

Intergovernmental Oceanographic Commission
Reports of Meetings of Experts and Equivalent Bodies



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Intergovernmental
Oceanographic
Commission

IODE Steering Group for the OceanKnowledge Project (IODE SG-OCEANKNOWLEDGE-I)

First Session

UNESCO/IOC Project Office for IODE, Oostende, Belgium.

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More details about the meeting on the IODE website: <http://www.iode.org/okn2015>



Note: Some links in this document might not work in the PDF version.

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1. OPENING

1.1 Welcome and introduction of participants

1. Chair of the Start-Up Meeting Ms. P. Simpson welcomed the participants. She gave a brief introduction, background, aim and possible outcomes of the OceanKnowledge Project.

1.2 Practical arrangements

2. Technical Secretary Mr. A. Kakodkar informed the participants about the location of the online resources of the meeting and other practical arrangements. The Group confirmed that they had accessed the online meeting documents.

1.3 Adoption of the agenda

3. Mr. S. Belov recommended that an additional agenda item be added to cover the architecture of the proposed system. Hence, agenda item no. 2.4. (Architecture of the Proposed System), was added in accordance with this request.
4. The Group adopted the agenda.

2. OUTLINE OF THE OCEANKNOWLEDGE PROJECT

2.1 Introduction to the OceanKnowledge Project concept

5. Ms. P. Simpson introduced this agenda item. She mentioned that this is a two-year demonstration project. IODE has potentially some 6-8 information systems, which need to be integrated through the OceanKnowledge portal. She stressed on the need for a better-combined visualization of the results of the combined information.
6. Mr. A. Kakodkar mentioned that the envisaged project would also include a Recommender, which will provide recommendations to the user based on the machine learning.
7. Mr. H. Onganda informed the Group about an FAO initiative. chimaerad4science.org, where information from three databases is pulled together and displayed through a common portal.
8. Mr. A. Muslim informed the Group that some years back he had participated in a similar project to link information products of the Govt. of Malaysia (Knowledge Resource for Science and Technology Excellence, Malaysia: <http://krste.my>).

2.2 User requirements

9. **It was noted** that it is required to define potential Users types for the OceanKnowledge Project. It was then **agreed to consider** the users of the current IODE products as the target audience.
10. Mr. S. Belov highlighted that semantic technologies should be given more importance in planning the technical requirements of the project.
11. **It was noted** that the search interface should be tailored to suit different types of users and the search parameters would be based on metadata. Datasets/search retrieval would be linked back to the parent product. One of the main aims should be to increase visibility of IODE information systems.

2.3 Contributing Data and Information Sources

12. Ms. P. Simpson introduced this agenda item. She requested the respective project managers to introduce their projects and mention their expectations from the OceanKnowledge Project.

2.3.1 OceanDocs

13. Ms. P. Simpson introduced this agenda item. OceanDocs is a repository of full text ocean publications with accompanying metadata records. The project was started in 2007 and now has some 7000 records and since its software migration, deposits have increased significantly. The software is DSpace and uses Dublin Core extended metadata set. It is expected that OD will contribute the publications component to OKn but it is acknowledged that it is in no way definitive and other publication sources (e.g. Google Scholar perhaps ASFA (although it is proprietary) should be included in the sources to enhance retrieval success.

2.3.2 OceanExpert

14. Mr. A. Kakodkar introduced this agenda item. OceanExpert is a database of experts, institutions and events. The project was started in 1997 and the project was adopted as an IODE project during IODE XXIII (Recommendation IODE-XXIII.2). At the time of this submission, there are about 10549 experts, 3581 institutions and 1461 events. OceanExpert hopes to contribute individuals, events and institution data to OceanKnowledge Project.

2.3.3 OceanDataPractices

15. Ms. P. Simpson introduced this agenda item. OceanDataPractices is a repository of best practices and standards in data and information management with either full text uploads or a link to the website document. The project was started in 2013 and now has some 200 records. It is still at an embryonic stage and waiting for the Ocean Standards SG to finalize policy. The software is DSpace and uses Dublin Core extended metadata set. It is expected that ODPr will contribute the best practices component to OKn but it is acknowledged that it is in no way definitive.

2.3.4 OceanDataPortal

16. Mr. S. Belov introduced this agenda item. He informed the meeting that the IODE OceanDataPortal integrates collections and inventories of marine data and provides

access to it. It also provides services such as visualization (in tabular, map and chart mode) and delivery to end-users including IODE related system, projects and programmes. Since its beginning almost 10 years ago, ODP moved from a simple distributed system into a network model of various types of providers such as IODE regions (such as ODINAfrica and ODINWESTPAC nodes), specialized (such as SDNM Argentina) and a global node. Each of the nodes (regional, specialized and global) contains full set of services including a portal. OceanDataPortal helps participating nodes by providing them with the ODP infrastructure and serving their target audience with access to data and information. Mr. Belov informed that Semantic Web technologies (including implication of RDF, SPARQL), application of existing ontological models (such as SKOS) for common codes and dictionaries were part of planned future developments for the platform.

2.3.5 OBIS

17. Mr. W. Appeltans introduced this agenda item. The Ocean Biogeographic Information System (OBIS) now holds 45 million occurrences of 116,000 marine species integrated from over 1800 databases and continues to grow with 3 million records per year. The online OBIS mapper is an online GIS application that allows users to filter the OBIS database and to plot species distributions and to download the data. As part of a Flanders Government funded project (DIPS-4-Ocean Assessments), we are currently working on customized information portals and improved web services (API) that will provide a more powerful way to access data from OBIS and use it in statistical software applications such as R. This web service can also be tailored to provide custom output for the OceanKnowledge Project platform, such as pre-indexed statistics on the number of species or records per region, time graphs and geographical maps of species distributions and biodiversity indices.

2.3.6 OceanTeacher

18. Ms. C. Delgado introduced OceanTeacher (OT). She informed that OT supports a Learning Platform that currently has over 80 Training courses covering several IOC capacity development activities, mostly addressing IODE's training needs but also including HAB, MPR and Tsunami courses as well as joint training courses with other international and intergovernmental agencies. The courses available through the OT Learning Platform are complemented by the videos available through the IODE/OT Vimeo channel (over 500 videos of keynote lectures and some demos are available). Furthermore, OT is now implementing a network of Regional Training Centres (RTCs), which provide standardized courses using the OT (online) Learning Platform and linked by videoconferencing. This network forms the OceanTeacher Global Academy (OTGA). Ms. C. Delgado expressed concerns on how/which metadata will serve the needs and purposes of the OceanKnowledge Project.
19. Ms. C. Delgado added that all course participants in IODE Training courses are part of a database (the Alumni System) linked to the OceanExpert Directory and the IOC Events Management System (Paperclip). Since 2006 over 1500 participants from more than 110 countries have attended over 100 courses. This Alumni System is currently being expanded to include participants from other IOC Programmes training courses and activities. This kind of data could be of importance for Member States reporting obligations.

2.4 Architecture of the proposed system

20. Mr. A. Kakodkar submitted a draft system diagram, which was later extended by Mr. S. Belov (Figure-1).

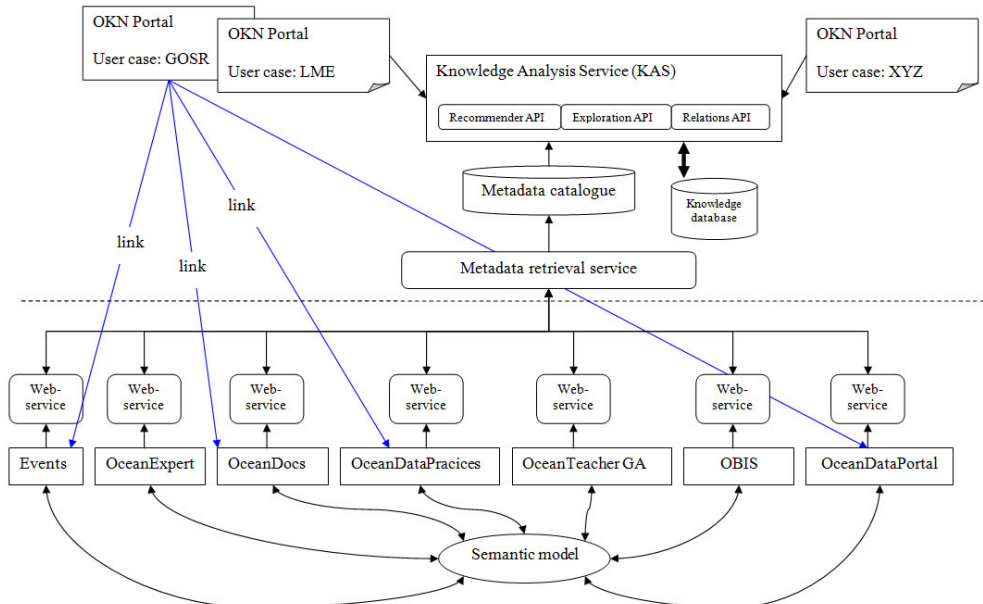


Figure-1: Proposed draft architecture of the OceanKnowledge Project

2.5 System requirements

21. Mr. W. Appeltans presented a dashboard structure (Figure-2) where a search could be carried out depending on the country. He proposed a model of the interface where different sections of a webpage i.e. science, observations, capacity, activities, services and recommendations would be present and arranged in distinct sections. The dashboard proposal can serve to create national statistics based on OceanKnowledge Project resources to support Member States reporting as part of IOC's Global Ocean Science Report and similar needs.

OKN DASHBOARD

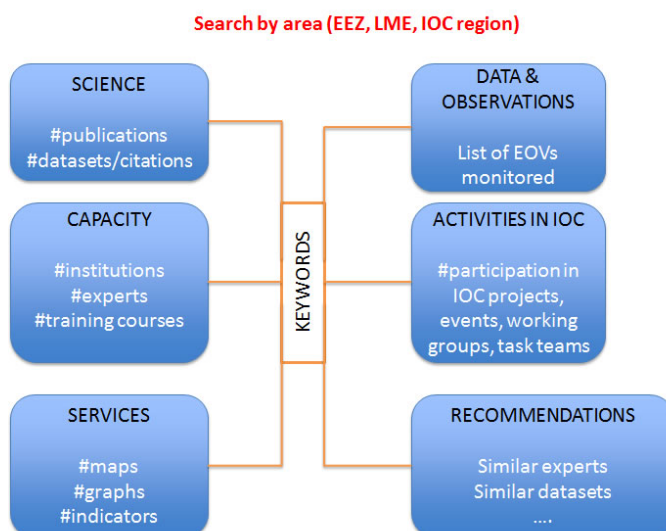


Figure-2: Proposed representation of the region based dashboard.

22. **It was noted** that the proposal for a Global Ocean Science Report (IOC/EC-XLVII/2 Annex 8) was reviewed and accepted by the IOC Executive Council in July 2014. GOSR aims at providing a tool for mapping and evaluating capacity (human and institutional) of the Member States in terms of marine research, observations (data/information management). It will also provide a global overview and trend regarding major fields of research interests, technological developments and capacity building needs.
23. Mr. P. Pissierssens endorsed the importance of upcoming initiatives such as Global Ocean Science Report (GOSR) and global Large Marine Ecosystem (LME). He also highlighted the need for OKn-SG to produce a plan to serve the needs of these initiatives. The SG reviewed the Global Ocean Science Report Questionnaire distributed as circular letter No. CL-2560 ([LINK](#)).
24. **It was decided** to discuss the requirements of the Global Ocean Science Report (GOSR) initiative and include its reporting needs in the OceanKnowledge Project. It **was also decided** to rethink the different Use Cases for the OceanKnowledge Project considering the GOSR initiative.
25. **It was noted that** the different Use Cases could be:
 - a. IOC Member States' reporting obligations to conventions, international programmes etc. e.g. Global Ocean Science Report
 - b. Large Marine Ecosystem.
 - c. General (researchers, students and others).
26. **It was suggested** that the OceanKnowledge Project could contribute to the following Global Ocean Science Report Questions:
 - a. Government institutes specialized in Ocean Science (A-1)
 - b. Human resource in Ocean Science (C-1)
 - c. Research vessels (some info) (C-2.3)
 - d. Data obtained during research cruises (some info) (C-2.6)
 - e. Ocean Science Organizations (D-1)
27. Ms. K. Kopke presented slides discussing the user considerations when developing the Washington State Coastal Atlas (<https://fortress.wa.gov/ecy/coastalatlas/>). This was to introduced the concepts of progressive disclosure and linking of relevant, but not connected tools and resources.
28. **It was proposed** that for the Phase-2 (2017 onwards) tabular data and information could be enriched combining webGIS, static maps with images and text elements to allow a wider audience to explore and reuse data and information from IODE products.
29. **It was decided** to form two sessional Working Groups 1) User Requirements and 2) Technical Requirements.
30. The User Requirements Group recommended the following:
 - a. Guest access for searching would be provided without Registration. Registration would be required for those wanting to subscribe to notifications and saved search functions etc.

- b. A multi-language interface would be an eventual requirement, but for the demonstrator project only an English interface will be provided.
 - c. Descriptions of the information sources being searched, will need to be provided as a webpage linked from the interface. The description displayed when 'hovering' over the source name should be displayed as a text box.
 - d. OceanKnowledge Project will be a portal only; a webpage describing the project will be uploaded to the IODE website with a link to the portal.
 - e. The interface should be intuitive. Help text should be provided on the interface with access also to User documentation,
 - f. Since the primary Use Cases had been redefined as reporting capabilities, the following search opportunities were to be offered as three pre-determined search queries and one general search box. Search by:
 - o Geographical areas (provided as dropdown for selection, include 'Global' as an option)
 - o Organization/Institution
 - o Person
 - o Free text/keywords (including a Boolean search capability)
 - g. Each search to offer a date or date range filter.
 - h. A sort capability might be offered within the search (most recent searches etc.) to be reflected within the dashboard display
 - i. Results should be displayed as a dashboard tailored to the four search options
 - j. Results would appear as numerical data with a live link to the source; an icon could be used to indicate the type of data
 - k. For a Person dashboard an image (if available from OceanExpert) should be displayed
 - l. Above the dashboard, the search query should be displayed
 - m. A disclaimer should be displayed below the dashboard indicating the constraints of the sources (non-definitive, IOC snapshot only...)
 - n. Export of the retrieval data either as a print/to file or export to Excel to permit graphs, pie-charts etc. to be constructed.
 - o. A Feedback box should be provided on the interface
31. **It was agreed** that the design for the portal was not covered since the Steering Group could discuss this aspect at a later stage in the project. Further work will be carried out after the meeting through email.
32. A Community of Practice Platform – was proposed in the original project recommendation but **it was agreed** that with the refocusing of OceanKnowledge Project, it was deemed to be out of scope. From experience **it was acknowledged** that this type of niche social network is often under-utilized. Hence, it was further agreed to explore present social media options.
33. Draft system architecture was agreed upon by the Technical task team. The tasks identified by the Technical Requirements Group are as follows:
- a. **Task 1: Metadata mapping for all the IODE services:** Explore SKOS based metadata mapping. Linked Data Standards based mapping between IODE services to interlink them with each other and have a definite relationship established. This might imply some modifications to the metadata structure of the contributing services.
 - b. **Task 2: Web service based retrieval of the metadata:** Each IODE Service will create a web-service, which would provide required metadata to the

OceanKnowledge Project (OKn) system. This metadata will then be stored in a common metadata catalogue and will be available for further processing.

- c. Task 3: Testing and implementing core: This is the core system, which does metadata processing and search as well as user interaction processing, and recommendation service. Implementation of task-3 will depend on outcomes of task-1. The major parts of the core are:
 - a. Metadata store
 - b. User interaction processor
 - c. Recommendation API
 - d. Discovery and Exploration API
 - d. Task 4: Use Case implementation: This task includes the preparation of specific reports for the Global Ocean Science Reporting, Large Marine Ecosystems, IODE Member States and general users.
34. **It was decided** to form a sessional Group which would define recommended modifications to OceanExpert profile fields for individuals, institutions and events considering the requirements of OceanKnowledge Project **and agreed that** the same to be forwarded to the OceanExpert Steering Group for their consideration.
- NOTE: The report of the sessional group formed as per the request in para-34 is attached to this report as [Annex-III](#).
35. **It was agreed** that the entire participating project's steering group should review the quality of their metadata and modify their metadata profile to suit the OceanKnowledge Project.

3. OCEANKNOWLEDGE STEERING GROUP

36. Ms. P. Simpson introduced this agenda item.
37. **It was decided** that all the participants of the startup meeting would be part of the project Steering Group **and nominated** Mr. A. Kakodkar to be the Project Manager for OceanKnowledge Project.

4. WORK PLAN 2015-2017

38. Ms. P. Simpson introduced this agenda item. The group decided on the following points, which would form the basis of a detailed work plan for the project plan presented in the Annex-II.
1. Creation of a project plan and work packages with timescales and performance indicators.
 2. Setting up of a collaborative project management tool to reflect tasks from the project plan created at step 1.
 3. Scouting for more members who wish to be a part of the technical team.

4. Organizing of a technical sub-committee meeting (face-to-face)
5. Prototype to be presented to the User Requirements team for initial feedback.
6. Dialogue should be initiated with the Large Marine Ecosystem Learn team to define their requirements for OceanKnowledge Project.
7. Presentation of an additional funding request to the IODE officers meeting in January, 2016
8. Setting up of Google Analytics account for the OceanKnowledge Project.
9. Setting up of a webpage on the IODE website for OceanKnowledge Project.
10. Draft design of the OceanKnowledge Project dashboard. This includes individual dashboards, as follows:
 - a. IOC Member States' reporting obligations to conventions, international programmes etc. e.g. Global Ocean Science Report
 - b. Large Marine Ecosystem.
 - c. General (researchers, students and others).
11. Technical team to propose a draft design for the portal based on the User requirements discussed in agenda item 2.5 (para-30) and for review by the Steering Group.
12. Request all participating project Steering Groups to review their metadata and:
 - a. Provide structure and scoping rules
 - b. List mandatory fields.
 - c. Report on issues relating to the quality and completeness.
 - d. Indicate any planned modifications

5. ANY OTHER BUSINESS

39. This agenda item was introduced by Ms. P. Simpson

40. **It was noted** that there was no other business.

6. ELECTION OF THE CHAIR

41. This agenda item was introduced by Ms. P. Simpson

42. Ms. P. Simpson was **unanimously elected** as the Chair of the Group until the end of the demonstration project in 2017 at IODE XXIV

7. ADOPTION OF THE REPORT

43. Ms. P. Simpson introduced this agenda item.

44. The draft Summary Report **was adopted**.
45. **It was requested** to the Secretariat and Chair to make necessary editorial corrections as required, in line with the discussions during the meeting.

8. PLACE AND DATE OF NEXT MEETING

46. **It was decided** to organize two face-to-face meetings as follows (dates may change):
1. OceanKnowledge Technical Sub-committee meeting: to be held from 18th – 20th April 2016 at the UNESCO/IOC Project Office for IODE, Oostende, Belgium.
 2. Second Session of the Steering Group for IODE OceanKnowledge Project: to be held from 17th - 20th October 2016 at the UNESCO/IOC Project Office for IODE, Oostende, Belgium.

9. CLOSING OF THE MEETING

47. Ms. P. Simpson closed the First session of the Steering Group for IODE OceanKnowledge Project at 14:40h on 14th October 2015.
48. She thanked all the participants for their enthusiasm, excellent contributions to take the project forward in a dynamic way.

ANNEX I
AGENDA

- 1. OPENING**
 - 1.1. Welcome and introduction of participants
 - 1.2. Practical arrangements
 - 1.3. Adoption of the agenda
- 2. OUTLINE OF THE OCEANKNOWLEDGE PROJECT**
 - 2.1. Introduction to the OceanKnowledge concept
 - 2.2. User requirements
 - 2.3. Contributing Data and Information Sources
 - 2.3.1. OceanDocs
 - 2.3.2. OceanExpert
 - 2.3.3. OceanDataPractices
 - 2.3.4. Ocean Data Portal
 - 2.3.5. OBIS
 - 2.3.6. OceanTeacher
 - 2.4. Architecture of the proposed system
 - 2.5. System requirements
- 3. OCEANKNOWLEDGE PROJECT TEAM**
- 4. WORK PLAN 2015-2017**
- 5. ANY OTHER BUSINESS**
- 6. ELECTION OF THE CHAIR**
- 7. ADOPTION OF THE REPORT**
- 8. PLACE AND DATE OF NEXT MEETING**
- 9. CLOSING OF THE MEETING**

ANNEX II
DETAILED WORK PLAN FOR THE IODE SG-OCEANKNOWLEDGE FOR 2015 – 2017

Agenda item	Para	Description	By whom	By when
2.5	34	It was decided to form a sessional Group which would come up with recommended modifications to OceanExpert profile fields for individuals, institutions and events considering the requirements of OceanKnowledge Project and agreed that the same to be forwarded to the OceanExpert Steering Group for their consideration.	P. Simpson + C. Delgado + H. Lust + K. Kopke + W. Appeltans	End of meeting
4	38.1.	Creation of a project plan and work packages with timescales and performance indicators.	Project Manager + Team	End Nov, 2015
4	38.2.	Setting up of a collaborative project management tool to reflect tasks from the project plan created at step 1.	Project Manager	End Nov, 2015
4	38.3.	Scouting for more members who wish to be a part of the technical team.	SG	Continuous
4	38.4.	Organizing of a technical sub-committee meeting (face-to-face)	Tech. Sub-Committee	End April, 2016
4	38.5.	Prototype to be presented to the User Requirements team for initial feedback.	Tech Team	End May 2016
4	38.6.	Dialogue should be initiated with the Large Marine Ecosystem Learn team to define their requirements for OceanKnowledge Project.	Project Manager	Continuous
4	38.7.	Presentation of an additional funding request to the IODE officers meeting in January, 2016	Chair	End Dec, 2015
4	38.8.	Setting up of Google Analytics account for the OceanKnowledge Project.	Tech Team	End June, 2016
4	38.9.	Setting up of a webpage on the IODE website for OceanKnowledge Project.	Chair + Project Manager	End Dec, 2015
4	38.10.	Draft design of the OceanKnowledge Project dashboard. This includes individual dashboards, as follows: 1. IOC Member States' reporting obligations to conventions, international programmes etc. e.g. Global Ocean Science Report 2. Large Marine Ecosystem. General (researchers, students and others).	W. Appeltans	End Nov. 2015
4	38.11.	Technical team to propose a draft design for the portal based on the User requirements discussed in agenda item 2.5 (para-30) and for review by the Steering Group.	Tech Team	End January 2016
4	38.12.	Request all participating project Steering Groups to review their metadata and: 1. Provide structure and scoping rules 2. List mandatory fields. 3. Report on issues relating to the quality and completeness. 4. Indicate any planned modifications	Project Manager	End Nov, 2015

ANNEX III
OceanExperts: Recommended Modifications

SG-OKN Sessional Group: Review OceanExpert Metadata and interface		
	FIELD	COMMENT
		Need more Help Text/scope notes against field
1.		Make blocks of same metadata fields ie all Institution fields in one colour block; all personal fields in another colour block
2.		Place the Institution block as the first metadata fields (Job Title to Country)
3		Implement duplicate alert on Name; Institution and email (already)
4.	Make Mandatory	All Institution fields except Postcode/Zipcode and State
5.	Make Mandatory	Nationality (new field); First Name; Middle Name; Last Name; Gender; Email
6.	Institution	Autocomplete list displayed should be in alpha order
7.	Institution	Selection of autocomplete record should populate all other institution metadata fields
8.	Institution	Help text on autocomplete needs to be rewritten. Eg. If user puts in more than three characters (for example copy+paste the whole name) autocomplete does not work
9.	Institution/Postcode	Make the field label Postcode/Zip Code
10.	No Institute affiliation	Need to address problem of people not attached to institution – ie retired
11.	Gender	Include 'Not Specified' option. Text by field ' <i>This field will only be displayed to the record owner</i> '
12.	Email	Reduce fields offered to 2
13.	Website	Reduce fields offered to 2 (Org & Personal)
14.	Social/Professional Networks	Delete Flickr
15.	Social/Professional Networks	Collapse. Offer dropdown
16.	Social/Professional Networks	Add ResearchGate to dropdown
17.	Name ID	Dropdown box selection: ORCID; ResearcherID; Other
18.	Fax	Delete
19.	Nationality	Add field in Personal metadata block
20.	Degree	In eg edit to MSc
21.	Job Type	Make dropdown selection
22.	Research Areas	Make dropdown selection
23.	Research Areas	Delete the [View the subcategories of these areas]
24.	Region of Study	Implement controlled vocabulary of sea regions (IOC/LME/FAO regions?) dropdown selection and ability to select more than one
25.	IOC Regions	Change the label to IODE Regions or delete completely (checking with PP)
26.	Activities (in English)	Delete (In English)
27.	Working Languages	Dropdown selection
28.	Activities (in Other languages)	Delete
29.	Comments	Help text – what is this box for feedback, problems additional info?
30.	Add a new Citation	or OceanDocs URI: ADD ' <i>or DOI</i> '
31.	Add a new Citation	Edit example - pages should be 10-12
32.	Add a new Citation	Change Your Citation to Publication List add ' <i>You may copy and paste your publication list here</i> '
33.	Add a new Citation	(Search OceanDocs or Acquatic Commons) correct Aquatic and add link to Google Scholar

ANNEX IV
LIST OF PARTICIPANTS

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ANNEX V
LIST OF ACRONYMS

API	Application Programming Interface
CL	Circular Letter
DIPS	Development of Information Products and Services
IOC	Intergovernmental Oceanographic Commission (UNESCO)
IODE	International Oceanographic Data and Information Exchange
OBIS	Ocean Biogeographic Information Systems
OD	OceanDocs
ODP	OceanDataPortal
ODPr	OceanDataPractices
OE	OceanExpert
OKn	OceanKnowledge Project
OT	OceanTeacher
OTGA	OceanTeacher Global Academy
RDF	Resource Description Framework
RTCs	Regional Training Centres
SG	Steering Group
SKOS	Simple Knowledge Organization System
SPARQL	SPARQL Protocol and RDF Query Language
LOD	Linked Open Data
UNESCO	United Nations Educational, Scientific and Cultural Organization
URI	Uniform Resource Identifier
URL	Uniform Resource Locator

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