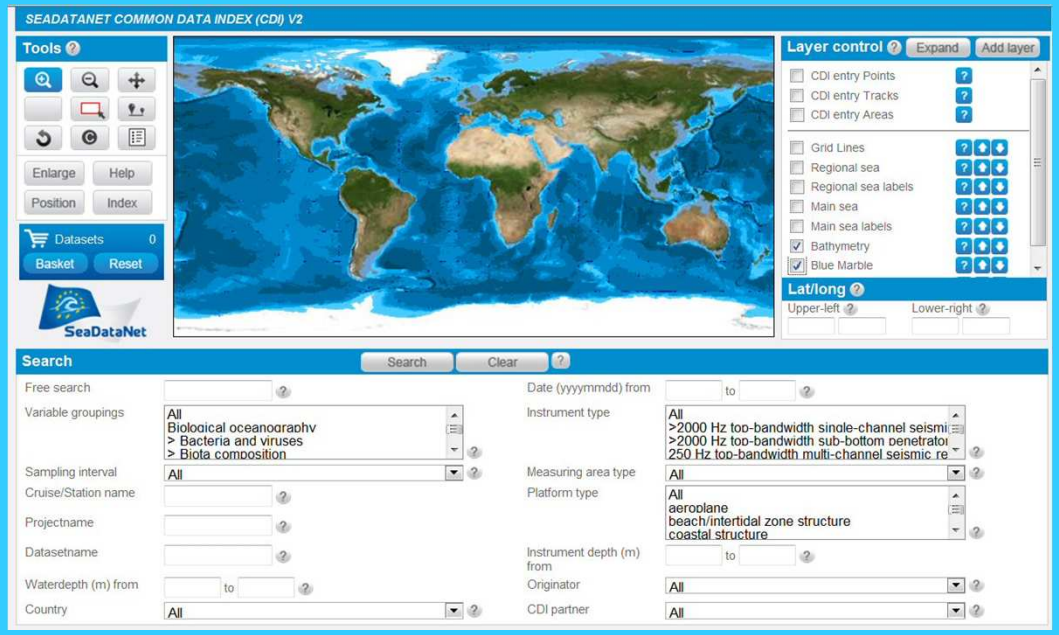
WMS – WFS services on CDI Data discovery and access service

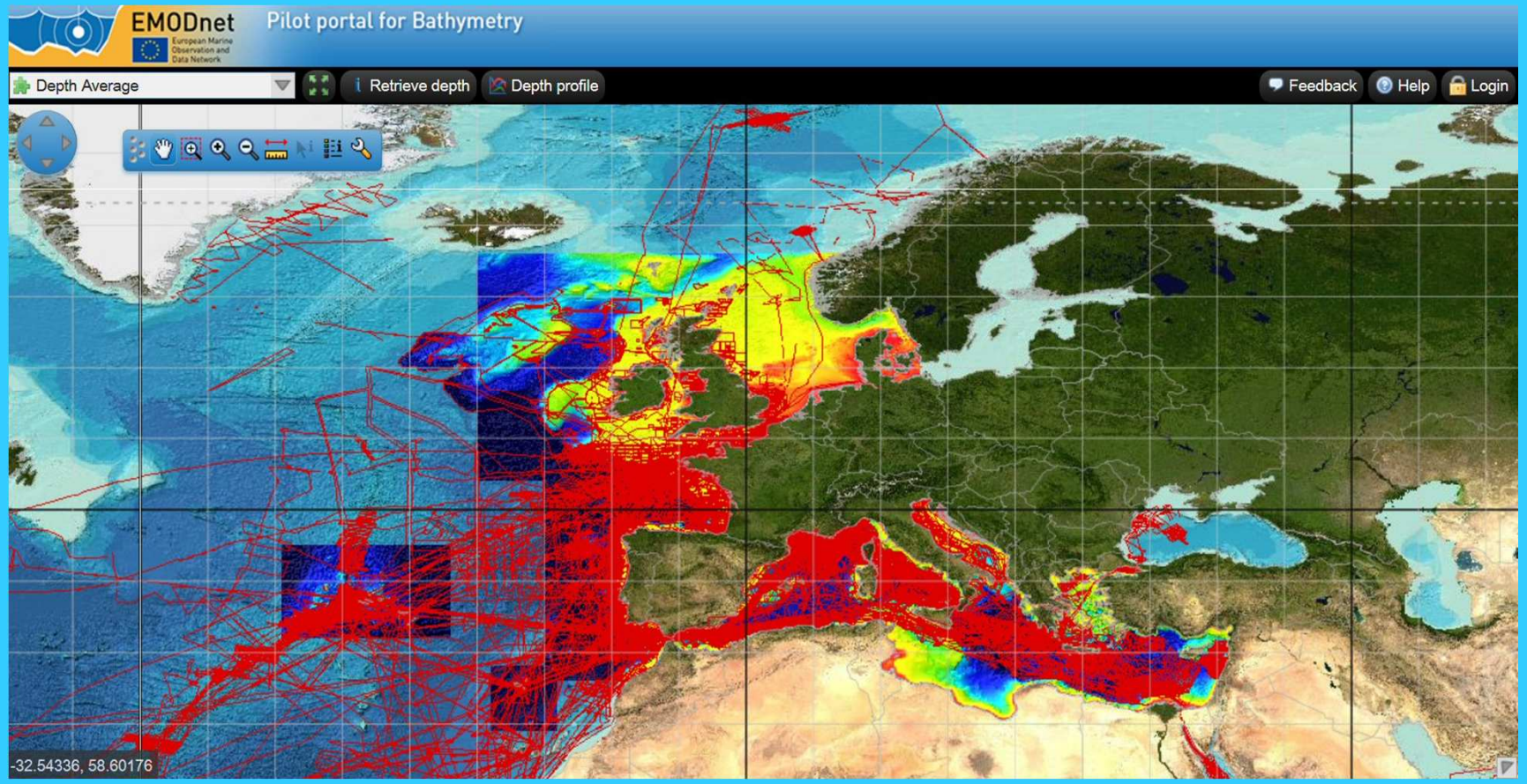
- CDI service gives harmonised discovery and access to distributed data as managed by connected data centres
- Development of WMS – WFS services



CDI User Interface

SeaDataNet – WMS - WFS

- Example of WMS



Layer of SDN CDI for surveys by WMS in Bathymetry Viewer

Great progress with WMS - WFS

- CDI service has dynamic WMS – WFS for set selections:

http://geoservice.maris2.nl/wms/seadatanet/cdi_v2/emodnet/chemistry
http://geoservice.maris2.nl/wms/seadatanet/cdi_v2/emodnet/hydrography
http://geoservice.maris2.nl/wms/seadatanet/cdi_v2/seadatanet

- Getcapabilities

http://geoservice.maris2.nl/wms/seadatanet/cdi_v2/emodnet/chemistry?service=WMS&request=GetCapabilities

- Example WMS request:

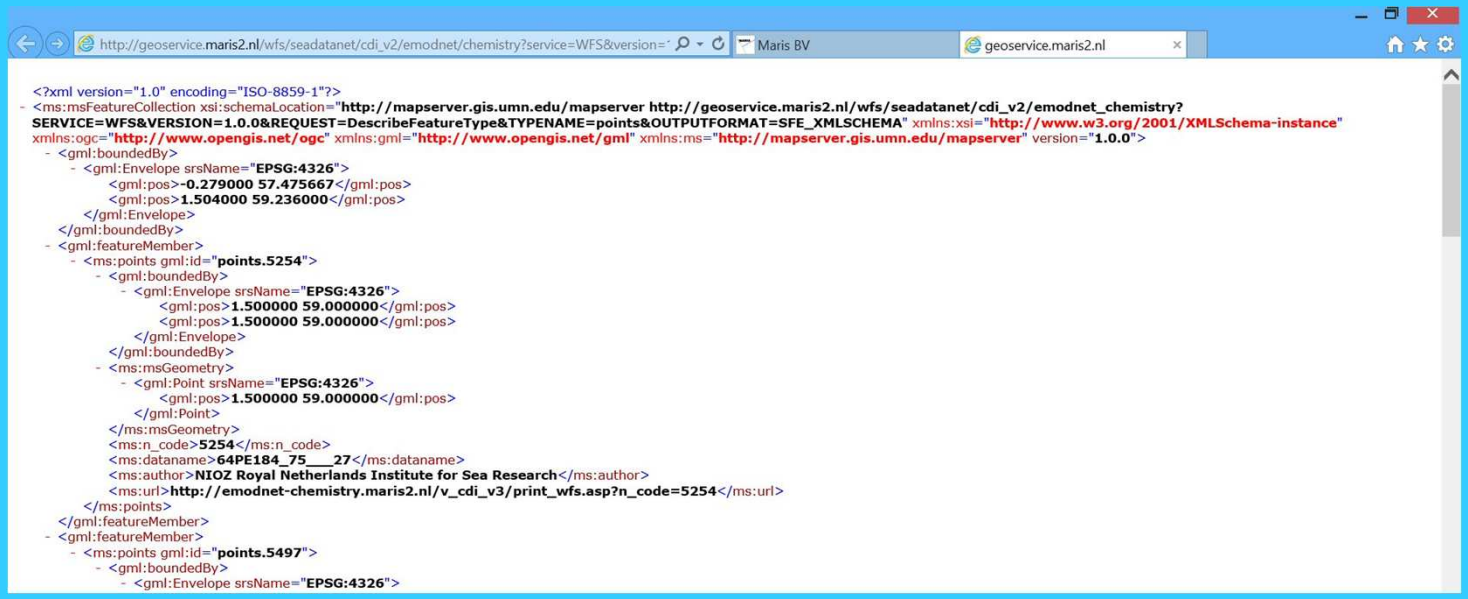
http://geoservice.maris2.nl/wms/seadatanet/cdi_v2/seadatanet?styles=&format=image/png&transparent=true&request=getmap&version=1.1.1&srs=EPSG:4326&layers=lines&width=580&height=290&bbox=-180,-90,180,90

SeaDataNet WMS - WFS

- Getcapabilites indicates what is available. In CDI case it is both WMS and WFS. Implementing WFS is depending on the client and needs programming
- Example of WFS request:

http://geoservice.maris2.nl/wfs/seadatanet/cdi_v2/emodnet/chemistry?service=WFS&version=1.0.0&request=getfeature&outputformat=gml3&typename=points&maxfeatures=10&bbox=-0.279310344827587,57.44482758620689,1.5206896551724127,59.244827586206895

Gives:



SeaDataNet WMS – WFS – example in SIMORC

CDI layer of physical oceanography data sets from SeaDataNet as WMS – WFS in the SIMORC User Interface (www.simorc.com) . URLs to SeaDataNet

Outstanding actions: WMS - WFS

- Include WMS – WFS in the Store Query – Bookmark function in the SeaDataNet CDI User Interface
- Then every user can make and share its own WMS – WFS layer following its selection
- Will be fully ready soon

Developing central buffer services to support products generation and additional visualisation

- Robot harvester is operational and has been applied for automatically harvesting ca 1.000.000 T&S data sets as part of the joint data climatology product development SeaDataNet – MyOcean

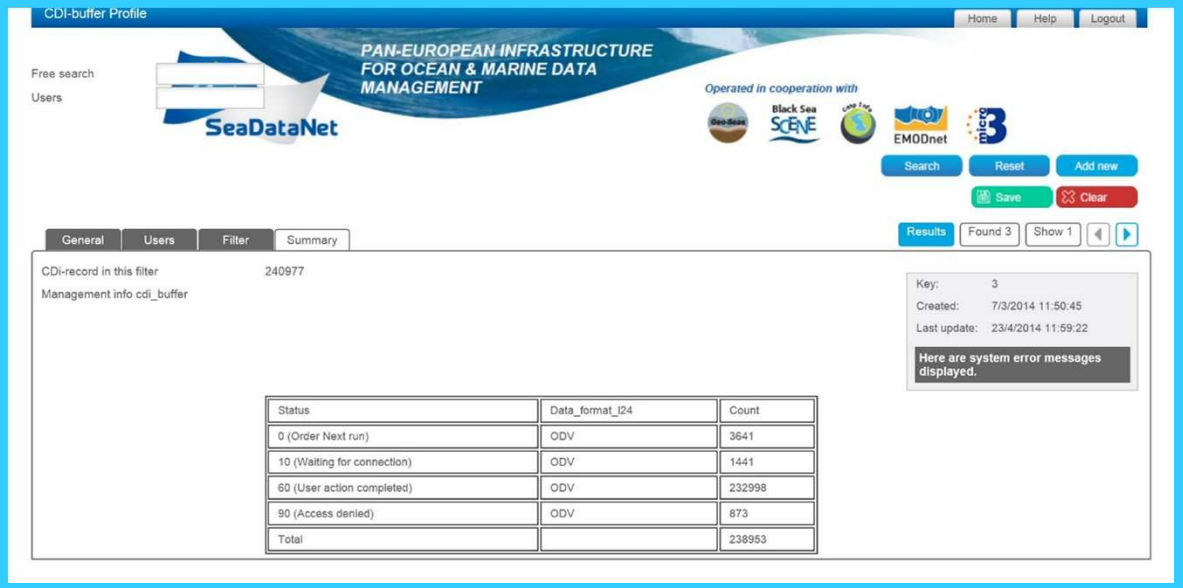
- Robot harvester can now be configured for specific data buffer profiles and in agreement (SLA's) with data providers AND specific data user communities (such as MyOcean, SeaDataNet regional dataproduct groups, EMODNet, …)

- Very good progress is made with implementing a buffer CMS to set profiles, to oversee harvesting and maintenance of these buffer subsets

- the central buffer system with specific subsets will be maintained automatically by the buffer CMS in connection with RSM - robot user system, following new and updated CDI submissions

SeaDataNet – buffer CMS to configure buffers

Buffer - CMS



Buffer CMS + User Interface

Robot CMS to configure
Robot harvesting profiles
MARIS master

Product groups

CDI User
Interface + Shopper:
Access regulated via AAA

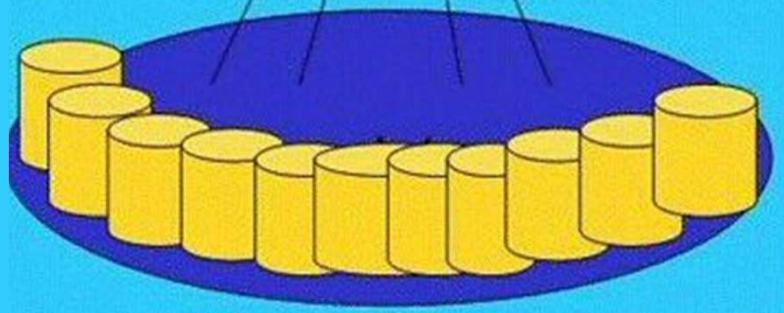
CDI User Interfaces

CDI Robot harvester

Dynamic Maintenance

Agreed Settings

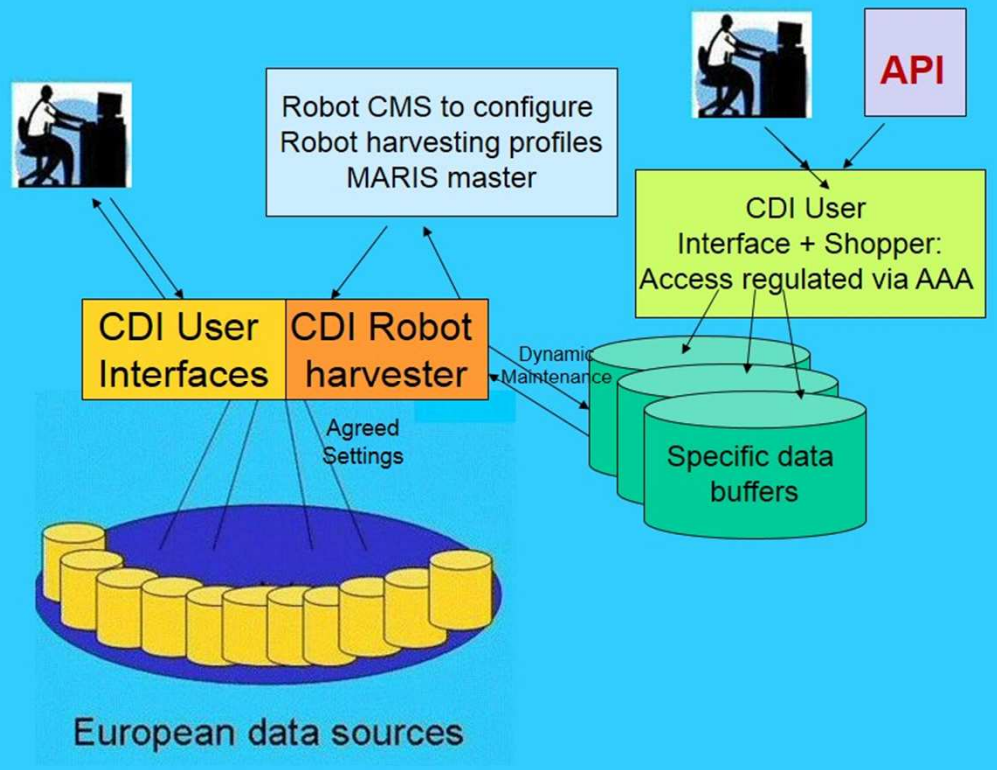
Specific data buffers



European data sources

Regulated transfer to regional groups via central user interface + RSM and via API + RSM

- The central buffers will be made accessable for shopping (= selecting by metadata and retrieving data sets and RSM tracking)
- This must be regulated so that only agreed and registered users / clients have access to buffer subsets as agreed and administered in the Buffer CMS



Processing extracted buffer data sets to validated aggregated data sets

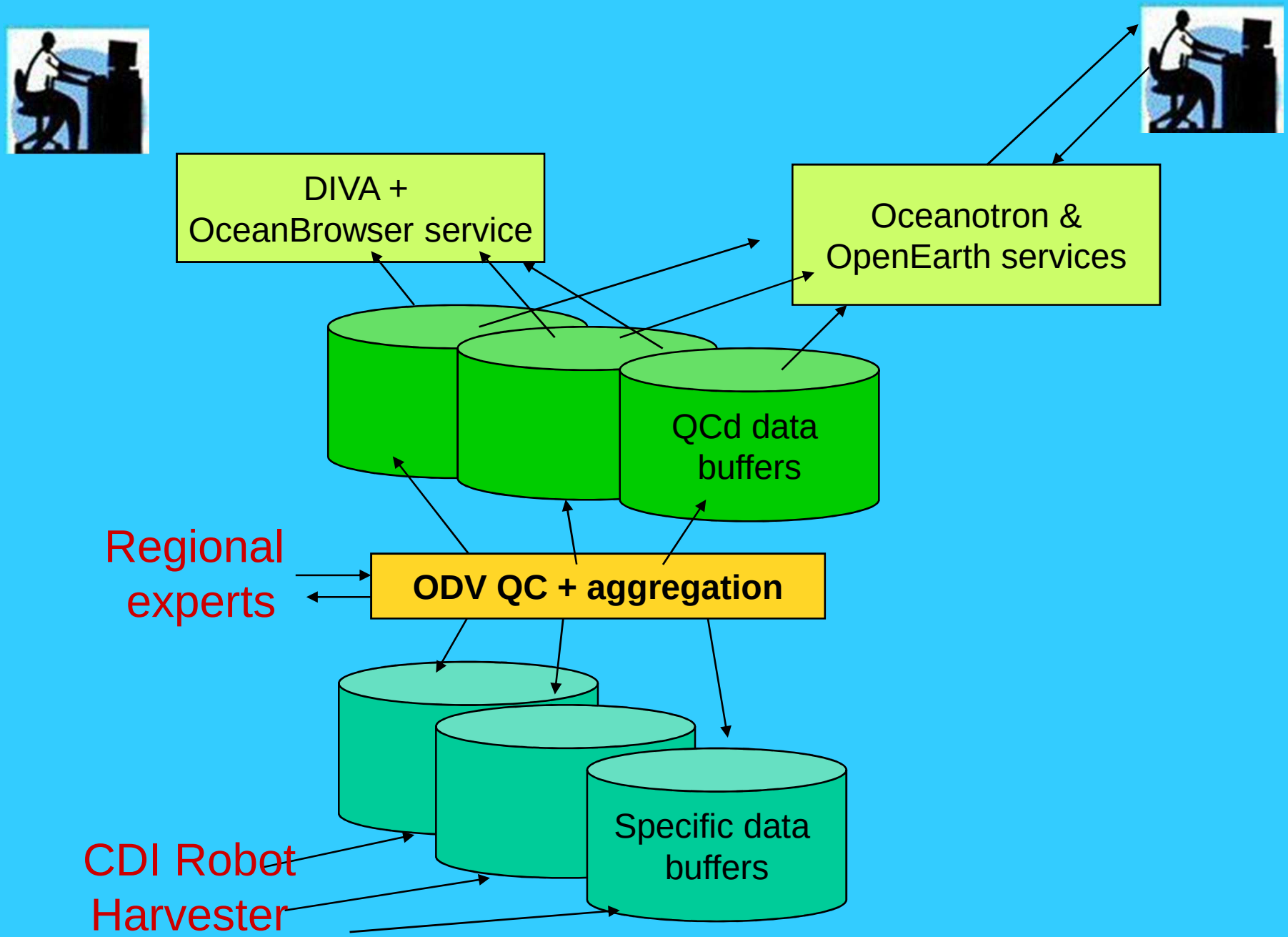
- the central buffer system will contain 'raw' data sets for specific parameters and as harvested from the distributed data centres

  => further action needed for making the collection more homogeneous and validated => aggregated data sets

- this can be done by using **ODV** software and specific expertise per region and/or discipline

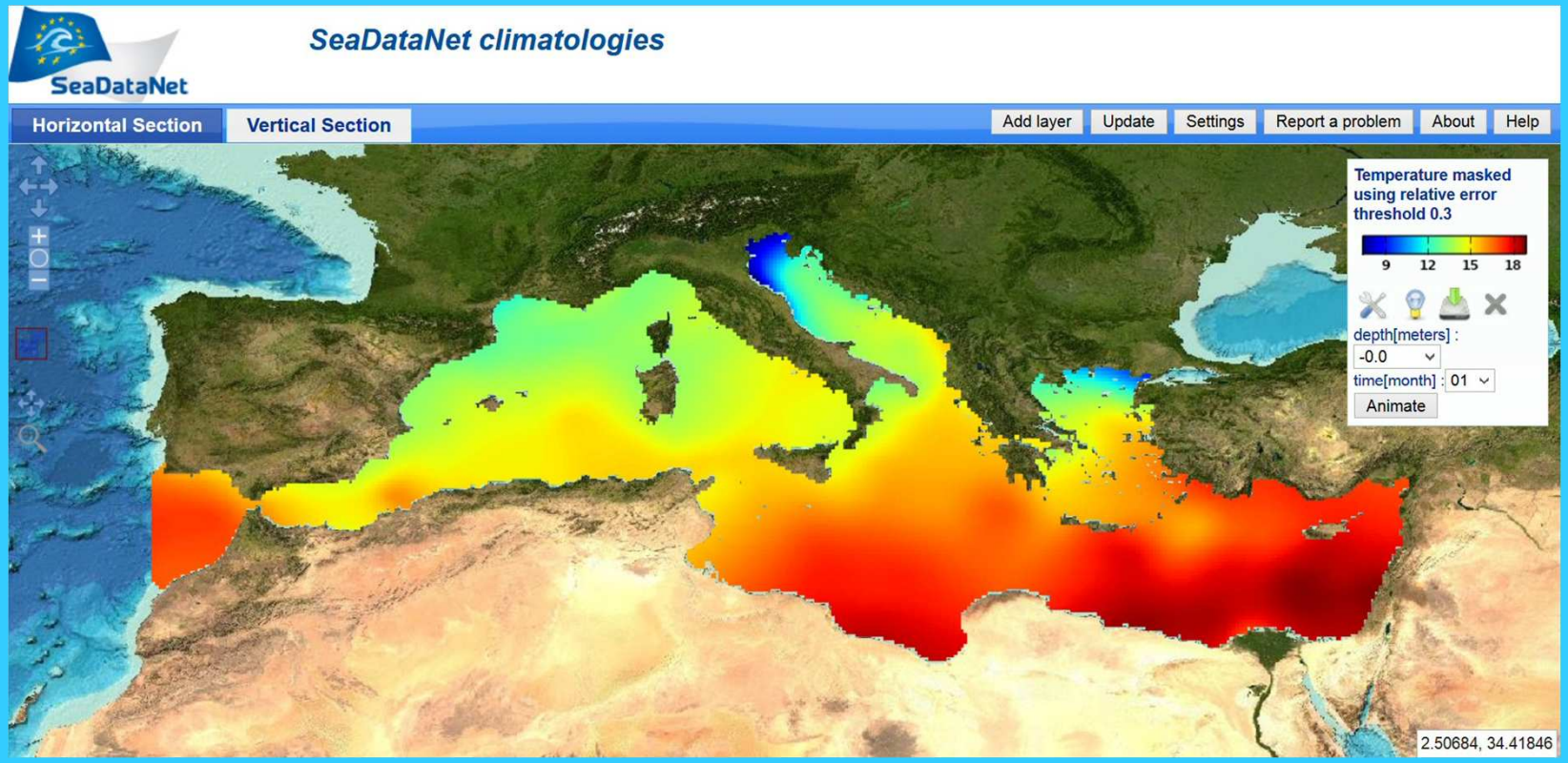
- Also use will be made of the new **P35 Vocabulary for aggregating P01 terms.** The P35 population is making progress:

  http://seadatanet.maris2.nl/v_bodc_vocab_v2/welcome.asp


DIVA +
OceanBrowser service
Oceanotron &
OpenEarth services
QCd data
buffers
Regional
experts
ODV QC + aggregation
Specific data
buffers
CDI Robot
Harvester

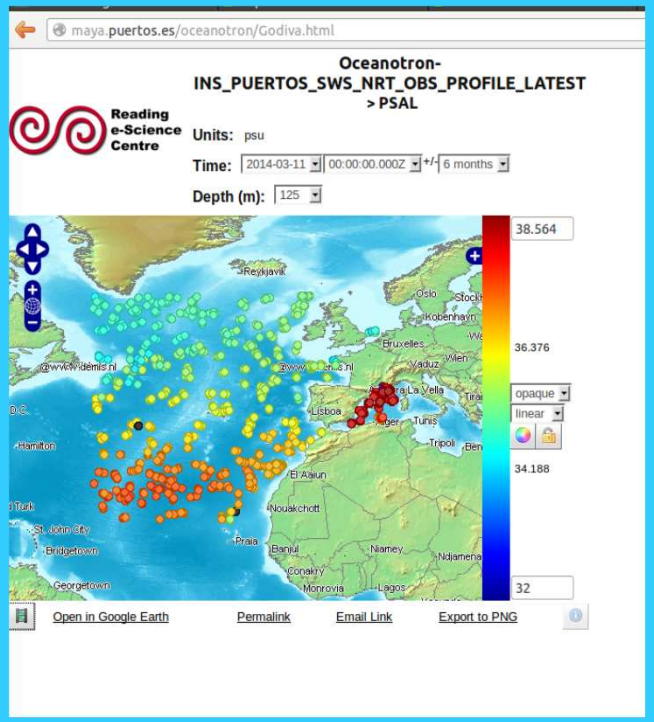
Advanced services on top of validated buffer data

- These buffers of aggregate data sets can serve regional groups to prepare interpolated DIVA maps as data products
- These DIVA maps are NetCDF files and can be subsetted and visualised via the existing OceanBrowser service as maintained by UlG and available via the SeaDataNet portal



Advanced services on top of validated buffers

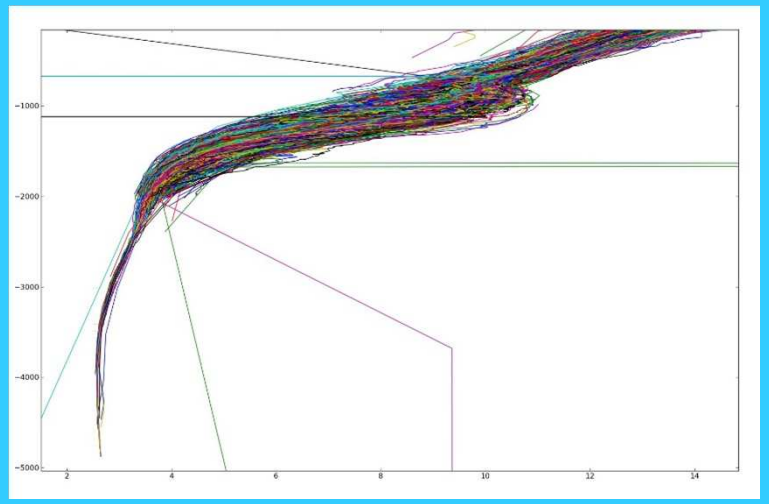
- Facilitating access to these aggregate buffer data sets by machine analytical processes to generate and deliver analytical results and graphics.
- Interfacing with **Oceanotron** – a marine data server as being developed by IFREMER in the framework of MyOcean. It can read local repositories such as MyOcean repository of in-situ data and make these available by web services (OpenDAP or OGC WMS). Latest version 1.3.1 is deployed for MyOcean web portal to support OGC WMS protocol



http://maya.puertos.es/oceanotron/Godiva.html

Advanced services on top of validated buffers

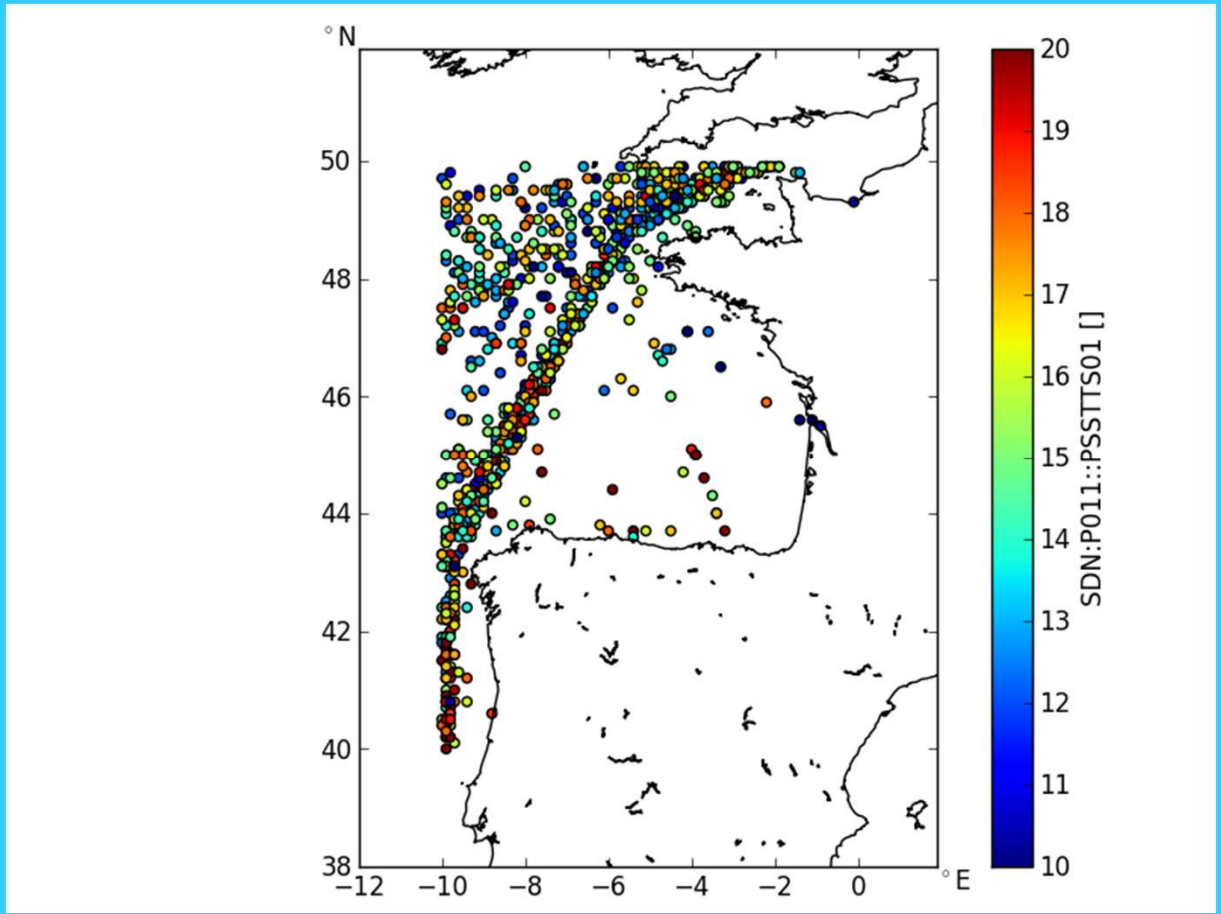
- Ongoing work for SeaDataNet is making Oceanotron fit for reading ODV validated collections of data as ODV binary files using the ODV API V1.0 as developed by AWI. This is then making the ODV files available by OGC WMS.
- Prototype now works on vertical profiles
- OPENDAP and WMS services demo:
  - http://oceanotrondemo0.ifremer.fr/oceanotron/
- OPENDAP Web client:
  - http://www.ifremer.fr/oceanotronPortal/



Further work ongoing for SeaDataNet on developing OGC SOS on top of Oceanotron server

EMODNet Chemistry – WPS for visualising

- Implementing Work Process Services (WPS) on top of subset of buffer data for monitoring stations to visualise data and time series, developments by Deltares via OpenEarth



Future perspective:

- Distributed CDI infrastructure for maintaining infrastructure of connected data centres and for serving general users
- Robot buffer system for maintaining central buffer data collections for specific groups and purposes in agreement with data providers
- Regulated access for subsets for expert groups to validate and aggregate the 'raw' data sets into validated data collections with registration in central RSM section
- Validated data collections to be used internally for generating specific data products such as DIVA interpolated maps with viewing via OceanBrowser (WMS)
- Selected validated data collections to be considered as formal data products and to be made accessable for public viewing via Oceanotron and possible services on top of that
- WPS processes can take the OGC compliant output and generate on the fly added value graphics such as station time series, concentration plots for a given time and space window, etc

Extra viewing services

- **ODV** software for analysis and visualisation of ODV files
- **Sensor Web Enablement** in relation with CDI and EDIOS for visualising time series


EMODnet
European Marine
Observation and
Data Network

END


SeaDataNet