Update on the OSPAR Data and Information Management System (ODIMS)

Presented by the OSPAR Secretariat

Issue: This document presents an update on the OSPAR Data and Information Management System (ODIMS). ODIMS has recently undergone development to allow for control of data versions. Recent additions to ODIMS include an external webservice presenting NEAFC bottom fishing areas and NEAFC Closure Areas.

Action requested
1. The meeting is invited to
   a. note the recent developments of ODIMS and the establishment of OSPAR ICG-Data;
   b. consider the data currently available through ODIMS, noting the recent addition of a webservice presenting NEAFC bottom fishing areas and closure areas;
   c. discuss any data and information needs for future work under the collective arrangement and consider whether ODIMS could be used to make them available;
   d. discuss whether there are specific maps that could be presented through ODIMS that would be of use for future work under the collective arrangement.

Background
2. In accordance with §6a of the collective arrangement agreement, parties to the agreement are to inform each other, as appropriate, of any relevant updated scientific information and environmental assessment and monitoring data.
3. OSPARs data work is guided by the OSPAR data and information management strategy, the key elements and actions of which are outlined on the OSPAR webpage titled ‘data and information’, under ‘cross-cutting issues’. OSPAR manages all data streams through the online OSPAR Data and Information Management System (ODIMS). There have been recent updates to the system, further enhancing OSPARs capacity to manage an increasing number of data streams. This document aims to provide an update of the latest developments and provide some examples of data streams of relevance to the collective arrangement.
4. Since launching in 2016, ODIMS has successfully ingested over 334 individual datasets including spatial and tabulated data, as well as corresponding supplementary information where

1 https://www.ospar.org/work-areas/cross-cutting-issues/data-and-information
required. There are 89 individual submissions supporting the Intermediate Assessment 2017 alone, with 25 interactive maps directly embedded into the OSPAR Assessment Portal (OAP) (https://oap.ospar.org). Data are ingested to ODIMS either directly via uploaded submissions or via utilisation of web services; this is the case for MPA and Habitats data which are served to ODIMS via a Web Map Service (WMS) and a Web Feature Service (WFS).

5. To date, ODIMS and OAP have undergone one round of development to create functionality allowing submissions to be made public/private; this allows control of the users who are able to see the data until it is agreed the data can be released and made openly accessible. This functionality has largely been used by committees, such as EIHA, to review annual reporting prior to committee meetings, enabling easy distribution and a clear data review process.

6. OSPAR 2017 approved a second round of development to develop functionality allowing all OSPAR data and information to be version controlled. This functionality allows the handling of multiple versions of the same data or information (including assessments). The structure of the system is very simple, once data or information are made live on ODIMS or OAP they remain there indefinitely. If a dataset is updated e.g. with new data or corrections are made, a new version of the dataset sits on top of the original and users will be pointed to the latest version but the original version remains available. This prevents users linking to data or information that have disappeared due to overwriting or amendment.

7. Behind the scenes, there are direct links to the INSPIRE Geoportal for metadata validation purposes, with the majority of spatial datasets now having corresponding INSPIRE compliant metadata. The connection of OSPAR data to other portals (e.g. INSPIRE Geoportal, WISE-Marine portal) to support Contracting Parties’ reporting obligations for MSFD is a key element of on-going work.

**OSPAR ICG-Data**

8. OSPAR 2017 approved the formation of an Intersessional Correspondence Group on Data (ICG-Data). ICG-Data responds to cross-cutting issues relating to data and information and will help deliver the OSPAR Data and Information Management Strategy to 2020, as well as provide strategic and technical support of the delivery of the QSR 2023. ICG-Data has the following mode of working, according to the terms of reference for the group;

   a. advise on issues from Committees and groups regarding data and information management issues with a view to developing a coherent approach within OSPAR on topics relating to data management (e.g. linkages with WFD data and use of AIS data);
   b. consider OSPAR data status and release including links with external data users/consumers;
   c. monitor and review the implementation of the OSPAR Data and Information Management Strategy;
   d. consider relevant, external data developments for OSPAR;
e. support on technical issues relating to the Marine Strategy Framework Directive, including the Working Group on Data Information and Knowledge Exchange (WG-DIKE) and Technical Group Data (TG-DATA);

f. support on technical coordination and harmonisation regarding shared geographic issues.

9. ICG-Data is open to all OSPAR Contracting Parties and Observers, noting the need to include technical expertise on data from across OSPAR’s thematic work areas. For example, ICES Data Centre experts and data experts from other Regional Seas Conventions are involved in the group.

Examples of datasets and maps available in ODIMS of relevance to the collective arrangement

10. ODIMS was developed as a decentralised data hub as not all OSPAR datastreams are managed in-house. This allows for data to be brought in from externally maintained databases via web services.

11. Through the collective arrangement cooperation, OSPAR and NEAFC have discussed sharing of data and information. During the 2017 meeting of NEAFC PECMAS, the OSPAR Secretariat informed the meeting of OSPAR’s capability of bringing in and displaying additional data layers to ODIMS. It was noted that there was an active webservice from ICES for Vulnerable Marine Ecosystems (VMEs) and that the addition of the layer to ODIMS would facilitate the use of this data by experts carrying out OSPAR assessments; these data are now presented via ODIMS: https://odims.ospar.org/layers/geonode:ices_eg_VME_Dataset_PublicRecords

12. When considering the VME data, OSPAR experts had noted that it would also be useful to bring in information on NEAFC bottom fishing areas. The geospatial information was available at ICES, however there had not been a request to make it available in a format allowing for webservices to share the information. PECMAS noted that as the data is publically available information, it would not be a problem to also make it available in a webservice. An outside webservice was sourced from the FAO website. These data are now presented in ODIMS: https://odims.ospar.org/layers/geonode:ext_ref_neafc_closures
13. OSPAR held a workshop on Human Activities, Pressures and Impacts (WS HAPI) in December 2017 which concluded that the following potential types of physical disturbance data could be relevant to bring in through ODIMS:
   a. offshore oil and gas installations;
   b. turbine locations for active sites;
   c. cables and pipelines (links to national MSP portals or EMODNET);
   d. Sand and Gravel, licences and actual extraction areas;
   e. dredging locations.

13. A number of these data were already collected via OSPAR and have been made available via ODIMS. This includes the ‘Inventory of Offshore Installations’, an OSPAR request for the voluntary submission of turbine location data is on-going, and Sand and Gravel data are currently undergoing development work with the aim to make the location based data available as a result of this work. Of further interest to the Collective Arrangement is cable and pipeline location data, a Web Feature Service has been added to ODIMS from EMODnet Human Activities, available to view using the links below:
   - Telecommunication cables: https://odims.ospar.org/layers/geonode:emodnet_cablesschematic
   - BSH CONTIS cables: https://odims.ospar.org/layers/geonode:bshcontiscables
   - Kis Orca Subsea cables: https://odims.ospar.org/layers/geonode:emodnet_kisorcacables
   - SIGCables Submarine Cable Routes: https://odims.ospar.org/layers/geonode:emodnet_sigcables
   - Pipelines: https://odims.ospar.org/layers/geonode:emodnet_pipelines

14. The addition of layers to ODIMS from outside sources, utilising webservices (assuming they follow formatting standards) is a relatively simple task but one which yields powerful results.

15. If a list of possibly relevant information sources to further inform work under the collective arrangement could be identified, bringing them into ODIMS could be explored.
Creating maps in ODIMS

16. In ODIMS, spatial data layers can be added together into ‘Maps’ which would ordinarily require the use of Geographic Information Systems (GIS); ODIMS allows users to quickly, visually interpret interactions between data. Maps can be easily exported from ODIMS as PDFs allowing them to be used as images in presentations. The images above show how a single layer looks in ODIMS, the image below shows how ODIMS looks when adding together multiple layers in a map:

17. Each user can create a customised map by selecting the spatial data layers they wish to combine. Maps can also be created and stored on ODIMS to be viewed. The benefit of creating pre-made maps is that several information inputs can be combined and made easily accessible for all users.

18. If some combinations of spatial data layers into maps could be useful to further work under the collective arrangement, then such maps could be prepared and made available through ODIMS.