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INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)

JOINT WMO/IOC TECHNICAL COMMISSION FOR
OCEANOGRAPHY AND MARINE METEOROLOGY
(JCOMM)

SHIP OBSERVATIONS TEAM (SOT)

SEVENTH SESSION

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ITEM: 11.1

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JCOMM *IN SITU* OBSERVATIONS PROGRAMME SUPPORT CENTRE (JCOMMOPS)

(Submitted by Mathieu Belbéoch, Kelly Stroker, and Martin Kramp (JCOMMOPS), Technical Coordinators)

Summary and purpose of the document

This document provides information on the activities of the JCOMM in-situ Observations Programme Support Centre of interest to the SOT.

ACTION PROPOSED

The Team will review the information contained in this report, and comment and make decisions or recommendations as appropriate. See part A for the details of recommended actions.

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- Appendices:**
- A. Terms of Reference of JCOMMOPS
 - B. Report JCOMMOPS Strategy Meeting #1
 - C. Ship Coordinator (Draft) Terms of Reference
 - D. JCOMMOPS Operation Budget
 - E. SOT TC Budget
 - F. Deployment Strategies

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

11.1.1 Ms Kelly Stroker (JCOMMOPS) reported on behalf of the JCOMMOPS Technical Coordinators (TCs) on the operations and development of JCOMMOPS in general and presented an update on the centre activities, priorities and challenges.

11.1.2 The Team took note that a first JCOMMOPS Strategy Meeting has taken place in December 2011 in Toulouse, France, after SOT-6. The meeting attendees, embryo of executive board for JCOMMOPS, agreed on a number of proposals and actions, including in particular: i) the firm establishment of a dedicated software engineer position, ii) the establishment of a Ship Coordinator position (for SOT and possibly GO-SHIP coordination), iii) the structural change within JCOMMOPS (Argo/SOT TC focusing on Argo and covering key JCOMMOPS managerial functions), and iv) investigate further the development of JCOMMOPS in Brest.

11.1.3 K. Stroker reported that the DBCP coordinator moved back to the US in January and now worked remotely from Colorado. JCOMMOPS stressed that the centre can work with high efficiency across all supported programs only if all coordinators are situated at the same location and invest a minimum of time on cross program issues and integrated services development.

11.1.4 K. Stroker was proud to announce that based on the approval of the supporting Panels and Steering Teams, host country, and the Secretariats, JCOMMOPS hired him as new "Ship Coordinator". The Team recalled that the announcement for this position was published from May to August 2012. Twenty-two applications were received, many of them outstanding. A committee with all stakeholders' representatives, including a reduced executive committee (JCOMMOPS, CLS, JCOMM OPA Coordinator, and Secretariat) had been set up to review and select the incumbent. The executive committee made a short list and interviewed four candidates, and a final decision was taken in November. The position is currently regarded as a pilot activity based on an 18 months fixed term contract with CLS, which is also hosting JCOMMOPS. It is foreseen that if the pilot activity is proved successful, and provided long term funding can then be identified, this position could then become an international post through UNESCO or WMO, as it is currently the case for the two other coordinators at JCOMMOPS.

11.1.5 The Team thanked in particular Mathieu Belbéoch (JCOMMOPS) for his commitment and perseverance in leading the recruitment of the SOT TC, including detailed position description and justification, money engineering, negotiations with CLS, and transparent recruitment procedure.

11.1.6 The Team also noted with appreciation that during the recruitment process, the GO-SHIP Steering team agreed to support the Ship Coordinator's position financially and provided inputs to the position workplan. Accordingly, 1/3 of working time is dedicated to GO-SHIP technical coordination, as formerly described by the TC under item 3.4. The SOT TC will participate in developing further the linkage between SOT and GO-SHIP.

11.1.7 K. Stroker announced that the internship Damien Bourarach (JCOMMOPS), trained within JCOMMOPS in 2011-2012, has started on September 17th to work for JCOMMOPS as CLS employee and full time software engineer. This was made possible thanks to increased contributions to JCOMMOPS via CLS, in particular from OceanSITES (Australia, USA WHOI and SIO, POGO). The JCOMMOPS Information Technology (IT) staff is now made of ¼ Full Time Equivalent (FTE) senior software engineer (Laurent Cros), and one FTE junior and occasionally students. The team noted that D. Bourarach acts also as a "Junior TC" and will be a precious support to the Argo, DBCP, SOT/SOOP/GO-SHIP TC day to day work.

11.1.8 The Team noted that in February 2013, a teleconference with all JCOMMOPS stakeholders' representatives took place. The arrival of Mr. Kramp, the anticipated departure of Ms. Stroker (initializing the recruitment of a new TC for DBCP and OceanSITES), and the positioning of JCOMMOPS headquarters were the core topics of the teleconference. Overall feedback was encouraging and positive with regard to JCOMMOPS development strategy, creativity, and future establishment in Brest.

11.1.9 K. Stroker recalled that such migration of the centre of gravity of JCOMMOPS in France, would build on the existing agreements with JCOMMOPS hosts (CLS and Coriolis), and add support from the local partners (Science Park, Brest city, Brittany region), including in-cash support. The SOT TC will move to Brest by the end of 2013. An inauguration of the relocated JCOMMOPS headquarters in Brest is anticipated early 2015.

11.1.10 The Team encouraged such a migration of the office to a marine pole, closer to JCOMM ship based activities in France and the ESURFMAR coordination team.

11.1.11 K. Stroker presented a synthesis on the overall JCOMMOPS budget (Appendix D).

11.1.12 The Team recalled that the yearly funding required to employ the SOT TC was evaluated at the level of 100k\$ by CLS, to be taken on JCOMMOPS budget at CLS (the latter including in 2012, 15k\$ from SOT, 20k\$ from DBCP and 25k\$ from GO-SHIP, see Appendix E). The in-kind share by CLS is still to be evaluated.

11.1.13 The SOT acknowledged the financial effort made by JCOMMOPS to initiate the SOT TC position, and committed to fund JCOMMOPS at the level of [redacted] k\$ in 2013 and of [redacted] k\$ in 2014.

11.1.14 The Team noted that JCOMMOPS will continue to develop cooperation proactively, in an integrated manner. JCOMMOPS will continue to seek its own instruments (floats, drifters, etc) through partnerships development (e.g. manufacturers) or sponsoring (with e.g. industry), in order to promote further the JCOMM networks, develop training material.

11.1.15 The Team thanked all parties that contribute to the development of JCOMMOPS and noted the optimism of JCOMMOPS in serving the JCOMM/GOOS component, with a team close to be complete, successful experiments, and foundations of the infrastructure strengthened. A decade of enhanced integrated services is now in sight. In particular, the Team noted with satisfaction that the JCOMMOPS will be properly staffed to provide a sustained and quality support to the SOT.

11.1.16 The Team discussed and agreed on JCOMMOPS activities and, where possible, on areas of potential development during the next intersessional period, including in particular:

- (i) The development of a new generation of monitoring products for SOT, SOOP and GO-SHIP;
- (ii) The development of an integrated Cruise Information Centre; and
- (iii) The development of a global Ship Time Service offer (floats/drifters deployment, SOT ancillary class expansion).

11.1.17 The meeting made the following recommendations:

- (i) That JCOMMOPS, OPA coordinator and secretariats draft the Terms of Reference of the JCOMMOPS funds residing at CLS, including description of the rules for the management of the funds.

11.1.18 The meeting decided on the following action items:

- (i) The SOT Chair to encourage SOT participating countries to augment their contribution to JCOMMOPS for eventually achieving appropriate support to the ship-based observations programme (**action; SOT chair; on-going**);
- (ii) The SOT TC to document the list of deliverables (tools, products, services) for

SOT/SOOP/GOSHIP (**action; SOT TC; mid 2013**);

- (iii) The TCs to develop new and integrated specification for a QC feedback mechanism, from data user to data producer (**action; JCOMMOPS TCs; end 2013**).

11.1.19 The Team reviewed and agreed on the JCOMMOPS strategy as provided in Appendix B. In particular the SOT concurred with the moving of the headquarters to Brest, and in particular on the moving of the Ship Coordinator to Brest by the end of 2013.

11.1.20 The Team reviewed and concurred with the Ship Coordinator Terms of Reference as provided in Appendix C **[to be reviewed during the SOT Session]**.

11.1.21 The Team reviewed and agreed on the SOT part of the JCOMMOPS operations budget as provided in Appendix D and E **[to be reviewed during the SOT Session]**.

11.1.22 The Team reviewed and agreed on the Terms of Reference for the JCOMMOPS Funds management at CLS. **[to be reviewed during the SOT Session]**.

Appendices: 4

APPENDIX A

TERMS OF REFERENCE OF JCOMMOPS

(Annex to draft Recommendation 2 (JCOMM-3))
TERMS OF REFERENCE FOR AN EXPANDED JCOMM IN-SITU OBSERVATIONS
PROGRAMME SUPPORT CENTRE (JCOMMOPS)

Under the overall guidance of the JCOMM Observations Coordination Group and following the direction of the Data Buoy Cooperation Panel, the Ship Observations Team, the Argo Steering Team, the OceanSITES Science Team, the Global Sea Level Observing System Group of Experts (GLOSS), the International Ocean Carbon Coordination Project (IOOCP), and the CBS Expert Team on Satellite Utilization and Products (ET-SUP), and under the overall direction of the WMO and UNESCO/IOC Secretariats, the JCOMMOPS shall promote an integrated framework for deployment and further development of ocean observing networks.

Specifically, JCOMMOPS shall:

- (i) Act as a focal point for implementation and coordination of observing programmes by clarifying and assisting in resolving technical issues between platform operators, data centres, manufacturers, and satellite data telecommunication providers;
- (ii) Assist in demonstrating the scientific value of global ocean observing programmes in support of WMO and UNESCO/IOC Programmes and co-sponsored Programmes by compiling materials and assisting ocean observation science teams as appropriate;
- (iii) Maintain information on relevant observational requirements in support of GOOS, GCOS, and the WWW as provided by the appropriate international scientific panels, JCOMM experts participating in the CBS ET-SUP, and other JCOMM Expert Teams and Groups;
- (iv) Routinely collect and distribute information on: (a) the performance of the observing system networks relative to requirements, in cooperation with the Observing System Monitoring Centre; (b) instrumentation and telecommunication systems; and (c) functional status and data quality of individual observing platforms;
- (v) Act as a focal point for instrument and data management standardization by collecting and distributing information on current and best practices from across all elements of the observing system and by representing the observing system interest in international standardization processes;
- (vi) Facilitate free and unrestricted data and metadata exchange in real-time, by providing appropriate technical assistance to platform operators, and serving as a collection and distribution point for select platform/instrument metadata and as a source of information on other metadata and data distribution services;
- (vii) Facilitate the flow of data and metadata to the archiving centres;
- (viii) Provide a gateway for information on observing platform deployment plans and servicing opportunities, and on operator contact information, to maximize deployment opportunities and sharing of resources;

Encourage cooperation between communities, observing programmes, and Members/Member States to develop synergies between, and to promote the observing systems.

APPENDIX B**REPORT JCOMMOPS STRATEGY MEETING #1****1. Attendees**

Name	Institution	Representing
Mathieu Belbeoch	UNESCO-IOC/WMO	JCOMMOPS
Kelly Stroker	UNESCO-IOC/WMO	JCOMMOPS
Yves Desaubies	Ifremer	JCOMMOPS
Candyce Clark	NOAA	JCOMM OCG
David Meldrum	UNESCO/IOC Scottish Weather Service	JCOMM OCG
Albert Fischer	UNESCO/IOC	IOC
Etienne Charpentier	WMO	WMO
Anne-Marie Bréonce	CLS	CLS/JCOMMOPS host
Fabienne Jacq	CLS	CLS/JCOMMOPS host
Pierre-Yves Le Traon	Ifremer/Mercator	Coriolis/JCOMMOPS host
Dean Roemmich *	SIO	Argo Steering Team

(*) by teleconference at meeting end

2. Agenda

1. 09h30 **Meeting opening**, (by CLS)
2. 09h35 **Meeting objectives & agenda** (by JCOMMOPS)
3. 10h00 **JCOMMOPS strategy document** (by JCOMMOPS)
4. 11h00 Break
5. 11h15 **JCOMMOPS activities, budget, challenges** (by JCOMMOPS)
6. 12h15 **France hosting proposal review** (by Coriolis & CLS)
7. 13h00 Break
8. 14h15 **National contributions (US/UNESCO) issue** (NOAA, IOC)
9. 14h45 **JCOMM-OCG feedback, panels (Argo, DBCP, ...) issues** (by JCOMM)
10. 15h15 **Expansion to support new programmes** (by Panels)
11. 15h45 **GOOS/JCOMM future perspectives** (by IOC/WMO/GOOS/JCOMM secretariats)
- 16h00 Break

12. 16h30 **JCOMM IV** (by JCOMM secretariat)

13. 16h45 **Review of short/medium/long term proposals** (by JCOMMOPS)

14. 17h00 **Conclusion & actions (roundtable)**

3. Meeting Report

1. Meeting objectives & agenda

The JCOMMOPS Centre in Toulouse is pleased to welcome colleagues for the 1st Strategic Meeting on the future and goals of JCOMMOPS. The focus of the meeting was to discuss the future of the JCOMMOPS Centre, the expansion of its role in support of ocean observing systems addressing the requirements of WMO and IOC applications, to discuss the relationship between JCOMMOPS and the host country, France, and planning for JCOMM-IV.

M. Belbeoch chaired the meeting, thanked the host and attendees for participating, and presented the meeting objectives:

- Open discussion on JCOMMOPS with key partners (“JCOMMOPS executive board”)
- Short, medium and long term plans for JCOMMOPS
- Activities, budget, challenges for the Centre
- Optimization of activities according to existing resources => priorities
- Review of strategy document in general and proposals section in particular
- Discussion with host country representatives on Centre development

He reviewed then the agenda items with members.

2. JCOMMOPS strategy document

2.1. Yves Desaubies introduced strategic orientations for JCOMMOPS.

He reminded the scope of JCOMMOPS mandate, and the request by JCOMM-III and OCG-IV to enhance this scope to provide support and services to more elements of the GOOS.

2.2. JCOMMOPS has prepared a strategy paper outlining the present situation of the Centre, new developments and emerging needs, and proposals for areas of expansion.

This paper, originally compiled by Yves Desaubies and Mathieu Belbeoch, was reviewed in detail by some panel members, and will require further feedback before publishing.

2.3. JCOMMOPS outlined the current state with various levels of services that they provide and highlighted that they are under staffed and underfunded to fulfill its present mission.

In particular it was mentioned that:

- i) A fully dedicated software engineer was required to maintain and improve the Information System.

- ii) A ship and logistics coordinator was required to provide support to SOT program (and potentially to GO-SHIP) and to develop the integrated "Ship Time Service" within JCOMMOPS.
- 2.4. A student has been working for 2 years within JCOMMOPS and has gained significant knowledge of the programs involved. A short term goal would be to keep this person on board.
- 2.5. It was mentioned that additional contributions from OceanSITES and SOT panels were urgently required for the Centre to provide optimal support to all programmes.
- 2.6. The strategy paper attempted to outline the management structure of JCOMMOPS where there is certainly room for improvement.
- 2.7. The recent events of the UNESCO funding constraints were discussed, thus complicating the anticipated renewal of the MoU between UNESCO/IOC and CLS/Coriolis for the hosting of JCOMMOPS. (see Item 5 below) It was suggested by the board to continue work this solution in the background.
- 2.8. CLS/Coriolis in kind contribution to the Centre was discussed and reviewed. It was asked to clarify the cost of a yearly I.T. software engineer provided by CLS, including its in-kind part and the staff volume effectively provided to JCOMMOPS.
- 2.9. The evolving context on Ocean Observation programmes and related international infrastructures was then discussed.
- 2.10. Albert Fischer discussed the reorganization of GOOS and the establishment of GOOS Steering Committee and the integrated framework for Sustained Ocean Observations highlighting that JCOMMOPS should play a key role in this.
- 2.11. Etienne Charpentier discussed the WMO WIS/WIGOS - RRR Rolling Review of Requirements and the placement of JCOMMOPS within this framework.
JCOMMOPS would work in the RRR which looks at the requirements of the 12 applications (performances of instruments in space, upper air, land, ocean). JCOMMOPS to take responsibility of providing input on a routine basis (i.e. through proper user interface, e.g. web services) to the WMO database concerning ocean instrument capabilities. This role and concept will continue to be discussed but is moving forward.
- 2.12. The strategy document outlines plans for expansion of JCOMMOPS. Requests from Panels and discussions underway for the inclusion of IOCCP, GoSHIP – revising the implementation plan (repeat hydrography), Gliders, Arctic Obs, GLOSS, Riggs and Platforms (potentially provided by Industry e.g. oil industry). GLOSS and IOCCP are currently included in the JCOMMOPS Terms of Reference although no formal coordination can occur at JCOMMOPS under the current funding situation.
JCOMMOPS concluded that support to ships via dedicated focal points should come first, and then support to regional/coastal systems should follow.
- 2.13. Finally, Yves Desaubies concluded and mentioned other proposals included in the strategy document and the way forward for the Centre:
- Enhance information system and websites

- Develop support for ship logistics and ship obs. system programmes coordination
- Formalize the status of the JCOMMOPS centre in its host country.
- Secure and clarify budget
- Review the management structure for the Centre
- Finalize the strategy document and define clear priorities
- Engage discussions with potential users of the Centre services to assess needs, interest and funding possibilities.

3. JCOMMOPS activities, budget, challenges

3.1. JCOMMOPS Budget

- 3.1.1. M. Belbeoch presented JCOMMOPS overall functioning budget, and detailed infrastructure budget and shown a breakdown by panel. The annual budget for JCOMMOPS is \$600K. This comprises contributions from member states and in-kind contributions from the JCOMMOPS host, CLS and Coriolis. The desire would be to have the host country, France, pay the rent of the JCOMMOPS office, and a minimal technical and secretarial support, as stated in the guidelines (and agreed via resolution) for the UNESCO decentralized offices.
- 3.1.2. A long discussion of the budget was had, including the complexities of the various contributions.
- 3.1.3. Albert Fischer recalled that JCOMM-OCG would like to see a detailed budget where it is clear on the inputs and outputs (cash and in-kind contributions). The breakdown would need to show what the panels receive (e.g. the types of products and services that each panel is getting) for these contributions. It was also suggested to detail the budget by Member State contribution.
- 3.1.4. The idea of a JCOMMOPS trust fund was held separate from the DBCP and Argo trust funds.
Anyway, CLS was providing and managing a “trust fund” to JCOMMOPS via dedicated accounting line.
- 3.1.5. Through CLS, JCOMMOPS purchases a cruise and a crew for a dedicated mission, and propose it to the community at an attractive price taking necessary overhead for administration (~8% for CLS) and for coordination by JCOMMOPS (~17%).
That way, JCOMMOPS made 30K euros of net benefit on its Ship Time Service in 2011.
- 3.1.6. JCOMMOPS also provides stickers on floats via a labeling/certification service (3K incomes) and is investigating the same for drifters and other JCOMMOPS platforms.

3.2. JCOMMOPS Activities and Services

- 3.2.1. M. Belbeoch presented the 3 levels of services that JCOMMOPS is currently and ideally providing: 1) Basic, 2) Core, and 3) Advanced. Support for the main programs (Argo, DBCP), would occur at the advanced level while support for SOT and OceanSITES at the core level. Other programmes could benefit of the integrated concept and infrastructure (IT) means to get support, without dedicated human resource. Such support was provided in the past to (GLOSS e.g.) and had to

be discontinued due to the lack of means. It was stated that the panel members really need to know what they are buying with their contributions. While the 3 levels provide for high level objectives, it will be required for JCOMMOPS to develop series of key deliverables (e.g. monthly status maps for all supported panels) and performance indicators (e.g. percentage of supported panels benefiting from monthly status maps).

3.2.2. He presented then a summary on resources available within JCOMMOPS and overall deliverables provided to panels.

He discussed the misbalance, and overload of work he has had over the past 1.5 years, with the departure of the DBCP Coordinator and the growing JCOMMOPS management activities. This warning message was already provided to the JCOMM-OCG meeting in April.

He requested to recognize the need to deal with key managerial functions within JCOMMOPS -and that he was covering those needs- and the need to lightly restructure the staff responsibilities to balance properly the efforts. He basically suggested transferring SOT responsibilities to the new ship coordinator so that these managerial functions can be reasonably fulfilled without impacting the advanced support to be provided to Argo. Board agreed and recommended to however clarify those functions.

Etienne Charpentier mentioned that the support provided by the global infrastructure has also to be taken into account. Panels are funding a service, not a person.

Board concluded to provide this argument better on what the panels are getting for their funding. It acknowledged the excellent support provided by M.Belbeoch over the years to push forward JCOMMOPS.

3.3. JCOMMOPS Staffing Challenges

3.3.1. Through the host organization, JCOMMOPS has a contract for a Full-time staff, currently identified through the contribution of two persons. However, , the actual time effectively worked is closer to 90% and not based on a dedicated IT person.

This is not sufficient for an optimal efficiency. JCOMMOPS is also worried to set aside enough funds to keep and hire the internship after its training period.

3.3.2. JCOMMOPS has received commitments from several OceanSITES contributors to fuel the proposition to obtain a real full-time IT support staff. The team hopes to continue to employ the current student after graduation as mentioned above. This contract (100K euro) includes infrastructure expenses.

3.3.3. JCOMMOPS concluded that a fully involved resource was required otherwise it will take ages to renew and integrate the information system and services?

3.4. Ship Logistics Coordinator

3.4.1. The creation of a new position at JCOMMOPS, the Ship Logistics Coordinator, was approved and is to be implemented in 2012. This will be an international announcement and the salary level approved is approximately 2000-2500 euros (net per month) = \$80K (CLS overheads not being charged to JCOMMOPS on this resource and be covered on CLS expenses).

- 3.4.2. The next steps would be to set up a committee and draft the terms of reference for the recruitment and a work plan. The decision should be made ultimately by CLS and CLS HRM will have an interview with the person.
The committee and selection process should include the involvement of all stake holders: Ifremer, DBCP, SOT, Argo, POGO, GO-SHIP.
- 3.4.3. Yves Desaubies retiring, it was suggested to use the funds (provided by Coriolis to JCOMMOPS) to fuel the Ship Coordinator position.
- 3.4.4. Position budget would then be closed, thanks to JCOMMOPS funds, DBCP and SOT contributions, so that an 18 months (max.) limited duration contract could be established with CLS help before preparing a contract via IOC or WMO as for the other coordinators within JCOMMOPS.
- 3.4.5. Location of the position was discussed. While a start in Toulouse was required, position should be ideally established on the medium run in Brest according to JCOMMOPS, and in particular its strategy to move to Brest in a near future.

4. France hosting proposal review and location of JCOMMOPS

- 4.1. M. Belbeoch reminded that it was time for JCOMMOPS to take more body, clarify its legal status, better establish in its host country and stop to “pay a portion of the rent”. He mentioned that 3 levels had to be investigate and merged at one hand: regional (Brest professional and political network), JCOMM (existing sponsors as CLS/Coriolis), national/ministerial (first contacts already established between EC Exc. Sec and French embassy at UNESCO).
- 4.2. CLS is committed to continue the JCOMMOPS hosting and is providing all they can. Ifremer/Coriolis support has to be renewed on a yearly basis, though the Coriolis EC yearly meeting.
- 4.3. For a few years it has been discussed that JCOMMOPS may move to the Oceanographic center of Europe in Brest, France. M. Belbeoch has expressed his interest in moving and is planning a trip to meet with possible stakeholders in the Brest area. E. Charpentier mentioned that there was some benefits in moving the whole office to Brest, to work closer to French customers and partners for JCOMMOPS, close to a port and marine industry, and it would help JCOMMOPS to better respond to its ToR. The JCOMMOPS I.S being well developed and stabilized in Toulouse, the ocean community starting to use alternate telecom system to Argos, the Toulouse requirement seems less strong than in the past. C. Clark mentioned that JCOMMOPS should stay entire wherever it lands, and not split as far as possible. There is some concern about a distributed JCOMMOPS .The group believes that it is important for JCOMMOPS to strengthen together and that if the center is moving, that at some point, all of the coordinators should go together to Brest.
- 4.4. The exact location of office space needs to be determined in Brest, but a few possibilities may be CLS-Brest, Ifremer, or other.
- 4.5. It was mentioned by Y. Desaubies that GO-SHIP would be more interested in a coordinator established in Brest than in Toulouse.

5. National contributions, including the US/UNESCO issue

- 5.1. Details of the recent budget crisis at UNESCO were discussed. Albert Fisher mentioned a 29% cut for UNESCO for coming years. The 2011 US contributions to UNESCO never came and this has major impacts. A lot of incompressible services at UNESCO (staff, salaries) are affected and the cut to program activities is 80%. GOOS is in reasonable situation with Data infrastructure, funding from GEF for assessment of open ocean,
- 5.2. The previous discussions of creating a JCOMMOPS Program Office issue at UNESCO needs to be put on hold and however to be continued in the background (removed or reformulated from the strategy document).
- 5.3. UNESCO will have to work closer with member states and those members that are directly at the upcoming JCOMM IV assembly.
- 5.4. M. Belbeoch discussed an approach to fund JCOMMOPS that would be a proposed tax on the Argo floats to cover the service of AIC. If each float costs \$20,000, we could tax 1% per float and this modest \$200 tax would go a long way to funding the TC work and JCOMMOPS office as a whole. UNESCO could send a bill for Argo registration (this so called tax). A potential funding source to be technically explored and discussed with panels and industrials.
- 5.5. The idea of sponsorship was discussed. Can we ask sponsorship from the private sector (eg Shell, Total, etc)? The committee would worry that they would act as though they 'own us'.
- 5.6. M. Belbeoch investigated NGO as an alternative to being part of a UN international organization. There are legal constraints, accounts, administration. You need a president, secretary, treasure, etc but to set it up is easy. Is this a possible solution in future years?
- 5.7. M. Belbeoch mentioned that UNESCO agreed to fund (at a level of 60k\$) a number of projects though remaining end of biennium funds, including:
 - GIS software and training
 - Float and drifters pilot project (operate UN units and develop donor programmes)In November such fund were retracted in emergency.
- 5.8. The funding issue for TCs employment within IOC was discussed. Contacts were already established between the IOC and WMO for an administrative arrangement to sustain TC employment.

6. JCOMM-OCG feedback, panels (Argo, DBCP, ...) issues

- A. Fischer reminded an outstanding action from JCOMM OCG-4 (Hobart April 2011), resulting from Panels feedback, to draft a budget including staff costs of the overall JCOMMOPS effort
 - Increase programme confidence in their investment in JCOMMOPS
 - Help in strategic management of JCOMMOPS coordinators time spent on different panel task

- Clearly identify common costs and the value of sharing them
- Give all involved a vision of the constraints of all the budget flows

7. Expansion to support new programmes

7.1. IOCCP and GoSHIP

- 7.1.1. GO-SHIP really needs a coordinator and they want a project office/project coordinator. There is a perception is that JCOMMOPS is more of a technical coordination and GO-SHIP needs someone that could help build website, tell the story of why this is important.
- 7.1.2. Currently have resources at University of Tasmania. A GO-SHIP coordinator makes sense to sit with Argo/JCOMMOPS. How can we make this argument to GO-SHIP to sit with JCOMMOPS in lieu of sitting next to the chair of GO-SHIP. CCHDO would be assisted by this coordination. Data tracking is a core mission of JCOMMOPS.
- 7.1.3. Action – to take a call with GoSHIP. What could JCOMMOPS do for GoSHIP? We need a 1 page description.

7.2. Satellite Systems

- 7.2.1. Discussions that started before JCOMM III. Several groups were proposing an expert team under JCOMM on satellites. There are currently two teams (i.e. ET-SAT and ET-SUP) already under CBS. WMO is maintaining information on satellites contributing observations to WMO applications (OSCAR¹). There is a need for JCOMM to monitor the OSCAR database, review its content, and make sure that the ocean related satellite missions are properly documented in OSCAR. JCOMMOPS could play a coordination role and request ocean satellites experts to regularly review content and submit their comments to WMO.
- 7.2.2. A coordinator at JCOMMOPS could potentially work on integration between satellite and in-situ observations. Validation of in-situ data against the satellite data and create this bridge between the two. Craig Donlon (GHRSSST-PP International Project Office, Met Office, UK) could write the terms of reference for this position within JCOMMOPS. There is potentially some good source of funding here for JCOMMOPS.
- 7.2.3. Albert Fisher commented that when the satellite groups meet they have a different decision each time and that several communities well funded around this. Initially this is a huge investment through JCOMMOPS, pulling together the information about where the data is and where the observation. SST, salinity, and wind. To build a decent proposal we would need a lot of input.
 - 7.2.3.1. Proposal for Craig – to send someone from GHRSSST to JCOMMOPS for 1 month or so to see what the synergies are and what we could do. Targeting on ocean products.
 - 7.2.3.2. Create TOR on satellite coordinator in the strategy document). Relaying the quality information between communities. GHRSSST pilot project with DBCP – to get the GHRSSST community to come back with use of data. Possibly second someone here from that community to look at the value of this.
- 7.2.4. Pierre-Yves said that we should really encourage the GHRSSST community to enforce this from the ground up. Right now the audience for JCOMMOPS is the panels that fund them.
- 7.2.5. E. Charpentier discussed that during congress, WMO discussed climate monitoring from space. JCOMM could contribute to this strategy by providing support to

¹ <http://www.wmo.int/oscar/>

JCOMMOPS. We need to make sure that members from the community would see this as a duplication and think about another client for JCOMMOPS. Ask satellite agencies to co-fund JCOMMOPS. A Pilot experiment to define potential requirements for this community (GHRSSST as an example).

7.3. Riggs and Platform

7.3.1. The coordination of the riggs and platforms will be approved at JCOMM-IV for DBCP Technical Coordinator. The DBCP TC mentioned that we currently don't get the metadata presently from riggs and platforms, but it can be discovered and we need to work with the met offices and others.

7.4. Tsunameter platforms

7.4.1. The DBCP Technical Coordinator has added all tsunami "DART" systems to the inventory. A method to obtain the data and information in an automated way needs to be developed.

7.4.2. The DBCP TC will need to work closer with UNESCO/IOC and others in the tsunami community to ensure information is received.

7.5. GLOSS – included in TOR for JCOMMOPS.

8. **GOOS/JCOMM future perspectives**

8.1. A. Fischer recalled the creation of the GOOS steering committee and that this would start in early 2012. The committee will look at overall management of ocean observing systems. JCOMM has a seat at that table to look at how observation management is done and coordination is arranged. Networks want to see themselves as part of GOOS and certain programs (GACS (plankton), ocean tracking network), could potentially have future coordination needs as the regular programs. These programs have 'volunteering' data sharing programs so not really normal GOOS mission. JCOMMOPS could be thinking about a broader range of variables and expanding those (e.g. OceanSITES and Argo).

8.2. JCOMMOPS has had more of an open ocean vs coastal communities focus. Perhaps we should expand to the coast.

8.3. Members discussed the need for standard monitoring tools across these 3 regions (IMOS, US IOOS, EU). JCOMMOPS should be at the center of this and develop cooperation with European efforts, such as Myocean.

8.4. EuroGOOS – Brussels with different regional monitoring activities. Need for JCOMMOPS to cooperate with the ROOS.

8.5. JCOMMOPS needs to make sure that the Strategy paper is in line with JCOMM Strategy.

9. **JCOMM IV**

9.1. JCOMM-IV will be held in Yeosu, Republic of Korea, from 23 to 31 May 2012. JCOMMOPS will be represented by Candyce and the two TCs will not attend.

9.2. Documents for translation will be submitted as soon as possible and the JCOMMOPS strategy document will be submitted as background information.

10. Review of JCOMMOPS short/medium/long term goals

10.1. The short/medium/long-term goals of JCOMMOPS will be clearly outlines in the strategy paper. Document will need further revision and should be publicly available by the end of 2012.

10.2. The proposals suggested by JCOMMOPS, were agreed by the board, including, amongst others:

- Firm establishment of the software engineer position
- Establishment of a Ship coordinator position (for SOT and possibly GO-SHIP)
- Light structural change within JCOMMOPS (Argo/SOT TC focusing on Argo and covering key JCOMMOPS managerial functions)
- Investigate further development of JCOMMOPS in Brest

10.3. Details on the management of JCOMMOPS should be included in the strategy paper and outlined in the JCOMMOPS terms of reference and these management duties in strategy to include OCG.

10.4. D. Roemmich was consulted by teleconference on provided its positive feedback on meeting conclusions.

10.5. Y. Desaubies announced then its official retirement and wished good luck to the Centre. JCOMMOPS thanked him for his support.

11. Conclusion & Actions

11.1. JCOMMOPS thanked the members of UNESCO, WMO, JCOMM, NOAA, Ifremer, and CLS for attending this very productive meeting. JCOMMOPS has a bright future despite the current funding challenges and would like to see a meeting like this taking place each year.

11.2. Actions:

Action	Item	by	Deadline
1.	Review the strategy doc	JCOMMOPS and board members	End 2012
2.	Develop a detailed list of products and deliverables (for each panel) to be provided by JCOMMOPS and its efficiency in doing this (using performance indicators).	JCOMMOPS	End 2012
3.	Send the strategy document to other groups for review (e.g. GO-SHIP, Gliders, etc)	JCOMMOPS	End 2012
4.	Clarify the JCOMMOPS budget	JCOMMOPS, CLS, IOC/WMO	End 2012
5.	Prepare a Ship Logistic Coordinator job	JCOMMOPS	Mid 2012

	announcement, modus operandi for recruitment, and send to review committee		
6.	Investigate the potential support in Brest for the JCOMMOPS office and add a road map into the strategy document	JCOMMOPS, IOC/WMO, Coriolis/CLS	On-going
7.	Clarify cost, including in-kind, support for I.T. and Ship Coordinator Positions	JCOMMOPS, CLS	End 2012
8.	Clarify JCOMMOPS and OSMC roles and cooperation areas at yearly meeting	JCOMMOPS, OSMC	July 2012

APPENDIX C**“SHIP COORDINATOR” (DRAFT) TERMS OF REFERENCE**

01/04/2012

Post Title	Ship Coordinator
Organizational Unit	JCOMMOPS
Administration	CLS
Duty Station	Toulouse / (Brest end 2013) - France
Contract Type	Full Time
Position starts	04/02/2013

Main duties & responsibilities

Under the general supervision of JCOMMOPS head, acting in close collaboration with the chairman of the Ship Observation Team, the chairman of the GO-SHIP Committee, and IOC of UNESCO and WMO secretariats, under the guidance from the Data Buoy Cooperation Panel and the Argo and OceanSITES Steering Teams, the incumbent is responsible for:

- The **Ship Observation Team** Technical Coordination (monitoring, reporting, acting as a clearing house and assisting as appropriate in the implementation of ship based observing systems within the SOT).
- The **GO-SHIP** program Technical Coordination (maintain regular communication with national points of contacts to keep abreast of developing plans for hydrographic sections, provide up-to-date information on GO-SHIP voyages activities to CCHDO for update of tables, reference map and GO-SHIP website, liaise with CCHDO and other data repositories to ensure data delivery to data centres).
- **Operations and logistics** within JCOMMOPS (develop the ship time service; recruit new ships for deployment, retrieval or pilot projects, and organize their planning; assist observing programmes where needed and create new logistics to fill gaps or address piracy/vandalism issues; assist in recovering instruments at sea or found by third parties).
- **Metadata and information** (gather, integrate and maintain all ship metadata useful for those operations within JCOMMOPS Information System, develop appropriate tools and services with the JCOMMOPS I.T. Team, seeking and identifying opportunities for the deployment of instruments from ships).
- **Technical support and expertise** (on observing platforms, self training with regular time at sea, guides on deployment methods, technology transfer, etc).
- **Communication** (serve this information to the community regularly, document and communicate on activities, develop relational network).
- **International cooperation** (partnerships, clearing house, training workshops, donor programmes, assist as appropriate with national, regional, international initiatives, ...).

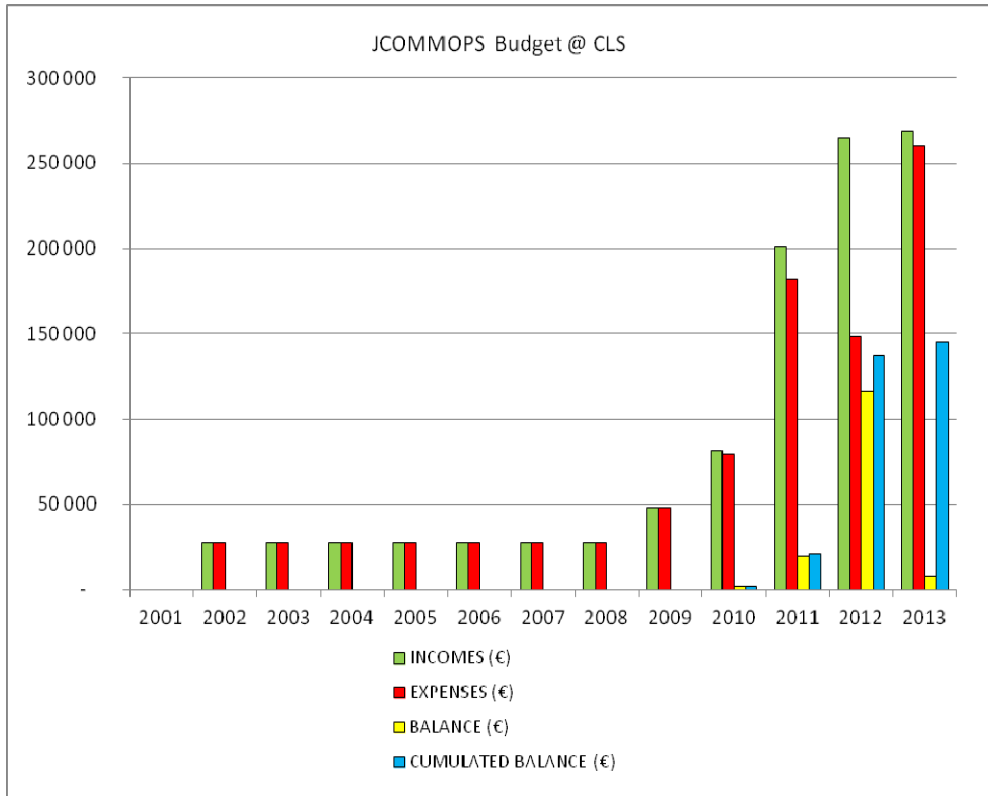
Duties and responsibilities will be balanced between the regularly overlapping items, with 2/3 of the working time allocated to technical coordination (SOT and GO-SHIP) and 1/3 to JCOMMOPS cross programmes ship-related issues.

APPENDIX D

JCOMMOPS OPERATION BUDGET

<i>Contributions into JCOMMOPS (used for salaries, mission, infrastructures)</i>							<i>Host contribution (k\$ in-kind)</i>	<i>Host contribution (k\$ in- cash)</i>	<i>Full JCOMMOPS operating budget/year in k\$</i>
	<i>Argo</i>	<i>DBCP</i>	<i>SOT</i>	<i>Ocean SITES</i>	<i>GO- SHIP</i>	<i>JCOMMOPS services and misc.</i>	<i>CLS</i>	<i>Coriolis Ifremer</i>	
Total	160	160	20 (100)	55	25	30	250	40	740k\$ (820)

Estimation of overall JCOMMOPS budget for 2012 (distributed at CLS, IOC and WMO)
In parenthesis, the resources available effectively for SOT matters (at WMO).



JCOMMOPS budget at CLS

**DRAFT TERMS OF REFERENCE
FOR THE JCOMMOPS FUNDS MANAGEMENT AT CLS**

1. The purpose of the JCOMMOPS/CLS Fund (hereafter referred as the Fund) is to support the activities of the JCOMMOPS infrastructure and the programmes it serves (Argo, DBCP, SOT, GO-SHIP, OceanSITES) under the guidance of the JCOMM Observations Coordination Group, IOC/UNESCO and WMO secretariats, and appropriate Panels and Steering Team.
2. The Fund will follow the regulations of the host country (France) and the host company (CLS).
3. The Fund shall be managed by JCOMMOPS, under JCOMM OPA and secretariats oversee, according to an annual budget adopted by the JCOMM OCG at its regular Sessions and any other directions provided by the Panels and Steering Team.
4. The budget will be constructed according to a stable format, in phase with calendar years. All elements (incomes, expenses) will have a corresponding written justification (invoice).
5. All expenditures will not exceed the Fund limits and will have to be provisioned a year in advance.
6. The unit of account shall be the Euro. 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 / Member States;
 - (ii) Funds deposited for specific purposes, hereafter referred to as deposits;
 - (iii) Other contributions from third parties;
 - (iv) Contributions from services developed by JCOMMOPS;
 - (v) Miscellaneous income
8. The Fund will be used, as agreed by the concerned parties, and when required, to:
 - (i) Finance technical and operational support services for the observing programmes supported by JCOMMOPS, including in particular for supporting staff salary, benefits, logistical support, and missions; infrastructure costs (rent, hardware/software needs); capacity-building activities; instruments technical evaluation and Pilot Projects; consultancy and missions of experts; practical arrangements for the deployment or servicing of instruments; promotion and exchange of information about the Panels and Steering Teams activities; promotion and exchange of information about JCOMMOPS activities;
 - (ii) Meet appropriate administrative costs incurred by CLS in providing support to JCOMMOPS activities;
 - (iii) Meet other administrative costs including such items as meetings and consultants;
 - (iv) Purchase specified goods or services; and
 - (v) Support other activities required to meet the basic goal of the observing systems supported by JCOMMOPS;

9. Authority for the disbursement of funds, in respect of contracts and agreements properly concluded, is delegated in practice to the JCOMMOPS lead ².
10. The Fund shall be maintained on a continuous basis and amounts standing to the credit of the Fund at the end of a calendar year shall remain in the Fund for use in the subsequent period;
11. 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;
12. At the closure of the Fund, any remaining surplus after (11) above, shall be distributed among the Fund contributors in proportion to their total contributions and deposits paid by them to the Fund;
13. The Fund will be terminated not later than one year after the formal termination of JCOMMOPS;
14. All funds credited to the JCOMMOPS Fund shall be subject to these terms of reference and to the Terms of Reference of JCOMMOPS; and
15. Any revision or amendment to the present Terms of Reference is subject to a decision of the JCOMM OCG, IOC/UNESCO and WMO secretariats, and appropriate Panels and Steering Team.

² Concept yet to be defined and agreed.

APPENDIX E**SHIP COORDINATOR BUDGET
2012-2013**

The agreement between JCOMMOPS and its host CLS for the Ship Coordinator contract is being finalized. A proper «service agreement» document will have to be reviewed and signed shortly by secretariats, and/or JCOMM OPA coordinator, and/or JCOMMOPS.

The latest discussions with CLS set the service for a full time ship coordinator at the level of 100k\$ per year. The in-kind part is to be detailed though a breakdown table of costs.

This will be taken on the JCOMMOPS budget at CLS for the calendar year 2013. In particular SOT, DBCP, and GO-SHIP (CSIRO) have started to fuel this budget in 2012 and committed to sustain this contribution in 2013.

The following table summarizes incomes and expenses for the Ship Coordinator for 2012 and 2013 (*anticipated budget*).

INCOMES			
PAYER	2012	2013	2014
DBCP	20	20	
SOT	15	15 -100 (TBD)	
GOSHIP	25	25 (TBD)	
JCOMMOPS	40	(TBD)	
TOTAL	100	100	

EXPENSES			
PAYEE	2012	2013	2014
CLS		91.7	100
BALANCE	100	108.3	

Remarks:

- Note that we have one year of budget in advance (CLS requirement)
- Ship coordinator will only work 11/12 of the calendar year in 2013 (started in February).
- JCOMMOPS will use its budget to close Ship Coordinator budget when necessary and to that end provisioned 40k\$ in its operating budget (contribution from Ifremer to JCOMMOPS).

Mission budget

9k\$ per year are available at WMO for the Ship Coordinator travel.

JCOMMOPS will use its operating budget to provide slightly more travel means to the Ship Coordinator when necessary, in particular for simple travels in France and Europe.

APPENDIX F

DEPLOYMENT STRATEGIES

See on-line document:

http://argo.icommops.org/FTPRoot/Argo/Doc/JCOMMOPS_AST14_Deployment_Opportunities.pdf
