

**SERVICES AND FORECASTING SYSTEMS
COORDINATION GROUP
FIFTH SESSION**

MELBOURNE, AUSTRALIA, 7 TO 8 MAY 2010

FINAL REPORT

JCOMM Meeting Report No.76

NOTES

WMO DISCLAIMER

Regulation 42

Recommendations of working groups shall have no status within the Organization until they have been approved by the responsible constituent body. In the case of joint working groups the recommendations must be concurred with by the presidents of the constituent bodies concerned before being submitted to the designated constituent body.

Regulation 43

In the case of a recommendation made by a working group between sessions of the responsible constituent body, either in a session of a working group or by correspondence, the president of the body may, as an exceptional measure, approve the recommendation on behalf of the constituent body when the matter is, in his opinion, urgent, and does not appear to imply new obligations for Members. He may then submit this recommendation for adoption by the Executive Council or to the President of the Organization for action in accordance with Regulation 9(5).

© World Meteorological Organization, 2008

The right of publication in print, electronic and any other form and in any language is reserved by WMO. Short extracts from WMO publications may be reproduced without authorization provided that the complete source is clearly indicated. Editorial correspondence and requests to publish, reproduce or translate this publication (articles) in part or in whole should be addressed to:

Chairperson, Publications Board
World Meteorological Organization (WMO)
7 bis, avenue de la Paix
P.O. Box No. 2300
CH-1211 Geneva 2, Switzerland

Tel.: +41 (0)22 730 84 03
Fax: +41 (0)22 730 80 40
E-mail: Publications@wmo.int

IOC (OF UNESCO) DISCLAIMER

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariats of UNESCO and IOC concerning the legal status of any country or territory, or its authorities, or concerning the delimitation of the frontiers of any country or territory.

CONTENTS

General Summary of the Work of the Session.....	1
Annex I – List of Participants	10
Annex II – Agenda	11
Annex III – List of Actions	12

GENERAL SUMMARY OF THE WORK OF THE SESSION

1. Opening of the session

1.1. Opening

1.1.1 The fifth session of the Services and Forecast Systems Program Area Coordination Group of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) opened at 0900 hours on Friday, 7 May 2010, at the Bureau of Meteorology, in Melbourne, Australia. The session was chaired by Dr Ming Ji, Services and Forecast Systems Program Area (SFSPA) coordinator. He noted that the main expected outcome of the SCG Session would be the Services and Forecast Systems Program Area work plan, with a focus on a list of high priority, achievable projects identified for the current intersessional period.

1.1.2 Peter Dexter, International Oceans Policy Advisor in the Bureau of Meteorology and Co-president of JCOMM, welcomed participants to the meeting on behalf of the Bureau and also WMO and IOC, the JCOMM parent Organizations.

1.1.3 The list of participants in the meeting is in *Annex I*.

1.2. Adoption of the agenda

1.2.1 The meeting adopted the agenda for the session on the basis of the provisional agenda prepared by the chairperson. Four sub-items were introduced under Item 5 – QMS; Rolling Requirements Review; GMDSS website; and JCOMM Newsletter. The revised agenda is given in *Annex II*.

1.3. Working arrangements

1.3.1 The meeting agreed its hours of work and other practical session arrangements. The documentation was introduced by the chairperson.

a

2. Guidance and requirements from JCOMM-III

2.1 The chairperson reported on relevant decisions of JCOMM-III. The meeting reviewed these decisions and requirements by the Commission, with particular emphasis on actions that needed to be initiated, targets and priorities for the SFSPA and each Expert Team, taking into account cross-cutting issues among them. The report of the chairman is at:

http://www.jcomm.info/index.php?option=com_oe&task=viewDocumentRecord&docID=5360

3. Outcomes of and actions arising from the informal session of the JCOMM Management Committee

3.1 The JCOMM Co-president presented a brief report on the outcomes of and actions arising from the informal JCOMM Management Committee at the conclusion of the JCOMM-III (Marrakech, Morocco, November 2009). He reiterated the limited nature of the regular budget funding available in both WMO and IOC to support the JCOMM programme and subsidiary bodies during the present intersessional period, necessitating the identification of extra-budgetary funds to support activities wherever possible. Nevertheless, funds were available to cover at least one session of all the SFSPA expert teams during the intersessional period.

4. Review of the draft Services and Forecast Systems Program Area work plan for the current intersessional period

4.1 The meeting recognized that this was the main objective of this session. The meeting

reviewed the draft work plan for the current intersessional period, focused on agreeing on a specific list of high priority projects that were expected to be completed by JCOMM-IV (expected May-August 2012, Republic of Korea). In particular, the meeting identified expected outcomes, timelines/milestones, and responsible person(s) for each high priority project. During these discussions, the meeting also briefly reviewed the work of Expert Teams, focusing on follow-up actions, which might be required of the SFSPA Coordinator or the Expert Team chairs. The review and discussions covered all expert teams (Maritime Safety Services (MSS); Wind Waves and Storm Surges (WS); Sea Ice (SI); Operational Ocean Forecasting Systems (OOFs)), as well as capacity building relevant to SFSPA. The revised work plan is given in *Annex III*.

4.2 The meeting agreed that each of the identified priority projects under the Expert Teams and capacity building should be described and presented both as PowerPoint slides and also as descriptive text, one slide/page for each project. Both formats should cover project deliverables, activities, timelines and responsibilities, with the text also including a brief narrative on the project. These documents should then be used to guide the evolution of the projects and also eventually as the basis for presenting the results to JCOMM-IV. The consolidated project documents are given in *Annex IV* (published separately and available at: http://www.jcomm.info/index.php?option=com_oe&task=viewEventDocs&eventID=636).

4.3 During the review and discussions, the meeting recognized:

- (i) That a number of the projects involved cross-cutting activities, both within the SFSPA and also with external bodies within and outside JCOMM, which was in line with the priority being given by WMO to activities and projects which involved several of the Organization's programmes and bodies;
- (ii) The priority being given within both WMO and IOC to the Global Framework for Climate Services concept, which was a major outcome of WCC-III. It was noted that a number of the existing SFSPA projects could already be identified as contributing to climate services in a broad sense. At the same time, the meeting agreed that all the ETs should be prepared to address climate services within the GFCS framework in more detail as the concept developed. It also agreed that JCOMM representation on the expected Inter-Commission Task Team on the GFCS should at least include someone from the SFSPA;
- (iii) In a general sense, the work plan would be an evolving document, with the ET chairs to keep the Coordinator and Secretariat informed of developments;
- (iv) That additional capacity building events were likely to be undertaken during the intersessional period, most often with external funding, and that these should be added to the work plan as they became confirmed.

5. Any Other Business

5.1 The meeting recalled that the MSS Enhancement Workshop, which had taken place at the same venue earlier in the week, had included a major focus, and associated training on QMS. It noted that actions were now underway to encourage and support the introduction of QMS practices in NMHS delivering MMS, with the QMS Activity Coordinator on the Management Committee involved in the preparation of guidance material on QMS for JCOMM. The meeting recognized that QMS practices were likely to be of value to other activities coordinated through the SFSPA, including both ocean forecast and sea ice services. It therefore invited the relevant ET chairs to keep the issue under review, and ensure that some consideration of QMS was undertaken at future Expert Team sessions.

5.2 The SCG vice-chair, Ali Mafimbo, reported on the CBS Rolling Requirements Review. He recalled that he had specific responsibilities within the SFSPA for updating the requirements database with requirements expressed by the SFSPA ETs. He urged all the ET chairs to provide him with the required input as soon as possible, taking into consideration that the updated SoG is

required to reach the WMO Secretariat by 31 October 2010. (**Action:** ET chairs to review and provide input to Ali Mafimbo on the requirements data base) Gary Brassington noted that he had already provided updates to the database at a previous SCG session, and that although these updates were in the database on the CBS website, they had not been included in the document made available to Ali. The co-president agreed to request the Secretariat to look into this issue. (**Action:** Co-president to request Secretariat to review status of requirements database updates).

5.3 The meeting noted that the GMDSS website was presently hosted and supported by Meteo France on behalf of the JCOMM. It requested Henri Savina to determine Meteo France requirements with regard to a possible long-term commitment to maintaining the website, and report on this to the Management Committee through the SFSPA coordinator. (**Action:** Henri Savina to advise MAN on the future of the GMDSS website). More generally regarding the JCOMM website, the meeting requested the Coordinator and Co-president to negotiate with the Secretariat to establish editing permission by the individual ET chairs for their respective pages. It also suggested that efforts should be made once more to determine if the JCOMMOPS facility could be developed as a front end for JCOMM related products, with appropriate links to national websites. (**Action:** PA Coordinator and Co-president to discuss with JCOMMOPS hosts and Secretariat possible extended use of the facility for JCOMM related products).

5.4 The meeting noted that the next edition of the JCOMM Newsletter was currently under preparation. It urged all ET chairs to prepare short texts relating to key team projects and activities, and pass these to the Secretariat (Ms Boram Lee), by the required deadline. (**Action:** ET chairs to provide input to Newsletter, by 17 May 2010).

6. Closure of the session

6.1. Adoption of the report

6.1.1 The meeting reviewed and adopted the report of the session, noting that two of the annexes would be completed after the meeting. In particular, all participants were requested to provide the PA Coordinator, the co-president and the Secretariat with their specific project PowerPoint slides and descriptive text, for consolidation and inclusion in Annex IV, by 25 May 2010 at the latest. (**Action:** Project descriptions to coordinator and co-president by 25 May).

6.2. Closure

6.2.1 The SCG proposed that, if possible, its next session should be scheduled for around 6 months prior to JCOMM-IV, to review progress and plan for the next intersessional period. Korea kindly offered to host this next session.

6.2.2 The 5th session of the JCOMM Services and Forecast Systems Coordination Group closed at 1200 on Saturday 8 May 2010.

List of Participants

Mr Graeme Ball
 Chairperson
 JCOMM Ship Observations Team
 Manager, Marine Operations Group
 Australian Bureau of Meteorology
 GPO Box 1289
 Melbourne, Vic. 3001
 Australia

Dr Vasily Smolyanitsky
 Head, Laboratory of sea ice climate manuals
 Arctic and Antarctic Research Institute
 38 Bering Street
 ST PETERSBURG
 Russian Federation
 199397
 Tel: +7 812 352 21 52
 Fax: +77 812 352 26 88

Mr Peter Dexter
 Co-president of JCOMM
 International Oceans Policy Advisor, Bureau
 of Meteorology
 GPO Box 1289, Melbourne VIC 3001,
 Australia
 Tel: +61(0)3 9669 4870;
 Fax : +61(0)3 9669 4725
 E-mail: p.dexter@bom.gov.au

Mr Moon-Sik Suk
 Korea Ocean Research and Development
 Institute
 Ansan POB 29, SEOUL 425-600
 Korea
 Tel: (82 31) 400 61 00
 Fax: (82 31) 408 58 29
 Email: msuk@kordi.re.kr

Mr D. E. Harrison
 NOAA Pacific Marine Environmental
 Laboratory
 7600 Sand Point Way NE
 Seattle WA 98115
 United States
 Tel: +1 206 526 6225
 Fax: +1 206 526 6744
 Email: d.e.harrison@noaa.gov

Dr Val Swail
 Chief, Climate Data and Analysis Section
 Environment Canada
 4905 Dufferin Street
 Toronto M3H 5T4
 Ontario
 Canada
 Tel: +1 (416) 739 4347
 Fax: +1 (416) 739 5700
 Email: Val.Swail@ec.gc.ca

Dr Ming Ji
 Director
 NOAA/NCEP
 Ocean Prediction Center
 5200 Auth Road, Room 410
 CAMP SPRING MD 20746-4304
 United States of America
 Tel: +1 301 763 8000 x 7400
 Fax: +1 301 763 8085
 Email: Ming.Ji@noaa.gov

Mr Ali Juma Mafimbo
 RA I Co-rapporteur on Regional Marine
 Meteorological and Oceanographic Services;
 Senior Meteorologist
 Oceanography & Marine Services of the
 Kenya Meteorological Department
 P.O. Box 30259 00100 GPO
 NAIROBI
 Kenya
 Tel: +254 20 387 6957
 Fax: +254 20 387 6955
 Email: mafimbo@meteo.go.ke

AGENDA

1. Opening of the session
 - a. Opening
 - b. Adoption of the agenda
 - c. Working arrangements
2. Guidance and requirements from JCOMM-III
3. Outcomes of and actions arising from the informal session of the JCOMM Management Committee
4. Review of the draft Services and Forecast Systems Program Area work plan for the current intersessional period
 - a. Maritime Safety Services (MSS)
 - b. Wind Waves and Storm Surges (WS)
 - c. Sea Ice (SI)
 - d. Ocean Forecasting Systems (OFS)
 - e. Capacity Building (CB)
5. Any Other Business (AOB)
 - 5.1 QMS
 - 5.2 Rolling Requirements Review
 - 5.3 GMDSS Website
 - 5.4 JCOMM Newsletter
6. Closure of the session
 - a. Adoption of the report
 - b. Closure

SFSPA Projects and Work Plans for the Intersessional Period

08 May 2010

	Workplan / expected outcome, deliverables	How (Key Activities/Actions)	Lead (bold) Members	Timelines	Associated meetings (discussion item in)	Resource Required for (apart from meetings)	ETs (bold)/ Linked With
1	Develop a Guide to Operational Ocean Forecasting (Rec 8.1/1)	<ul style="list-style-type: none"> Establish a process Develop the contents 	Alistair Sellar	<ul style="list-style-type: none"> Oct'10: establish the process June 12: first draft 	ETOOFS (Oct'10)		ETOOFS National Agencies
2	Define (assess) operational ocean observation requirements: updated SoG documents; Contribution to the RRR	<ul style="list-style-type: none"> Establish survey documents based on SoG and RRR Collate submissions from member centers 	Sudheer Joseph, Eric Dombrowsky	<ul style="list-style-type: none"> Oct'10 SoG revision Dec.'11 SoG final version 	ETOOFS (Oct'10)		ETOOFS, National Agencies
3	Develop operational performance metrics to monitor operational ocean forecasts: Internet accessible operational performance metrics	<ul style="list-style-type: none"> Define metrics, publish through JCO MM.info 	Frank Bub Gary Brassington	<ul style="list-style-type: none"> Oct'10: first draft metrics Dec. 11: implementation of metrics 	ETOOFS (Oct'10)		ETOOFS, Godae OceanView National Agencies
4	Updating user requirements for marine wx and oceanographic services <ul style="list-style-type: none"> Conduct a joint survey (ETMSS, ETOOFS) on user requirements and service feedbacks 	<ul style="list-style-type: none"> Design/update survey questions Conduct a survey; Analyze the response data 	Gary Brassington Henri Savina ...	<ul style="list-style-type: none"> Oct'10 draft survey questions Jan' 11 survey design agreed '11 survey conducted Jan'12 analysis on responses completed 	ETMSS (Oct'10) ETOOFS(Oct'10)		ETOOFS, ETMSS, IHO
6	Ocean data management: Consolidation of OPeNDAP, NetCDF with WMO	<ul style="list-style-type: none"> Address issues relating to the transition of a GODAE data service into operations 	Frederique Blanc Gary Brassington	<ul style="list-style-type: none"> Oct'10 SAR/MAES specifications Dec'11 Revision and extension 	ETOOFS (Oct'10)		ETOOFS DMPA
7	Facilitate implementation of Quality Management Systems (QMSs) for NOP among Members for the provision of Marine Accident Emergency Support	<ul style="list-style-type: none"> Facilitate implementation of QMS 	Pierre Daniel Gary Brassington	<ul style="list-style-type: none"> 			ETOOFS ETMSS
8	Support Climate Service: Developing an extreme wave database: <ul style="list-style-type: none"> Establish a template for the extreme wave database Establish the database at NOAA/ NODC 	<ul style="list-style-type: none"> Develop the template for extreme wave documentation (with ETMC) Request input from countries, through OPA groups & Secretariat Extending the DB to include satellite altimeter wave data 	Val Swail	<ul style="list-style-type: none"> May'10 template agreed, Oct. 10 ETMC/NODC template agreed Request input from countries (continue) 	ETMC (Feb'10) ETWS (May'10)		ETWS, ETMC NOAA/NODC, DMPA groups

	Workplan / expected outcome, deliverables	How (Key Activities/Actions)	Lead (bold) Members	Timelines	Associated meetings (discussion item in)	Resource Required for (apart from meetings)	ETs (bold)/ Linked With
9	Support Climate Service: Assist ETMC to establish the SS climatology <ul style="list-style-type: none"> · A plan for S.S. climatology · A data base at host institution(s) 	<ul style="list-style-type: none"> · Develop the plan with ETMC · Develop the SS climo. Database (with ETMC) 	Val Swail	<ul style="list-style-type: none"> · ETMC (Feb'10) agree on the objectives · ETWS(2010) to decide on timeline · SSC2010 (Sep'10) discussion session on ongoing activities re SSclimatology · (date?) plan established 	ETMC (Feb'10) ETWS (May'10) SSC2010 (Sep'10)		ETWS, ETMC LOICZ
10	Implement the recommendations from the 1 st JCOMM SS Symposium: Support related S&T fora	<ul style="list-style-type: none"> · Support SSC2010 (JCOMM experts participation to organization & presentations) · Plan the 2nd SS Symposium 	Val Swail Kevin Horsburgh Thomas Bruns	<ul style="list-style-type: none"> · Sep'10 SSC2010 discussion on SS climatology · May'12 approval on 2nd SS Symposium (after 2012) plan 	ETWS (May'10) SSC2010 (Sep'10)	Expert participation to SSC2010 (external resources)	ETWS, ETMC LOICZ
11	Guide UNESCO pilot project on coastal hazard forecasting Establish action plans for the next phase of the project (expected outcome)	<ul style="list-style-type: none"> · SS Experts / ET members participation in NIO workshop · Review project progress in view of JCOMM work plan implementation 	Kevin Horsburgh Val Swail Hans De Vries Don Resio	<ul style="list-style-type: none"> · May 10: ETWS meeting · Feb. 11: NIO workshop · Aug. 11: Action plan developed 	ETWS (May'10) UNESCO NIO workshop (Feb'11)	Expert participation to NIO workshop (external resources: UNESCO/IOC)	ETWS, IOC/ICAM IIT (India)
12	Support JCOMM/CHy Coastal Inundation Forecast Demonstration Project	.	Val Swail Don Resio	.			ETWS WMO/CHy WMO/DRR
13	Facilitate the development of Storm Surge Watch Schemes (SSWS) for regions subject to tropical cyclones	.	Val Swail	.			ETWS
14	Support WMO Severe Weather Forecasting Demonstration Project (SWFDP) with respect to wave and storm surge issues	.	Val Swail Eugeny Nesterov	.			ETWS
15	Wave measurement evaluation and test: Guidance on best practices for wave measurement to WIGOS/WIS	<ul style="list-style-type: none"> · Lead DBCP Pilot Projects on wave measurement evaluation and test (P-P-WET) · Review & update wave measurement requirements as necessary · Participate in, and provide guidance to intercomparison exercise & analysis 	Val Swail Bob Jensen	<ul style="list-style-type: none"> · Jan'10 intercomparison website launch · Sept'10: report to DBCP-XXVI · Nov'10 PP 1st phase PP complete, plan for 2nd phase 	PP SC (Feb'10) ETWS (May'10) DBCP26 (Sep'10)	Website development (external resources)	ETWS OPA/DBCP

	Workplan / expected outcome, deliverables	How (Key Activities/Actions)	Lead (bold) Members	Timelines	Associated meetings (discussion item in)	Resource Required for (apart from meetings)	ETs (bold)/ Linked With
16	Expansion of the Wave Forecast Verification Exchange Project in coordination with the ESA GlobWave project	<ul style="list-style-type: none"> Review&update wave measurement requirements as necessary ET members / experts participation 	Val Swail Jean Bidlot	<ul style="list-style-type: none"> Global wave meeting (May'10) Spatial intercomparison completed (May'12) 	ETWS (May'10)		ETWS, ECM WF, ESA
17	Develop and update guidance documents: <ul style="list-style-type: none"> Revised WMO 702 Dynamic part of wave and storm surge online 	<ul style="list-style-type: none"> Update wave guide by ET input + consultant work Update dynamic part of SS guide as necessary (ET input) 	Val Swail Thomas Bruns	<ul style="list-style-type: none"> May'10 outline/contents of Wave guide agreed May'12 Wave guide publication Technical reports (June 10) 	ETWS (May'10)	WMO publication cost	
19	Developing MPERSS capabilities including the Arctic Ocean: New capability for the Arctic Ocean; Recognitions outside WMO (e.g., IMO); updated user requirements for MPERSS	<ul style="list-style-type: none"> Coordinating with Issuing and Ice Services to implement MPERSS for the Arctic Ocean Interaction/outreach to key international bodies (e.g., IMO/MEPC) 	Henri Savina	<ul style="list-style-type: none"> Initial MPERSS capability for the Arctic Ocean (July'11) 			ETMSS, ETSI, ETOOFS
20	Supporting the Issuing Services and AMOCs and the implementation of the GMDSS and MPERSS in the Arctic.	<ul style="list-style-type: none"> Develop a suite of Arctic marine/sea ice product – Text (PP) Develop an experimental suite of on demand Arctic marine/sea ice product – Numerical/Graphical (PP) 	Henri Savina Vasily Smolyanitsky	<ul style="list-style-type: none"> Jan. 2011 Text suite available 	ETSI (Mar'10) ETMSS (Oct'10) ETOOFS (Oct'10)		ETMSS, ETSI, ETOOFS
21	In association with ETWS, develop guidelines and recommendations to update WMO n°471 and 558, especially for the provision of sea state in MSI		Henri Savina Val Swail	<ul style="list-style-type: none"> May'10 ETWS input provided End'11 complete 	ETWS (May'10) ETMSS (Oct'10)		ETMSS, ETWS
22	Catalogue on Met-Ocean Object Classes to define standards for ENC and e-Navigation: Met-Ocean object class for wind/wave height/surface currents based on ice object class catalogue	<ul style="list-style-type: none"> Coordinate with IHO to validate requirements Finalize the draft object catalogue 	Henri Savina Vasily Smolyanitsky	<ul style="list-style-type: none"> Oct. 10: Meeting between WMO/IMO/IHO (WMO Secretariat) Jan. 12: Finalize the Met-Ocean Object class 	ETSI (Mar'10) ETMSS (Oct'10)		ETMSS, ETSI, IMO, IHO
23	Facilitate implementation of Quality Management Systems (QMSs) among Members for the provision of MMS: Initial training for Issuing Services; Guidance documents.	<ul style="list-style-type: none"> QMS training for Issuing services Preparation for guidance documents 	Henri Savina	<ul style="list-style-type: none"> MSS training workshop (May'10) Draft document for implementation (Sept'10) 	MSS training workshop (May'10) ETMSS (Oct'10)		ETMSS, ETSI, ETOOFS, MAN
24	Update sea ice standards: <ul style="list-style-type: none"> WMO Sea Ice Vol 1 & 2 supplement 6; SIGRID 3 	<ul style="list-style-type: none"> Update and publish the WMO sea ice nomenclature 	Vasily Smolyanitsky	<ul style="list-style-type: none"> Sep 10: Publish SIGRID-3 update; Mar 11: Publish sea ice nomenclature Jun 12: new format prototype 			ETSI, ETOOFS, SCG

	Workplan / expected outcome, deliverables	How (Key Activities/Actions)	Lead (bold) Members	Timelines	Associated meetings (discussion item in)	Resource Required for (apart from meetings)	ETs (bold)/ Linked With
25	Develop sea ice climatology based on ice charts and maintenance of the Global Digital Sea Ice Data Bank (GDSIDB): Updated GDSIDB	<ul style="list-style-type: none"> Historical data submitted and QC-ed; Outreach to potential users of the new data 	Vasily Smolyanitsky	<ul style="list-style-type: none"> GDSIDB update yearly Jun 12: Statistics (Normals) updated 	ETSI (Mar. 10)		ETSI, NSIDC
26	Contribute to the development and implementation numerical forecasting systems		Vasily Smolyanitsky ...				ETOOFS
27	Enhance the efficiency and safety of navigation in ice infested waters by harmonizing sea ice products		Vasily Smolyanitsky ...				
28	Coordinate the implementation of GMDSS for the Arctic Ocean: - GMDSS implemented for Arctic METAs in 2011	<ul style="list-style-type: none"> Revise WMO manuals and guides Establish procedures for coordinated delivery of services 	Henri Savina Vasily Smolyanitsky	<ul style="list-style-type: none"> Jun 10: revised Manuals and Guides Oct 11: procedures established July 2011: GMDSS services implemented in Arctic Ocean 	MSS/MPERSS workshop (May 10)		ETMSS ETSI
29	Continue to develop and manage technical documentation for ENC and sea ice services and information		Vasily Smolyanitsky ...				
30	Participate in the DBCP Pilot Project on wave measurement from drifters (PP-WMD)	<ul style="list-style-type: none"> Review&update wave measurement requirements as necessary Provide guidance as necessary 	Val Swail Bob Jensen ...	<ul style="list-style-type: none"> Nov'10 PP 1st phase PP complete, plan for 2nd phase 	ETWS (May'10) DBCP26 (Sep'10)		ETWS OPA/DBCP
33	Ice information in ENCs: Standard for exchange files; Ice catalogue 5.0; Demonstration suite.	<ul style="list-style-type: none"> Harmonize the standards documents Develop data and software package as a demonstration 	Vasily Smolyanitsky	<ul style="list-style-type: none"> Jun 11: Harmonized standards Jun 12: Demonstration package 			ETSI, Experts from Transas
35	GMDSS website: inclusion of MSI for NAVTEX dissemination (50-70%); link to graphic products for one-stop-shop	<ul style="list-style-type: none"> Make arrangements for NAVTEX availability on GTS; Collect metadata for NAVTEX products 	Henri Savina	<ul style="list-style-type: none"> May 2010: 10% Oct'2010: 30% Summer 2012: 50-70% 	ETMSS (Oct'10)		ETMSS, Issuing Services

Green – Project outcomes achieved by JCOMM-IV

Yellow – Possible to achieve the outcomes by JCOMM-IV

White – Completion time line to be determined

Blue – Lead by other PAs/Organizations

Table 2: Capacity Building Projects

5	Technology transfer/training on ocean forecasting systems	GODAE Summer School	Gary Brassington (ETOFS)	Jan. 2010, Perth, Australia			
18	Capacity building on coastal hazard forecasting	North Indian Ocean SS workshop	Val Swail (ETWS), UNESCO	Feb. 2011		S.S, experts (w/ external resource)	WMO/VCP; IOC/IODE
31	Marine forecasting training	Training workshop in Dakar, Senegal	SFSPA (WMO), U.S. Navy, NOAA	April/May 2010			WMO/VCP;
32	Sea Ice Analysis Training: - COMET Modules - Manuals and workshops	Publish 1 st COMET module Develop 2 nd COMET module 3 rd Ice analysis workshop Review English version of Manual for ice experts	ETSI (Caryn), AARI	- Sep 10: COMET module 1 - Dec 11: COMET module 2 - Jun 11: IAW workshop			ETSI, IIC WG
34	Application of Satellite obs.	Training workshop in Brussels, Belgium Training workshop – Brazil (2010/2011)	SFSPA, ESA	Dec. 2009			
36							

Green – Project outcomes achieved by JCOMM-IV

Yellow – Possible to achieve the outcomes by JCOMM-IV

White – Completion time line to be determined

Blue – Lead by other PAs/Organizations