Intergovernmental Oceanographic Commission
Workshop Report No. 249

Operational Oceanography of IOC (for GROUP II)

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Abstract

IOC Group II countries met together to discuss operational oceanography programmes within the countries, and possible collaborations. Presentations and reports from the countries indicated a wide variety of observing systems, designed and run for the individualized needs of each country. Countries shared experiences and recognized common issues of maintaining sustained support for operational marine observing systems. Some Group II countries bound the Black Sea and others the Baltic Sea. Within each region the countries recognize that sharing observation systems, data and product development would increase the benefit of each country's individual observation efforts.

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INTRODUCTION

Dr. Sang-Kyung Byun and Dr. Wendy Watson-Wright welcomed the representatives of the IOC Group II countries and introduced the session. Dr. Atanas Palazov informed the group of the activities to follow the session, which include a tour of the facilities at the Bulgarian Academy of Sciences Fridtjof Nansen Institute of Oceanology. The meeting, sponsored by the Korean government and the IOC chair office in Korea, was convened to provide an opportunity for the IOC Group II countries to share their concerns with the IOC chair, and to strengthen the cooperation of the Group II countries within the IOC. Presentations about Operational Oceanography in each country were to be the highlight of the meeting, setting the context for discussions of needs and opportunities for cooperation with the Group II.
1. COUNTRY REPORTS

Country reports were presented by the representatives of the IOC Group II countries. Detailed written reports and the presentation slides have been submitted and stored on-line in association with this report (http://www.ioc-unesco.org/OpOceanGroupII2012). The reporting countries and representatives were:

Albania (Mr. Klodian Zaimi)
Azerbaijan (Mr. Rauf Amanov)
Bulgaria (Dr. Atanas Palazov)
Croatia (Prof. Vlado Dadich)
Czech Republic (Dr. Bohumir Jansky)
Estonia (Dr. Inga Lips)
Montenegro (Dr. Anna Castelli)
Poland (Mr. Marcin Wichorowski)
Romania (Dr. Viorel Malciu)
Russian Federation (Dr. Alexander Postnov)
Slovenia (Dr. Atanas Palazov on behalf of Dr. Branko Cermelj)
Ukraine (Dr. Gennady Korotaev)

Additional presentations were given for the broad global and European ocean observations systems to provide a context for the discussions of international cooperation and coordination of operational oceanography.

Republic of Korea (Mr. Gi Dong Yeo, MLTM)
Global Ocean Observation System (Dr. Thomas Gross, IOC/UNESCO)
European GOOS (Hans Dahlin, EuroGOOS)

Discussions on individual observation system details are omitted from the report. Following is a condensation of comments on observational oceanography and the Group II countries.

Several countries mentioned the importance of coastline erosion to their national priorities. Sea level changes are observed, and assumed due to climatic changes, reduction of sediment sources to the coast and possibly aquifer modification. Observations of coastal sea level change, erosion and mapping are important to risk assessment needs in many countries. These issues necessitate measurements on regional scales with international cooperation.

For many countries “on-line data is operational data”. Therefore the need to coordinate and share data on-line was a common theme. Many countries are cooperating with the EuroGOOS programmes for data sharing, and using the facilities of the MyOcean, Seadatanet, GMES, and EMODNET. These pan-European programmes are also very helpful in satisfying reporting requirements of conventions such as UNCLOS (UN Convention on the Law of the Sea), ACCOBAMS (Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area), the Bucharest Convention /1992 (The Convention on the Protection of the Black Sea Against Pollution) and HELCOM (The Helsinki Commission for the Convention on the Protection of the Marine Environment of the Baltic Sea Area).
All presentations were impressive in demonstrating the breadth and depth of observational oceanography taking place in the countries. All countries operate within constraints of budget and government mandates, and thus all share the common problems of sustaining observation systems. The countries agreed that sharing data, observation systems and knowledge was essential. Demonstrations of multilateral cooperation in oceanography help to persuade governments of the need for continued support of observation systems. Of course the most valuable tool for demonstrating and sustaining cooperation is the international convention, several of which provide the mandate for the countries to continue their observation programmes.

2. GENERAL DISCUSSION OF GROUP II COUNTRIES, LED BY EX-CHAIRS OF IOC

The chair and ex-chairs of IOC, Dr. Sang-Kyung Byun, Dr. Geoffrey Holland, Dr. David Pugh, Dr. Jilan Su and Dr. Javier Valladares, facilitated a general discussion by the Group II countries on topics about operational oceanography. Although a planned sequence of topics on operational oceanography was proposed (“Current status”, “Benefits”, “Networking”), the discussion was allowed to develop its own themes, which are summarized here.

3. PRODUCTS AND USER PULL

The idea that users are the raison d'être of the ocean observation programmes is unassailable. But, while the users are needed, they are difficult to identify and difficult to involve in planning and advocacy. Bottom up support is seen as necessary, but only top down directives seem to get funding. Coastal applications and coastal user needs can be identified, but those users seldom support the outer boundary ocean measurements which are needed to support coastal applications.

This is partially because persuasive applications are few and poorly distributed to the public. There could be great value creating more high visibility products, such as the Spanish ocean forecast and oil spill response system which get many thousands of hits each month (http://www.escoo.org/). User acceptance is necessary, but most users are not the source of money. There are many committed users in our community, but the government doesn’t know this.

Most users and government agencies do not recognize the need or existence of the observational infrastructure until an event or emergency brings attention. However the products and advocacy for ocean observing systems cannot wait for these events, the systems must be ready to provide information at those times of need. Fundamentally, users respond to the information, but governments fund the systems, so governments must be convinced of the value of the systems, perhaps through user acceptance, but more likely through international agreements.

4. OCEANOGRAPHIC AND METEOROLOGICAL OBSERVATION SYSTEMS

Comparisons to meteorological systems are invariable. As far back as 1852 marine meteorology and oceanography were recognized necessities, but the users of met data were most obvious and a broad net of met offices were established which later became the WMO with data sharing protocols mandated by the World Meteorology Convention. Meteorology systems are more sustained than ocean observations because they can refer to international needs and the convention. Apparently the urgency of meteorological needs was evident. Now, with the challenges of oil-spills, coastal flooding, tsunami, marine pollution and search and rescue, the urgency for ocean observations can be recognized. Perhaps an argument for a convention for the protection of coastal zones can be made.
Creating a convention is a difficult task. Marine meteorology is well served by association with the WMO. IOC member states and IOC programmes should strive to find ways to associate efforts of IOC with UNEP, in the context of regional agreements and conventions. Stronger bridges are needed with agencies with existing conventions, such as UNEP, to press for many marine issues.

5. LAW OF THE SEA AND MARINE SCIENTIFIC RESEARCH

An important existing convention governing marine observations is the Law of the Sea (LOS). The LOS was crafted when ocean measurements were only an academic issue, and the governance of access to territorial waters for marine research purposes was established. Now operational oceanography finds itself in competition with academic marine research for funding, justification and access. Operational oceanography has a competitor in academia, who are producing products which they have no intention of supporting. The problem of academia competition for the same government support is increasing. Some governments would push operational oceanography into the universities. The loss of operational marine support to academia is inevitable if the impression is given that operational oceanography is still a research issue. Operational oceanography is a service, not an academic pursuit. There is a need to separate these to successfully build the services of operational oceanography. A common message from IOC could help with this issue.

For many this issue of the LOS definition of Marine Science Research (MSR) and its differentiation from Operational Oceanography is a problem. An operational data collection system sounds different from research which sounds quite ephemeral. A technical definition should be agreed to by oceanographers before bringing in the lawyers to interface with the LOS. The I-GOOS was tasked many years ago to provide a definition, but the results were not satisfactory. The issue is still broadly open and a meeting to resolve it may still be needed. Note that the ex-chairs meeting grappled with this question as well, proposing a definition centered on the concept of forecast systems verses process research (IOC Report ####).

6. COORDINATION AND DATA POLICY

Creation of coastal oceanographic services is made difficult by the problem of integrating many disciplines to create unified services. Unification can be aided by national ocean commissions, which do exist for many, but not all countries. Coordination problems are partially solved by a top down demand, such as the IOC data policy, which can unify and justified data demands. However the marine community persists in having a portal for each product; meteorology, ocean, fisheries, etc. Some of the data streams are successfully justified by governments to meet local mandates. But in many of these cases the data is not open, or not of required quality for inter-comparison or climate work. For such systems the job of the IOC is to be the coordinator, not the creator or funder of systems. More communication in the creation of unified images and services is needed.

WMO has the World Meteorology Convention to establish an international exchange of data. This legal basis for the exchange is very important, without which some countries would have had great difficulty in following WMO operational data exchange standards. For similar reasons a convention could be important for oceanology. IODE has been working successfully with delayed mode data, but that is quite different. Operational data is another type of data, in a political sense. An enclosed sea observation system like Argo, needs high level agreement to be implemented, because an Argo intended to operate within an EEZ could cause political difficulties. Some WMO data and stations are subject to exchange agreements, but some are not. The reason for the exchange of the data will
determine the agreement which is active and ruling. This is where what the data are called comes into the issue. Differentiation of Research, Operational, Forecast, and other uses for data were not covered by existing or 30 year old conventions.

7. CONCLUDING REMARKS

Dr. Geoff Holland summarized the discussions and presented the viewpoints of the ex-Chairs of IOC.

The demonstration of the breadth of regional oceanography cooperation opportunities for the Group II countries is impressive. The presentation by the landlocked country Republic of Czech Republic, was especially evocative, as it shows that the interests of all countries in the ocean are significant and national governments recognize and support research in those interests. Beyond borders the oceans are an influence upon every country in terms of environmental services and economic well being. However in the regional context the needs of countries can be even more evident. Cooperation of Black Sea countries is a necessity if the Black Sea is to be effectively managed and understood. Political differences must be dealt with to solve environmental problems. “You cannot save half of the Black Sea.” Cooperation is the keyword, and the opportunities started by this meeting should be nurtured in the future by all participants.

For all countries, the problem of sustaining the observation systems remains the greatest concern of the scientists. Observation systems begun as warning systems are difficult to maintain, when they are used only every twenty or fifty years. The individual users of the data probably will not directly lobby governments, but accumulatively they have great influence. Their needs can be expressed at high levels through conventions. Conventions give the governments a statutory requirement, or obligation, to provide marine observation information. Many bilateral or individual country mandates already exist, which should be identified and informed, possibly by the IOC.

In conclusion this meeting has successfully brought together marine scientists for common cause for their regional oceans. The cooperation must be continued by each individual, and by a strengthened role of the Group II in the IOC.
ANNEX I - AGENDA

21 March, 2012

- 09:30 – 09:45 Registration

- 09:45 – 10:00 Opening Ceremony
  Welcome Remarks by Sang-Kyung Byun, IOC Chair
  Opening Remarks by Wendy Watson-Wright, IOC Executive Secretary

- 10:00 – 12:00 Country Report 1 (Moderator: Dr. Atanas Palazov)
  10:00 – 10:30 Albania (Mr. Klodian Zaimi)
  10:30 – 11:00 Azerbaijan (Mr. Rauf Amanov)
  11:00 – 11:30 Croatia (Prof. Vlado Dadich)
  11:00 – 12:00 Montenegro (Dr. Anna Castelli)

- 12:00 – 14:00 Luncheon

- 14:00 – 16:00 Country Report 2 (Moderator: Dr. Alexander Postnov)
  14:00 – 14:30 Bulgaria (Dr. Atanas Palazov)
  14:30 – 15:00 Romania (Dr. Viorel Malciu)
  15:00 – 15:30 Ukraine (Dr. Gennady Korotaev)
  15:30 – 16:00 Czech Republic (Dr. Bohumir Jansky)

- 16:00 – 16:30 Coffee/Tea Break

- 16:30 – 17:30 Country Report 3 (Moderator: Prof. Vlado Dadich)
  16:30 – 17:00 Poland (Mr. Marcin Wichorowski)
  17:00 – 17:30 Russian Federation (Dr. Alexander Postnov)
  17:30 – 18:00 Estonia (Dr. Tarmo Kõuts)

- 18:00 – 18:30 Discussion and Conclusion (Moderator: Dr. Atanas Palazov)

- 18:30 – 18:45 Perspectives from Republic of Korea (Deputy-Director Gi Dong Yeo)

- 19:30 – 21:00 Dinner
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- 09:30 – 11:00 Discussion 1 (Moderator: Dr. David Pugh, Former IOC Chair)
  Objective 1a: Current status of ocean observation system
- 11:00 – 12:00 Discussion 2 (Moderator: Capt. Javier Valladares, Former IOC Chair)
  Objective 1b: Benefits from IOC’s operational oceanography
- 12:00 – 14:00 Luncheon
- 14:00 – 15:30 Discussion 3 (Moderator: Prof. Su Jilan, Former IOC Chair)
  Objective 1c: Network for operational oceanography
- 15:30– 16:00 Coffee/Tea Break
- 16:00 – 18:00 Discussion and Conclusion (Moderator: Mr. Geoffrey Holland, Former IOC Chair)
ANNEX II - LIST OF PARTICIPANTS

KOREA, REPUBLIC OF

Dr Sang-Kyung BYUN
Chair of IOC
Principal Researcher
Korea Ocean Research & Development Institute
Ansang P.O. Box 29 425-600
Seoul
Korea Rep
Tel: 82-31-400-6127
Fax: 82-31-408-5829
Email: skbyun@kordi.re.kr

Dr Hyun-Yeong Kim
Director of IOC Chairman office
Korea Ocean Research & Development Institute
Ansang P.O. Box 29 425-600
Seoul
Korea Rep
Tel: 82-31-400-6412
Fax: 82-31-408-5829
Email: hykim@kordi.re.kr

Dr Gi Dong Yeo/ Korea
Deputy Director of Marine Territory and Development Division
Ministry of Land, Transport and Maritime Affairs (MLTM)
88 Gwanmun-ro
Gwacheon-city - Gyeonggi-do
Korea Rep
Tel: 82-31-400-6412
Fax: 82-31-408-5829
Email: ygd1215@mltm.go.kr

CANADA

Dr Geoff HOLLAND
1267 Gabriola Drive
Parksville
V9P 2T5 British Columbia
Canada
Tel: +250 954-1343
Fax: +250 954-1343
Email: anneandgeoff@telus.net

CHINA

Professor Jilan SU
State Key Lab of Satellite Ocean Environment Dynamics
Second Institute of Oceanography, SOA
P.O.Box 1207
36 Bao-Chu North Road
310012 Hangzhou
Zhejiang
China
Email: sjl@sio.org.cn

UNITED KINGDOM

Dr David PUGH
Visiting Professor
Independent Consultant
United Kingdom
Tel: 44 1244346454
Email: d.pugh@mac.com

ARGENTINA

Capitán Javier VALLADARES
Centro Argentino de Datos Oceanográficos, Servicio de Hidrografía Naval
Av. Córdoba 831, 4° Piso

(c1054AAH) Buenos Aires
Argentina
Email: javiervalladares09@gmail.com

OBSERVERS

Dr Atanas PALAZOV
Vice-Chair of IOC
Director
Institute of Oceanology, Bulgarian Academy of Sciences, Varna
P.O.Box 152, Varna 9000
Bulgaria
Tel: +359 52 370 484
IOC SECRETARIAT
Dr Wendy WATSON-WRIGHT
Executive Secretary of IOC, ADG of UNESCO for IOC
1 rue Miollis
75732 Paris cedex 15
France
Tel: +33 1 45 68 39 83
Fax: +33 1 45 68 58 10
Email: W.Watson-Wright@unesco.org

Dr Thomas Gross
Programme Specialist
Intergovernmental Oceanographic Commission of UNESCO
1 rue Miollis
75732 Paris cedex 15
France
Tel: +33 1 45 68 39 923
Fax: +33 1 45 68 58 12
Email: t.gross@unesco.org
<table>
<thead>
<tr>
<th>REPRESENTATIVE</th>
<th>COUNTRY</th>
<th>E-MAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Klodian Zaimi</td>
<td>Albania</td>
<td><a href="mailto:klodiz2005@yahoo.com">klodiz2005@yahoo.com</a></td>
</tr>
<tr>
<td>Mr. Rauf Amanov</td>
<td>Azerbaijan</td>
<td><a href="mailto:rauf.amanov@yahoo.com">rauf.amanov@yahoo.com</a></td>
</tr>
<tr>
<td>Dr. Atanas Palazov</td>
<td>Bulgaria</td>
<td><a href="mailto:palazov@io-bas.bg">palazov@io-bas.bg</a></td>
</tr>
<tr>
<td>Prof. Vlado Dadich</td>
<td>Croatia</td>
<td><a href="mailto:dadic@izor.hr">dadic@izor.hr</a></td>
</tr>
<tr>
<td>Dr. Anna Castelli</td>
<td>Montenegro</td>
<td><a href="mailto:ana.bulatovic24@gmail.com">ana.bulatovic24@gmail.com</a></td>
</tr>
<tr>
<td>Mr. Marcin Wichorowski</td>
<td>Poland</td>
<td><a href="mailto:wichor@iopan.gda.pl">wichor@iopan.gda.pl</a></td>
</tr>
<tr>
<td>Dr. Viorel Malciu</td>
<td>Romania</td>
<td><a href="mailto:incdmct@datanet.ro">incdmct@datanet.ro</a>, <a href="mailto:viorelmalciu@yahoo.com">viorelmalciu@yahoo.com</a></td>
</tr>
<tr>
<td>Dr. Alexander Postnov</td>
<td>Russian Federation</td>
<td><a href="mailto:a_postnov@mail.ru">a_postnov@mail.ru</a></td>
</tr>
<tr>
<td>Dr. Gennady KorotaevUkraine</td>
<td></td>
<td><a href="mailto:korotaevgren@mail.ru">korotaevgren@mail.ru</a></td>
</tr>
<tr>
<td>Dr. Bohumir Jansky</td>
<td>Czech Rep.</td>
<td><a href="mailto:jansky@natur.cuni.cz">jansky@natur.cuni.cz</a>, <a href="mailto:jansky.b@seznam.cz">jansky.b@seznam.cz</a></td>
</tr>
<tr>
<td>Tarmo Kõuts</td>
<td>Estonia</td>
<td><a href="mailto:tarmo.kouts@sea.ee">tarmo.kouts@sea.ee</a></td>
</tr>
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