

ANNEX IV

OPERATING PRINCIPLES OF THE DATA BUOY CO-OPERATION PANEL (DBCP) (as adopted by DBCP-29)

1. INTRODUCTION

- 1.1 The Data Buoy Co-operation Panel (DBCP) is a subsidiary body of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM). The World Meteorological Organization (WMO) and Intergovernmental Oceanographic Commission of UNESCO (IOC) jointly sponsor the JCOMM, in order to undertake international / intergovernmental coordination of marine observational networks for which both organizations are mandated.
- 1.2 The DBCP was established in 1985 by WMO Resolution 10 (EC-XXXVII) and IOC Resolution EC-XIX.7. In 1993, the governing bodies of IOC and WMO agreed to change the name of the Panel to the Data Buoy Co-operation Panel (DBCP) with extended terms of reference, so that the Panel may provide international coordination required for both drifters and moored buoy programmes, which support major WMO and IOC programmes (IOC Resolution XVII-6 and WMO Resolution 9 (EC-XLV)). As the JCOMM was established in 1999, the Panel became a part of the JCOMM Observations Programme Area (Resolution 4 (EC-LII)). The Terms of Reference of the DBCP are reproduced in [Appendix I](#).
- 1.3 The DBCP addresses the requirements and needs for real-time or archival data from buoys, both drifting and moored, coordinates buoy deployments worldwide, maintenance and collection of data from instrumented oceanographic and meteorological drifting buoys and moored buoys on the high seas. The Panel provides a forum for the exchange of technical and related information on buoy technology, communications systems and the applications of buoy data, to both operations and research.
- 1.4 The Panel coordinates its activities with related regional and global programmes of WMO and IOC, such as the World Weather Watch (WWW), the Global Ocean Observing Systems (GOOS) and the ICSU / WMO / IOC / UNEP Global Climate Observing System (GCOS) and the ICSU / WMO / IOC World Climate Research Programme (WCRP), and serve their needs for the data buoy technology and the implementation of data buoy networks.
- 1.5 The Panel adheres to a data policy approved by itself at DBCP Sessions. The DBCP Data Policy is reproduced in [Appendix IX](#).

2. PANEL MEMBERS AND PARTICIPANTS

- 2.1 The Terms of Reference for the DBCP are decided by the WMO and IOC Executive Bodies through proposition by JCOMM; the Panel is reporting to JCOMM and serves the needs of WMO and IOC Programmes. In this context, WMO and IOC Members / MemberStates designate National Focal Points for buoy programmes who become full Panel members. This is done by means of a letter from the Permanent Representative of a country with WMO to the WMO Secretary-General or by the IOC Action Addressee to the Executive Secretary of IOC. The lists of National Focal Points for buoy programmes are maintained by the WMO and IOC Secretariats, and published on the JCOMM website.
- 2.2 Participants in the DBCP activities can be operational agencies, meteorological and oceanographic institutes, research agencies, data centres, governmental and non-governmental organizations, and commercial services interested in the global oceans who

actively contribute to the aims of the Panel. Individuals with an interest in data buoy activities are also welcome to attend as observers.

2.3 Following the outcome of last DBCP Session, a number of ongoing tasks and activities have been identified by the Panel for its members to undertake. They are to:

1. submit their national reports to the Secretariat before the end of the year (input submitted before 30 November to be published in the Panel's Annual Report;
2. take the recommendations from the IOC XXVII Assembly and the WMO 16th Congress and WMO EC-65 into account when developing their activities in support of the Panel;
3. address user requirements and particular observing systems deficiencies as expressed in the JCOMM Statement of Guidance for Ocean Applications;
4. review the DBCP Implementation Strategy document at http://www.jcommops.org/doc/DBCP/DBCP_Impl_Strategy.pdf and to forward any comments to the Chairperson by the end of November each year;
5. continue their budgetary contribution to the Trust Fund in Timely manner;
6. comply with the WMO Quality Management Framework (QMF) and quality management principles;
7. make use of the barometer drifter upgrade scheme (see <http://www.jcommops.org/dbcp/platforms/barometer.html>) by purchasing barometers for GDP-funded SVP drifters and negotiating their deployment positions with AOML;
8. provide GDP/AOML with manufacture dates for all buoys built within the last 5 years, as well as with barometer/SLP data;
9. provide instrument/platform metadata regarding the buoys they deploy to JCOMMOPS, using the recommended mechanisms (paying particular attention to SST and SSS data); to comply with buoy metadata collection scheme;
10. notify of all deployments of Iridium Drifters via the dedicated mailing list (iridium-pp@jcommops.org) and eventually via a notification web page on the JCOMMOPS web;
11. provide information on deployment opportunities to JCOMMOPS (preferably through a national website similar to AOML, NDBC and Canada) for all buoys, as well as to continue e-mail notifications as necessary – annual reports, action group annual planning, ship schedules, national plans, national contact points etc. Panel members also subscribe on the list and systematically post their deployment opportunities on the ships@jcommops.org mailing list as well;
12. provide info/materials for DBCP/JCOMMOPS websites (news, brochure);
13. actively communicate with national coordination for GEO to fully inform on the Panel's activities and capabilities in this;
14. start systems for record keeping for instrument calibration, replacement and validation that conform to ISO recommended specifications;
15. review best practices prior to drifter purchase for safety, and GTS data processing purposes;
16. follow the best practices and standards eventually proposed under WIGOS, and in

particular, to provide the buoy platform / instrument metadata to JCOMMOPS, and the ODAS metadata service as appropriate;

17. use the WMO-IOC Regional Marine Instrument Centres (RMIC) facilities as appropriate, and participate at future workshops;
 18. encourage other centres to act as Principal Meteorological and Oceanographic Centre Responsible for Quality Control of Buoy Data (PMOC) and existing centres to invest more resources in the implementation of DBCP Quality Control (QC) guidelines;
 19. contribute to feeding the JCOMM database extreme wave events when such events are observed by data buoys and are recorded by Panel Members.
- 2.4 Similarly, the buoy and equipment manufacturers have been invited to participate on an ongoing basis to DBCP activities as following. They:
1. collaborate with buoy operators and JCOMMOPS and submit through JCOMMOPS the instrument/platform metadata, including description of buoy models, using the recommended mechanisms (paying particular attention to SST and SSS data); to comply with buoy metadata collection scheme. JCOMMOPS to negotiate metadata formats on ad hoc basis;
 2. provide Service Argos with list of most used buoy models and formats they operate;
 3. investigate participating in the Association of Hydro-Meteorological Equipment Industry (HMEI - <http://www.hydrometeoindustry.org/>) as a way to be represented at JCOMM meetings;
 4. enhance buoy safety through improved design (refer recommendations) and keep the Panel informed about related changes.
- 2.5 The ongoing actions for Panel members and DBCP activity participants are reflected in [Appendix XI](#).

3. KEY DBCP PERSONNEL, THE EXECUTIVE BOARD AND TECHNICAL CO-ORDINATOR

- 3.1 The Panel elects a Chairperson and Vice-chairpersons at the end of its regular sessions with geographical representation from: (i) Asia; (ii) Europe; (iii) North America; and (iv) the Southern Hemisphere. Elections will be decided by a simple majority if a quorum of Panel members is present. A quorum will consist of six Panel members. If a quorum is not present at the regular meeting, elections will be by unanimous vote.
- 3.2 The elected Chairperson leads the DBCP during the next intersessional period within principles and financial limits defined by the Panel, and Chairpersons the next Panel Session. The Chairperson is supported by the WMO-IOC Joint Secretariat and the DBCP Executive Board, which is responsible for the day-to-day management of the Programme within the guidelines set at the regular meeting of Panel members. The Terms of Reference of the Executive Board are provided in [Appendix IV](#) to this document.
- 3.3 The Panel recruits a full-time Technical Co-ordinator whose position is fully financed by voluntary contributions from Panel members or other contributors. The Technical Co-ordinator acts as the focal point for the Programme and carries out the directives of the Panel, as appropriate, during the intersessional period. Upon the Panel's decision, the Technical Co-ordinator works for other related programmes to assist their implementation. Tasks and duties of the Technical Co-ordinator are detailed under section 11 of this document, and the Terms of Reference of the Technical Co-ordinator are given in [Appendix](#)

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- 3.4 By the decision at the 24th session, the Technical Co-ordinator works a third of his/her time on the OceanSITES Project Office support.
- 3.5 The Technical Co-ordinator would be requested to inform the Chairperson and the Secretariat of his / her wish, or otherwise, to continue to work as Technical Co-ordinator of the Panel for the period 1 June "Y+1" to 31 May "Y+2". Should that information be a wish to continue, the Panel in turn would agree to retain him/her as Technical Co-ordinator, subject to the availability of funds, and subject to his / her specific contract limitations with his / her relay employer.
- 3.6 In case the Technical Co-ordinator wished to quit the position, he/she would be required to inform the Panel as soon as possible, and in any case preferably six months in advance, to assist in the recruitment and training of his / her successor, in order to ensure as full continuity as possible in the work of the Panel's Technical Co-ordinator.
- 3.7 The Chair within one month after each session is reviewing programme, prioritising tasks, establishing working priorities and discussing execution details of the technical coordinator as agreed at the previous Session.
- 3.8 The Technical Coordinator shall then undertake the tasks as proposed by the Chair and, report at the next Panel Session.
- 3.9 The Chair will also finalise updates to the DBCP implementation strategy including reference to the CapacityBuilding efforts being undertaken by the Panel and seeking feedback from Panel members.
- 3.10 The Chair will maintain close links with members of the Ship Observations Team (SOT) so that support on deployment opportunities can be obtained from the Ship of Opportunity Programme (SOOP) Implementation Panel (SOOIP) and the Voluntary Observing Ship (VOS) Panel (VOSP) of the SOT.
- 3.11 The secretariat is maintaining a list of national contact points for the DBCP and within other relevant bodies with potential for involvement in DBCP activities.
- 3.12 The current contact details for key DBCP personnel are listed in [Appendix X](#).

4. TASK TEAMS

- 4.1 Task Teams can be established to work proactively on key issues identified by the Panel, in order to ensure that the Workplan is duly implemented during the intersessional period. The Chairperson(s) of (a) Task Team(s) is / are appointed by the Panel. The Team(s) will report to the Panel on their activities at its regular sessions. The Chairs and Co-Chairs of the Task Teams should not be in a situation of conflict of interest. The Terms of Reference and Membership of the current Task Teams are provided in [Appendix V](#).
- 4.2 From time to time, the Panel may decide to establish and fund Pilot Projects of limited duration to evaluate new technologies or procedures that might enhance its capabilities.

5. ACTION GROUPS

- 5.1 The implementation of buoy deployments is coordinated at the regional level through global, regional, or specialized Action Groups. The definition of an Action Group is given in [Appendix III](#).

6. IMPLEMENTATION STRATEGY

- 6.1 The Panel defines its Implementation Strategy and review it at its regular meetings. The Implementation Strategy is defined in such a way that it is consistent with the WMO and IOC Strategic plans.

7. WORKPLAN

- 7.1 The Panel established and reviews the overall Workplan for itself and the Technical Co-ordinator at its regular sessions, for the coming intersessional period.
- 7.2 The DBCP Chairperson and the Executive Board may update the Technical Co-ordinator's Workplan during the intersessional period, as appropriate, and report on such changes at the next Panel Session.
- 7.3 Ongoing actions and recommendations from the Panel, as agreed upon at previous DBCP Session are listed in [Appendix XI](#).

8. FUNDING

- 8.1 The DBCP is self-sustaining, by contributions of equipment, services (such as communications, deployment, archiving, and scientific or technical advice), and coordination. The contributions include monetary contribution to secure employment and activities of the Technical Co-ordinator, through IOC and WMO.
- 8.2 Monetary contributions - on a voluntary basis - are made by Panel members to the DBCP Trust Fund at WMO and/or IOC, as appropriate. The Terms of Reference of the DBCP Trust Fund at WMO are given in [Appendix VII](#). The Trust Fund at IOC follows the Financial Regulations of the IOC Special Account that are reproduced in [Appendix VIII](#) (Decisions in 157th Executive Board of UNESCO). The IOC Regulations follow the General rules and regulations of UNESCO on Trust Funds, which correspond to those of WMO, in principle.
- 8.3 The Panel can establish budget lines to implement the DBCP activities, based on its agreed Workplan. The current DBCP budget line items are provided in [Appendix VI](#).
- 8.4 Through the present arrangement, the Technical Co-ordinator is recruited by IOC, and the employment and activities of the Technical Co-ordinator depend on the DBCP Trust Fund in IOC and in WMO - the salary and logistical support are paid within the DBCP Trust Fund in IOC, whereas the expenses incurred for the TC's activities are executed within the DBCP Trust Fund in WMO.
- 8.5 Timely contribution from Panel members is critical to secure the TC employment contract, considering the yearly cycle of the administration within WMO and IOC. Panel members are encouraged to ensure that their contributions are made in good time.
- 8.6 The logistics for the DBCP Technical Co-ordinator are currently provided by the CLS (France), of which the terms and cost are defined by a MOU between the IOC and CLS on the logistic support for JCOMMOPS – where the Technical Co-ordinator reports organizationally . The annual cost is paid to the CLS from the DBCP Trust Fund in IOC. All actual expenses incurred by the host for the logistic support of JCOMMOPS, in excess of the amount of the contract signed with IOC to that effect, is considered as a contribution by the host to the work of the Panel.
- 8.7 The WMO and IOC Secretariats provide finalized financial statements of account on an annual basis to the Panel in early Year+1 as soon as the organizations' fiscal year accounting is finalized. The Panel also reviews its financial situation at regular Panel

sessions, with interim statements of the budget provided by the WMO and IOC Secretariats.

- 8.8 The WMO Secretariat shall facilitate the transfer of sufficient funds from the DBCP Trust Fund at the WMO to the DBCP Trust Fund at the IOC if needed to pay all related expenses from the IOC.
- 8.9 The Panel may appoint a Panel Member as finance advisor to act on its behalf of and to work with the WMO-IOC Joint Secretariat to produce a consistent, comprehensive and comprehensible set of annualized accounting reports to be presented to the Panel and its Executive Board at their regular meetings (see [Appendix X](#) for currently appointed person).
- 8.10 The joint Secretariats and the DBCP financial advisor will work together to prepare and distribute the final statement of the DBCP/SOT Trust Fund for the previous year to the Panel members as soon as the IOC and WMO Final Statement of Accounts for that year are finalized. [On the basis of the IOC and WMO Final Statements and the advice of the DBCP Executive Board, the financial advisor will also prepare a revised budget estimate for the following 2 years.](#) The IOC and WMO Final Statements and the final statement for the DBCP/SOT Trust Fund are then included in the DBCP Annual report.
- 8.11 The DBCP financial advisor will request IOC and WMO to provide an Interim Statement of Accounts over the period 1 January-31 July for the preparation by the Secretariat and the Financial Advisor of an interim statement of the DBCP/SOT Trust Fund, to be presented to the DBCP members at the following DBCP Session.

9. ORGANIZATION AND CONDUCT OF THE DBCP SESSIONS

- 9.1 In odd years, the regular session of the DBCP will be held at either the WMO or IOC Headquarters, based on the agreement and decision by the Panel and the WMO-IOC Joint Secretariat, in order to lessen travel duties of the Secretariats and to provide opportunities for extended participation of other WMO or IOC officers in the session for wide range of information exchange and cooperation.
- 9.2 In even years, the regular session of the DBCP will be held at an external location, upon a suitable offer for hosting sessions. This is to advocate and support the Panel's activities in regional and national levels, and to encourage regional / national staff at all levels to actively participate in the work of the Panel, in particular through presentations to the Scientific and Technical Workshop and other networking opportunities.
- 9.3 The agenda and timetable of the regular session will be drawn up by the Panel Chairperson, in consultation with the Executive Board, other Panel members and the Joint WMO-IOC Secretariat. In principle, the Panel discussion at the regular session is to be completed within 3 days. In order to ensure efficiency of the session as well as the comprehensive review and exchange of information, some parallel or side sessions and focused discussion may be introduced, as required. The Panel will strive to reach decisions by consensus only; no voting should in principle take place. All decisions and relevant discussion will be recorded in the session report, which will be approved by the Panel before it disperses.

10. INFORMATION EXCHANGE AND REPORTING

- 10.1 The Technical Co-ordinator maintains a website on behalf of the Panel. The URL for the website is: <http://dbcp.jcommops.org/>.
- 10.2 The Technical Co-ordinator also maintains mailing lists for the Panel. The names of the mailing lists, their objectives, and membership are detailed on the DBCP website.
- 10.3 The Panel may produce and update the DBCP brochure. The contents, means of publication

and distribution, and funding mechanisms for related activities are to be agreed by the Panel at its regular sessions.

- 10.4 The Panel members who represent DBCP at various events are to use a standard Powerpoint presentation template. The template is developed and maintained by the Technical Co-ordinator, and available from the DBCP website.
- 10.5 The Technical Co-ordinator also maintains a document describing the Panel's achievements since its establishment.
- 10.6 The Panel maintains series of DBCP Technical Publications that are issued by the WMO Secretariat. These publications can be with the form of paper copy, CD-ROM, DVD-ROM, or be web-based only. The list of current DBCP Publications is available at the DBCP website. The actual costs of editing, publishing, and distributing the DBCP Publications are being recuperated from the DBCP Trust Fund.
- 10.7 At its regular sessions, the Panel receives reports on activities during the intersessional period, from:
 - the Executive Board;
 - the Technical Co-ordinator;
 - the Action Groups (annual basis), and
 - the Member Countries (annual).
- 10.8 The annual reports by Action Groups and the Member Countries are also to be included in the DBCP Annual Report. Members who had not submitted written National Reports for the year YYYY at the regular Panel Sessions shall submit their input to the Secretariat before the end of the year YYYY. The Annual Report shall be provided by the Secretariat during the year following the year of the report.
- 10.9 The Panel's regular session report shall be provided by the secretariat within 3 months after the last day of the session and will be consolidated into a single mailing, structured as follows:
 - a. A 2-page covering letter containing important information for decision makers, including:
 - Executive summary of the Panel's achievements, activities and aspirations for the current year;
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 - b. A slimmed-down paper hard copy report containing information that needs to be referenced (and possibly annotated) rather frequently and quickly. This would essentially replace the existing session final report. The material in this report would include the following:
 - Executive summary of the Panel's achievements, activities and aspirations for the current year;
 - The final report of the regular session (i.e., the usual final report without the annexes);
 - Agenda;
 - List of participants;
 - Operating Principles of the Panel (this document, as updated and agreed at the annual session);
 - Summaries of the Action Group reports;
 - Executive Board report;
 - Finalised annual financial accounts, including the table of national contributions and budget for the following year;

- If necessary, selected buoy and GTS statistics (showing trends in numbers, quality, delays, plus a few maps);
 - List of Actions and Workplan, and;
 - List of Acronyms.
- c. A CD-ROM containing the entire above, plus a complete set of meetings, and all other annexes generally attached to the two reports includes:
- A full report by the Technical Co-ordinator;
 - National reports;
 - Full reports by the Action Groups;
 - Data Management Centre reports;
 - The current status and development of satellite communications (CLS/Argos, Iridium, etc);
 - GTS report;
 - National Focal Point list;
 - Contracts;
 - Other financial and administrative papers; and
 - Technical Document list, including available electronic versions.
- d. All of the above information will be available on-line via the JCOMMOPS website.

10.10 During the intersessional period, the Technical Co-ordinator provides for synthetic quarterly reports on his/her activities and the status of his/her Workplan's implementation to the DBCP Executive Board.

10.11 The Technical Co-ordinator produces monthly maps and statistical graphics on a monthly basis regarding the status of buoy programmes. This information is posted on the DBCP website and issued through the appropriate mailing lists.

10.12 Written reports to the Panel session will adhere to a format that will make clear to the Panel, by means of an Executive Summary, those issues that require discussion and decision. Similarly, presentations to the session will presume that written reports have been read by the Panel, and will concentrate solely on those issues, which require an action or decision by the Panel. Report presenters will submit a summary of their report and the ensuing discussion and actions to the secretariat for inclusion in the draft final report of the session.

10.13 The National Focal Point shall annually check the DBCP list of National Focal Points for logistical facilities and report discrepancies, changes, or additions to the WMO Secretariat.

11. ROUTINE TASKS OF THE TECHNICAL CO-ORDINATOR

The following routine tasks of the Technical Co-ordinator (TC) comply with his/her Terms of Reference ([Appendix II](#)).

11.1 The Technical Co-ordinator acts as a clearing house for information on all aspects of buoy data use; he/she maintains DBCP and JCOMMOPS websites as appropriate.

11.2 The Technical Co-ordinator monitors the status of the global drifting and moored buoy networks in terms of: (i) spatial density; (ii) accuracy of the measurements; (iii) real-time data distribution and data timeliness; and (iv) buoy lifetime. The TC identifies gaps in the system, and makes recommendations to the Panel as appropriate. He/she also regularly provides information on instrument performances to the WMO Database as part of the CBS Rolling Review of Requirements (RRR).

11.3 Through direct contacts with programme managers, Principal Investigators, and buoy

operators, the Technical Co-ordinator advertises the DBCP Programme, encourage use of buoy data, and active participation of new participants. The TC identifies sources of buoy data not currently reported on the GTS and determines thereason for non-availability, (particularly for the Arctic Buoys IABP).The TC regularly contacts buoy programme managers of existing and new programmes in order to: (i) promote data exchange and GTS distribution of the data in real-time, (ii) invite them, and possibly convince them, if useful, to authorise GTS distribution of their buoy data; (iii) offer technical assistance for that purpose if needed; (iv) collect information on buoy programmes, and the deployed buoys, including metadata; and (v) collect information in buoy deployment opportunities for use by other buoy operators. Programme Managers may also directly contact the Technical Co-ordinator for receiving assistance with regard to the GTS distribution of their buoy data.

- 11.4 The Technical Co-ordinator provides information and assists as appropriate buoy data users for accessing data and platform/instrument metadata.
- 11.5 The Technical Co-ordinator also participates actively in buoy quality monitoring as defined in the DBCP Quality Control Guidelines (details on the DBCP website¹). In particular, The TC monitors the dedicated mailing list, and information posted on the dedicated web page, reviews the buoy monitoring statistics, and provides feedback to buoy operators regarding the quality of their buoy data as appropriate and recommends action for those buoys reporting erroneous data. He/she assists in the resolution of specific technical problems regarding the GTS distribution of the data as appropriate (obtaining WMO numbers, looking at technical files, calibration curves, looking at data losses, etc.).
- 11.6 The Technical Co-ordinator works closely with centres responsible for the collection, location, data processing, and real-time GTS distribution of the buoy data for: (i) monitoring the system and identifying possible problems; (ii) making sure these problems are corrected; and (iii) providing technical assistance as appropriate.
- 11.7 Upon request, the Technical Co-ordinators also provides the WMO and IOC Secretariats with status maps, statistical information and graphs, and documentation.
- 11.8 The Technical Co-ordinator maintains the DBCP list of buoy manufacturers and provides it on the DBCP website.
- 11.9 The Technical Co-ordinator liaises with the DBCP Action Group coordinators and prepares reports on DBCP activities for the regular meetings of the Action Groups. The TC represents the Panel or the Action Groups at relevant technical meetings, both inside and outside WMO and IOC, as required.
- 11.10The Technical Co-ordinator assists the Chairperson and the Secretariats in the preparation of the DBCP Session, including the preparation of specific technical preparatory documents and presentations.
- 11.11The Technical Co-ordinator undertakes the tasks as proposed by the Chair during the intersessional period as a matter of priority as prioritised and reports at the next Panel Session.
- 11.12The Technical Co-ordinator supports, as required, existing DBCP action groups, and provides assistance on request to other internationally coordinated buoy programme developments.
- 11.13The Technical Co-ordinator coordinates with the Indian Ocean Panel (IOP) implementing strategy for the Indian Ocean Observing System as far as data buoys are concerned.

1 : <http://www.jcommops.org/dbcp/2qgd.html>

- 11.14 The Technical Co-ordinator produces on a yearly basis prior to Panel Session, a table of national commitments in the Southern Ocean, and seeks additional commitments for barometer upgrades, and deployment opportunities in the Southern Ocean to achieve a level of 300 buoys south of 40S.
- 11.15 The Technical Co-ordinator maintains a catalogue of existing ongoing ocean data buoy programmes, and provides information to Panel members or on its website, about where inventories of buoys are held, to aid in deployment planning.
- 11.16 The Technical Co-ordinator implements the JCOMMOPS work-plan – particularly with respect to Deployment opportunities.
- 11.17 The Technical Co-ordinator maintains a summary of requirements for buoy data to meet expressed needs of the international meteorological and oceanographic communities.
- 11.18 The Technical Co-ordinator coordinates the operations of DBCP Quality Control guidelines.
- 11.19 The Technical Co-ordinator to collect statistics and information on actual vandalism occurrences, and maintain relevant information on the DBCP website.

12. REVIEW OF THE MANAGEMENT STRUCTURE AND OPERATING PRINCIPLES

- 12.1 The Panel reviews and updates its management structure, and operating principles at its regular sessions. This includes, in particular, the appropriate appendices of the DBCP operating principles, i.e., definition of an Action Group, Terms of Reference of the Executive Board, budget lines, and Terms of Reference of the DBCP Trust Fund at WMO and IOC.

APPENDIX I

Terms of Reference of the Data Buoy Co-operation Panel

(as approved by the JCOMM Co-Presidents on behalf of the Commission, 24 July 2012, per Resolution 3 (JCOMM-4))

The Data Buoy Co-operation Panel shall:

Consider the expressed needs of the international meteorological and oceanographic communities for real-time or archival data from ocean-data buoys on the high seas, as well as rigs and platforms reporting surface marine meteorological and oceanographic data and request action from its members, the Technical Co-ordinator or Action Groups to meet these needs;

1. Co-ordinate activity on existing programmes so as to optimize the provision and timely receipt of good quality data and metadata from them;
2. Propose, organize and implement, through the co-ordination of national contributions, the expansion of existing programmes or the creation of new ones to supply such data;
3. Support and organize as appropriate such Action Groups as may be necessary to implement the deployment of data gathering buoys to meet the expressed needs of oceanographic and meteorological programmes such as WWW, WCRP, GOOS, GCOS, GFCS, WIS, and WIGOS;
4. Encourage the initiation of national contributions to data buoy programmes from countries which do not make them;
5. Promote data exchange, including the insertion of all available and relevant platform data and metadata into the Global Telecommunication System, and the submission of data and metadata to the appropriate archives;
6. Promote the exchange of information on data buoy activities and encourage the development and transfer of appropriate technology;
7. Ensure that other bodies actively involved in buoy use are informed of the workings of the Panel and encourage, as appropriate, their participation in the Panel deliberations;
8. Make and regularly review arrangements to secure the services of a Technical Co-ordinator with the terms of reference given in Part B;
9. Report formally to the Joint WMO / IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), and participate in and contribute to an integrated global operational ocean observing system, implemented and co-ordinated through JCOMM; and
10. Submit annually to the Executive Councils of the WMO and the IOC, to JCOMM and to other appropriate bodies of WMO and IOC, a report that shall include summaries of the existing and planned buoy deployments and data flow.

APPENDIX II

Terms of Reference for the Technical Co-ordinator of the DBCP

(as approved by the JCOMM Co-Presidents on behalf of the Commission, 24 July 2012, per Resolution 3 (JCOMM-4))

The Technical Co-ordinator of the Data Buoy Co-operation Panel shall:

1. Under the direction of the Data Buoy Co-operation Panel take all possible steps within the competence of the Panel to assist in the successful achievement of its aims;
2. Assist in the development, implementation, and management of quality control procedures for relevant observing platforms;
3. Assist in setting up suitable arrangements for notifying the appropriate user communities of changes in the functional status of relevant operational observing platforms;
4. Assist in the standardization of relevant observing platform formats, sensor accuracy, etc.;
5. Assist when requested with the development of cooperative arrangements for buoy deployment;
6. Assist in the clarification and resolution of issues between Service Argos and buoy relevant observing platforms operators;
7. Assist in promoting the insertion of all available and relevant observing platform data into the Global Telecommunications System;
8. Supply information about buoy developments and applications to the WMO and IOC Secretariats and assist the Data Buoy Co-operation Panel to promote an international dialogue between oceanographers and meteorologists;
9. Coordinate and monitor the flow of relevant observing platform data into appropriate permanent archives.

APPENDIX III

Definition of a DBCP Action Group *(as approved at DBCP-X)*

1. A DBCP Action Group is an independent self-funded body that maintains, as a significant element of its responsibilities, an observational buoy programme providing meteorological and oceanographic data for real-time and / or research purposes in support of the World Weather Watch (WWW), the World Climate Research Programme (WCRP), the Global Climate Observing System (GCOS), and the Global Ocean Observing System (GOOS), and other relevant WMO and IOC programmes.
 2. Action Groups of the DBCP shall support the aims and objectives of the DBCP - as set out in the Terms of Reference of the DBCP - particularly with respect to:
 - Provision of good quality and timely data to users;
 - Insertion of real-time (or near real-time) data into the GTS;
 - Exchange of information on data buoy activities and development and transfer of appropriate technology.
 3. An Action Group may be regional or national in nature provided that its programme benefits a regional or international community.
 4. To be adopted as an Action Group of the DBCP, the Terms of Reference or operating principles of the body or programme shall be submitted to a session of the DBCP for formal approval. Once approved these shall be lodged with the Secretariats of WMO and IOC.
 5. The DBCP shall support the activities of its adopted action groups especially through the assistance of its key personnel (technical co-ordinator and the Secretariats of WMO and IOC) as far as resources allow.
 6. Action Groups of the DBCP shall submit annual reports of their activities to the Chairperson of the DBCP.
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APPENDIX IV

Terms of Reference of the DBCP Executive Board

(as approved at DBCP-28)

The DBCP Executive Board shall:

1. Seek guidance from the Panel at its regular sessions regarding specific issues to be addressed by the Executive Board and the Tasks Teams during the intersessional period;
2. Act promptly to deal with any administrative, financial and planning issues and opportunities that might arise, within the guidelines established and reviewed regularly by the Panel;
3. Authorise the Chairperson to commit any expenditure necessary for the resolution of these issues and the promotion of the Panel's aims and objectives, up to the maximum amounts that might be agreed in advance by the Panel at its regular session;
4. Review the DBCP Implementation Strategy to ensure that it is kept up-to-date and complies with ongoing activities and users' requirements;
5. Considering the dynamic nature of the DBCP Operating Principles, in consultation with Panel members, assist the Chairperson in proposing updates to these principles on an annual basis;
6. Assist the Chairperson with regard to continuing the arrangements (including finance) to secure the services of a technical coordinator;
7. Set working priorities for the Technical Co-ordinator according to the DBCP recommendations at its regular sessions, and provide further guidance during the DBCP intersessional period;
8. Assist the Chairperson, and liaise with the Financial Advisor for updating the interim financial report with the most accurate and current information by end of each year;
9. Confer primarily regularly by e-mail, and exploit opportunities afforded by attendance at other meetings (e.g., the JCOMM OCG meeting) for face-to-face meetings;
10. Conduct meetings annually, following an agenda drawn up by the DBCP Chairperson;
11. Consult with Panel members and the Chairpersons of the DBCP Task Teams during the intersessional period if required;
12. Report its activities to the DBCP at its regular Session, and throughout the intersessional period as appropriate.

Membership:

The following individuals are members of the DBCP Executive Board:

- DBCP Chairperson, or his / her appointed deputy (Executive Board Chairperson)
- DBCP Vice-chairpersons
- DBCP member (appointed by the Chairperson)²
- DBCP Technical Co-ordinator (*ex officio*)
- Representative of the IOC Secretariat (*ex officio*)³
- Representative of the WMO Secretariat (*ex officio*)⁴
- Representative of the Manufacturers (*ex officio*)⁵

Note 1: A quorum of the Board should consist of at least three members, and must include the Chairperson or his / her appointed deputy.

2 : Mr Sidney Thurston (USA) has been appointed by the current DBCP Chairperson, Mr Al Wallace to serve in the Executive Board

3 : Currently Mr David Meldrum

4 : Currently Mr Etienne Charpentier

5 : Nominated on rotating basis by the Panel. Currently Mr Andy Sybrandy (Pacific Gyre, USA)

Note 2: Any Panel Member may attend DBCP annual Executive Board meetings as an observer, subject to the availability of adequate meeting room space. If required, the Chairperson of the DBCP Executive Board will make a final decision as to which observers may attend, and may also invite other persons to attend at his / her discretion.

Note 3: The term for the members of the Executive Board is for one year during the inter-sessional period. They shall be eligible for re-election in their respective capacities, but would serve in principle for no more than 4 terms.

APPENDIX V

TERMS OF REFERENCE OF THE DBCP TASK TEAMS

TERMS OF REFERENCE OF THE TASK TEAM ON DATA MANAGEMENT

(as adopted at DBCP-29)

The DBCP Task Team on Data Management shall:

1. Receive and review reports from the Data Management Centres specializing in buoy data, i.e. (i) the Meteo-France SOC/DB, and (ii) the ISDM, Canada RNODC/DB; reconcile any overlaps with emphasis on differences.
2. Take the lead on managing table driven coding requirements for data buoy observations, for all relevant applications, and submit them in a consolidated way to the DMPA Task Team on Table Driven Codes.
3. Address issues to do with real time distribution of data, including GTS issues, timeliness and methods to improve data/flows.
4. Address issues relating to delayed mode distribution and archiving of the data.
5. Seek input from data users on which instrumental metadata is most important and how it is best managed and coordinated.
6. Review all relevant JCOMM Publications, to make sure they are kept up to date and comply with Quality Management terminology.
7. Follow up with regard to the development of the WIGOS Pilot Project for JCOMM and make sure that the developments proposed by the Task Team are consistent with the WIGOS and WIS requirements.
8. Make recommendations to the DBCP Executive Board or the DBCP for addressing the issues above.
9. Report to the DBCP Executive Board and the DBCP at its annual Sessions.

Membership:

The membership is open to all Panel members. The Chairperson⁶, appointed by the Panel, has selected the following team members:

1. Mayra Pazos (TT Chairperson and GDP representative)
2. Yann Bernard (CLS Technical Manager)
3. Pierre Blouch (E-SURFMAR Service Manager, Eumetnet)
4. Bruce Bradshaw (RNODC representative)
5. Tony Chedrawy (Metocean)
6. Basanta Kumar Jena (Scientist, NIOT, India)
7. Jean Rolland (SOC representative)
8. Johan Stander (SA Weather Service)
9. Jon Turton (UK Met Office)
10. Jeff Wingenroth (Data Buoy Instrumentation)
11. Kelly Stroker (DBCP Technical Coordinator, *exofficio*)

⁶ The Chair and Co-Chair of the Task Team should not be in a situation of conflict of interest.

**TERMS OF REFERENCE OF THE TASK TEAM ON INSTRUMENT
BEST PRACTICES & DRIFTER TECHNOLOGY DEVELOPMENTS**
(as adopted at DBCP-28)

Note: The DBCP Evaluation Group is being merged into this Task Team.

The DBCP Task Team on Instrument Best Practices & Drifter Technology Developments shall:

On instrument best practices and quality management

1. When required by the DBCP, evaluate quality of buoy data produced by specific types of buoys, as well as functioning, efficiency;
2. Review existing practices for automatic real-time buoy data quality control, and delayed-mode buoy data quality control, and possibly suggest design changes for improvement (sensors, hardware, software, data formats) in liaison with the Task Team on technological developments;
3. Address instrument evaluation issues; suggest specific tests and / or evaluation deployments in different sea conditions to DBCP members in order to evaluate buoy quality as described in (1) above;
4. Share experience and results of evaluation with the DBCP and other interested parties;
5. Review and recommend Best Practices; work on specific technical issues in order to facilitate standardization and liaise with the other DBCP Task Teams as appropriate (e.g., DBCP recommended Argos message formats); and
6. Define specific criteria for evaluation purposes (e.g. ocean areas, definition of acceptable quality data, e.g., early failures, lifetimes, delays, accuracies, resolutions, etc.);
7. Comply with the requirements of the WMO Quality Management Framework (QMF) and quality management principles;

On drifter technology developments

8. Investigate developments in the fields of sensor technology, on-board processing, buoy hardware, hull design, energy generation and storage in order to better meet user requirements in terms of the range, reliability and quality of observed parameters and their cost-effectiveness;
9. Regularly review and document operational and upcoming satellite telemetry systems in terms of their ability to address user requirements such as bandwidth, timeliness, availability, geographical coverage, reliability, service quality, technical support, energy consumption and cost;, and make specific recommendations to the communications service providers on required / desired enhancements;
10. Review operational platform location systems, and whether they meet the user requirements;

11. Propose to the DBCP and its Executive Board any evaluation activities and pilot projects that it deems beneficial to data buoy operators;
12. Propose recommendations, both upon request and unsolicited, to the Argos Joint Tariff Agreement. Such recommendations shall be passed via the DBCP Executive Board or the DBCP as appropriate; and
13. Evaluate, test, and promote buoy designs that are resistant to vandalism;

General

14. Review all relevant JCOMM Publications to make sure they are kept up to date, comply with Quality Management terminology, and adhere to the WMO Quality Management Framework (QMF);
15. Provide the DBCP Executive Board and the DBCP, both upon request and unsolicited, with technical advice needed for addressing the issues above; and
16. Submit reports to the DBCP Executive Board and to the DBCP at its annual session that describe intersessional activities and propose a Workplan for the next intersessional period.

Membership:

The membership is open to all Panel members. The Chairperson⁷, appointed by the Panel, has selected the following team members:

Dr Luca Centurioni, SIO (TT co-Chairperson)	Dr Rick Lumpkin, AOML (TT co-Chairperson)
Mr Andy Sybrandy, Pacific Gyre	
Mr Pierre Blouch, Météo-France	Ms Emily Daniel, MetOcean
Mr Shaun Dolk, NOAA / AOML	
Mr Paul Freitag, NOAA / PMEL	Mr Frank Grooters, KNMI
Mr Michel Guigue, CLS	Mr Robert Jensen, USACE
Mr Chris Marshall, Environment Canada	Mr David Meldrum, SAMS
Mr Sergey Motyzhev, Marlin Yug	
Ms Mayra Pazos, NOAA / AOML	Mr Steve Piotrowicz, NOAA
Dr M Ravichandran, INCOIS	Dr. Tim Richardson, Liquid Robotics
Mr Jean Rolland, Météo-France	Mr Jon Turton, UK Met Office
Mr R. Venkatesan, NIOT, India	Mr Bill Woodward, CLS America
Mr David Murphy, Sea-Bird Electronics, USA	Technical Co-ordinator, DBCP

The Co-chairperson is representing the manufacturers and is selected on a rotating basis.

⁷ The Chair and Co-Chair of the Task Team should not be in a situation of conflict of interest. Manufacturer representative may be accepted as Vice-Chair of the Task Team provided that the major drifter manufacturers agree.

TERM OF REFERENCE OF THE TASK TEAM ON MOORED BUOYS
(as adopted at DBCP-24)

The DBCP Task Team on Moored Buoys shall:

1. Review and document operational moored buoy systems and their underlying requirements;
2. Liaise with the different communities deploying moorings, including TIP, OceanSITES, seabed observatories, as well as national moored buoy programmes (coastal and global), and promote the development of multi-disciplinary mooring systems;
3. Liaise with the GOOS Scientific Steering Committee (GSSC) and its technical sub-panel for Integrated Coastal Observations (PICO) to facilitate synergy between advances in GOOS implementation and the development of operational capabilities, in particular, for sustained coastal observations, analysis and related services by using mooring systems;
4. Liaise with the JCOMM Expert Team on Wind Waves and Storm Surges (ETWS) regarding the need for in situ wave observations;
5. Compile information on opportunities for the deployment and / or servicing of moored buoys;
6. Monitor technological developments for moored data buoys and liaise with the Task Team on Technological Developments on satellite data telecommunication aspects;
7. Review all relevant WMO and IOC Publications on Instrument Best Practices (e.g., JCOMM, CIMO) to make sure they are kept up to date, address WIGOS issues, and comply with Quality Management terminology;
8. Provide the DBCP Executive Board or the DBCP with technical advice needed for developing moored buoy programmes, including the issues above; and
9. Report to the DBCP Executive Board and the DBCP at its biennial Sessions, with periodically updated Workplans supporting implementation.

Membership:

The membership is open to all Panel members. The Chairperson⁸, appointed by the Panel, has selected the following team members:

Mr Jon Turton, UK Met Office (TT Chairperson); (TT Vice-Chairperson – to be appointed)

Dr Robert Jensen, USACE

Mr Chris Meinig, NOAA / PMEL

Mr R. Venkatesan, NIOT, India

Dr Uwe Send, SIO

Mr Paul Freitag, NOAA / PMEL

Mr Chris Marshall, Environment Canada

Mr Ariel Troisi, SHN

Mr Al Wallace, MSC

⁸ The Chair and Co-Chair of the Task Team should not be in a situation of conflict of interest.

TERMS OF REFERENCE FOR THE DBCP TASK TEAM ON CAPACITY-BUILDING
(as adopted at DBCP-28)

The DBCP Task Team on Capacity-Building shall:

1. Initiate, plan and coordinate the implementation of the Training and Capacity-Building work programme including, in particular, Training Course on Buoy Programme Implementation and/or Data Management; coordinate production of relevant training materials, and identify lecturers;
2. In parallel with the organization of training programmes, keep under review existing training material (paper and electronic) and advise on updating and developing new DBCP standard material in this regard; and investigate ways to add training material from all capacity building activities to IOC/IODE OceanTeacher;
3. Review and assess national, regional, and global requirements for capacity-building and develop / improve programmes as appropriate;
4. Liaise with other capacity-building programmes in relevant areas to develop and implement integrated activities, to explore potential synergies and opportunities for efficiently using resources available; liaise in particular with the JCOMM cross-cutting Team on Capacity-Building;
5. Endeavour to mobilize the resources required for DBCP capacity-building, including those needed for the implementation of the Training Courses;
6. Make recommendations to the DBCP Executive Board and / or the DBCP for addressing the issues above;
7. Report to the DBCP Executive Board and the DBCP at its biennial Sessions;
8. Consider inviting mariners and shipping companies to the DBCPCapacityBuilding workshops as a way to advertise the ocean observation activities and seek their support;
9. Make sure the data buoy vandalism aspects are being addressed as part of its activities;
10. Investigate on possible cooperation with relevant CapacityBuilding programmes in WMO and IOC.

Membership:

The membership is open to all Panel members. The Chairperson⁹, appointed by the Panel, has selected the following team members:

Dr Sidney THURSTON, NOAA/OCO
(TT-CB Chairperson)
DBCP Executive Board members, including
DBCP Chairperson, Vice-chairpersons (or their
respective Deputies)
Hamad Mohammed AL GHEILANI (Oman)
Rick LUMPKIN (USA)

Dr. R. Venkatesan, NIOT/India
(TT-CB Vice-Chairperson)
DBCP Technical Coordinator

Mathieu BELBEOCH (JCOMMOPS)
Walter FLORES SERVAT (Peru)

⁹ The Chair and Co-Chair of the Task Team should not be in a situation of conflict of interest.

Djoko HARTOYO (Indonesia)
Byung-Gul LEE (Republic of Korea)

David MELDRUM (UK)
Louise WICKS (Australia)
Representative of the IOC Secretariat
Juliet HERMES (South Africa)

Dr G. LATHA (India)
Kwan-Chang LIM (Republic of Korea)
John MUNGAI (Kenya)
Lucy SCOTT (South Africa)
Jean ROLLAND (France)
Representative of the WMO Secretariat
Santjie du TOIT (South Africa)

APPENDIX VI

Current DBCP budget line items

(as approved at DBCP-29)

The DBCP budget includes the following line items:

1. Contract for the DBCP Technical Co-ordinator¹⁰;
2. Provision for termination / transition of the Technical Co-ordinator;
3. JTA¹¹, including Chairperson's contract, Executive Board, and Secretariat support;
4. Consultancy;
5. JCOMMOPS logistical support¹²;
6. JCOMMOPS Data/Development¹³;
7. JCOMMOPS information system migration¹⁴;
8. SOT¹⁵;
9. SOT Ship Coordinator's position¹⁶;
10. Travel of DBCP Chairperson¹⁷;
11. Travel for the DBCP Technical Co-ordinator¹⁷;
12. Travel of DBCP Representatives¹⁷;
13. Travel for the ship coordinator's position¹⁸;
14. Technical developments and evaluations¹⁹;
15. Implementation support to address regional system deficiencies;²⁰
16. Outreach and publication activities²¹;
17. Capacity-Building²²;
18. Collaborative Arrangements²³;
19. Bank charge and support cost²⁴;
20. Contingency.

10: Includes the salary and benefits;

11: This expenditure is balanced by an equivalent contribution of the JTA to the DBCP Trust Fund.

12: Expenses shared with the Argo Information Centre (AIC). This includes office space and use of furniture, personal computer, licenses for basic office software, secretarial support, telephone, Internet and e-mail access, and miscellaneous office supplies;

13: Hardware and software, and host IT support for developing, running, and maintaining the JCOMMOPS Information System;

14: Provision for the migration of the JCOMMOPS Information System;

15: Expenditure in support of the JCOMM Ship Observations Team (SOT) activities to be decided by the SOT Chairperson;

16: Includes the salary and benefits;

17: Missions on behalf of the Panel;

18: Expenses to be decided by the OPE Chair in consultation with the chairs of programmes contributing to JCOMMOPS;

19: For example, the DBCP Iridium Pilot Project;

20: For example, improving data timeliness in areas where system weaknesses are identified, Iridium, SLP;

21: DBCP and JCOMMOPS brochures and DBCP Publications;

22: Support for DBCP-related training courses: travel of trainers and / or trainees; training materials;

23: Support for collaborative arrangements with other international programmes, between Panel Members, or with private companies for the provision of coordination functions, or the deployment and / or operations of instruments; and

24: Bank charges and service charges from the WMO and IOC for supporting the DBCP Trust Fund;

APPENDIX VII

Draft Terms of Reference for the DBCP Trust Fund at WMO

(as adopted at DBCP-28 and further agreed by way of exchange of letters between the WMO Secretary General²⁵ and the DBCP Chairperson²⁶)

1. The purpose of the DBCP Fund is to support the activities of the Data Buoy Co-operation Panel (DBCP);
2. The DBCP Fund is a Trust Fund within the provisions of Articles 9.7²⁷, 9.8²⁸ and 9.9²⁹ of the WMO Financial Regulations (Resolution 37, Cg-XV);
3. The Fund shall be managed by WMO under its applicable rules and procedures, according to an annual budget adopted by the DBCP at its regular Sessions and any other directions provided by the DBCP;
4. The budget will be constructed according to a format agreed by the Panel, in which all income and expenditures will be identified in general articles and specific chapters. The format of the budget may be revised by the Panel as necessary. The budget may take note of other monies and resources made available for support of the DBCP activities, but which are not included as part of the Fund. Only those monies placed in the Fund, however, shall be subject to these terms of reference. The DBCP will provide WMO with details of the share to be borne by participating Members and contributors for invoicing purposes;
5. The Chairperson may authorize in writing the WMO Secretariat to commit any expenditure necessary for the resolution of these issues and the promotion of the Panel's aims and objectives, up to the maximum amounts that might be agreed in advance by the Panel at its regular session, as long as these are consistent with the DBCP Operating Principles. The Chairperson may also authorize to commit any expenditure exceeding these maximum amounts, or unplanned DBCP expenditures with the approval from the DBCP Executive Board, under its Terms of Reference;
6. The unit of account shall be the United States dollar. When commitments are made, the appropriate funds will be converted, as necessary, to the currency of commitment in at least the amount of the commitment;
7. The income of the Fund will include:
 - (i) Annual contributions from participating Members / MemberStates;
 - (ii) Funds deposited for specific purposes, hereafter referred to as deposits;
 - (iii) Other contributions from third parties;
 - (iv) Interest on investments as may be made by the Secretary-General in accordance with the provisions of Financial Regulation 12.2³⁰ (Resolution 37, Cg-XV); and
 - (v) Miscellaneous income.

25: Letter 11106-08/OBS/WIGOS/OSD/MAR/DBCP-ADM from Michel Jarraud dated 15 December 2008

26: Letter from David Meldrum dated 5 January 2009

27: 9.7: Trust funds, reserve and special accounts may be established by the Secretary-General and shall be reported to the Executive Council.

28: 9.8: The purpose and limits of each trust fund, reserve and special account shall be clearly defined by the Executive Council. Unless otherwise provided by the Congress, such funds and accounts shall be administered in accordance with the present Financial Regulations.

29: 9.9: Income derived from investments of trust funds, reserve and special accounts shall be credited as provided in the provisions applicable to such funds or accounts or at the request of the donors at any time. In other circumstances, Regulation 10.1 shall apply.

30: 12.2: The Secretary-General may make long-term investments of moneys standing to the credit of trust funds, reserve and special accounts, except as may be otherwise provided by the appropriate authority in respect of each such fund or account and having regard to the particular requirements as to the liquidity of funds in each case.

8. The Fund will be used as agreed by the DBCP to:
- (i) Finance technical and operational support services for the DBCP, including in particular for supporting its Technical Co-ordinator salary, benefits, logistical support, and missions; DBCP capacity-building activities; data buoy Technical Evaluation and DBCP Pilot Projects; consultancy and missions of experts acting on behalf of the Panel; practical arrangements for the deployment or servicing of buoys; promotion and exchange of information about the Panel activities;
 - (ii) Finance the share of the DBCP in supporting the activities of JCOMMOPS and the Observing Programme Support Centre (OPSC) as agreed by the Panel at its regular sessions;
 - (iii) Provide support to the Argos Joint Tariff Agreement within the resources set aside by the DBCP under these activities;
 - (iv) Assist in the establishment and operation of data buoy programmes;
 - (v) Meet appropriate administrative costs incurred by WMO in providing support to DBCP activities;
 - (vi) Meet other administrative costs including such items as meetings and consultants;
 - (vii) Purchase specified goods or services; and
 - (viii) Support other activities required to meet the basic goal of the DBCP Panel;
9. Authority for the disbursement of funds, in respect of contracts and agreements properly concluded, is delegated to the Chairman of the DBCP. The Chairperson of the DBCP will request in writing the Secretary-General of WMO, or his representative, to disburse the funds;
10. Where required by their internal regulations, individual contributors to the DBCP Fund may wish to negotiate additional conditions governing the application, conditions of deposit and disbursement of funds. Such additional conditions shall not inhibit the efficient and proper use of the Fund nor modify the intent of the Fund. They shall require the acceptance in writing by the Chairperson of the DBCP and the Secretary-General of WMO or his representative;
11. The Fund shall be maintained on a continuous basis and amounts standing to the credit of the Fund at the end of any WMO biennial period shall remain in the Fund for use in the subsequent period;
12. Upon liquidation of the Fund for any reason, the DBCP shall make provision for the payment of unliquidated obligations and estimated expenses of winding-up business. It shall then arrange for repayment - to the extent that funds are available and according to the depositors instructions - of deposits for which no equipment or services have been received;
13. At the closure of the Fund:
- (i) Any remaining surplus after (12) above, shall be distributed among the then DBCP Members in proportion to their total contributions and deposits paid by them to the DBCP Fund; and
 - (ii) Any remaining deficit, including provision for the payment of unliquidated obligations and estimated expenses of winding-up business, shall be met by the DBCP Members in an equitable way, to be decided upon by the DBCP.

14. The Fund will be terminated not later than one year after the formal termination of the DBCP;
15. All funds credited to the DBCP Fund shall be subject to these terms of reference and to the Terms of Reference of the DBCP; and
16. Any revision or amendment to the present Terms of Reference is subject to a decision of the DBCP and the agreement of WMO.

APPENDIX VIII

Financial Regulations applicable to the Intergovernmental Oceanographic Commission (IOC)

(Excerpt from the Decisions by 157th Executive Board of the UNESCO)

Article 1 - Creation of a Special Account of UNESCO

- 1.1 In accordance with Article 6, paragraph 6, of the Financial Regulations of UNESCO, there is hereby created a Special Account for the Intergovernmental Oceanographic Commission, hereinafter referred to as IOC.
- 1.2 The following Regulations shall govern the operation of this Special Account.

Article 2 - Financial period

The financial period shall correspond to that of UNESCO.

Article 3 - Income

- 3.1 As provided in its Statutes, the income of IOC shall consist of:
 - (a) funds appropriated for this purpose by the General Conference of UNESCO;
 - (b) voluntary contributions from States, international agencies and organizations, as well as other entities allocated to it for purposes consistent with the policies, programmes and activities of UNESCO and IOC;
 - (c) such subventions, endowments, gifts and bequests as are allocated to it for purposes consistent with the policies, programmes and activities of UNESCO and IOC;
 - (d) fees collected in respect of the execution of projects entrusted to IOC, from the sale of publications, or from other particular activities; and
 - (e) miscellaneous income.
- 3.2 The Executive Secretary of IOC, hereinafter referred to as the Secretary, may accept income as set forth in Article 3.1 on behalf of IOC, provided that, in any case which would involve IOC in an additional financial liability, the Secretary shall obtain the prior approval of the IOC Executive Council and the consent of the Executive Board of UNESCO.
- 3.3 The Secretary shall report to the IOC Assembly and the IOC Executive Council on any subventions, contributions, grants, gifts or bequests accepted.

Article 4 - Budget

- 4.1 The Secretary shall prepare, in a form to be determined by the IOC Assembly, a biennial programme and budget and shall submit it to the IOC Assembly for approval.
- 4.2 The appropriations voted in the budget shall constitute an authorization to the Secretary to incur obligations and to make expenditures for the purposes for which the appropriations are voted and up to the amounts so voted.

- 4.3 The Secretary is authorized to transfer funds between activities under the same appropriation line. The Secretary may be authorized by the IOC Assembly to transfer funds, when necessary, between appropriation lines within the limits established by the Appropriation Resolution voted by the IOC Assembly and shall report to the IOC Executive Council on all such transfers.
- 4.4 The Secretary is required to maintain obligations and expenditures within the level of the actual resources that become available to the General Account mentioned in Article 5.1 below.
- 4.5 Appropriations shall remain available for obligation during the financial period to which they relate.
- 4.6 The Secretary shall make allotments and any modifications thereon, within the limits of the Appropriation Resolution, which shall be communicated, in writing, to the officials authorized to incur obligations and make payments.
- 4.7 Appropriations shall remain available for 12 months following the end of the financial period to which they relate to the extent that they are required to discharge obligations for goods supplied and services rendered in the financial period and to liquidate any other outstanding legal obligations of the financial period.
- 4.8 At the end of the 12-month period provided for in Article 4.7 above, the then remaining unspent balance of obligations retained shall revert to the General Account mentioned in Article 5.1 below.

Article 5 - The General Account

- 5.1 There shall be established a General Account, to which shall be credited the income of IOC as described in Article 3 above and which shall be used to finance the approved budget of IOC.
- 5.2 The balance remaining in this General Account shall be carried forward from one financial period to the next.
- 5.3 The uses to which this balance may be put shall be determined by the IOC Assembly.

Article 6 - Trust Funds, Reserve and Subsidiary Special Accounts

- 6.1 In addition to a Working Capital Fund, the Secretary shall establish a Reserve Fund to cover end-of-service indemnities and other related liabilities; the Fund shall be reported to the IOC Assembly at the time of the budget approval.
- 6.2 Trust Funds, Subsidiary Special Accounts and any other Reserve Accounts may be established by the Secretary, who shall report to the IOC Assembly and the IOC Executive Council.
- 6.3 The Secretary may, when necessary, in connection with the purpose of a Trust Fund, Reserve or Subsidiary Special Account, prepare special financial regulations to govern the operations of these funds or accounts and shall report thereon to the IOC Assembly and the IOC Executive Council. Unless otherwise provided these funds and accounts shall be administered in accordance with these Financial Regulations.

Article 7 - Accounts

- 7.1 The UNESCO Comptroller shall maintain such accounting records as are necessary and shall prepare, for submission to the IOC Assembly and the IOC Executive Council, the biennial accounts showing, for the financial period to which they relate:
- (a) the income and expenditure of all funds;
 - (b) the budgetary situation including:
 - (i) original appropriations;
 - (ii) the appropriations as modified by any transfers;
 - (iii) the amounts charged against these appropriations;
 - (c) the assets and liabilities of IOC.
- 7.2 The Secretary shall also give such other information as may be appropriate to indicate the current financial position of IOC.
- 7.3 The biennial accounts of IOC shall be presented in dollars of the United States of America. Accounting records, may, however, be kept in such currency or currencies as the Secretary may deem necessary.
- 7.4 Appropriate separate accounts shall be maintained for all Trust Funds, Reserve and Subsidiary Special Accounts.

Article 8 - External audit

The audited accounts of IOC, which constitute an integral part of the statement of the financial position of UNESCO, and the report of the External Auditor of UNESCO on IOC, shall be submitted to the IOC Assembly for approval.

Article 9 - General provision

Unless otherwise provided in these Regulations this Special Account shall be administered in accordance with the Financial Regulations of UNESCO.

APPENDIX IX

DBCP DATA POLICY (as adopted at DBCP-25)

Data access policy

1. The DBCP encourages timely, free and unrestricted access to data. Real time data sharing is achieved via the Global Telecommunications System³¹ of WMO. DBCP also cooperate with data contributors to ensure that data can be accepted into and be used through the NODC and WDC network of the IOC/IODE as long-term repositories for oceanographic data and associated metadata.

2.

3. At present, all of the archiving agencies and many of the operational and research bodies make provision for the release of drifter data to scientific and other customers. In particular, many data are available via the web, either in the form of track plots or as datasets. In many cases, the policies relating to the release and use of these data are not immediately clear. The Panel is seeking clarification from these agencies, and from its action groups, with a view to developing a coordinated data access policy for drifter data within the letter and the spirit of the WMO data exchange policy defined in WMO Congress Resolution 40 (Cg-XII) and the IOC oceanographic data exchange policy defined in IOC Assembly Resolution XXII-6.

4.

Data archiving

5. Drifter data inserted on the GTS are routinely archived by ISDM, the IODE Responsible National Oceanographic Data Centres (RNODC) for Drifting Buoys. The AOML DAC archives all data from the GDP, and any other drifter data that are made available to it. The Panel and its action groups will actively encourage all buoy operators to forward their data to one or other of these responsible global archives.

6.

Instrumental Metadata

7.

8. There has been an increasing demand for instrumental metadata in recent years to serve a number of applications - and climate studies in particular. The DBCP has established its own metadata collection system at JCOMMOPS and is contribution to the Marine Climate Data System (MCDS).

9.

Quality control

10.

11. Quality control procedures are in place to ensure the usefulness of real time data and also of data archives. A well-defined feedback mechanism is required to control real time data (see the DBCP QC Guidelines³²).

More information :

- WMO data policy Resolution 40³³
- IOC Oceanographic Data Exchange Policy³⁴
- CLIVAR data policy³⁵

31 : <http://www.jcommops.org/DBCP/1gtsinfo.html>

32 : <http://www.jcommops.org/dbcp/2qgd.html>

33 : http://www.wmo.int/pages/prog/www/ois/Operational_Information/AdditionalDataProducts/02_Resolution%2040.pdf

34 : http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=338

35 : http://www.clivar.org/data/data_policy.php

APPENDIX X

Current key DBCP personnel

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³⁶ Elected at DBCP-28, Fremantle, Australia, 2-6 October 2012

³⁷ Appointed on 29 August 2011

³⁸ Elected at DBCP-26, Oban, United Kingdom, 27-30 Sept. 2010

³⁹ Appointed at DBCP-24, Cape Town, south Africa, 13-16 Oct. 2008

⁴⁰ Elected at DBCP-29, Paris, France, 23-27 Sept. 2013

APPENDIX XI

ONGOING ACTIONS AND RECOMMENDATIONS FROM THE PANEL

-1- DBCP ONGOING ACTIONS*(ongoing actions from past Panel Sessions)*

No	Ref item ⁴¹	Action Item	Who	Supported by
ADMINISTRATIVE				
1	OP/10.13 D22/8.6.1.1, D22/9.3.2	To check the DBCP list of National Focal Points for logistical facilities and report discrepancies, changes, or additions to the WMO Secretariat.	Panel members	WMO Secretariat
2	OP/3.5, 3.6 D22/10.3.1	To inform chairman of his/her wish or otherwise to continue to work as TC/DBCP.	TC	
3	OP/Apx4(6) D22/10.3	Continue the arrangements (including finance) to secure the services of a technical coordinator..	Chair	Secretariat
4	OP/10.9 D23/6.7.; D22/7.2.12	To consolidate and publish the Panel's session report (web only) and Annual Report (CD-ROM and web).	Chair, Secretariat	TC
5	OP/10.8 D27/13.1	to publish the written national report reports, as well as others submitted to the Secretariat before 30 November of year YYYY, in the Panel's Annual Report for YYYY	Secretariat	
6	OP/10.8 D27/13.2	Members who had not submitted National Reports for the year YYYY to submit their input to the Secretariat before the end of the year YYYY	Panel members	
7	OP/Apx4(5) D25/11.6.2, D26/12.2.2, D27/12.2.2	The Panel recalled the dynamic nature of the DBCP Operating Principles document and invited its members to provide the Chairperson with comments by the end of the year.	Panel members	Chair
8	D25/11.6.2	Collate Updates to the DBCP Operating Principles document.	Chair	Secretariat
9	OP/10.13 D26/9.3.11	to check the JCOMM list of NFP for logistic facilities and submit changes to the Secretariat .	NFP	Secretariat
10	OP/3.7 D22/10.4, D27/12.4.1	To review programme and establish working priorities of the technical coordinator. (DBCP-27: to revise the list of prioritized tasks for the Technical Coordinator as agreed at the previous Session, and discuss execution details with the Technical Coordinator)	Chair	EB, Panel members
11	OP/3.8 OP/10.11 D29/12.4 D27/5.6, D27/12.4.2 D26/5.12 (iv),	to undertake the tasks as proposed by the Chair and to report at the next Panel Session (DBCP-27: to address during the next intersessional period as a matter of priority the high priority activities identified at DBCP-26)	TC	Panel members, EB, Secretariat
CAPACITY BUILDING				
12	OP/Apx5/CB(22) D27/6.4.2 (viii) D23/4.3.6,	To develop and keep up to date standardized training materials in parallel with the organization of training programmes. To investigate ways to add training material from all capacity building activities to IOC/IODE OceanTeacher.	TT-CB	Secretariat
13	OP/Apx5/CB(8) D27/9.2.8	to consider inviting mariners and shipping companies to the DBCP Capacity Building workshops as a way to advertise the ocean observation activities and seek their support	TT-CB	Secretariat

⁴¹ Ref item: reference to paragraph number of DBCP Operating Principles (OP/Apx4/CB(6) = Operating Principles, Appendix IV, Capacity Building part, item 6), and/or DBCP Session final reports as appropriate (e.g. D22/8.6.1.1 = Para 8.6.1.1 of DBCP-22 Final Report).

No	Ref item ⁴¹	Action Item	Who	Supported by
14	OP/Apx5/CB(1) D29/6.4 D22/2.2.1.2 (xii); D22/4.3.3; D22/4.3.5	To organize Capacity Building activities (training workshops, training materials, identifying lecturers) in coordination with regional activities.	TT-CB	Secretariat
15	OP/Apx5/CB(10) D29/6.4 D22/4.3.6	To investigate on possible cooperation with relevant Capacity Building programmes in WMO and IOC.	Secretariat	Chair
15bis	D29/6.4	To build Observation Development Team (ODT) and Modelling Development Team (MDT) with Met/Ocean Institutes around the world	TT-CB	
DATA COLLECTION				
16	OP/Apx5/DM ToR	To follow up and possibly assist in implementing requirements expressed by the buoy users within the Argos system.	CLS	TC
17	OP/Apx5/DM D23/8.4.2.4	To continue review of satellite data telecommunications systems – including the Iridium system.	D. Meldrum, TC	Panel members
18	OP/Apx5/DM D23/8.4.2.2	To share experiences regarding usage of various satellite communications systems for buoy data, including Iridium.	Panel members	Chair & Secretariat
19	OP/2.3(10) D23/8.4.1.10	To notify of all deployments of Iridium Drifters via a dedicated mailing list (iridium-pp@jcommops.org) and eventually via a notification web page on the JCOMMOPS web.	Participants in IPP	TC
20	OP/Apx5/DM D26/6.1.5 (1)	to promote standardization of data transmission formats using DBCP-M2 concept . DBCP-27: TTDM has continued to encourage manufacturers to use standard DBCP-M2 formats and to add additional data if necessary as requested by buoy owners at the end of the existing data format.	TT-DM	TC
21	OP/Apx5/DM D27/4.2.2.3	to provide special attention to buoy data reception	INMARSAT	
22	OP/Apx5/DM D27/8.1.7 (ii)	to continue seeking improvements in Iridium buoy energy efficiency through the implementation of improved power management schemes and the latest low-power GPS receivers.	Buoy Manufacturers	
23	OP/Apx5/DM D27/9.5.9 (ii)	the operators of Iridium drifters to continue to actively report metadata to each other upon deployment beyond the life of the Iridium Pilot Project	Panel members	TC
24	OP/Apx5/DM D22/11.1	To make recommendations to the following JTA Session.	Chair	
DATA EXCHANGE				
25	OP/11.3 D29/5 D23/3.3.8	To identify sources of buoy data not currently reported on the GTS and determine reason for non-availability, (particularly for the Arctic Buoys IABP)..	TC & CLS	Panel members Secretariat
26	OP/2.3(19) D25/10.2.5; D24/12.1.14 .	to contribute to feeding the JCOMM database extreme wave events when such events are observed by data buoys and are recorded by Panel Members.	Panel members	NODC
27	OP/Apx5/DM D27/6.1.2 (iv)	to monitor GTS bulletin headers used for GTS distribution of buoy data, reconcile the differences found, and publish the list on the JCOMM OBS website and Meteo-France QC tools	Météo France & ISDM, JCOMMOPS	
28	OP/11.3 D29/6.3 D27/7.3.5	to promote data exchange and GTS distribution of the data in real-time for drifting and moored buoys	Panel Members	TC
METADATA				
29	OP/2.3 (9) OP/2.4(1) D29/5	Buoy operators to provide metadata to JCOMMOPS; Manufacturers to collaborate with buoy operators and JCOMMOPS and submit the instrument/platform metadata using	Buoy operators & manufacturers	TC

No	Ref item ⁴¹	Action Item	Who	Supported by
	D27/11.5.3 (ii), D26/6.3.3, D24/10.5.6; D23/6.14; D21/8.6.4.5.	the recommended mechanisms (paying particular attention to SST and SSS data); both to comply with buoy metadata collection scheme. DBCP-27: JCOMMOPS to negotiate metadata formats on ad hoc basis		
30	OP/2.3(16) D26/6.3.3	to regularly forward collected metadata to the ODAS metadata service (China) .	JCOMMOPS	Secretariat & China
31	OP/2.3(8) D27/6.2.4	to provide GDP/AOML with manufacture dates for all buoys built within the last 5 years.	Manufacturers	AOML
32	OP/2.3(8) D27/6.2.4	to provide barometer/SLP data to the GDP/AOML	Met. Services	TC
33	D27/6.2.4	to incorporate manufacture date and barometer death date into the GDP (AOML) metadata and make it available online (including creating additional columns in the GDP metadata)	AOML	
34	OP/Apx5/DM D27/11.5.3 (vi)	to make sure that discovery metadata about buoy observational data-sets are properly compiled and made available through the Ocean Data Portal (ODP) and the WMO Information System (WIS) using the required ISO-19115 profiles	Panel members	TC, Secretariat
FINANCES				
35	OP/Apx4(8) D27/11.6.10, D26/11.6.12 (1), D25/10.6.7	Liaise with the Financial Advisor for updating the interim financial report with the most accurate and current information..	EB	Financial Advisor
36	OP/8.10 D27/11.6.11, D26/11.6.12 (2), D25/10.6.7	The joint Secretariats and the DBCP financial advisor to work together to distribute the final statement for the previous year to the Panel members as soon as the IOC and WMO Final Statement of accounts for that year are finalized. Statements to be included in the DBCP Annual report.	Secretariat	Financial Advisor
37	OP/2.3(5) D29/11.6 D27/11.1.3	to continue and possibly increase their budgetary contribution to the Trust Fund in timely manner, and when possible, in Euros.	Panel members	
38	OP/8.8 D27/11.6.14, D26/11.1.7	to facilitate the transfer of sufficient funds from the DBCP Trust Fund at the WMO to the DBCP Trust Fund at the IOC if needed to permit covering all related expenses from the IOC	WMO Secretariat	
39	OP/8.11 D22/10.1.8; D22/10.1.10	to request IOC and WMO to provide an Interim Statement of Accounts over the period 1 January-31 July	Finance Advisor	Secretariat & Chair
40	OP/8.11 D22/10.1.10	To prepare an interim statement of the DBCP/SOT Trust Fund, to be presented to the DBCP members at the following DBCP Session	Secretariat and Finance Advisor	
IMPLEMENTATION				
41	OP/2.3(7) D27/5.10	to make use of the barometer drifter upgrade scheme (see http://www.jcommops.org/dbcp/platforms/barometer.html) by purchasing barometers for GDP-funded SVP drifters and negotiating their deployment positions with AOML	Panel members	AOML
42	OP/2.3(2) D29/11.3.2 D27/11.3.1; D27/11.3.2.1	to take the recommendations from recent IOC and WMO governing body meetings into account when developing their activities in support of the Panel	Panel members	Secretariat TC
IMPLEMENTATION STRATEGY				
43	OP/3.9 D25/11.1.1. 4.2.5; D23/4.3.10. 4.4.1; D22/4.2.3.	To finalise updates to the DBCP implementation strategy (DBCP TD 15) including reference to the Capacity Building efforts being undertaken by the Panel – feedback sought by members .	Chair	Panel members

No	Ref item ⁴¹	Action Item	Who	Supported by
44	OP/2.3(4) D27/12.1.1, D26/12.1.1	to review the DBCP Implementation Strategy document at http://www.jcommops.org/doc/DBCP/DBCP_Impl_Strategy.pdf and to forward any comments to the Chairperson by the end of November each year	Panel members	Secretariat
IMPLEMENTATION / ACTION GROUPS				
45	OP/11.12 ToR	To support, as required, existing DBCP action groups, and provide assistance on request to other internationally coordinated buoy programme developments..	TC & Secretariat	Chair
46	OP/11.13 D20	To coordinate with IOP implementing strategy for the Indian Ocean Observing System as far as data buoys are concerned..	IBPIO	Chair, Secretariat
47	OP/11.14 D23/4.2.4; D16	To produce a table of national commitments in the Southern Ocean. To seek additional commitments for barometer upgrades, and deployment opportunities in the Southern Ocean to achieve a level of 300 buoys south of 40S..	TC	Panel members
IMPLEMENTATION / LOGISTICS				
48	OP/2.3(11) D29/2, 7.8, 9.2 D27/9.2.3, D27/9.5.9, (i)D23/7.2.4; D23/8.6.1.1; D22/8.6.1.13	To provide information on deployment opportunities to JCOMMOPS for all buoys and cruises, as well as to continue e-mail notifications as necessary – annual reports, action group annual planning, ship schedules, national plans, national contact points etc. To subscribe on the list and systematically post their deployment opportunities on the ships@jcommops.org mailing list as well	Panel members & TT-CB	TC
49	OP/3.10 D19	To maintain close links with SOT members so that support on deployment opportunities can be obtained from the SOOP and VOS panels of SOT..	Chair	TC
50	D29/9.2 D23/8.6.1.10	To provide information to Panel members or on its website, about where inventories of buoys are held, to aid in deployment planning.	GDP	
51	OP/11.16 D29/9.2 D26/11.2.11, D23/8.5.1.8; D22/8.5.1.9.; D22/8.5.3.	To implement JCOMMOPS work-plan – particularly with respect to Deployment opportunities.	TC & TC/Argo	JCOMMOPS
52	D26/9.3.7	to provide a table of inventories at its various warehouses to the Technical Coordinator before June each year, so that it can be presented to the Panel at each DBCP Session, and therefore assist Panel members of identifying how they can assist with the deployments.	R. Lumpkin	Panel members
MONITORING				
53	OP/3.11 ToR	To maintain a list of national contact points for the DBCP and within other relevant bodies with potential for involvement in DBCP activities..	Secretariat	Panel members
54	OP/11.15 D23/8.4.2.4	To maintain a catalogue of existing ongoing ocean data buoy programmes.	TC	Panel members Secretariat
55	OP/2.4(1) D21	To provide input on buoy models for JCOMMOPS database.	Manufacturers	TC
56	OP/2.4(2) D21	To provide Service Argos with list of most used buoy models and formats they operate.	Manufacturers	TC
REQUIREMENTS				
57	OP/11.17 ToR	To maintain summary of requirements for buoy data to meet expressed needs of the international meteorological and oceanographic communities.	TC	Panel members Secretariat
58	OP/2.3(3)	to address user requirements and particular observing systems	Panel members	

No	Ref item ⁴¹	Action Item	Who	Support by
	D24/12.1.13	deficiencies as expressed in the JCOMM Statement of Guidance for Ocean Applications.		
INFORMATION EXCHANGE				
59	OP/2.3(12) D29/8.2 D22/7.2.3	To provide info/materials for DBCP/JCOMMOPS websites (news, brochure), including findings with impacts on activities of DBCP user-groups (modellers, forecasters).	Panel members	TC
60	OP/2.3(13) D29/11.3.1 D21	To actively communicate through member state delegations to IOC, WMO and GEO to emphasize the importance of coordination activities to the DBCP Panel activities.	Panel members	
61	OP/9.2 D23/6.7	Compile a CD-ROM of scientific and technical workshop at the last Panel Session.	Chair & Secretariat	TC
62	OP/2.3(113) D26/13.2, D25/12.1	To submit their national reports to the Secretariat before the end of the year (input submitted before 30 November to be published in the Panel's Annual Report).	Panel members	Secreta
63	OP/9.2 D27/2.2, D26/2.7	to submit their papers via e-mail or CD-ROM to the Workshop Chairperson, via electronic format (MS Office compatible format only) .	S&T workshop authors	Secreta
64	D26/6.2.6 (1)	to identify authors who are willing to provide the updates to DBCP related standards document as listed on the DBCP website.	TT-IBP	TC Secreta
INSTRUMENT PRACTICES				
65	OP/2.3(14) D27/6.2.3	to start systems for record keeping for instrument calibration, replacement and validation that conform to ISO recommended specifications	Panel members	TT-IBP
66	OP/2.3(15) D21	To review best practices prior to drifter purchase for safety, and GTS data processing purposes.	Panel members	TT-IBP TC
67	OP/2.3(16) D24/12.6.8.4	to follow the best practices and standards eventually proposed under WIGOS, and in particular, to provide the buoy platform / instrument metadata to JCOMMOPS, and the ODASmetadata service (China) as appropriate.	Panel members	TC Secreta
68	D29/6.2	to address the instrument best practices recommendations from TT-IBPD.	Manufacturers	Secreta
69	OP/2.3(17) D27/11.5.3 (iv), D26/11.5.5	to use the RMIC facilities as appropriate, and participate at future workshops	Panel members	Secreta
70	OP/2.4(3) D27/11.5.3 (v), D24/10.7.3	Investigate participating in the Association of Hydro-Meteorological Equipment Industry (HMEI - http://www.hydrometeoindustry.org/) as a way to be represented at JCOMM meetings.	Manufacturers	
QUALITY MANAGEMENT				
71	OP/2.3(6) D27/11.5.3 (vii)	to comply with the WMO Quality Management Framework (QMF) and quality management principles	Panel members	Secreta
QUALITY MANAGEMENT / INSTRUMENT EVALUATION				
72	OP/Apx5/IBP (1)(7) D26/6.2.5 D29/2	to address a number of issues (HRSST, life time of drogues, quality of pressure data, environmental impact of drifters, Using solar cells on drifters) .	TT-IBP	TC & membe
QUALITY MANAGEMENT / INTERCOMPARISONS				
73	D29/8.2 D27/8.4.10	Reinforce the importance of critical measurement biases to agencies responsible for wave data and to assist the PP-WET Pilot Project and activities (by existing RMICs with wave capability, and particularly the RMIC for RA-IV)	Existing RMICs and Panel Members	
QUALITY MANAGEMENT / QUALITY CONTROL				

No	Ref item ⁴¹	Action Item	Who	Supported by
74	OP/11.18 ToR	To coordinate operations of DBCP QC guidelines..	TC	Panel members Data Q centres
75	OP/2.3(18) D23/8.1.2	To encourage other centres to act as PMOC and existing centres to invest more resources in the implementation of QC guidelines.	Panel members	TC
SAFETY / VANDALISM / SECURITY				
76	OP/2.4(4) D17	To enhance buoy safety through improved design (refer recommendations) and keep the Panel informed about related changes..	Manufacturers & Panel members	Panel members TC
77	OP/11.19 D27/9.4.11	to collect statistics and information on actual vandalism occurrences, and maintain relevant information on the DBCP website	TC	
78	OP/Apx5/CB(9) D27/9.4.12	to make sure the data buoy vandalism aspects are being addressed as part of its activities	TT-CB	
TECHNOLOGY DEVELOPMENT				

2- RECOMMENDATIONS

(ongoing recommendations from this and past Panel sessions; recommendations arising from this Panel Session are indicated in bold)

CAPACITY BUILDING			
No.	Ref.	Recommendation	By
1	DBCP-26 / 11.3.13 (i)	The Panel agreed that it should continue to be involved in Capacity Building activities, including through the provision of funding from its Trust Fund;	Panel
2	DBCP-26 11.3.10	to discuss the issue nationally in the view promote the commitments of WMO Members to PANGEA activities through the VCP	Panel members

DATA EXCHANGE			
No.	Ref.	Recommendation	By
3	DBCP-26 / 9.6.6 (iii)	DBCP has only just begun to develop a new BUFR template for drifting and moored buoy data. To make progress on this, a clear strategy for collaborating with the JCOMM TT-TDC in future, is necessary.	TT-DM

4	DBCP-27 / 6.1.4, DBCP-26 / 9.8.1	To keep the same WMO number for a mooring's position as long as moorings are maintained at that position. In case a mooring ceases to be maintained at a given position, the WMO number should not be re-used for another location. 7-digit WMO numbers for drifters or for moorings should not be reallocated, until available numbers are exhausted, which is not expected to happen in the foreseeable future.	Panel members
5	DBCP-26 / 11.2.15 (iii)	The Panel invited its members to contribute to the JCOMM Extreme Wave database by submitting information on extreme wave events to the US National Oceanographic Data Center (NODC).	Panel members
6	DBCP-29 / 7.8 DBCP-26 / 6.3	to consider reporting as much OceanSITES buoy data as possible in real-time through the GTS.	OceanSITES

FINANCES

No.	Ref.	Recommendation	By
7	DBCP-27 / 11.6.8 DBCP-26 / 11.6.11 (1)	to consider contributing to the DBCP/SOOP Trust Fund in Euros.	Panel members
8	DBCP-27 / 11.6.9 DBCP-26 / 11.6.11 (2) & 11.1.7	Panel members should pay their contributions in a timely fashion.	Panel members
9	DBCP-27 / 11.6.9 DBCP-26 / 11.6.11 (3) DBCP-25 / 10.6.7	Panel members not contributing to the Trust Fund are invited to discuss nationally whether a contribution could be made in the future.	Non contributing Panel members
10	DBCP-27 / 11.6.9 DBCP-26 / 11.6.11 (4) DBCP-25 / 10.6.7	Panel members contributing to the Trust Fund are invited to investigate nationally whether their contribution could be increased.	Contributing Panel members
11	DBCP-26 7.8.3 & 11.2.12	to increase its contribution to the DBCP Trust Fund.	OceanSITES, SOT-

IMPLEMENTATION

No.	Ref.	Recommendation	By
12	DBCP-29 / 9.2 DBCP-27 / 9.2.9	To consider innovative deployment and retrieval solutions, including offering awards to ships which are actively contributing deployment opportunities as a way to further encourage their participation as well as the participation of others.	Panel members JCOMMOPS

13	DBCP-27 / 9.4.2	To address the recommendations on data buoy vandalism from the DBCP Technical Document No. 41 ⁴² – “ <i>Ocean Data Buoy Vandalism - Incidence, Impact and Responses</i> ” (these recommendations are also reproduced in DBCP-27/ Annex XIV).	Panel members
14	DBCP-26 / 11.2.15 (iv) DBCP-25 / 6.3	The Panel urged its members to make use of the DBCP barometer upgrade scheme implemented through the Global Drifter Programme (GDP) and supported by the United States for all newly deployed drifters, including those deployed in tropical regions.	Panel members
15	DBCP-26 / 11.2.15 (vi)	The Panel agreed to develop further the JCOMMOPS proposal for the establishment of a Cruise Technical Coordinator position at JCOMMOPS to act as an international focal point on ship cruises opportunities in support of global ocean observations.	Panel
16	DBCP-25 / 6.3	Research programmes (e.g. DAMOCLES) to put real-time and/or near-real-time data on GTS to address spatial gap in Russian sector of the Arctic region.	Arctic Research Programs
17	DBCP-23 / 2.2.1.3 (xxiii) & 2.2.2.7	Encourage cooperation with OceanSITES and the Tsunameter network at a national level.	Panel members

INSTRUMENT PRACTICES/CALIBRATION

No.	Ref.	Recommendation	By
18	DBCP-27 / 6.2.3 DBCP-26 / 6.3.4	The Panel recalled the importance of traceability of observations to standards and SI units, and in particular of establishing a proper certification process and procedures for the calibration. Recording the history of calibration and providing calibration certificates from instrument manufacturers was particularly important. To start systems for record keeping for instrument calibration, replacement and validation that conform to ISO recommended specifications.	Panel members
19	DBCP-26 / 11.5.8 (2)	More systematic calibration of the instruments should be performed, traceable to IS, and documented. More stringent requirements on the accuracy of drifting-buoy measurements are needed. Accuracy claims should be validated.	Panel members
20	DBCP-26 / 11.5.8 (3)	Post-calibration of drifter SST sensors should be performed as much as practicable (see the presentation “Examining the long term stability of SST measurements made by drifting buoys (R.O. Smith, J.J. Kennedy, N. Rayner)” made at the DBCP Scientific and Technical workshop).	Panel members

INSTRUMENT PRACTICES/INTERCOMPARISONS

No.	Ref.	Recommendation	By
21	DBCP-27 / 8.4.4	The Panel encouraged its member countries to participate in the intercomparison activities that being	Panel members

42: http://www.jcomm.info/index.php?option=com_oe&task=viewDocumentRecord&docID=7150

	DBCP-26 / 8.4.4 DBCP-26 / 8.4.8 (iii)	led by the PP-WET pilot project.	
22	DBCP-27 / 8.4.6 DBCP-26 / 8.4.6	The Panel recognized that the pilot project would contribute to JCOMM in developing standards and best practice, as well as to the relevant WIGOS exercise, and encouraged the co-chairs and SC members to actively outreach these relevant activities with the progress in the inter-comparison exercise.	PP-WET
23	DBCP-26 / 8.4.8 (i)	Continue to support the PP-WET Pilot Project for the next year.	PP-WET
24	DBCP-26 / 8.4.8 (ii)	Encourage the co-chairs and SC members to contribute the results of the intercomparison exercise to JCOMM and WIGOS in developing standards and best practice.	PP-WET
25	DBCP-26 / 11.5.8 (1) DBCP-25 / 5.2.3 & 6.3	Inter-comparisons of drifting-buoy measurements for different manufacturers should be regularly performed in order to assess and improve measurement accuracy. The Panel noted the usefulness of the drogue sensor evaluation for the SVP buoys, which was conducted by the NOAA/AOML, and recommended to continue this valuable exercise with extended involvement of all currently operating buoy manufacturers.	AOML
26	DBCP-25 / 7.4.6	The Panel encouraged the co-chairs and SC members to actively share outcomes of these relevant activities and progress in intercomparison exercises with the JCOMM Community.	PP WET Chair

INSTRUMENT PRACTICES/METADATA

No.	Ref.	Recommendation	By
27	DBCP-29 / 9.2, 9.5 DBCP-26 / 9.6.6 (i)	JCOMMOPS would like to recommend that all buoy operators provide a website or web accessible CSV files of deployment information (as provided to the Iridium PP team) for all buoys similar to AOML, NDBC and Canada (examples provided in the report) as well as continuing email notifications as necessary. JCOMMOPS can in turn feed information from those websites into the JCOMMOPS database of metadata.	Panel members
28	DBCP-26 / 9.6.6 (iv)	Close cooperation between OceanSITES and the rest of the DBCP Moored Buoy community is recommended when considering metadata content and standards.	OceanSITES & Panel members
29	DBCP-26 / 9.6.6 (v)	JCOMMOPS will provide recommendation to moored buoy operators on the required content as well as possible formats (i.e csv, XML etc.) for more effective and consistent exchange of deployments.	JCOMMOPS
30	DBCP-26 / 11.2.15 (i)	That the JCOMM Management Committee considers reviewing the Terms of Reference of the DBCP in order for the Panel to also address issues relevant to rigs and platforms making automated observations.	MAN

31	DBCP-26 / 11.2.15 (ii)	Considering the importance of instrument/platform metadata for marine climatology purposes in particular, the Panel urged its members to collect, record, and make buoy instrument/platform metadata available via JCOMMOPS.	Panel members
32	DBCP-26 / 11.3.13 (ii)	The Panel agreed that it should continue to contribute to the development of WIGOS by providing assistance, as required, on (i) instrument standards and practices issues, (ii) data and instrument/platform metadata exchange, and (iii) quality management issues.	Panel

SATELLITE DATA TELECOMMUNICATION

No.	Ref.	Recommendation	By
33	DBCP-26 / 9.4.4	The Panel was very pleased in the expected improvements in the Central Pacific and the Indian Ocean, but encouraged CLS to consider how it could improve the situation in the southern Atlantic or Western Pacific future.	CLS
34	DBCP-29 / 9.5 DBCP-26 / 9.6.6 (ii)	Operators of Iridium platforms have continued to actively report metadata to each other upon deployment, which was valuable and should continue to report to DBCP TC, beyond the life of the Iridium Pilot Project.	Panel Members, Iridium operators
35	DBCP-26 / 11.2.15 (v)	The Panel recommended to the Argos Joint Tariff Agreement to consider the DBCP requirements for timely data as a high priority and develop the new regional network of Local User Terminals in the view to minimize data availability delays in all ocean regions, including the South Atlantic, Ocean, and South East Pacific Oceans.	JTA
36	DBCP-26 / 11.5.7	The Panel concurred with the legacy recommendations from the draft Project Report of the JCOMM Pilot Project for WIGOS, in particular regarding establishing an international forum of satellite data telecommunication users in the view to expand the scope of the Argos Joint Tariff Agreement (JTA) to address remote data communication requirements for automatic environment observing systems coordinated through WMO and those partner organization, system deficiencies, negotiate tariffs and potential improvements of the rendered services with all relevant operators of satellite data telecommunications systems.	JTA, CBS
37	DBCP-29 / 9.3 DBCP-25 / 6.3	to deploy more Iridium drifters in the Indian Ocean region and other areas where the delay of data delivery is particularly an issue.	DBCP members
37bis	DBCP-29 / 5, 9.5	To work with satellite data telecommunication providers in the view (i) to identify status of the buoy networks and whether they report on GTS; (ii) to allow GTS distribution of data and provide technical assistance as needed.(iii) link to WMO CIMO and CBS	TC DBCP

TECHNOLOGY DEVELOPMENT, PILOT PROJECTS			
No.	Ref.	Recommendation	By
38	DBCP-25 / 5.2.4	Panel agreed that it should be engaged in the future development of wave glider and invited Liquid Robotics to continue participating in future sessions and discussion.	TT IBP
39	DBCP-29 / 5 DBCP-25 / 7.1.8, 8.7.3	The notification of all Pilot Project buoy deployments (Iridium, Argos-3, waves, HRSST etc) must be completed by the buoy operator, as soon as possible after the deployment..	Pilot Project Team members and Buoy Operators
40	DBCP-25 / 7.4.3	The Panel encouraged its member countries to participate in the wave measurement intercomparison activities which was led by this pilot project.	DBCP members
4	DBCP-25 / 8.7.3	The Panel 1noted there was a need to flag HRSST and other high-performance sensors appropriately within platform metadata which would require a deployment notification to be sent to JCOMMOPS, as with other Pilot Projects.	DBCP members
41b	DBCP-29/2, 8.3	Encourage manufactures to plan to add HRSST in cost effective manner to future drifter designs.	Manufacturers, DBCP Members