


**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION**  
**(of UNESCO)**  
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**Data and Information Exchange (IODE-XXII)**  
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**The Future of IODE, according to the IODE**  
**Community: Analysis of the Survey**

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This document is not a Working Document *sensu strictu*, but rather a document that is intended to assist discussions of the Sessional Working Group that will meet on Wednesday 13 March 2013.

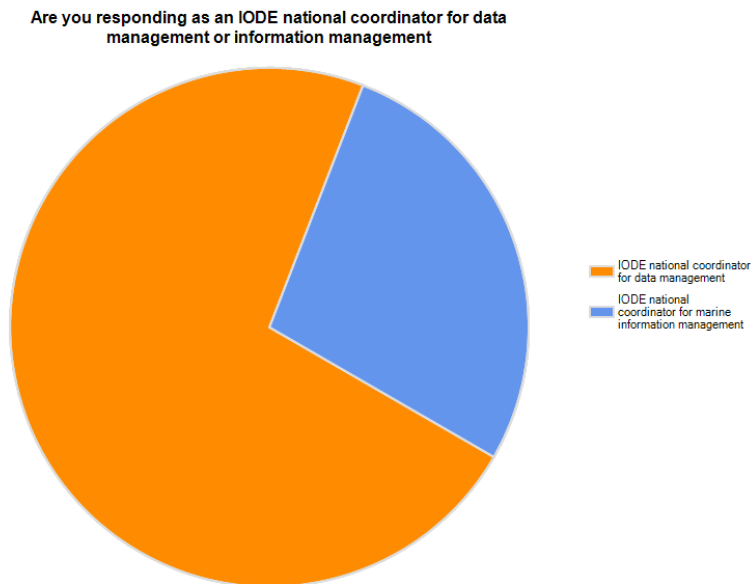
In order to feed the discussions we prepared an online survey that asked the **84** IODE National Coordinators for Oceanographic Data Management and **52** IODE National Coordinators for Marine Information Management for their opinions on a number of topics that relate to the future of IODE.

At the time this document was prepared 42 of the 85 (48%) of the IODE national coordinators for data management, and 16 of the 53 (28.5%) of the IODE national coordinators for marine information management responded to the survey. The total number of respondents was 58 (72.4% as NC DM and 27.6% as NC for MIM).

Many of the questions were “free text” questions. The analysis therefore presents these as shortened summaries of the answers and grouped by similarity. As indicated above the number of responding MIM coordinators was quite small so the answers to MIM related questions may not be representative for the entire MIM community.

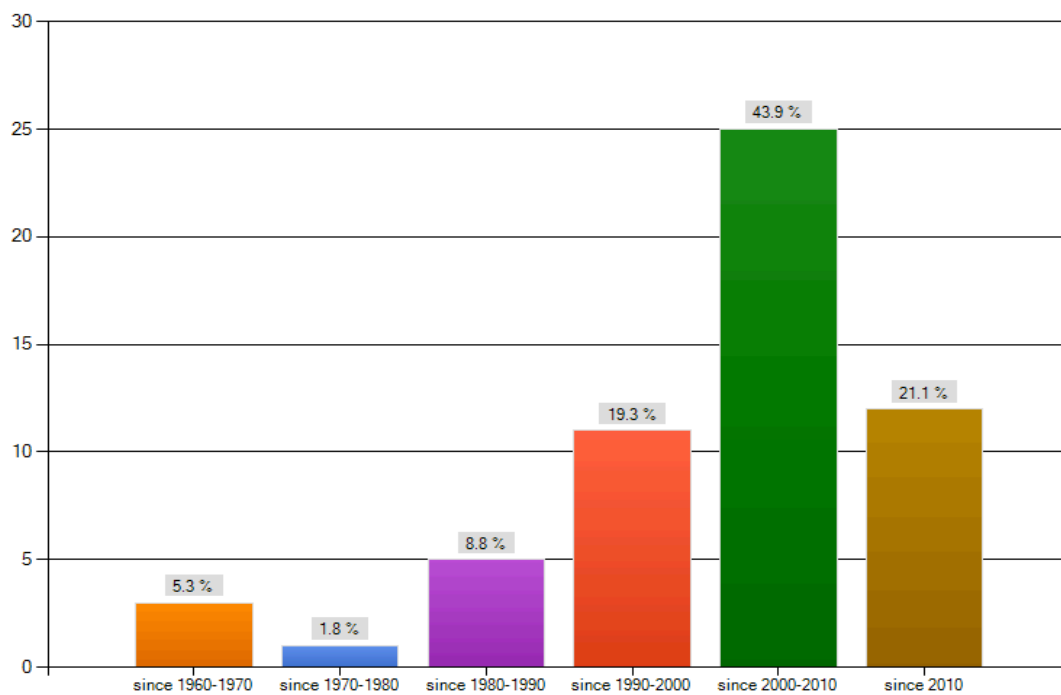
## 1 ABOUT THE RESPONDENTS

*Question 1: Are you responding as an IODE national coordinator for data management or information management?*



*Questions 2 and 3* inquired about name and country

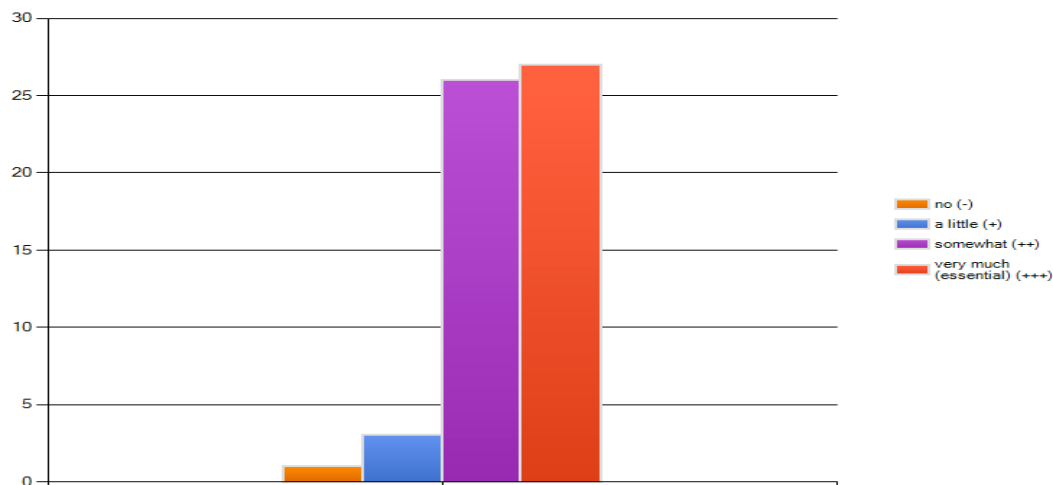
*Question 4: Since when have you been involved in IODE?*



The results show that the majority of the respondents have become involved in IODE after the year 2000.

## 2 RELEVANCE, BENEFITS, STRONG AND WEAK POINTS OF IODE

*Question 5: Is IODE relevant to your work?*



As good as all respondents indicate that IODE is relevant to their work.

*Question 6: What benefit do you get from the IODE programme?*

N=57

- Information on standards
- Training
- Data and information exchange
- Networking of data and information managers
- Quality control
- Capacity building
- Data access
- Cooperation with other institutions, NGOs
- Improved staff skills

*Question 7: What are the strong points of the IODE programme?*

N=55

- Information on standards
- Training
- Data and information exchange
- OceanTeacher
- Networking of data and information managers
- Quality control
- Capacity building
- Free and open data access
- Cooperation with other institutions, NGOs
- ODINs, JCOMM, GODAR
- Improved staff skills

*Question 8: What are the weak points of IODE?*

N=49

- Limited funding
- Membership is limited to government
- Data and information exchange
- Sponsorship of data and information managers
- Lack of visibility at the regional and national level
- Limited training topics
- Poor link between IODE and EU funded projects

### **3 PARTICIPATION IN IODE EVENTS**

*Question 9: Why do you think there is an increase in requests for sponsoring to participate in IODE meetings when the NODC budgets seem to have remained stable?*

N=52

- National budgets shrinking
- National budgets stable but cost of travel increases
- Operational activities take priority
- IODE may not be priority in national funding
- Too many meetings for available budget

*Question 10: Why do you think participation of MIM (marine information management = libraries) national coordinators in IODE meetings is so low?*

N=51

- Libraries are not assigned budget for IODE activities
- MIM coordinators not aware of their role in IODE; do not have/spend much time for IODE activities; lack of linkage with DM experts
- Lack of visibility of MIM, thus lower priority
- Funding problems (reduced budget) + competition data/mim
- There are other networks more suitable for librarians; what is benefit to librarians?

### **4 THE ODIN NETWORKS**

*Question 11: Why do you think participation of NODCs in Latin America, Caribbean and African region in IODE meetings and related activities is so low?*

N=52

- lack of funding
- do not know
- administrative procedures are lengthy (to get permission and funding)
- data and information management not seen as priority in Africa
- lack of awareness, promotion at national level
- too many regular staff changes in Latin America & Caribbean

*Question 12: Do you think countries in Latin America, the Caribbean and African region are interested in participation in IODE? If so then what is IODE not doing well?*

N= 50

- Interested: yes
- Need guidance to support and involve them in IODE, including regional cooperation
- Strengthen existing groups
- Awareness creation (at Governmental level as well)
- IODE needs to provide financial support
- Lack of skills/expertise
- Need to organize meetings in the regions

*Question 13: Has ODINAFRICA led to an increase in available funding for Africa marine research institutions?*

N=54

10 out of the 16 African respondents answered “yes”. 43 respondents answered “I do not know”. Only 1 respondent answered “No”.

*Question 14: Why are the ODINs (IODE Ocean data and information networks) not developing more successfully?*

N=54

- seed funding at national level is too small. Need personal stipends
- institutional (management) problems
- lack of coordination
- need funding and people
- need staff mobility and exchange within and between regions
- need government engagement
- oceanographers and government do not appreciate benefits of data management
- lack of infrastructure
- they are developing successfully

*Question 15: Do the regions still see the need for ODIN development and if so, what should be done to make this happen?*

N=6

46 respondents answered yes and provided the following additional information:

- do a diagnostic of the ODINs, develop a strategy; survey of needs
- improve communication between members; human networks
- more commitment from member states + countries need to prepare national budget
- countries need to learn how to obtain external funding
- need to involve governments
- ODINs must be relevant to research programmes and climate change; national/regional development goals
- Training
- Bottom up approach

*Question 16: If the success of ODINs is heavily dependent on financial resources then how can these be mobilized?*

N=49

- need partnership agreements between IOC and countries so countries assign budget to ODIN in their region
- create more awareness nationally
- private sector partnership/sponsorship
- grants, collaboration with other internationally funded projects
- globalization of the project at UN level
- create products and services (that can be marketed)
- make project relevant (climate change, biodiversity)

*Question 17: How can development of regional coastal atlases such as the Caribbean Marine Atlas be promoted taking into account the limited human expertise available?*

N=49

- hire experts from elsewhere (including other ODINs)
- ensure the atlas responds to local needs; show benefits
- train the trainer + training activities
- need active outreach including meetings, regional communication
- demonstrate as decision making tool; sell to decision makers
- improve coordination across agencies
- user/stakeholder focus

## **5 IODE TRAINING**

*Question 18: What are the reasons for the drop in responses to the online training surveys?*

N=45

- lack of interest
- too long
- communication problems
- work load
- no possibility to attend training so no motivation to fill the surveys
- target audience not reached with the survey

Note: questions was not well understood by all

*Question 19: If training is still needed then what should be the priorities for the next 2 years?*

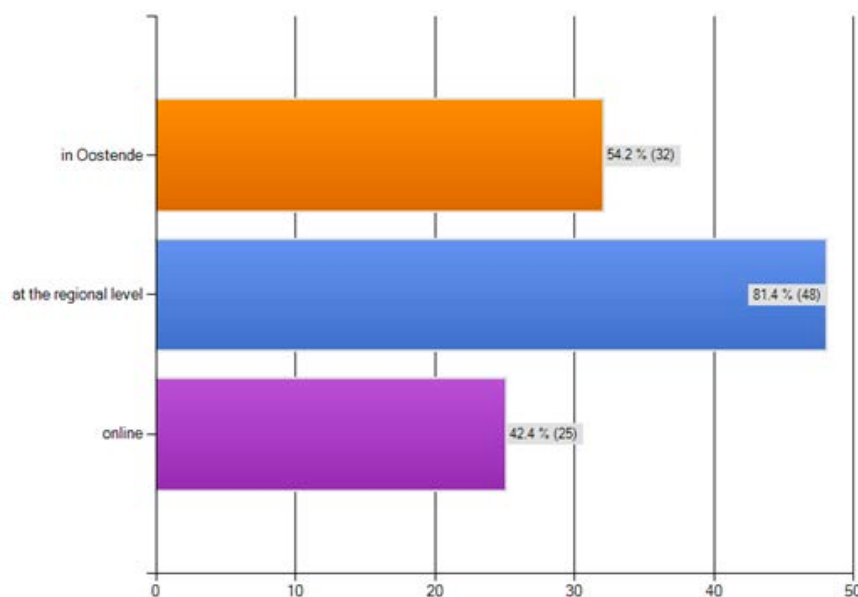
N=50

- Interdisciplinary modules
- Long-term training; degree training
- Best practices data management, QC/QA, quality management
- Formats, interoperability, standards
- Product development

- Atlas development, GIS
- Remote sensing
- Database development, architecture, networking
- Use of new data acquisition and their data management and products
- Argo data use
- NODC development
- Grant writing
- Data citation
- Conservation and restoration of documents
- E-repositories
- Oceanographic methods for measurements
- Metadata
- Make training materials available for download
- New technologies for information systems
- Modeling
- Ocean data portal

*Question 20: Should training be provided in Oostende only or should training also be organized at the regional level (at training centres) or should it be provided online?*

N=58



The majority of the respondents wishes to see more training in the regions rather than only in Oostende.

## **6 ON THE FUTURE OF IODE**

*Question 21: Is there still a need for an IODE network of data centres and marine libraries?*

N=57

Everybody answered “yes”

*Question 22: What is the niche of IODE? (what is the competitive advantage of IODE in the current ecosystem of ocean data networks?)*

N=49

- Training
- Promotion of standards
- Data exchange
- Open access to data and information
- GODAR-like projects
- Thematic data centres
- Experience in the data centres
- Data standardization and international agreement through IOC
- Main (unique) international focus point for ocean data, networking, coordination; global focus
- Network of data centres: IODE links all data centres

*Question 23: What should IODE focus on which it is not doing now (be as specific as possible)?*

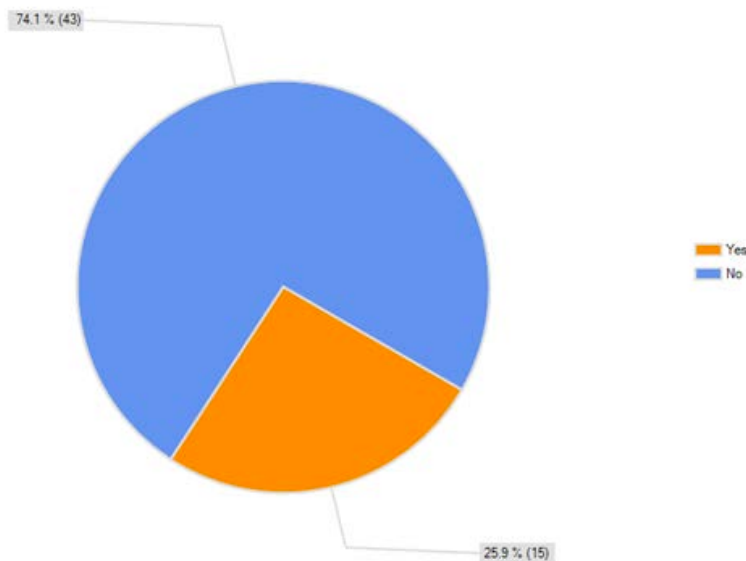
N=44

- Data archiving
- Collaboration with international projects (including LMEs)
- Facilitate consolidation of programmes that are difficult to maintain separately
- Increase visibility/promotion of IODE
- Make better use of ODINs to disseminate IODE activities and products
- Training in ecosystem data management
- Data rescue
- Coordinated Products Platform/ portals
- Degree training programme – links with Universities
- Standards and best practices (establishment and updating)
- Updating Manuals and Guides
- Provide training in French and Spanish or provide English language training
- Assistance in developing NODCs
- Promote MIM
- Bathymetry
- Operational data flows
- Reference centre that aggregates various documentation, procedures and manuals
- Regular visits to all NODCs to assess quality
- Less reliance of volunteer work, more contracting
- ODP
- Closer link with ocean observation community (GOOS)
- Strengthen links between IODE and national governments
- E-repositories development
- More focus on coastal data management



*Question 24: Should IODE limit its current scope of action/interests?*

N=57



Nearly three quarters of the respondents does not wish to limit the current scope of IODE actions and interest.

*Question 25: If you answered Yes to the previous question then what should be the priorities to focus on?*

N=22

details: see questions 22 and 23

*Question 26: Who are the stakeholders of the global IODE programme today?*

N=49

- IOC Member States (Coastal nations)
- Central and local government, policy makers, planners
- NODCs (including data managers)
- GIS specialists
- Funding agencies
- Researchers and research organizations, students
- ODINs
- International organizations
- UN agencies
- Universities
- Private sector (oil and gas, fisheries)
- Operational oceanographers
- Climate, Fisheries, environment programmes
- General public
- NGOs
- Practitioners
- JCOMM, IOC

*Question 27: What communities should be served by IODE that are not served today and how can IODE engage these communities?*

N=42

- International organizations (through networking and MoUs)
- Ocean research and observation communities
- Non-governmental organizations
- Regional projects
- Spatial data infrastructures
- Marine environment centres/ environmental protection
- Industry (marine, oil)
- Universities
- Local communities
- Politicians
- Meteorological community

There is a clear demand for better linkages with other international organizations as well as the ocean research and observations communities.

*Question 28: How well is IODE and its NODCs connected to the ocean research and observation communities? How can we improve this connection?*

N=48

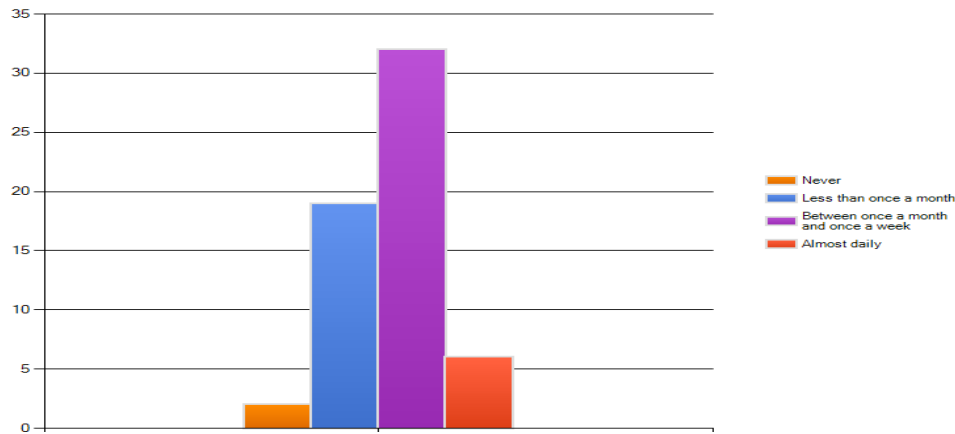
- The connection does not exist in a good number of cases. It can be improved through capacity building in the domain and the use of an appropriate communication channel
- Insufficient: organize annual meetings or conferences in the countries
- Need to contact them and understand their needs
- Should be improved. Increase visibility of ODP and OceanTeacher
- Send newsletters
- Establish joint projects, incl regional
- Develop more products
- IODE needs to participate in international ocean science conferences
- NODCs should get involved in real-time data acquisition
- Some NODCs are but IODE as a whole is not
- ODP can help
- It appears to be a misconception in part of the ocean research community that believes IODE and its NODCs has turned into a more bureaucratic structures and somehow detached from their needs. Although the observation community still recognizes the work and experience of IODE, there is a trend to establish and develop DM activities in parallel to IODE. An improvement of this situation will certainly come from IODE reaching out more proactively to them.

The IODE community is clearly aware that linkages with the ocean research and observation community is currently insufficient and is willing to reach out to that community.

## **7 IODE COMMUNICATION**

*Question 29: Do you regularly consult the IODE web site?*

N=58



The majority of respondents consult the web site between once a week and once a month.

*Question 30: Can you provide any suggestions to make the IODE web site better?*

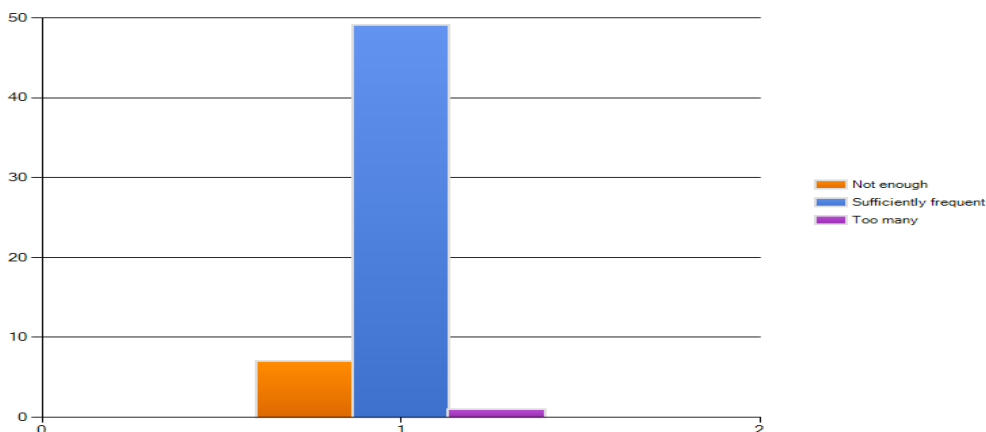
N=40

- Removing the Google crawler from the "robots.txt" file; this prevents doing Google searches on the IODE site alone and could result in lack of visibility.
- There could be a "Data submission" item in the left hand menu; or as part of "How to" (submit data) who would point to a page explaining whom to contact to submit their data to the international community depending on data type, country, etc
- Coordinated Products Platform
- Less content on the front page, more descriptive links
- Make it easier to find information. Fix the search engine
- Newsletters? Facebook? (\*)
- Improving ODP and reference on ODP from IODE web-site.

(\*) It is noted that social network functionality has already been implemented

*Question 31: The IODE Project office sends out emails informing you of specific news related to IODE. Are these messages sufficiently frequent?*

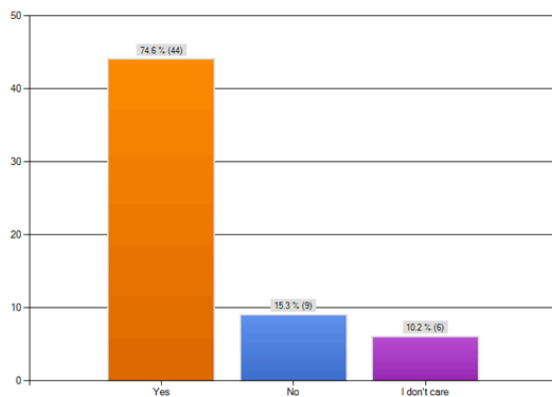
N=56



The majority of respondents finds the frequency of emails sufficient.

*Question 32: Should IODE publish a newsletter?*

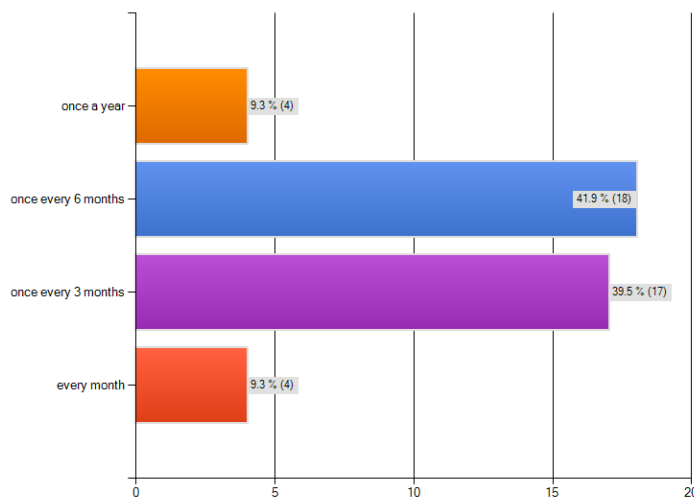
N=58



The majority of the respondents wishes that IODE publishes a newsletter

*Question 33: If you answered yes to the previous question then what should be the frequency?*

N=42



The majority of respondents wish a newsletter with a frequency of approximately once every 5 months.

*Question 34: What other ways should IODE use to promote itself and to whom?*

N=41

- Regional representatives
- Improve communication strategy
- Regional workshops for decision makers
- Development of brochures (including for policy makers)
- Posters and presentations at conferences
- Strengthening regional networks; components of the networks should spread IODE activities in relevant media
- Through collaboration with other societies and agencies interested in the ocean

- Souvenirs (promotional materials)
- Regional meetings
- IODE secretariat should produce appropriate ppt on data and information management benefits and over the world makes demonstration during conferences, forum etc of decision makers, private sectors using ocean
- Lecture materials for University teachers
- Exchange visits of IODE experts to other NODCs
- Facebook/ blog – social media
- To UN related communities by engaging a national delegate
- What are the major successes of IODE - how is IODE supporting its various stakeholders. Leverage and advertize the work done by the NODCs that are international in scope since we are all under the IODE umbrella (i.e. US NODC has an online metadata training course that has participants from over 23 countries).
- Create an international IODE Day
- Contact University teachers in Oceanography

## 8 IODE COMMUNITY NEEDS

*Question 35: What are the needs of the NODCs that are not being addressed by IODE today?*

N=39

- Long-term training
- To accelerate the establishment of operational service system and integration of oceanography and marine meteorology data
- Sharing of best practices
- Standardization
- Continuous professional development (annual updating of capacity)
- Showcases how this international network facilitates access to global data
- Help in promotion of importance of marine monitoring and related data governance to Governemnt
- Updated quality control procedures, advise on interoperability and ODP, integration of biogeochemical data, awareness on DM & MIM
- Development of Quality Control Tools as per the internationally adopted standards for various observing systems and promoting them in the ocean data management community.
- Distributing software/programs for data analysis and quality checking data

*Question 36: What are the needs of Marine Libraries that are not being addressed by IODE today?*

N=37

- Long-term training
- Donation of books and journals
- Subscriptions to international databases
- Marine libraries in developed countries mainly draw direction from the larger library, information and technology community in which they exist. IODE/IAMSLIC is the means to allow them to connect on marine-specific aspects. IODE could provide an enhanced ability to share successes and stories from individual institutions from which the community as a whole can learn and grow larger initiatives. e.g. success in linking publications and datasets is being worked on but there isn't an easy way to access the story of what is being done where and by whom.

- Being able to access the virtual marine libraries, lack of knowledge of the various search portals scientific research.
- The fact that many of them are floundering. I don't think that's something that IODE can help with BUT creating better portals to bring together marine information in one handy spot and plug it to pieces would be helpful. Perhaps creating themes in the portal could be helpful as well as current bibliographies on things like oil spills or cyclones.
- Marine libraries major needs are access to the literature. IODE can only address this by promoting establishing repositories at institute level, publishing journals in open access domain, etc.

## 9 IODE PRIORITIES

*Question 37: What should be the priority activities of IODE (for both data management and for marine information management) in the next five years?*

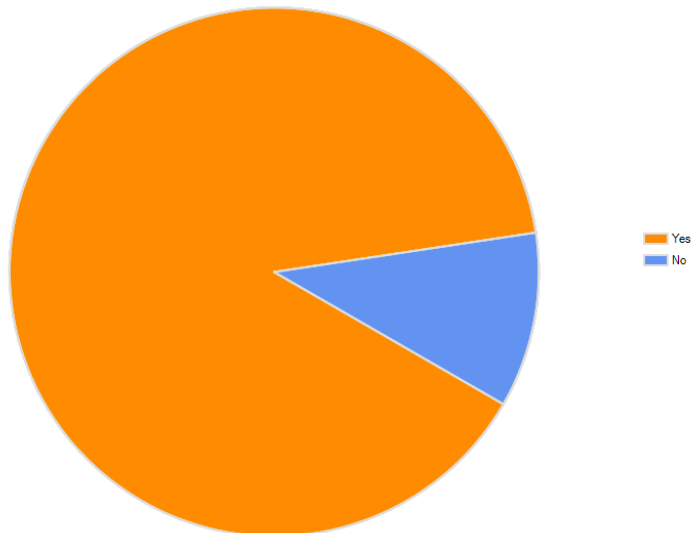
N=51

- Strengthen international cooperation through networking and MOAs - advocacy on best practices for data management – training
- Interoperability and sharing; standards
- MIM: The development of online library system will promote reuse and accessibility. Federated search across repositories (OceanDocs, Aquatic Commons and institutional repositories/catalogues).
- QA/QC,
- Biological data management
- Library of ocean data standards
- Data rescue
- ODP
- Focus on sustainable financing to support top priority activities particularly on data sharing protocols
- To Develop a larger network of professionals To motivate more communication amongst members
- Training
- Virtual library portals
- Data product development and related training; marine atlases
- Assist with establishment NODCs
- Financial support to NODCs
- Best practices data modeling

## 10 IODE AND JCOMM

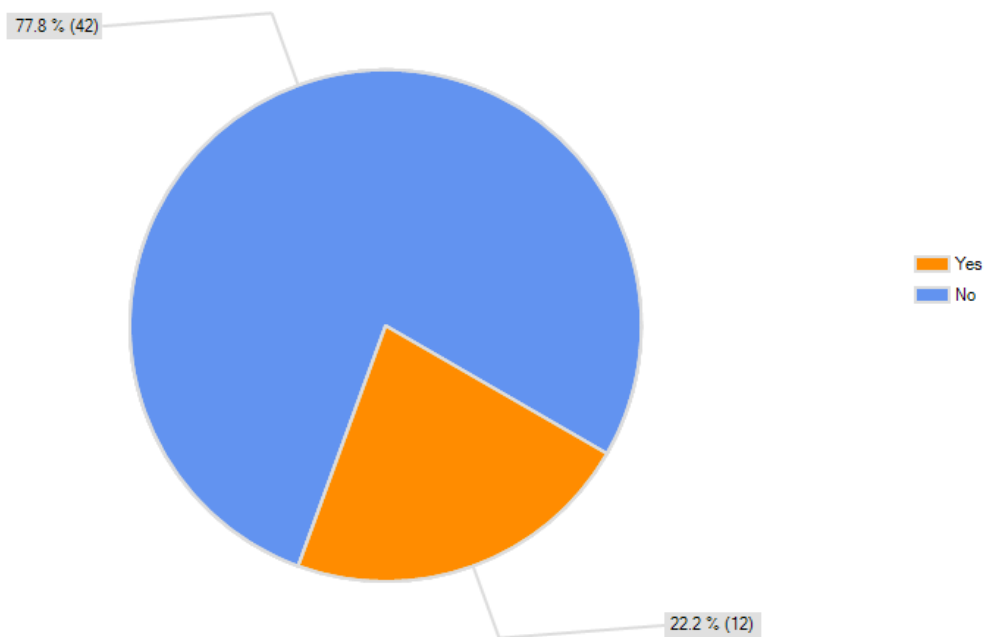
*Question 38: Should IODE play a more active role in JCOMM?*

N=55



*Question 39: Should IODE become a programme of JCOMM (and thus cease to exist as an independent programme within IOC)?*

N=53

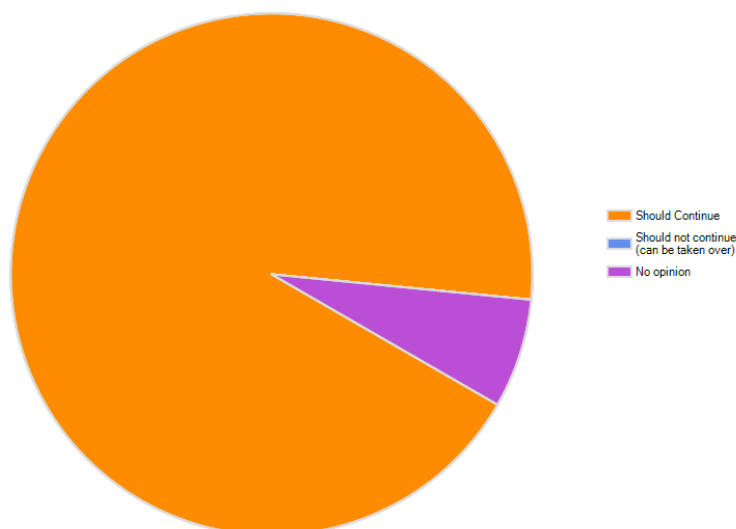


From questions 38 and 39 we can conclude that the IODE community wishes a closer collaboration with JCOMM, but does not want to become a part of JCOMM.

## 11 SHOULD IODE CONTINUE TO EXIST?

*Question 40: Should IODE continue to exist or can its activities be taken on by existing other global, regional and national entities?*

N=58



*Question 41: Any other comments related to IODE:*

N=24

For this question we have listed the answers in full.

























- Regarding whether IODE should move under JCOMM: There are many pros and cons. JCOMM may be better funded and is intergovernmental (pros). JCOMM is focussed on physical oceanography only, which is seen as a disadvantage as ecosystemic approaches are prevalent, which required poluridiciplinary data systems (con). JCOMM is overall meteorology and surface ocean dominated (con). Could IODE be placed under JCOMM with a stronger relationship to IOC (like ETDMP)? There is a need to preseve the functions of IODE like development of standards and flow of ocean and biodiversity data to global databases (WOD, OBIS) that we can then draw on for our own needs. Need to look where these functions can be taken care of in the international 'ecosystem' of science and data management programmes.
- THE IODE PROGRAMME IS AN IMPORTANT OCEAN RELATED PROGRAMME. IT IS ESSENTIAL THAT THE PROGRAMME CONTINUES TO ENSURE THAT GLOBAL OCEAN DATA AND INFORMATION ARE READILY AVAILABLE ESPECIALLY TO DEVELOPING STATES
- To integrate marine data and information from various programme and projects under the IOC continuously;To enhance the coordination of IOC projects and programme(such as GOOS, GLOSS, TSUNAMI), and establish marine data and information operational management and service system.
- IODE has an important role to play, especially to educate the coming generations
- Congratulations and appreciate the IODE contribution to member states for the trainings and networking platform provided.





























































- Proud of expertise I got from IODE which improve much better the quality of my work on all aspects dealing with ocean, environment and climate change.
- I am very satisfied of IODE staff work well done at Oostende. This programme of IOC shall be continued in spite of temporally financial crisis. I recognize that it will not be easy. One point is very important is to elect regional master degree on datas and informations ; to create closely cooperation with operators and producers of ocean datas. The contact with private sector and governments are also important to underlign the capital rule of datas in maritime and coast security.
- It has been instrumental in regional capacity building as it relates to marine data management
- IODE could play a role in coordinating answers to calls. IODE could play a role in providing help or coordinating observatories implementation They are so many different portals on ocean that it is difficult to sort out the relevant information. IODE could provide a label on some sites, portals that fullfill the IODE requirement These answer are my personal answers and should not be considered as the answer from FRANCE
- It's true that the success of the realization of activities of IODE on each centre depends to the financial availability but it depends also to the personal initiative of the responsible.
- IODE could become part of JCOMM or work in compliment to JCOMM. Until this questionnaire, I'd never heard of JCOMM. I do believe that MIM is so important that it really needs it's own "wing", "team", "initiative". Scientists and research managers don't always recognise the importance of MIM until it's too late and tend to focus on other things. Much of the MIM and data is not all about meteorology or oceanography though - and that's also worth remembering.
- Per the question above, I think IODE should continue but there needs to be a re-evaluation of IODE in the context of JCOMM or of JCOMM in the context of IODE.
- Participation in Annual session from the each member countries should be uniform and full financial support to be provided to the participant in least developing countries
- At present IODE might be very distant from the scientists and customers. It is better known only between data managers and specialised librarians that may no be so many. The usefullness for countries to have a NODC should somehow be promoted and from that the co-operation between NODCs under IODE will then be natural. The key is to show that IODE and NODCs are useful to scientists, countries and data users.
- We can recongnize that IODE do a lot for African NODC.
- The IODE has done a lot to build capacity especially among the developing nations with limited available funds. Would appreciate if the organization continue to persevere along the lines and bring some form of hopes to the developing world.

**Table 1 – the Future of IODE survey – Overview of respondents by country**



















Green indicates the national coordinator filled the survey. Red indicates the national coordinator did not fill the survey or did not reveal him/herself as the national coordinator (in some cases the survey was filled by both coordinators together); NA indicates that no national coordinator has been identified (and so no answer received either)

Country	Data Management report submission status	Information Management report submission status
Angola		
Argentina		
Australia		
Austria		NA
Bangladesh		
Barbados		
Belgium MUMM		NA
Belgium VLIZ		
Belize		NA
Benin		NA
Brazil		
Bulgaria		
Cameroon		
Canada		

Chile		
China		
Colombia		
Comoros		NA
Cote d'Ivoire		
Croatia		
Cuba		
Cyprus		NA
Denmark		NA
Ecuador		NA
Egypt		
El Salvador		
Eritrea		NA
Estonia		NA
Finland		
France		NA
Gabon	NA	
Georgia		NA
Germany		NA

Ghana		
Greece		
Guinea		
Iceland		
India		
Islamic Republic of Iran		
Ireland		NA
Israel		NA
Italy		NA
Japan		
Kazakhstan		NA
Kenya		
Republic of Korea		NA
Kuwait		NA
Madagascar		
Malaysia		
Malta		NA
Mauritania		
Mauritius		NA

Mexico		NA
Morocco		NA
Mozambique	NA	
Myanmar		
The Netherlands		NA
New Zealand		
Nigeria		NA
Norway		NA
Panama	NA	
Peru		
Poland		NA
Romania		
Russian Federation		
Senegal		
Slovenia		NA
South Africa		NA
Spain		NA
Sri Lanka		
Sweden		

Tanzania		
Thailand		
Togo		NA
Tunisia		
Turkey		
Ukraine IBSS		
Ukraine MHI		NA
United Kingdom		
United States		
Venezuela		NA
Viet Nam		NA

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