

World Meteorological Organization

**CBS MANAGEMENT GROUP
FOURTEENTH MEETING
GENEVA, SWITZERLAND, 17-19
JANUARY 2013**



CBS-MG14

Submitted by:	President
Date:	15.II.2013
Original Language:	English
Status:	Final

**FINAL REPORT OF THE FOURTEENTH SESSION OF THE COMMISSION
FOR BASIC SYSTEMS MANAGEMENT GROUP**

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FINAL REPORT OF THE FOURTEENTH SESSION OF THE COMMISSION FOR BASIC SYSTEMS MANAGEMENT GROUP

1 ORGANIZATION OF THE MEETING

1.1 Opening of the session

1.1.1 Mr Branski (President CBS) opened the meeting at 0900 on Thursday 17th January 2013. He welcomed the new members. He noted that ways of enhancing efficiency and effectiveness, including new methods of working will need to be adopted. The recent meeting of Presidents of Technical Commissions was shown the draft Capacity Development Strategy that CBS will need to contribute to. Quality Management Systems apply not only to the services provided by Members, but also to the working of CBS, and this needs to be addressed as well.

1.1.2 On behalf of the Secretary-General of WMO, Dr Zhang, Director, Observing and Information Systems (OBS) Department, welcomed members to the WMO headquarter. Key decisions at this meeting would be the membership and working plans of Expert Teams, so that the key experts are chosen who understand WMO business and who are also keen and able to contribute to the work of the Commission. The meeting would also need to progress CBS strategy on the key priority areas, including GFCS, CBS-MG14 decisions will inform the session of EC_WG-SOP. 2013 is the 50th anniversary of the World Weather Watch, a key success of WMO with key technical support from CBS, and the anniversary provides an opportunity to reflect on what is needed to ensure a further success for supporting current and future WMO priorities such as the Global Framework for Climate Services (GFCS),

1.1.3 Mr Shi, Officer-In-Charge of the Weather and Disaster Risk Reduction (WDS) Department, supported the comments of Dr Zhang.

1.2 Adopt the agenda

1.2.1 Management Group adopted the draft agenda (Annex 1). The list of participants is in Annex 2. The key decisions would be about the work plan for the period 2013-2016. The 50th anniversary of the WWW would be covered under Other Business, as would the next CBS meeting and the methods of working of CBS that are not covered elsewhere. Space weather would be addressed under the agenda item on working with other Commissions, if it was not covered during the discussion of work plans.

1.3 Working arrangements for the session

1.3.1 Management Group agreed its working hours.

1.4 Approve minutes of 13th CBS Management Group

1.4.1 Management Group agreed that the draft minutes of the thirteenth meeting were an accurate record of the meeting and adopted them.

1.4.2. Mr Branski identified actions that were still to be completed:

1.4.2(a) (Secretariat, May 2013): CBS-MG13: The PWS practice of putting photographs of experts on the website needs to be extended to all other teams (continuing action).

1.4.2(b) (OPAG Chairs: September 2013): CBS-MG 13: 3.2.1: terms of reference for focal points still need to be published (continuing action).

2 GOALS AND OBJECTIVES FOR THE MEETING

2.1 The key aims of the meeting were: to finalise membership of Expert Teams; to agree work plans; to create and implement better ways of working; to define interfaces between GFCS, the OPAGs and CBS in general; and to identify the future direction for SWFDP.

2.2 Mr Branski informed members of CBS Management Group (CBS-MG) that the President of WMO would like a reassessment of how DRR is addressed within WMO, with an aim of agreeing a new approach at 17th World Meteorological Congress (Cg-17). The President also believes that the relationship between the Technical Commissions and the Regional Associations, although good within CBS, has scope for improvement.

3 RESPONSIBILITIES OF MANAGEMENT GROUP MEMBERS

3.1 CBS-15 had defined the responsibilities of the Management Group (see Resolution 8 (CBS-15)).

3.2 Under their Terms of Reference, OPAG Chairs and Coordinators are required to submit a report to the Commission not less than three months before the next session. This means that the work needs to be ready three months before the session. In practice, the report would be an "information document."

3.3 Resolution 8 requires the OPAGs to define their work plans, taking into account WMO's priority areas. CBS has a broad scope, which is likely to extend with GFCS. This will mean that some traditional areas of activity may not be able to be advanced.

3.4 Management Group recognised that it was important to take account of the needs expressed by the Regional Associations when preparing work plans.

4 APPROVAL OF WORK PLANS

4.1 OPAG IOS

4.1.1. Management Group decided that ET co-chairs should normally be "associate members" of the ICT rather than Core members (for all OPAGs).

4.1.2 (OPAG Chairs, April 2012): OPAG Chairs, supported by the Secretariat, must encourage other commissions to nominate members of Inter-Programme Expert Teams, probably as Associate Members, and attendance at meetings would preferably be funded by the other commission.

4.1.3 When a cross-cutting Expert Team (e.g. IPET-OSDE or IPET-MDRD) requests another Expert Team to send a representative, the Secretariat responsible for the team making the request (D/OBS or D/WIS) should define which team's budget should meet the cost.

4.1.4 The balance of responsibilities between ICG-WIGOS and IPET-WIFI is likely to change rapidly as WIGOS matures.

4.1.5 (Chair OPAG-IO, one month after first IPET-WIFI meeting): IPET-WIFI will invite other Commissions to participate once the work plan has been outlined at the first meeting.

4.1.6 CBS Management Group suggested that the regional WIGOS chairs might provide regional representation on IPET-WIFI.

4.1.7 (Chair OPAG-IO, April 2013): There needs to be a formal link between IPET-WIFI and CIMO.

4.1.8 (Mr Branski, end February 2013): The president will pass a copy of the list of expert teams to HMEI so that they can propose self-funded membership of teams, indicating which groups CBS considers would benefit from industry representation.

4.1.9 (OPAG Chairs, end February 2013): Not all OPAG-IOS Expert Teams have draft work plans. Several of the work plan objectives need to be clarified to make them more specific. In general, the summary needs to include the deliverables as well as the meetings and activities needed to deliver them.

4.2 OPAG ISS

4.2.1 CBS Management Group decided that Dr Qu (Australia) should not be a Core Member of two ISS Expert teams, and agreed that he should be an Associate Member of ET-WISC and a Core Member of IPET-DRMM.

4.2.2 Chair OPAG-ISS confirmed that membership of the Task Teams would be drawn from that of the Expert Teams and ICT and that the Task Teams would report to the Expert Team to which they were attached.

4.2.3 Approval of membership of the OPAG sub-teams (Task Teams) will be by correspondence. The expectation is that task teams will work primarily by correspondence.

4.2.4 The Chair of OPAG ISS presented a preliminary list of expected meetings that would be adjusted when the work plan had been better defined. He also presented a work plan that was focussed on outputs that clarified the implications for other OPAGs. More work is needed to complete the plan, especially the milestones.

4.2.5 CBS-MG asked OPAG-ISS to give GISC audits a high priority.

4.2.6 (Chair OPAG-ISS, February 2013): CBS-MG asked IPET-MDRD to consider the requirements for metadata to support Space Weather when it reviews the Core Profile.

4.2.7 CBS-MG agreed that a single format is required for the work plans of all OPAGs that meets the needs of CBS-MG for planning and monitoring the work and of the Secretariat for MWO monitoring.

4.2.8 (Foreman, 1 February 2013): The Secretariat will develop a format for the work plans.

4.2.9 (OPAG Chairs, 28 February 2013): OPAG Chairs must complete documentation of the work plans of the OPAGs before the end of February 2013.

4.2.10 CBS-MG will review regularly progress against the work plans.

4.3 OPAG DPFS

4.3.1 (Chair OPAG-DPFS, June 2013): OPAG-DPFS should consider whether there is a centre in RA 1 that could take on the role of an RSMC with activity specialization in Environmental Emergency Response (EER).

4.3.2 Only one team in OPAG-DPFS has representatives from all regions, although ET-OWPFS membership may be drawn more widely as activities are identified by the ICT-DPFS.

4.3.3 The draft work plan for OPAG DPFS would be reviewed by the ICT-DPFS at the meeting starting 21 January 2013.

4.3.4 WMO Technical Note 170, *Meteorological and Hydrological Aspects of Siting and Operations of Nuclear Power Plants*, will be reviewed for publication in 2014.

4.3.5 Chair OPAG-DPFS noted that the planned SWFDP activities cannot take place without the requested support office in the Secretariat.

4.3.6 OPAG-DPFS is planning to do most of its work in task teams; the work plan calls for several task team activities (meetings and/or work by correspondence). Chair OPAG-DPFS will need to make sure that task team meetings are only held if they have clear objectives.

4.4 OPAG PWS

Expert team membership

4.4.1 DRR coordinator is a member of ICT-PWS so that communication of the needs of DRR is clear. Co-chairs of PWS Expert Teams have not traditionally been members for financial reasons.

4.4.2 In the past, ICT-PWS has included regional coordinators. Reinstating regional coordinators on Service Delivery issues may be beneficial. This concept, used in ET-DPM, would help strengthen the cooperation between CBS and the Regional Associations.

4.4.3 (Chair OPAG-PWS, April 2013): A member from Region 3 should be identified for ET-DPM because there appears to be a capacity building issue there.

4.4.4 CBS-MG noted that the Task Team on Meteorological Services for Improved Humanitarian Planning and Response still needed a representative from Hong Kong, China. It will have some representatives from humanitarian organisations. The Management Group noted that there was no representative of region 3; this will be addressed.

4.4.5 At TECO, CBS concluded that a more formal relationship with the World Bank is desirable. The WMO Forum on Socio-economic Benefits of Meteorological and Hydrological Services meeting will be one mechanism that will allow this to be progressed.

4.4.6 Studies of the economic benefits of meteorology are important to support cases for investment in observing systems, etc. Acknowledging that it is difficult to apportion benefits among the contributing components, knowledge of the overall benefit would be strong support for cases for investment, especially if produced by independent experts.

4.4.7 (Chair OPAG-PWS, June 2014): OPG-PWS should progress a methodology for attributing benefit to component to help build the case for support infrastructure.

4.4.8 (Chair OPAG-PWS, June 2014): PWS should investigate creating a standard method of verifying forecasts in the media, especially those presented on the internet .

4.4.9 The strategy for service delivery and its implementation plan will be presented to NMHSs, and the PWS Programme will need to help in coaching some Members to assist them implement the plan; the overall SD Implementation Plan expects technical commissions and regional associations to develop their own plans to support the implementation and then to report annually on progress.

4.5 Overall assessment of Expert Team Membership and Work Plans

4.5.1 Regional balance was generally good across the OPAGs, as summarized in the table (that does not include the ICTs). Ten out of the 18 teams had Core members from all regions.

REGION EXPERTS

1	16
2	46
3	13
4	32
5	18
6	74

4.5.2 An analysis of the membership of Expert Teams by the development status of the country and the gender of the expert would be useful.

4.5.3 Co-chairs share the work with the Chair and can chair the meeting in the absence of the chair. Vice-Chair is a development role in leading international activities. IOS will retain vice-chairs at ET level. If there is no co-chair of at Expert Team, the OPAG chair or co-chair would chair an expert team meeting.

4.5.4 CBS-MG agreed the membership of the expert teams in all OPAGs as shown in Annex 3.

5 CROSS-CUTTING ACTIVITIES

5.1 Global Framework for Climate Services (GFCS)

5.1.1 The GFCS Intergovernmental Board (IGB) will meet in July 2013 (a second meeting is scheduled for mid-2014) to refine the governance and operation of the GFCS. The IGB will need to clarify the relationship with technical commissions. CBS-MG needs to provide views to the IGB on:

- (a) The relationship between the IGB Committees and the WMO technical commissions, see Annex 4.
- (b) How GFCS can progress without damaging the NMHSs in those countries where the NMHS does not already have a mature climate service
- (c) "What will success cost?" so that the aims of GFCS remain realistic

5.1.2 The President of WMO, Mr David Grimes, explained that the IGB will not direct the work of WMO, but will identify gaps and areas for improvement; it will ask SG and Congress to consider these aspects. Mr Grimes highlighted that the report by the GFCS High-Level Task Force (HLT) identified the gaps in climate services (i.e. on accessibility, capacity, data, partnership, and quality) and noted the critical importance of such services to economic decision-making. GFCS is not a "traditional" WMO programme. It provides opportunities for new partnerships (with UN and other international organizations) to address new requirements through user communities, initially focused on agriculture, water, health and disaster risk reduction. The implementation of GFCS may introduce major changes for WMO, so that it can address emerging requirements, avoiding duplication of efforts.

5.1.3 (OPAG Chairs, 25 January 2013): OPAG chairs should send proposals to Mr Branski by 25 January on the following topics in relation to GFCS: early priorities for CBS; milestones for the first two years; points of engagement with GFCS; what we already do that is relevant to GFCS roles and responsibilities (including effective distribution of work and working together with other TCs and RAs); where we will be in 6- and 10-years, focusing on 6-years..

5.1.4 CBS-MG considered the following to be key deliverables from CBS over the period 2013-1025 in order to progress GFCS:

- (a) WIS extended beyond the NMHSs and used regularly by centres not connected to the GTS;
- (b) aims and approach of WIGOS communicated outside the traditional WMO community, other organizations enrolled, current capabilities of GCOS, GAW, GCW etc understood by GFCS community, particularly the Observation and Monitoring Committee;
- (c) clarity on user needs for services based on discussions with users, the application of the Service Delivery strategy, and raising awareness of existing capabilities;
- (d) requirements for additional data types identified so that they can be represented within WIS;
- (e) climate products defined in collaboration with CCI;
- (f) standardized products available from GPC and RCC network;
- (g) assessment of capability is built into operational capability, for example ensuring that long range forecasts are referenced to model climatologies;
- (h) requirements for monitoring are clearly stated;
- (i) CBS is represented on the IGB;
- (j) clear communication on capabilities, so that expectations are managed and the relevance of current capabilities such as the World Weather Watch are used as building blocks of the GFCS.

5.1.5 (OPAG Chairs, May 2013): OPAG work plans must be updated to take account of GFCS requirements.

5.1.6 Mr Branski informed CBS-MG that he had asked Mr dell'Acqua (Chair OPAG-ISS) to represent CBS on the EC Task Team on WMO Policy for International Exchange of Climate Data and Products to Support the Implementation of the GFCS, established by EC-64 (Resolution 4).

5.1.7 Mr Branski also informed CBS-MG that Mr Yuki Honda (Co-chairperson of the OPAG on DPFS) is a member of the same EC Task Team on behalf of Region II.

5.1.8 This EC Task Team will, based on analysis of the implementation of Resolutions 40 (Cg-XII) and 25 (Cg-XIII), provide guidance and advise on how best to apply those Resolutions to advance the WMO policy on exchange of data and products for the provision of climate services. CBS-MG noted that the President of WMO had sent a letter in November 2012 to members of the Task Team with a number of key questions, whose answers will be the basis for a draft white paper on the subject. CBS-MG also noted that the President of CCI had provided a list of climate data which could be a possible Annex to Resolution 40 (Cg-XII) for consideration by the Task Team.

5.1.9 CBS-MG considered that Resolution 40 (Cg-XII) adequately addresses data and products for the provision of climate services, with the exception of historical datasets which are not at present part of the essential products.

5.1.10 CBS-MG noted that there is also a need to cover the exchange of socio-economic information needed for the creation and interpretation of climate information; such information is not within the scope of either Resolution 25 Cg-XIII or Resolution 40 Cg-XII.

5.1.11 CBS-MG noted that Resolution 40 (Cg-XII) was agreed after a long and detailed debate, and therefore CBS-MG needs further clarification on the requirements of GFCS before being able to provide any guidance or suggestions to the EC Task Team.

5.2 Severe weather forecasting demonstration project

5.2.1 Mr Branski outlined the strategy for SWFDP that involves all commissions. A document on future directions and role of the SWFDP had been presented to PTC-2013. SWFDP is a regionally focussed project, and the relationship with the regional associations will be strengthened. There are 41 NMHS involved, together with global and regional production centres. The SWFDP approach is applicable to different regions, time scales and sectors. Strengthening of the RSMCs and RCCs, together with their links to the national centres attached to them, is key to the SWFDP. Consolidating SWFDP into an on-going programme to strengthen these centres (through the Programme to Strengthen Operational Centres) is expected to develop national centres. SWFDP and PSOC are taking a holistic approach, so that, for example, IOS and ISS components are addressed as well as the forecasting and warning services aspects.

5.2.2 Extending SWFDP from a successful small demonstration project to an operational system that is implemented in many regions is a major challenge. Projects are already under way in southern Africa, Eastern Africa, south-west Pacific, SE Asia and the Bay of Bengal. Central Asia, Central America, and the Pacific are planned for the next stage. Of the remaining parts of the world, some have national centres that do not need this support, but others will need assistance from SWFDP-like activities. Such projects are likely in northern and western Africa, South-east Europe (Caucasus) and in South America. The project also needs to be expanded to address hydro-meteorological hazards, rather than focussing solely on heavy rain and strong winds. Flooding is likely to be a common requirement; storm surges might be a candidate hazard in some regions. SWFDP is a means of trialling and introducing new products arising from research, such as multi-model ensemble products from THORPEX, with a view to enabling their transition to operations. To address needs to be able to expand SWFDP, CBS15 had supported a project office, and assistance is being sought from the resource mobilization office of WMO.

5.2.3 Sub-projects have been successful because they have been kept small. These have put a lot of pressure on NMHS because they require rapid change. Expanding SWFDP may present risks of too fast a rate of change for NMHS or over stretching the capacity of the supporting regional centres.

5.2.4 Within CBS, SWFDP links with PWS, and also with ISS and IOS. There are links to the IOS Rolling Review of Requirements, to identify gaps in observing in support of severe weather forecasting. DPFS has nominated focal points to channel information on the requirements of different forecast systems.

5.2.5 Building systems around forecasting hydro-meteorological hazards, is likely to create a different set of requirements from those of "normal" weather forecasting.

5.2.6 Verification is a key aspect of the SWFDP, both of the accuracy of the forecasts themselves, and of their translation into impacts.

5.2.7 SWFDP and WIS/WIGOS are redefining what is meant by the World Weather Watch; it may be useful to redefine what is meant by a "basic system".

5.2.8 Access to observations from neighbouring countries is a challenge for many participants in SWFDP, and many rely on satellites because they have no radar data.

5.2.9 (Chair OPAG-IOS, April 2013): Although global WIGOS activities have covered many of the requirements of SWFDP, issues such as radar need to be taken up in the regional plans for WIGOS.

5.2.10 (Chairs OPAG-DPFS, -ISS, -IOS, June 2013): The OPAG on DPFS should work with OPAGs IOS and ISS to identify how meeting the challenge of very short range forecasting (0-12h) will impact on WIS and WIGOS plans.

5.2.11 (Chair OPAG-DPFS, next ET-SAT meeting): The OPAG on DPFS should brief ET-SAT on the SWFDP, including the issue that radar data is not available in some regions, even if radars are installed, and reliance is placed on satellite information.

5.2.12 One of the challenges remaining in countries that have implemented SWFDP is that although the forecasts are being delivered, the right decisions still have to be made at the right time by the right people if disasters are to be averted. A change in culture is needed; in many cases warnings are issued, but they are not acted on until the event occurs. In many cases 24h warning is sufficient, but the lead time depends on the actions that are required to reduce the risk (for example evacuations may need a longer lead time).

5.2.13 (Chair OPAG-ISS, June 2013): OPAG-ISS WIS needs to collect the requirements for information exchange at regional, or sub-regional, levels so that appropriate solutions can be introduced, which may not be the traditional solution of moving raw information around; prepare a plan for doing this.

5.2.14 (OPAG Chairs, June 2013): All OPAG-Chairs must review their work plans and make sure that they include the needs of SWFDP.

5.2.15 (Chair OPAG-DPFS, May 2013): In preparation for an informal meeting of CBS-MG at EC, the OPAG on DPFS should prepare a draft of a concept paper that describes what is needed from CBS teams for SWFDP, and also describes what is needed for a global SWFDP approach.

5.3 Disaster Risk Reduction

5.3.1 A side meeting was held on 20th January at which the content of the concept note on operational assistance to humanitarian disaster management organizations had been debated.

5.3.2 Membership of the Task Team on the Provision of Operational Meteorological Assistance to Improve Humanitarian Planning and Response will be updated in line with the earlier discussions. Funding for a meeting of the team has been identified from the DRR programme. A consultant will complete the documentation of the work done so far in planning DRR so that it is available for the Task Team.

5.3.3 CBS is the only commission to have nominated a coordinator on DRR.

5.3.4 The DRR coordinator thanked the WIS team for enabling the Joint Research Centre to gain access to information from the GTS.

5.4 WIGOS

5.4.1 Dr Barrell, Chair of the Inter-Commission Coordination Group on WIGOS (ICG-WIGOS) provided detailed information on progress achieved in WIGOS implementation since EC-64, with specific attention paid to:

- Outcomes of the First session of the ICG-WIGOS Task Team on WIGOS Regulatory Material (TT-WRM-1), Geneva, Switzerland, 19 - 23 November 2012 with a focus on an approach, the key principles to be applied in developing WIGOS regulatory material and the draft Structure of the WIGOS sections in WMO Technical Regulations (WMO-No. 49), Vol. I., Part I. WIGOS, developed by TT-WRM-1; Comments made by PTC-2013 on this Draft were also presented;

- The need for a clear understanding of the relative and complementary roles of the ICG-WIGOS Task Teams and the CBS IPET-WIFI and its Sub-Groups;
- The request to PTC to consider how their respective technical commissions will reflect WIGOS in their work plans and how they might best interact with IPET-WIFI, noting that this discussion will be taken up further in the second session of ICG-WIGOS (18-22 March, 2013);
- Progress in the drafting of Regional WIGOS Implementation Plans and the challenge of turning these plans into practical steps within the regions and how CBS can assist in this;
- The follow-up from CBS-XV TECO regarding the development of a national 'WIGOS preparedness' checklist for consideration by ICG-WIGOS-2.

5.4.2 CBS-MG welcomed and agreed in principle with the draft Structure of the WIGOS sections of Technical Regulations. It also agreed with PTC-2013 that the final format and overarching structure will need to take into account the work of the Secretariat Editorial Group currently reviewing the structure of WMO regulatory material.

5.4.3 The following discussion points from PTC-2013 were presented:

- The development of WIGOS Regulatory Material provides an opportunity to better stratify mandatory requirements and desirable guidance, but it is important to balance the benefits of making something 'mandatory' against the flexibility of being able to update it rapidly. Presidents of CIMO and CAeM especially identified issues related to changing technology and user requirements that suggest a dynamic updating process should be a feature of the final structure.
- The effort to bring all relevant documents under one framework (i.e. integration of documentation) was appreciated both to better represent the 'integrated' focus of WIGOS and make it easier for Members to source relevant material;
- WIGOS and the regulatory material should be able to react quickly to new urgent requirements for real time quality data delivery (such as meeting new requirements for volcanic ash information), changing user requirements (e.g. nowcasting) and other new opportunities and challenges;
- Examples of WIGOS implementation and development of observational metadata exist already at national and regional levels, and there is value in assembling and building on these as a resource to inform others, also as a part of the communications and outreach strategy.

5.4.4 OSCAR (www.wmo.int/oscar) includes 3 components: a repository of observing requirements, an inventory and assessment of space-based observing capabilities, and (in future) an inventory and assessment of surface-based observing capabilities. This last module can, once completed, be used as a tool for Members that can help with their implementations of WIGOS, but other tools are needed, such as the "national checklist." Even at this early stage, a portal pointing to implementation tools and case studies would be useful to Members. OSCAR will be a valuable tool, some of the facilities that are available for satellite platforms may not be appropriate for surface based observing systems – for example holding detail to instrument level may not be practicable, even for radar systems, whereas the detailed location of the station is fundamental for surface measurements which are in most cases point measurements.

5.4.5 Evolution of OSCAR should be designed to answer the typical questions of those designing and using observing systems.

5.5 Implications of GEOSS

5.5.1 GEO was formed in 2005, with a ten year plan. The main objective is to build a global earth observation system of systems, built on contributions from many organizations. There are about 90 country members and over 60 participating organizations, including WMO. GEO is divided into nine social benefit areas.

5.5.2 The GEO coordinator outlined aspects of the GEO plan that were of relevance to CBS:

(a) GEO common infrastructure – tools for accessing information resources. This is available.

(b) GEONETCAST: a satellite distribution system to provide users in application areas with access to information; this includes the meteorological satellite dissemination systems (IGDDS).

5.5.3 CBS reached out to GEO via the TECO in Namibia but there is capacity to improve the overall relationship between GEO and WMO. The GFCS Observations and Monitoring pillar is an area where both GEO (via GEOSS) and WMO (via WIGOS and GCOS) have important roles, but it was noted that of these, only WIGOS actually delivers observations through WMO Members. It is important that the GFCS benefits from the work of all these efforts, and that a cooperative approach be adopted to provide the observations and monitoring functionality required by GFCS.

5.5.4 (Dr Gusev and Dr Barrell, 28 February 2013): CBS needs to build a strategy for interaction with GFCS. ICG-WIGOS is taking place in March, and this relationship with GEO is relevant to that. In preparation for EC, Dr Gusev and Dr Barrell will work with OPAG-IOS and OPAG-ISS and the Director of GEO, to draft a strategy for identifying engagement between CBS systems, GFCS and GEOSS and submit this to GEOSS. This could then be used for the IGB.

5.5.5 (Dr Barrell and Dr Zhang, February 2013): Invite Director GEO Secretariat to ICG-WIGOS to discuss the relationship of WIGOS, CBS and GEO to GFCS.

5.6 Subseasonal to Seasonal (S2S) Predictions

5.6.1 The Subseasonal to Seasonal (S2S) Prediction Project is WWRP/THORPEX/WCRP joint research project to improve forecast skill and understanding on the subseasonal to seasonal timescale, and promote its uptake by operational centres and exploitation by the applications community (detailed information and Implementation Plan available at http://www.wmo.int/pages/prog/arep/wwrp/new/S2S_project_main_page.html).

5.6.2 OPAG on DPFS has been participating in the development of the S2S project. Following the request by Cg-XVI to the LC-LRFMME to explore the possibility of extending its role to include the exchange of sub-seasonal predictions and inviting GPCs to provide data from their monthly forecast systems for display and generation of multi-model sub-seasonal products (along the same lines as for seasonal range products), the OPAG on DPFS initiated a pilot operational exchange of monthly forecasts based on a minimum (preliminary) list of variables, identified data required to generate the products, and specifications of issuance frequency and timing. Noting that standard procedures for verification of subseasonal forecasts would be required to support the exchange of forecasts, and this would require further coordination with the WWRP/THORPEX/WCRP research activities.

5.6.3 (Chair OPAG-DPFS, June 2013): OPAG on DPFS must include contributions to planning and implementation of the S2S initiative in its workplans.

5.6.4 (Chair OPAG-PWS, June 2013): OPAG on PWS is to consider the needs of the Subseasonal to Seasonal Prediction Project for service delivery when managing the work plan of the OPAG..

6 CBS CONTRIBUTION TO THE EC WORKING GROUP ON STRATEGIC AND OPERATIONAL PLANNING

Agree statement from CBS for presentation to EC WG SOP on the change of the name of the Commission

6.1 Mr Branski recalled the discussions at CBS-15 on the possibility of changing the name of CBS to include the word “Services”. “Basic” means essential foundation (fundamental).

6.2 CBS-MG agreed that CBS is a well-known brand.

6.3 CBS-MG agreed that there are a number of emerging aspects within WMO, including the GFCS that may significantly impact the whole organization. In addition, in CBS name, “S” could represent both “Systems” and “Services”.

6.4 CGBS-MG recalled that the EC WG SOP Task Group on Continuous Improvement of Processes and Practices was charged with identifying mechanisms for improving the effectiveness and efficiency of the WMO, including the constituent bodies.

6.5 (Mr Branski, 15 March 2013): The President of CBS will prepare a paper to present to the EC WG SOP summarizing these discussions, highlighting the fact that there are fundamental changes in the organization, and that this is just one of the aspects.

Lessons learned from CBS-15

6.6 Mr Branski highlighted a number of aspects that worked well at the CBS-15 session and those that still need to be improved, as given in Annex 5.

6.7 (Mr Branski, 15 March 2013): Mr Branski will prepare a paper on the lessons learned from CBS-15 (based on the information provided in Annex 5) to present to EC WG SOP.

6.8 (OPAG chairs, 28 February 2013): All OPAG chairs to review Annex 5 and provide comments to Mr Branski to assist with drafting the paper for EC WG SOP.

Quality Management and the operation of CBS

6.9 The review on the lessons learned from CBS sessions should be part of the Quality Management System (QMS) for the Commission.

6.10 (OPAG Chairs, end March 2013): All OPAGs should review their technical materials as a contribution to implementing the QMF; this should be included in the work plans.

7 WORKING WITH THE REGIONAL ASSOCIATIONS AND OTHER TECHNICAL COMMISSIONS

7.1 REGIONAL ASSOCIATIONS

7.1.1 CBS relies on the Regional Associations (RAs) for the implementation of many of its activities, and similarly the Regional Associations look to CBS to produce solutions for their technical problems.

7.1.2 Whereas in the past the RAs had a common structure that had technical sub-groups aligned with those of CBS, recent reorganizations have removed these natural linkages. In addition, the RAs no longer hold regional Planning and Implementation Workshops that in the past provided a focus for coordinating the implementation of the WWW. President of WMO, Mr David Grimes, explained that RAs developed their work plans aligned with their regional priorities.

7.1.3 Without a formal coordination structure between CBS and the RAs, implementation of CBS plans is made more complex because different approaches have to be used in different regions and by different OPAGs, making implementation dependent on individual experts.

7.1.4 (OPAG Chairs, June 2014): All OPAG chairs should discuss the relationship between CBS and RAs within their OPAGs.

7.1.5 CBS-MG agreed that the relationship between CBS and RAs should be built upon the SWFDP and WIGOS models.

7.1.6 (Mr Branski, 28 February 2013): President of CBS to share the CBS teams' membership with presidents of RAs.

7.1.7 (Mr Branski, 30 April 2013): President of CBS and Secretariat to prepare a first draft proposal for coordinating planning and implementation between CBS and RAs.

7.1.8 (All CBS-MG members, 31 May 2013): All CBS-MG members to provide comments and work by correspondence on the draft document on coordination between CBS and RAs, for further consideration at the informal CBS-MG meeting.

7.2 REQUESTS FROM OTHER TECHNICAL COMMISSIONS

Space Weather

7.2.1 In 2008, Space Weather was identified by Congress as an area that WMO needs to address. The ICT-SW was formed to lead WMO's contributions.

7.2.2 CBS will continue to approve the Terms of Reference of ICT-SW in consultation with CAeM.

7.2.3 The work plan of the ICT-SW should be approved by CBS-MG and CAeM-MG, and the CBS and CAeM sessions informed.

7.2.4 ICT-SW will need to implement an expert team structure, and will need a supporting budget and secretariat support.

7.2.5 The ICT-SW work plan should be recorded alongside the work plans of the CBS OPAGs.

7.2.6 The observations component of Space Weather should be a part of WIGOS.

7.2.7 WIS must support Space Weather, including WIS centres, metadata representation and data representation.

7.2.8 (Chair OPAG-IOS, June 2013): ICT-SW should continue to encourage Space Weather Centres to register as DCPCs with WIS.

7.2.9 (Chair OPAG-DPFS, June 2013): OPAG DPFS should produce a briefing paper for ICT-SW on the work of DPFS, and propose that the space weather work forms part of the Manual.

CHy

7.2.10 CHy has developed a standard for representing hydrological information in XML. The approach is consistent with that being taken for aviation XML. There are advantages to CHy from having their standard adopted by ISO. They have asked CBS to steer the standard through the ISO approvals process.

7.2.11 CBS-MG agreed that CBS will sponsor the WaterML2 standard as an ISO standard as a pilot for taking other WMO standards through the process.

7.2.12 CHy would like hydrological observations to have the same status as other WMO observations. They will also be introducing DCPCs and other WIS centres.

8 TECHNICAL REGULATIONS

8.1 Modifications required as a result of the EC review of Technical Regulations

8.1.1 Mr Shi outlined the changes to the structure of Technical Regulations (WMO-No 49) that were agreed at EC-64. EC-64 approved a change to the practice of publishing Guides. In the past CBS could authorise publication of changes to Guides, but EC has now decided that EC (or

Congress) must approve such changes. CBS Management Group has been asked provide feedback on the proposed structure of Technical Regulations.

8.1.2 (OPAG Chairs, June 2013): OPAG chairs should review which Guides they publish, and submit recommendations to the next meeting of CBS-MG.

8.1.3 Mr Branski noted that feedback on Technical Regulations must make it clear that the TT-WRM will recommend changes to the structure, but that this is very much work in progress. CBS feedback should also include a list of Guides that are in place. The Publication Board minutes imply that the WIGOS structure is more advanced than it is; this misconception should be corrected.

8.1.4 (Dr Zhang, 7 February 2013): D/OBS will write to the Publications Board asking for a correction to the minutes of the September meeting.

8.1.5 The approach to be used in the new form of Technical Regulations is to place a few, carefully worded, statements in the top level of the Technical Regulations that give authority to a Manual to contain the detailed regulations. This eases management of the Technical Regulations, and makes it easier for users to find the information that is relevant to them.

8.1.6 Congress has delegated to some Commissions, including CBS, the authority to implement certain types of change without having to refer them to Congress.

8.1.7 The structure meets the needs of OPAGs ISS and for the first time proposes to include material from PWS.

8.1.8 Cg-XVI and CBS-15 both recognised that the GDPFS is now much broader than originally conceived, and that it will need to evolve further to meet future needs. The structure of the associated Technical Regulations needs to reflect this.

8.1.9 (Mr Branski, 31 March 2013): The CBS feedback on the structure of the Technical Regulations should include the revised structure for DPFs that is shown in Annex 6.

8.1.10 The feedback to the Publications Board should ask for early access to the draft guidelines on how to write Technical Regulations to avoid having to do a significant amount of rework when drafting the WIGOS regulations.

8.1.11 Volume 4 (Quality Management) may overlap with what is being drafted for WIGOS. The quality management aspects of WIGOS should be included in the WIGOS section. Volume 4 should be concerned with Quality Management on how WMO works and refer to other parts of Technical Regulations for quality management of the operational systems.

8.1.12 Guides are essential for the correct operation of CBS systems. However, their content should be kept under review and any aspects that are more appropriate as Regulations should be migrated to the Manuals.

8.1.13 (Dr Barrell, 1 March 2013): The agenda for ICG-WIGOS should include an item on what aspects of Quality Management should be included in the WIGOS manual.

8.1.14 The proposed structure of Technical Regulations does not appear to include the concept of the World Weather Watch. An introductory section is needed to describe the key operational activities of WMO such as WWW, GAW and GCW. This should be included in the feedback.

8.1.15 (Mr Shi, 31 January 2013): The Secretariat will draft by the end of January a response to the Publications Board proposals for Technical Regulations for review by Management Group. This will contain a note on the status of WIGOS material, the need to have World Weather Watch etc defined, and the changes needed for the DPFs area. (See paras 8.1.9, 8.1.10, 8.1.11, 8.1.14).

8.2 Technical changes not included in the CBS-15 documents

8.2.1 OPAG-ISS has proposed a change to the Manual on the GTS that was omitted from the documents that were submitted to CBS-15. It concerns a change to the definition of a communications “circuit” to reflect the use of the term in modern technologies.

8.2.2 CBS-MG agreed that the Note on the definition of circuits in Annex 7 could be included in the changes in the Manual on GTS presented to EC.

8.2.3 CBS-MG approved the terminology for the status of GTS Links in Annex 7.

8.2.4 Management Group noted that Presidents of Technical Commissions had approved version 1.3 of the WMO Core Metadata Profile.

9 DATE AND VENUE FOR NEXT SESSION OF CBS MANAGEMENT GROUP

9.1 CBS-MG agreed to hold an informal meeting (half-day) during the upcoming Executive Council (EC) session (May 2013). OPAG chairs were encouraged to take should they be selected as a member of the advisory team of a Member of the EC.

9.2 CBS -MG agreed that it would be worthwhile to have a 1-day meeting immediately before the next CBS session.

10 OTHER BUSINESS

Arrangements for WWW 50th Anniversary

10.1 The Vice-President of CBS, Dr Sue Barrell, recalled that the Executive Council, at its 64th session (June 2012), agreed that the 50th anniversary of the WWW should be a sub-title or sub-theme of the World Meteorological Day in 2013 (WMD 2013), which will be celebrated on 21st March 2013. D/OBS briefed that there will be a Scientific and Technical Forum to celebrate the 50th anniversary of the WWW in the morning of 21st March 2013, as part of the WMD 2013, in addition to the traditional WMD ceremony in the afternoon. There will be a panel of five or six speakers to address historical and future aspects of the components of the WWW. A draft programme was under development.

10.2 Management Group was also informed that there will be two special issues of the WMO Bulletin in 2013 focused on the WWW. The first special issue will include an article on the Global Observing System (GOS) and WIGOS, and the second special issue will be a compilation of articles addressing the other various WWW components, future challenges and opportunities.

10.3 (OPAG Chairs, 31 July 2013): All OPAGs are asked to contribute to this second special issue of the WMO Bulletin with an article of 3000 to 5000 words with pictures. The target date is the end July 2013). CBS-MG suggested that the theme of this 2nd special issue should be the “socio-economic benefit of the WWW”.

Arrangements and topic for the next CBS session

10.4 Mr Branski informed CBS-MG that India had initially expressed interest to host the next CBS session, but there had been no further developments since the discussions with the Indian delegation at CBS-15.

10.5 Recently, the President of RA III has informally informed the President of CBS that Paraguay is prepared to host the next session of CBS, which is planned to be held in September 2014 in conjunction with the RA III session. TECO theme is still to be discussed as there are benefits in selecting a theme of importance to RA III so that there can be a joint CBS/RA III TECO.

10.6 CBS-MG discussed the need for holding an extraordinary session of CBS. Mr Branski recalled Regulation 187 of the WMO Convention:

“(a) Ordinary sessions of a commission shall normally be held at intervals not exceeding four years;

(b) An extraordinary session of a commission may be convened by decision of Congress or the Executive Council, if so recommended by the commission either in session or through a vote by correspondence which will be conducted after receiving requests from one third of the Members represented on the Commission.”

10.7 CBS-MG agreed that the next session of CBS should not be called “extraordinary” and that should be focus on decisions and actions, rather than reporting on the activities, and that it should concentrate on addressing the WMO high priority activities.

11 CLOSURE OF THE SESSION

11.1 CBS-MG agreed on a list of decisions and actions. The Secretariat should finalize the draft report and circulate it for comments. CBS-MG members should provide their comments by 15 February 2013 through the CBS-MG e-mail list and its associated Google Group.

11.2 Mr Branski thanked the active participation of the members of CBS-MG and expressed appreciation for the presence of the President of WMO at the meeting (on Saturday), which was very useful in the discussions on the developments of the GFCS and improving interactions between TCs and RAs. Mr Branski may share with other TC presidents the usefulness of these discussions and involvement of the President of WMO. The President of CBS thanked the Secretariat for the support provided throughout the meeting.

11.3 The meeting of the CBS Management Group closed at 14:25 on Saturday, 19 January 2013.

ACTION AND DECISION SUMMARY

ACTIONS

- 1.4.2(a) (Secretariat, May 2013): CBS-MG13: The PWS practice of putting photographs of experts on the website needs to be extended to all other teams (continuing action).
- 1.4.2(b) (OPAG Chairs: September 2013): CBS-MG 13: 3.2.1: terms of reference for focal points still need to be published (continuing action).
- 4.1.2 (OPAG Chairs, April 2012): OPAG Chairs, supported by the Secretariat, must encourage other commissions to nominate members of Inter-Programme Expert Teams, probably as Associate Members, and attendance at meetings would preferably be funded by the other commission.
- 4.1.5 (Chair OPAG-IOS, one month after first IPET-WIFI meeting): IPET-WIFI will invite other Commissions to participate once the work plan has been outlined at the first meeting.
- 4.1.7 (Chair OPAG-IOS, April 2013): There needs to be a formal link between IPET-WIFI and CIMO.
- 4.1.8 (Mr Branski, end February 2013): The president will pass a copy of the list of expert teams to HMEI so that they can propose self-funded membership of teams, indicating which groups CBS considers would benefit from industry representation.
- 4.1.9 (OPAG Chairs, end February 2013): Not all OPAG-IOS Expert Teams have draft work plans. Several of the work plan objectives need to be clarified to make them more specific. In general, the summary needs to include the deliverables as well as the meetings and activities needed to deliver them.
- 4.2.6 (Chair OPAG-ISS, February 2013): CBS-MG asked IPET-MDRD to consider the requirements for metadata to support Space Weather when it reviews the Core Profile.
- 4.2.8 (Foreman, 1 February 2013): The Secretariat will develop a format for the work plans.
- 4.2.9 (OPAG Chairs, 28 February 2013): OPAG Chairs must complete documentation of the work plans of the OPAGs before the end of February 2013.
- 4.3.1 (Chair OPAG-DPFS, June 2013): OPAG-DPFS should consider whether there is a centre in RA 1 that could take on the role of an RSMC with activity specialization in Environmental Emergency Response (EER).
- 4.4.3 (Chair OPAG-PWS, April 2013): A member from Region 3 should be identified for ET-DPM because there appears to be a capacity building issue there.
- 4.4.7 (Chair OPAG-PWS, June 2014): OPG-PWS should progress a methodology for attributing benefit to component to help build the case for support infrastructure.
- 4.4.8 (Chair OPAG-PWS, June 2014): PWS should investigate creating a standard method of verifying forecasts in the media, especially those presented on the internet .
- 5.1.3 (OPAG Chairs, 25 January 2013): OPAG chairs should send proposals to Mr Branski by 25 January on the following topics in relation to GFCS: early priorities for CBS; milestones for the first two years; points of engagement with GFCS; what we already do that is relevant to GFCS roles and responsibilities (including effective distribution of work and working together with other TCs and RAs); where we will be in 6- and 10-years, focusing on 6-years..
- 5.1.5 (OPAG Chairs, May 2013): OPAG work plans must be updated to take account of GFCS requirements.

5.2.9 (Chair OPAG-IOS, April 2013): Although global WIGOS activities have covered many of the requirements of SWFDP, issues such as radar need to be taken up in the regional plans for WIGOS.

5.2.10 (Chairs OPAG-DPFS, -ISS, -IOS, June 2013): The OPAG on DPFS should work with OPAGs IOS and ISS to identify how meeting the challenge of very short range forecasting (0-12h) will impact on WIS and WIGOS plans.

5.2.11 (Chair OPAG-DPFS, next ET-SAT meeting): The OPAG on DPFS should brief ET-SAT on the SWFDP, including the issue that radar data is not available in some regions, even if radars are installed, and reliance is placed on satellite information.

5.2.13 (Chair OPAG-ISS, June 2013): OPAG-ISS WIS needs to collect the requirements for information exchange at regional, or sub-regional, levels so that appropriate solutions can be introduced, which may not be the traditional solution of moving raw information around; prepare a plan for doing this.

5.2.14 (OPAG Chairs, June 2013): All OPAG-Chairs must review their work plans and make sure that they include the needs of SWFDP.

5.2.15 (Chair OPAG-DPFS, May 2013): In preparation for an informal meeting of CBS-MG at EC, the OPAG on DPFS should prepare a draft of a concept paper that describes what is needed from CBS teams for SWFDP, and also describes what is needed for a global SWFDP approach.

5.5.4 (Dr Gusev and Dr Barrell, 28 February 2013): CBS needs to build a strategy for interaction with GFCS. ICG-WIGOS is taking place in March, and this relationship with GEO is relevant to that. In preparation for EC, Dr Gusev and Dr Barrell will work with OPAG-IOS and OPAG-ISS and the Director of GEO, to draft a strategy for identifying engagement between CBS systems, GFCS and GEOSS and submit this to GEOSS. This could then be used for the IGB.

5.5.5 (Dr Barrell and Dr Zhang, February 2013): Invite Director GEO Secretariat to ICG-WIGOS to discuss the relationship of WIGOS, CBS and GEO to GFCS.

5.6.3 (Chair OPAG-DPFS, June 2013): OPAG on DPFS must include contributions to planning and implementation of the S2S initiative in its workplans.

5.6.4 (Chair OPAG-PWS, June 2013): OPAG on PWS is to consider the needs of the Subseasonal to Seasonal Prediction Project for service delivery when managing the work plan of the OPAG..

6.5 (Mr Branski, 15 March 2013): The President of CBS will prepare a paper to present to the EC WG SOP summarizing these discussions, highlighting the fact that there are fundamental changes in the organization, and that this is just one of the aspects.

6.7 (Mr Branski, 15 March 2013): Mr Branski will prepare a paper on the lessons learned from CBS-15 (based on the information provided in Annex 5) to present to EC WG SOP.

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7.1.4 (OPAG Chairs, June 2014): All OPAG chairs should discuss the relationship between CBS and RAs within their OPAGs.

7.1.6 (Mr Branski, 28 February 2013): President of CBS to share the CBS teams' membership with presidents of RAs.

7.1.7 (Mr Branski, 30 April 2013): President of CBS and Secretariat to prepare a first draft proposal for coordinating planning and implementation between CBS and RAs.

7.1.8 (All CBS-MG members, 31 May 2013): All CBS-MG members to provide comments and work by correspondence on the draft document on coordination between CBS and RAs, for further consideration at the informal CBS-MG meeting.

7.2.8 (Chair OPAG-IOS, June 2013): ICT-SW should continue to encourage Space Weather Centres to register as DCPCs with WIS.

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8.1.9 (Mr Branski, 31 March 2013): The CBS feedback on the structure of the Technical Regulations should include the revised structure for DPFS that is shown in Annex 6.

8.1.13 (Dr Barrell, 1 March 2013): The agenda for ICG-WIGOS should include an item on what aspects of Quality Management should be included in the WIGOS manual.

8.1.15 (Mr Shi, 31 January 2013): The Secretariat will draft by the end of January a response to the Publications Board proposals for Technical Regulations for review by Management Group. This will contain a note on the status of WIGOS material, the need to have World Weather Watch etc defined, and the changes needed for the DPFS area. (See paras 8.1.9, 8.1.10, 8.1.11, 8.1.14).

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DECISIONS

1.4.1 Management Group agreed that the draft minutes of the thirteenth meeting were an accurate record of the meeting and adopted them.

3.4 Management Group recognised that it was important to take account of the needs expressed by the Regional Associations when preparing work plans.

4.1.1. Management Group decided that ET co-chairs should normally be “associate members” of the ICT rather than Core members (for all OPAGs).

4.1.3 When a cross-cutting Expert Team (e.g. IPET-OSDE or IPET-MDRD) requests another Expert Team to send a representative, the Secretariat responsible for the team making the request (D/OBS or D/WIS) should define which team's budget should meet the cost.

4.2.3 Approval of membership of the OPAG sub-teams (Task Teams) will be by correspondence. The expectation is that task teams will work primarily by correspondence.

4.5.3 Co-chairs share the work with the Chair and can chair the meeting in the absence of the chair. Vice-Chair is a development role in leading international activities. IOS will retain vice-chairs at ET level. If there is no co-chair of at Expert Team, the OPAG chair or co-chair would chair an expert team meeting.

4.5.4 CBS-MG agreed the membership of the expert teams in all OPAGs as shown in Annex 3.

5.1.6 Mr Branski informed CBS-MG that he had asked Mr dell'Acqua (Chair OPAG-ISS) to represent CBS on the EC Task Team on WMO Policy for International Exchange of Climate Data and Products to Support the Implementation of the GFCS, established by EC-64 (Resolution 4).

5.1.9 CBS-MG considered that Resolution 40 (Cg-XII) adequately addresses data and products for the provision of climate services, with the exception of historical datasets which are not at present part of the essential products.

5.1.11 CBS-MG noted that Resolution 40 (Cg-XII) was agreed after a long and detailed debate, and therefore CBS-MG needs further clarification on the requirements of GFCS before being able to provide any guidance or suggestions to the EC Task Team.

5.4.5 Evolution of OSCAR should be designed to answer the typical questions of those designing and using observing systems.

6.2 CBS-MG agreed that CBS is a well-known brand.

6.3 CBS-MG agreed that there are a number of emerging aspects within WMO, including the GFCS that may significantly impact the whole organization. In addition, in CBS name, “S” could represent both “Systems” and “Services”.

6.9 The review on the lessons learned from CBS sessions should be part of the Quality Management System (QMS) for the Commission.

7.1.5 CBS-MG agreed that the relationship between CBS and RAs should be built upon the SWFDP and WIGOS models.

7.2.2 CBS will continue to approve the Terms of Reference of ICT-SW in consultation with CAeM.

7.2.3 The work plan of the ICT-SW should be approved by CBS-MG and CAeM-MG, and the CBS and CAeM sessions informed.

7.2.5 The ICT-SW work plan should be recorded alongside the work plans of the CBS OPAGs.

- 7.2.6 The observations component of Space Weather should be a part of WIGOS.
- 7.2.7 WIS must support Space Weather, including WIS centres, metadata representation and data representation.
- 7.2.11 CBS-MG agreed that CBS will sponsor the WaterML2 standard as an ISO standard as a pilot for taking other WMO standards through the process.
- 8.1.12 Guides are essential for the correct operation of CBS systems. However, their content should be kept under review and any aspects that are more appropriate as Regulations should be migrated to the Manuals.
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- 8.2.3 CBS-MG approved the terminology for the status of GTS Links in Annex 7.
- 9.1 CBS-MG agreed to hold an informal meeting (half-day) during the upcoming Executive Council (EC) session (May 2013). OPAG chairs were encouraged to take should they be selected as a member of the advisory team of a Member of the EC.
- 9.2 CBS -MG agreed that it would be worthwhile to have a 1-day meeting immediately before the next CBS session.
- 10.7 CBS-MG agreed that the next session of CBS should not be called “extraordinary” and that should be focus on decisions and actions, rather than reporting on the activities, and that it should concentrate on addressing the WMO high priority activities.
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ANNEX 1: AGENDA

1 Organization of the meeting
1.1 Opening of the session
1.2 Adopt the agenda
1.3 Working arrangements for the session
1.4 Approve minutes of 13th meeting
2 Goals and Objectives for the Meeting
3 Responsibilities of management group members
4 Approval of Work Plans
4.1 OPAG IOS
Approve membership of IOS Expert Teams
Approve work plan of IOS 2013-2014
4.2 OPAG ISS
4.4 OPAG DPFS
4.4 OPAG PWS
5 Cross-cutting activities
5.1 Global Framework for Climate Services (GFCS)
5.2 Severe weather forecasting demonstration project
5.3 Disaster Risk Reduction
5.4 WIGOS
5.5 Implications of GEOSS
5.6 Subseasonal to Seasonal (S2S) Predictions
6 CBS contribution to the EC Working Group on Strategic and Operational Planning
a. Agree statement from CBS for presentation to EC WG SOP on the name of the Commission
b. Quality Management and the operation of CBS
c. Lessons learned from CBS-15
7 Working with the regional Associations and other Technical Commissions
7.1 Regional Associations

7.2 Requests from other Technical Commissions
a. Space Weather
b. CHy
8.1 Modifications required as a result of the EC review of Tech Regs
Agree changes to structure of CBS components of Tech Regs
8.2 Technical changes not included in the CBS-15 documents
9 Date and venue for next session of CBS Management Group
10 Other Business
a. Arrangements for WWW 50th celebration
b. Arrangements and topics for next CBS session
11 Closure of the session

ANNEX 2: LIST OF PARTICIPANTS IN THE FOURTEENTH SESSION OF THE COMMISSION FOR BASIC SYSTEMS MANAGEMENT GROUP

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ANNEX 3: CBS EXPERT TEAM MEMBERS

MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)

IMPLEMENTATION COORDINATION TEAM ON INTEGRATED OBSERVING SYSTEM (ICT-IOS)

Member name	Country / Agency	RA	Position / Representing
Lars Peter RIISHOJGAARD (Chair)	United States	4	Core
Jochen DIBBERN (Co-chair)	Germany	6	Core / Chair, IPET-WIFI
John EYRE	UK	6	Core / Chair IPET-OSDE
Stuart GOLDSTRAW	UK	6	Core / Chair ET-SBO
Frank GROOTERS	Netherlands	6	Core / Chair ET-ABO
Anthony REA	Australia	5	Core / Chair ET-SUP
Jack KAYE	United States	4	Core / Chair ET-SAT
Jose Arimatea De SOUSA BRITO	Brazil	3	Core / Chair SG-RFC
Russell STRINGER	Australia	5	Core / Vice-chair IPET-WIFI
Jay LAWRIMORE	United States	4	Core / Vice-chair IPET-OSDE
Eric ANDERSSON	ECMWF	6	Core / R-SEIS
Candyce CLARK	United States	4	Core / R-MAR
Yoshiaki SATO	Japan	2	Associate / R-SEIS
Gilles FOURNIER (Vice-chair)	Canada	4	Associate / Vice-chair ET-ABO, Vice-chair SG-RFC
Henry KARANJA (Vice-chair)	Kenya	1	Associate / Vice-chair ET-SBO

Member name	Country / Agency	RA	Position / Representing
Jun YANG (Vice-chair)	China	2	Associate / Vice-chair ET-SAT
Anthony MOSTEK (Vice-chair)	United States	4	Associate / Vice-chair ET-SUP

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

**INTER-PROGRAMME EXPERT TEAM ON THE OBSERVING SYSTEM DESIGN AND
EVOLUTION (IPET-OSDE)**

Member name	Country / Agency	RA	Position / Representing
John EYRE (Chair)	United Kingdom	6	Core
Jay LAWRIKORE (Vice-chair)	United States	4	Core / (TBD: Representing also GCOS)
Erik ANDERSSON	ECMWF	6	Core / R-SEIS
Stuart GOLDSTRAW	United Kingdom	6	Core / Chair, ET-SBO
Bai LI	China	2	Core
Dr Guimei LIU	China	2	Core / JCOMM
Varanise VUNIYAYAWA	Fiji	5	Core / CCI
Yoshiaki SATO	Japan	2	Core / R-SEIS
Lars Peter RIISHOJGAARD	United States	4	Associate / Chair, ICT-IOS
Jochen DIBBERN	Germany	6	Associate / Co-chair, ICT- IOS
Russell STRINGER	Australia	5	Associate / Vice-chair, IPET- WIFI
Frank GROOTERS	Netherlands	6	Associate / Chair, ET-ABO
Anthony REA	Australia	5	Associate / Chair, ET-SUP
Sid-Ahmed BOUKABARA	United States	4	Associate / ET-SAT
Paolo AMBROSETTI	Switzerland	6	Associate / DPFS
Wolfgang FRICKE	Germany	6	Associate / CAS
Jitze VAN DER MEULEN	Netherlands	6	Associate / CAeM

Member name	Country / Agency	RA	Position / Representing
Ali MAFIMBO	Kenya	1	Associate / JCOMM
Rosemary MUNRO	EUMETSAT	6	Associate / EUMETSAT
Jean-Blaise NGAMINI	ASECNA	1	Associate / ASECNA
Stefan KLINK	EUCOS	6	Associate / EUCOS
Jan Renè LARSEN		6	Associate / SAON
Jeff KEY		4	Associate / GCW
Thomas SZYNBORSKI	United States	4	Associate
TBD		3	Associate / Representing RA III
TBD			Associate / CIMO
TBD			Associate / CHy
TBD			Associate / CAgM
TBD			Associate / GCOS
TBD			Associate / HMEI

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

**INTER-PROGRAMME EXPERT TEAM ON WIGOS FRAMEWORK IMPLEMENTATION
MATTERS (IPET-WIFI)**

Member name	Country / Agency	RA	Position / Representing
Jochen DIBBERN (Chair)	Germany	6	Core / Also Reg. WIGOS representative
Russell STRINGER (Vice-chair)	Australia	5	Core / Chair, ICG-WIGOS TT-WRM, and Reg. WIGOS representative
Jose Arimatea De SOUSA BRITO	Brazil	3	Core / Reg. WIGOS representative (also Chair, SG-RFC)
Brian HOWE	Canada	4	Core / Chair, ICG-WIGOS TT-WMD
Kevin SCHRAB	United States	4	Core / IPET-WIFI SG-WQM (Chair, nominee)
ZHAO Datong	China	2	Core / IPET-WIFI SG-WIR (Chair, nominee)
Jean Blaise NGAMINI	ASECNA	1	Core / ASECNA
Karl MONNIK	Australia	5	Core / Member, ICG-WIGOS TT-WMD, and Chair, IPET-WIFI SG-Meta Data
Volker KURZ	Germany	6	Core / CIMO Representative
TBD			Core / CAS
Nish DEVANUTHAN	South Africa	1	Associate / Reg. WIGOS representative
TBD		2	Associate / Reg. WIGOS

Member name	Country / Agency	RA	Position / Representing
			representative
Michel ROSENGAUS	Mexico	4	Associate / Reg. WIGOS representative
Mario Jorge GARCIA	Argentina	3	Associate / Member of CIMO MG
Rainer MÄRZ	Germany	6	Associate
Jae Gwang WON	South Korea	2	Associate
Sahibzad KHAN	Pakistan	2	Associate
Alexander VASILIEV	Russian Fed.	6	Associate
Rabia MERROUCHI	Morocco	1	Associate
Branislav CHVILA	Slovakia	6	Associate
Tim OAKLEY	United Kingdom	6	Associate
TBD			Associate / CAeM
TBD			Associate / CHy
TBD			Associate / CAgM
TBD			Associate / JCOMM
TBD			Associate / CCI
TBD			Associate / HMEI

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

EXPERT TEAM ON AIRCRAFT-BASED OBSERVING SYSTEMS (ET-ABO)

Member name	Country / Agency	RA	Position / Representing
Frank GROOTERS (Chair)	Netherlands	6	Core
Gilles FOURNIER (Vice-chair)	Canada	4	Core
Michael ESLER	Australia	5	Core
Juan HORLER	Argentina	3	Core
LI Wei	China	2	Core
Jean NGAMINI	Senegal	1	Core / ASECNA
Jochen DIBBERN	Germany	6	Associate / Co-chair, ICT- IOS
Jitze van der MEULEN	Netherlands	6	Associate
Junichi ISHIDA	Japan	2	Associate
Francis MOSETHLO	South Africa	1	Associate
Stewart TAYLOR	United Kingdom	6	Associate
Axel HOFF	Germany	6	Associate / Chair, CIMO-ET
Yvan LEMAITRE	France	6	Associate
Steve STRINGER	United Kingdom	6	Associate
Carl WEISS	United States	4	Associate
Bojan LIPOVSCAK	Croatia	6	Associate
Muhammad HANIF	Pakistan	2	Associate
Neil HALSEY	ICAO	n/a	Associate / ICAO

Member name	Country / Agency	RA	Position / Representing
Tammy FARRAR		n/a	Associate / FAA
Hans-rudi SONNABEND		n/a	Associate / IATA
Bryce FORD		n/a	Associate / HMEI
Thierry LeGALL		n/a	Associate / HMEI
Neil JACOBS		n/a	Associate / HMEI
Jeannine HENDRICKS		n/a	Associate / HMEI

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

EXPERT TEAM ON SURFACE-BASED OBSERVING SYSTEMS (ET-SBO)

Member name	Country / Agency	RA	Position / Representing
Stuart GOLDSTRAW (Chair)	United Kingdom	6	Core
Henry KARANJA (Vice-chair)	Kenya	1	Core
LI Wei	China	2	Core
Edmundo Lucas WALLACE	Brazil	3	Core
Richard ICE	United States	4	Core
Karl MONNIK	Australia	5	Core / Member, ICG-WIGOS TT-WMD, and Chair, IPET-WIFI SG-Meta Data
Daniel MICHELSON	Sweden	6	Core
Islam AMEEN	Egypt	1	Core
Seong-Chan PARK	South Korea	2	Core
Jochen DIBBERN	Germany	6	Associate / Co-chair, ICT- IOS
Jeong-Hee KIM	South Korea	2	Associate
Yusuke KAJIWARA	Japan	2	Associate
Edmundo LUCAS	Brazil	3	Associate
Dominique RUFFIEUX	Switzerland	6	Associate
Jean-Luc CHZE	France	6	Associate
Elena SALTIKOFF	Finland	6	Associate

Member name	Country / Agency	RA	Position / Representing
Oguzhan SIRECI	Turkey	6	Associate
Thomas SZYNBORSKI	United States	4	Associate
TBD			Associate / HMEI

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

STEERING GROUP ON RADIO FREQUENCIES COORDINATION (SG-RFC)

Member name	Country / Agency	RA	Position / Representing
Jose Arimatea DE SOUSA BRITO (Chair)	Brazil	3	Core
Gilles FOURNIER (Vice-chair)	Canada	4	Core
Henry N. KARANJA	Kenya	1	Core
Ming ZHANG	China	2	Core
David FRANC	United States	4	Core
Paul HETTRICK	Australia	5	Core
Philippe TRISTANT	EUMETNET	6	Core / Self funded
Markus DREIS	EUMETSAT	6	Core / Self funded
Eric ALLAIX	France	6	Core
Alastair PRICE	United Kingdom	6	Core
Wilson Giometti SANDOVAL	Brazil	3	Core
Vadim NOZDRIN	ITU	6	Core / Self funded
Lars Peter RIISHOJGAARD	United States	4	Associate / Chair, ICT-IOS
Robert DENNY	United States	4	Associate
Mamina KAMARA	Senegal	1	Associate
Bryan HODGE	Australia	5	Associate
Jing NIE	China	2	Associate
Zhihong JIA	China	2	Associate

Member name	Country / Agency	RA	Position / Representing
Bongju LEE	South Korea	2	Associate
James MENTZER	United States	4	Associate
Aline KRAAI	Netherlands	6	Associate / CIMO
Oguzhan SIRECI	Turkey	6	Associate / CIMO (alternate)
Bernhard PACHER	HMEI	-	Associate / HMEI

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

EXPERT TEAM ON SATELLITE SYSTEMS (ET-SAT)

Member name	Country / Agency	RA	Position / Representing
Jack KAYE (Chair)	United States	4	Core / NASA
Jun YANG (Vice-chair)	China	2	Core / CMA
Ivan PETITEVILLE	ESA	6	Core / ESA
Lorenzo SARLO	EUMETSAT	6	Core / EUMETSAT
Peter ALBERT	EUMETSAT	6	Core / EUMETSAT
Yasushi IZUMIKAWA	Japan	2	Core / JMA
Dohyeong KIM	Rep. of Korea	2	Core / KMA
Kleber Renato ATAIDE	Brazil	3	Core / AEB/INPE
A. K. SHARMA	India	2	Core / IMD
Riko OKI	Japan	2	Core / JAXA
Guennadi KROUPNIK	Canada	4	Core / CSA
Sid-Ahmed BOUKABARA	United States	4	Core / NOAA
Albrecht von BARGEN	Germany	6	Core / DLR
Elena Baeva	Russian Fed.	6	Core / ROSHYDROMET
CHEN Zhasheng	China	2	Core / CNSA
K. N. MANKAD (TBC)	India	2	Core / ISRO
Lars Peter RIISHOJGAARD	United States	4	Associate / Chair, ICT-IOS

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

EXPERT TEAM ON SATELLITE UTILIZATION AND PRODUCTS (ET-SUP)

MEMBER NAME	COUNTRY / AGENCY	RA	POSITION REPRESENTING
ANTHONY REA (CHAIR)	AUSTRALIA	5	CORE
ANTHONY MOSTEK (VICE-CHAIR)	UNITED STATES	4	CORE
HIROSHI KUNIMATSU	JAPAN	2	CORE
LUIZ MACHADO	BRAZIL	3	CORE
IGNATIUS GITONGA GICHONI	KENYA	1	CORE
XIANG FANG	CHINA	2	CORE
SIMON KEOGH	UNITED KINGDOM	6	CORE
SUMAN GOYAL	INDIA	2	CORE
SERGEI USPENSKY	RUSSIAN FED.	6	CORE
RICHARD ECKMAN	UNITED STATES	4	ASSOCIATE / ATMOSPHERIC COMPOSITION COMMUNITY
LARS PETER RIISHOJGAARD	UNITED STATES	4	ASSOCIATE / CHAIR, ICT- IOS
SALLY WANNOP	EUMETSAT	6	ASSOCIATE / EUMETSAT
JEAN-LOUIS FELLOUS	JCOMM		ASSOCIATE / JCOMM
STEPHEN ENGLISH	ECMWF	6	ASSOCIATE / NWP

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INTEGRATED OBSERVING SYSTEM (OPAG IOS)**

INTER-PROGRAMME COORDINATION TEAM ON SPACE WEATHER (ICTSW)

Member name	Country / Agency	RA	Position / Representing
Terrance ONSAGER (Co-chair)	United States	4	Core / Co-chair/ NOAA, ISES
Xiaoxin ZHANG (Co-chair)	China	2	Core / Co-chair/CMA
Dave NEUDEGG	Australia	5	Core / BOM/IPS
Ronald VAN DER LINDEN	Belgium	6	Core / Observatoire Royal
Clezio Marcos De NARDIN	Brazil	3	Core / INPE
Larisa TRICHTCHENKO	Canada	4	Core / Geomagnetic Laboratory
Alain HILGERS	ESA	6	Core / ESA
Neil MITCHISON	EC	6	Core / JRC
Yitaktu TESFATSION	Ethiopia	1	Core / NMA
Kirsti KAURISTIE	Finland	6	Core / FMI
Nicole VILMER	France	6	Core / Observatoire de Paris
Norbert JAKOWSKI	Germany	6	Core / DLR
Raul ROMERO	ICAO		Core / ICAO
Daniele BIRON	Italy	6	Core / SM
Bruno ZOLESI	Italy	6	Core / INGV
Mauro MESSEROTTI	Italy	6	Core / INAF
David BOTHA	ITU		Core / ITU
Mamoru ISHII	Japan	2	Core / NICT
Hans HAUBOLD	UNOOSA		Core / UNOOSA
Muhammad Ayyaz AMEEN	Pakistan		Core / SUPARCO
Jinwook HAN	Rep. of Korea	2	Core / RRA
Daeyun SHIN	Rep. of Korea	2	Core / KMA
Vyacheslav A. BUROV	Russian Fed.	6	Core / IAG
Lee-Anne MCKINNELL	South Africa	1	Core / SANSA

Member name	Country / Agency	RA	Position / Representing
Werner SCHMUTZ	Switzerland	6	Core / PMOD/WRC
Wirat WARANUCHIT	Thailand	2	Core / TMD
David JACKSON	United Kingdom	6	Core / Met Office
Joseph M. DAVILA	United States	4	Core / NASA
Mangala SHARMA	United States	4	Core / Dept. of State
Henrik LUNDSTEDT	Sweden	6	Core/SISP
Mike TERKILDSEN	Australia	5	Associate / BOM/IPS
Matt FRANCIS	Australia	5	Associate / BOM/IPS
Murray PARKINSON	Australia	5	Associate / BOM/IPS
Richard MARSHALL	Australia	5	Associate / BOM/IPS
René WARNANT	Belgium	6	Associate / IRM
Jan JANSSENS	Belgium	6	Associate/ORB
Joaquim Eduardo Rezende COSTA	Brazil	3	Associate / INPE
Jingsong WANG	China	2	Associate/CMA
Sergio BUONOMO	ITU		Associate / ITU
Shinichi WATARI	Japan	2	Associate/NICT

OPAG-ISS

MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME AREA GROUP ON INFORMATION SYSTEMS AND SERVICES (OPAG ISS)

IMPLEMENTATION-COORDINATION TEAM FOR INFORMATION SYSTEMS AND SERVICES (ICT-ISS)

Member name:	Country / Agency:	RA	Position / Representing.
Matteo DELL'ACQUA (Chair)	France	6	Core
Kenji TSUNODA (Co-chair)	Japan	2	Core
Remy GIRAUD	ECMWF	6	Core / Chair, ET-CTS
Xiang LI	China	2	Core / Chair, ET-WISC
Simon ELLIOTT	EUMETSAT	6	Core / Chair, IPET-DRMM
Jeremy TANDY	United Kingdom	6	Core / Chair, IPET-MDRD
Ilona GLASER	Germany	6	Associate / Co-Chair, ET-CTS
AI KELLIE	United States	4	Associate / Co-Chair, ET-WISC
Markus HEENE	Germany	6	Associate / Co-Chair, ET-WISC
Jose Mauro REZENDE	Brazil	3	Associate / Co-Chair, IPET-DRMM
Jitsuko HASEGAWA	Japan	2	Associate / Co-Chair, IPET-DRMM
Eiji TOYODA	Japan	2	Associate / Co-Chair, IPET-MDRD

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INFORMATION SYSTEMS AND SERVICES (OPAG ISS)**

EXPERT TEAM ON TELECOMMUNICATIONS INFRASTRUCTURE (ET-CTS)

Member name:	Country / Agency:	RA	Position / Representing.
Remy GIRAUD	ECMWF	6	Core / Chair
Ilona GLASER	Germany	6	Core / Co-Chair
Colum GRANT	EUMETSAT	6	Core
Peter SILVA	Canada	4	Core
Hyukjin Yun	Republic of Korea	2	Core
Geoffrey MOLLOY	Australia	5	Core
Bernard WERWINSKI	United States	4	Core
Jose Luis GIANNI	Argentina	3	Core
Yoritsugi OHNO	Japan	2	Core
Cumbi Hugues AYINA AKILOTAN	Senegal	1	Core
Hongliang LANG	China	2	Core
Chouaibou GUEYE	Senegal	1	Associate
Henry N KARANJA	Kenya	1	Associate
Sunghoi HUH	Republic of Korea	2	Associate
Arash Seyed HAGHIGHI	Iran, Islamic Republic of	2	Associate
Dafi ELRYALAT	Jordan	2	Associate
Jose Mauro REZENDE	Brazil	3	Associate
Kevin ALDER	New Zealand	5	Associate

Member name:	Country / Agency:	RA	Position / Representing.
Bryan HODGE	Australia	5	Associate
Siarhei STRAZHNIKOV	Belarus	6	Associate
Erwan FAVENNEC	France	6	Associate
Colin MATHISON	United Kingdom	6	Associate
Kentaro TSUBOI	Japan	2	Associate
Phil CRAGG	United States	4	Associate
Alexandre SOLOVEYCHIK	Uzbekistan	2	Associate
Marcel MAVAMBO MAKUTA	Democratic Republic of Congo	1	Associate
Sung Soo DO	Republic of Korea	2	Associate
Dzhalil AKHTYAMOV	Russian Federation	6	Associate
Leonid BEZRUK	Russian Federation	6	Associate
Pavel MYKANOV	Russian Federation	6	Associate
Phil CHAMBERLAIN	United Kingdom	6	Associate

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INFORMATION SYSTEMS AND SERVICES (OPAG ISS)**

EXPERT TEAM ON WIS CENTRES (ET-WISC)

Member name:	Country / Agency:	RA	Position / Representing.
Xiang LI	China	2	Core / Chair
AI KELLIE	United States	4	Core / Co-Chair
Markus HEENE	Germany	6	Core / Co-Chair
Henry N. KARANJA	Kenya	1	Core
Lap Shun LEE	Hong Kong, China	2	Core
Jose Mauro REZENDE	Brazil	3	Core
Kevin ALDER	New Zealand	5	Core
Baudouin RAOULT	ECMWF	6	Core
Jacques ANQUETIL	France	6	Core
Sergey BELOV	Russian Federation	6	Core
Radia MERROUCHI	Morocco	1	Core
Sunghoi HUH	Republic of Korea	2	Core
Michelle de Thomasso	United States	4	Core
Lothar WOLF	EUMETSAT	6	Core
Colin MATHISON	United Kingdom	6	Core
Siarhei STRAZHNIKOV	Belarus	6	Core
Weiqing QU	Australia	5	Associate
Siarhei STRAZHNIKOV	Belarus	6	Associate

Member name:	Country / Agency:	RA	Position / Representing.
Antonio VOCINO	Italy	6	Associate
Dafi ELRYALAT	Jordan	6	Associate
Samuel MACHUA	Kenya	1	Associate
Chouaibou GUEYE	Senegal	1	Associate
Omer Hudai ALBAYRAK	Turkey	6	Associate
Duncan JEFFERY	United Kingdom	6	Associate
James PENMAN	United Kingdom	6	Associate
Bernd RICHTER	Germany	6	Associate
William Wim Van Dijk	New Zealand	5	Associate
Arif Mahamood RANA	Pakistan	2	Associate
Azmat Hyat AZMAT	Pakistan	2	Associate
Leonid BEZRUK	Russian Fed	6	Associate
Chris LITTLE	United Kingdom	6	Associate
Shigeharu NISHIKAWA	Japan	2	Associate
Jing ZHU	China	2	Associate
Fudi WANG	China	2	Associate
Marcel MAVAMBO MAKUTA	Congo	1	Associate
Sung Soo DO	Republic of Korea	2	Associate
Hyuk-Yin Yun	Republic of Korea	2	Associate
Pavel MYKANOV	Russian Fed	6	Associate

Member name:	Country / Agency:	RA	Position / Representing.
Alexandre SOLOVEYCHIK	Uzbekistan	2	Associate
Benjamin SACLIER	France	6	Associate
Walid GOMAA	Egypt	1	Associate

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INFORMATION SYSTEMS AND SERVICES (OPAG ISS)**

**INTER PROGRAMME EXPERT TEAM ON DATA REPRESENTATION MAINTENANCE
AND MONITORING (IPET-DRMM)**

Member name:	Country / Agency:	RA	Position / Representing.
Simon ELLIOT (Chair)	EUMETSAT	6	Core
Jose Mauro REZENDE (Co-chair)	Brazil	3	Core
Jitsuko HASEGAWA (Co-chair)	Japan	2	Core
Alexander KATS	Russian Federation	6	Core
Enrico FUCILE	ECMWF	6	Core
Fang ZHAO	China	2	Core
Yves PELLETIER	Canada	4	Core
Samuel MACHUA	Kenya	1	Core
Weiqing QU	Australia	5	Core
Robert BUNGE	United States of America	4	Core
Sibylle KREBBER	Germany	6	Core
Yasin ER	Turkey	6	Core
Richard WEEDON	United Kingdom	6	Associate
Dafi ELRYALAT	Jordan	6	Associate
Sunghoi HUH	Republic of Korea	2	Associate
Chouaibou GUEYE	Senegal	1	Associate
Hyukjin Yun	Republic of Korea	2	Associate
Eiji TOYODA	Japan	2	Associate

Member name:	Country / Agency:	RA	Position / Representing.
Do Young RYU	Republic of Korea	2	Associate
Michael BUREK	United States of America	4	Associate
Arif Mahamood RANA	Pakistan	2	Associate
Jeffrey ATOR	United States of America	4	Associate
Leonid BEZRUK	Russian Federation	6	Associate
Akihiro SHIMIZU	Japan	2	Associate
Yan GENIN	France	6	Associate

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON INFORMATION SYSTEMS AND SERVICES (OPAG ISS)**

**INTER-PROGRAMME EXPERT TEAM ON METADATA AND DATA REPRESENTATION
DEVELOPMENT (IPET-MDRD)**

Member name:	Country / Agency:	RA	Position / Representing.
Jeremy TANDY (Chair)	United Kingdom	6	Core
Eiji TOYODA (Co-chair)	Japan	2	Core
Michael BUREK	United States of America	4	Core
Andrew WOOLF	Australia	5	Core
Boon Leung CHOY	Hong Kong, China	2	Core
Manuel FUENTES	ECMWF	6	Core
Frederic GUILLAUD	France	6	Core
Hermann ASENSIO	Germany	6	Core
Jeff DE LA BEAUJARDIERE	United States of America	4	Core
Dennis HART	EUROCONTROL	6	Associate
Robert WILSON	Australia	5	Associate
C K PAN	Hong Kong, China	2	Associate
Guillaume AUBERT	EUMETSAT	6	Associate
Jan Willem NOTEBOOM	Netherlands	6	Associate
Dafi ELRYALAT	Jordan	6	Associate
Sunghoi HUH	Republic of Korea	2	Associate
Chouaibou GUEYE	Senegal	1	Associate

Hyukjin Yun	Republic of Korea	2	Associate
Akihiro SHIMIZU	Japan	2	Associate
Jitsuko HASEGAWA	Japan	2	Associate
Mark HEDLEY	United Kingdom	6	Associate
William Wim Van DIJK	New Zealand	5	Associate
Oguzhan Oncu OZKAN	Turkey	6	Associate
ZHAO Licheng	China	2	Associate
Arif Mahamood RANA	Pakistan	2	Associate
Do Young RYU	Republic of Korea	2	Associate
Steve OLSON	United States of America	4	Associate
James O'SULLIVAN	United States of America	4	Associate
Matt PEROUTKA	United States of America	4	Associate
Walter H. SMITH	United States of America	4	Associate
Jiang ZHU	China	2	Associate

OPAG DPFS

MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME AREA GROUP ON DATA PROCESSING AND FORECASTING SYSTEM (OPAG DPFS)

IMPLEMENTATION COORDINATION TEAM ON DATA-PROCESSING AND FORECASTING SYSTEM (ICT-DPFS)

Member name:	Country / Agency:	RA	Position / Representing.
Ken MYLNE (Chair)	United Kingdom	6	Core
Yuki HONDA (Co-Chair)	Japan	2	Core
David RICHARDSON	ECMWF	6	Core / Chair, ET-OWFPS
Richard GRAHAM	United Kingdom	6	Core, Chair, ET-OPSLS
René SERVRANCKX	Canada	4	Core / Chair, ET-ERA
Hamza KABELWA	Tanzania	1	Associate, Co-Chair, ET-OWFPS
Jianjie WANG	China	2	Associate, Co-Chair, ET-OWFPS
Caio COELHO	Brazil	3	Associate, Co-Chair, ET-OPSLS
James FRASER	Australia	5	Associate, Co-Chair, ET-ERA
Bernard STRAUSS	France	6	Associate, Chair, TT-Revision of Manual

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON DATA PROCESSING AND FORECASTING SYSTEM (OPAG DPFS)**

**EXPERT TEAM ON THE OPERATIONAL FORECASTING PROCESS AND SUPPORT
(ET-OFPS)**

Member name:	Country / Agency:	RA	Position / Representing.
David RICHARDSON (Chair)	ECMWF	6	Core
Hamza KABELWA (Co-Chair)	Tanzania	1	Core
Jianjie WANG (Co-Chair)	China	2	Core
Bernard STRAUSS	France	6	Core
Paul DAVIES	UK	6	Core / Representing the use of NWP for hazard risk management
Yuki HONDA	Japan	2	Core / Representing LAM and operational atmospheric sand and dust storm forecasts aspects
Pierre Eckert	Switzerland	6	Core / Representing integration of EPS into operational forecasting
André METHOD	Canada	4	Core / Representing deterministic NWP and EPS aspects
TBD	TBD	3	Associate
TBD	TBD	4	Associate

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON DATA PROCESSING AND FORECASTING SYSTEM (OPAG DPFS)**

**EXPERT TEAM ON OPERATIONAL PREDICTIONS FROM SUB-SEASONAL TO
LONGER-TIME SCALES (ET-OPSLS)**

Member name:	Country / Agency:	RA	Position / Representing.
Richard GRAHAM (Chair)	United Kingdom	6	Core / Representing also GPC Exeter
Caio COELHO (Co-Chair)	Brazil	3	Core / Representing also GPC CPTEC (Brazil)
David JONES	Australia	5	Core / Representing GPC Melbourne
Bertrand DENIS	Canada	4	Core / Representing GPC Montreal
Peiqun ZHANG	China	2	Core / Representing GPC Beijing
Laura FERRANTI	ECMWF	6	Core / Representing GPC ECMWF
Jean-Pierre CÉRON	France	6	Core / Representing GPC Toulouse and also CCI
Yuhei TAKAYA	Japan	2	Core / Representing GPC Tokyo
Suhee PARK	Republic of Korea	2	Core / Representing GPC Seoul
Vladimir KRYJOV	Russian Federation	6	Core / Representing GPC Moscow
Asmerom BERAKI	South Africa	1	Core / Representing GPC Pretoria
Arun KUMAR	United States	4	Core / Representing GPC Washington
RCC rep	TBD		Associate / Representing RCC and CCI

Member name:	Country / Agency:	RA	Position / Representing.
RCC rep	TBD		Associate / Representing RCC and CCI

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON DATA PROCESSING AND FORECASTING SYSTEM (OPAG DPFS)**

EXPERT TEAM ON EMERGENCY RESPONSE ACTIVITIES (ET-ERA)

Member name:	Country / Agency:	RA	Position / Representing.
René SERVRANCKX (Chair)	Canada	4	Core / Representing RSMC Montreal
James FRASER (Co-Chair)	Australia	5	Core / Representing RSMC Melbourne
Gerhard WOTAWA	Austria	6	Core / Representing RSMC Vienna
Zhenxin SONG	China	2	Core / Representing RSMC Beijing
Gwenaëlle HELLO	France	6	Core / Representing RSMC Toulouse
Hubert GLAAB	Germany	6	Core / Representing RSMC and RTH Offenbach
Masami SAKAMOTO	Japan	2	Core / Representing RSMC Tokyo
Valery KOSYKH	Russian Federation	6	Core / Representing RSMC Obninsk
Anton MUSCAT	United Kingdom	6	Core / Representing RSMC Exeter
Jeffery McQUEEN	United States	4	Core / Representing RSMC Washington
TBD	TBD	1	Associate / Representing a NMHS
Martina SUAYA	Argentina	3	Associate / Representing a NMHS
Mika NIKKINEN	CTBTO	n/a	Associate / CTBTO

Member name:	Country / Agency:	RA	Position / Representing.
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Greg BROCK	ICAO	n/a	Associate / ICAO
Zhanat CARR	WHO	n/a	Associate / WHO

OPAG PWS**Membership of the Commission for Basic Systems Open Programme Area Group on Public Weather Services (PWS)****Implementation Coordination Team on Public Weather Services (ICT-PWS)**

Member name:	Country / Agency:	RA	Position / Representing.
Gerald FLEMING	Ireland	6	Core / Chairperson, ICT/PWS
JIAO Meiyang	China	2	Core / Co-Chairperson, ICT/PWS
Jon GILL	Australia	5	Core / Chairperson, ET/COPE
John L. GUINEY	United States	4	Core / Chairperson, ET/SPII
Elliott JACKS	United States	4	Core / Chairperson, ET/DPM
Michel JEAN	Canada	4	Core / Chairperson, TT Humanitarian
Claire (MARTIN) MOREHEN	Canada	4	Associate / Co-Chairperson, ET/COPE
TANG Xu	China	2	Associate / Co-Chairperson, ET/SPII
Lap Shun LEE	Hong Kong, China	2	Associate / Co-Chairperson, ET/DPM

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON PUBLIC WEATHER SERVICES (PWS)**

**EXPERT TEAM ON SERVICES AND PRODUCTS INNOVATION AND IMPROVEMENT
(ET/SPII)**

Member name:	Country / Agency:	RA	Position / Representing.
John L. GUINEY	United States	4	Core / Chairperson, ET/SPII
TANG Xu	China	2	Core / Co-Chairperson, ET/SPII
Ann FARRELL	Australia	5	Core / Member, ET/SPII
Márcia dos SANTOS SEABRA	Brazil	3	Core / Member, ET/SPII
Axel THOMALLA	Germany	6	Core / Member, ET/SPII
Armstrong YC CHENG	Hong Kong, China	2	Core / Member, ET/SPII
Yoshiro TANAKA	Japan	2	Core / Member, ET/SPII
Evgeny VASILYEV	Russian Federation	6	Core / Member, ET/SPII
William Jonathan LANG	United Kingdom	6	Core / Member, ET/SPII

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON PUBLIC WEATHER SERVICES (PWS)**

**EXPERT TEAM ON MEETING USER NEEDS IN REDUCING THE IMPACTS
OF HYDROMETEOROLOGICAL HAZARDS (ET/DPM)**

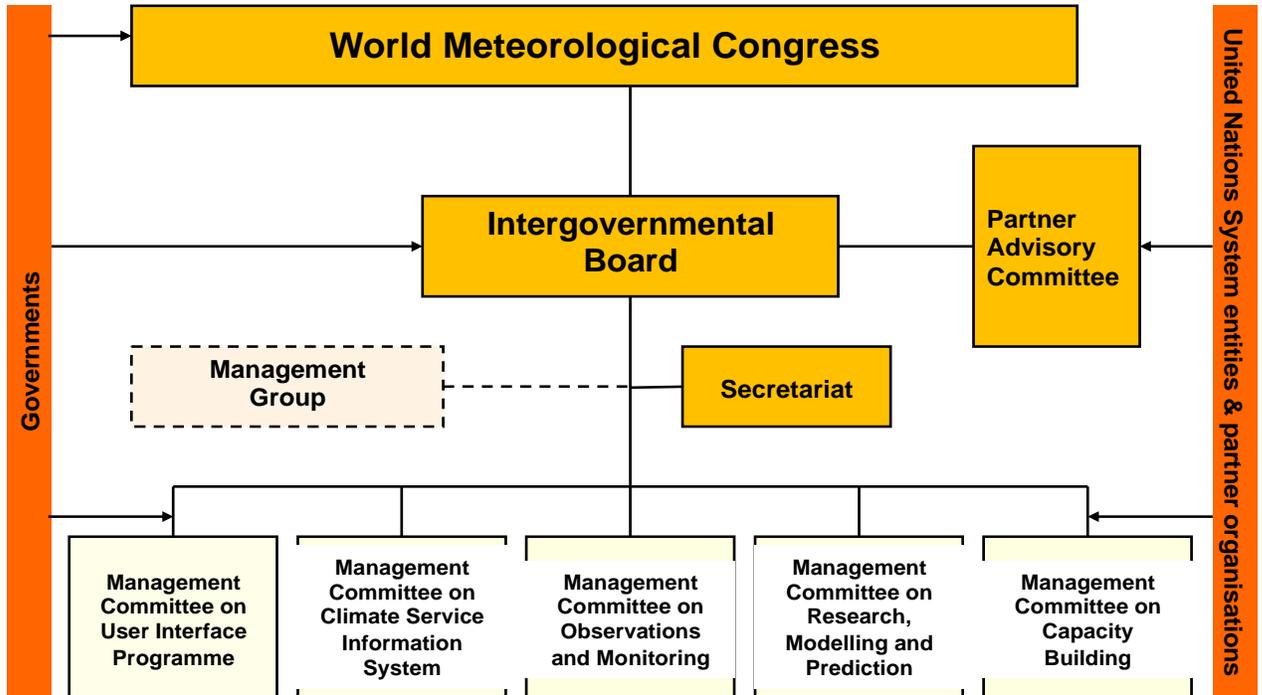
Member name:	Country / Agency:	RA	Position / Representing.
Elliott JACKS	United States	4	Core / Chairperson, ET/DPM
Lap Shun LEE	Hong Kong, China	2	Core / Co-Chairperson, ET/DPM
John BALLY	Australia	5	Core / Member, ET/DPM
Jennifer Ann MILTON	Canada	4	Core / Member, ET/DPM
WANG Zhihua	China	2	Core / Member, ET/DPM
Vlasta TUTIS	Croatia	6	Core / Member, ET/DPM
Cyrille HONORÉ	France	6	Core / Member, ET/DPM
Premchand GOOLAUP	Mauritius	1	Core / Member, ET/DPM
Paul DAVIES	United Kingdom	6	Core / Member, ET/DPM

**MEMBERSHIP OF THE COMMISSION FOR BASIC SYSTEMS OPEN PROGRAMME
AREA GROUP ON PUBLIC WEATHER SERVICES (PWS)**

**EXPERT TEAM ON COMMUNICATION, OUTREACH AND PUBLIC EDUCATION
ASPECTS OF PUBLIC WEATHER SERVICE DELIVERY (ET/COPE)**

Member name:	Country / Agency:	RA	Position / Representing.
Jon GILL	Australia	5	Core / Chairperson, ET/COPE
Claire (MARTIN) MOREHEN	Canada	4	Core / Co-Chairperson, ET/COPE
YAO Xiuping	China	2	Core / Member, ET/COPE
Ivan ČAČIĆ	Croatia	6	Core / Member, ET/COPE
Panagiotis GIANNOPOULOS	Greece	6	Core / Member, ET/COPE
Man-Kuen Sandy SONG	Hong Kong, China	2	Core / Member, ET/COPE
Ramon Rafael Antonius OOSTERKAMP	New Zealand	5	Core / Member, ET/COPE
Melanie HARROWSMITH	United Kingdom	6	Core / Member, ET/COPE
Ayub Shaka MWADALI	Kenya	1	Core / Member, ET/COPE

ANNEX 4: GOVERNANCE STRUCTURE OF GFCS



ANNEX 5: LESSONS LEARNED FROM CBS-15

A5.1 BACKGROUND

A5.1.1 CBS-15 was held in Jakarta, Indonesia from 10 to 15 September 2012. The session itself was 4.5 days long, with one extra day of Technical Conference on the Wednesday afternoon and Thursday morning. As well as a reduced duration, the session was held with only 13 WMO staff (including DSG and a junior professional officer that attended to man an exhibition booth) and one team of interpreters.

A5.1.2 The conference was held in a resort hotel on the outskirts of Jakarta.

A5.1.3 This note summarises the conclusions of a meeting held on 26 September that reviewed how the session had been run.

A5.2 PRE-SESSION DOCUMENTS

A5.2.1 Documents were prepared late – largely because some expert teams and the ICTs met about a month before the document deadline (meeting plans had assumed a November meeting). Documents were being prepared as people went on summer leave, and there was no central document tracking until the documents reached Conference Services.

Conference Secretary to track documents from when they pass through D/OBS for approval until their receipt is acknowledged by Conference Services.

A5.3 PAPERLESS SESSION

A5.3.1 The session ran completely without routine distribution of paper documents, although one delegation did request paper copies of documents as they did not have a laptop. After the first day, this worked well (but see the comments below on IT contingencies).

A5.3.2 The daily order of business was the one document that it may have been better to distribute on paper. However, the recommendation of the meeting was that:

The daily order of business should be displayed just outside the main meeting room.

A5.4 DAILY ORDER OF BUSINESS

A5.4.1 Although the contents of the daily order of business entries were streamlined to contain the agenda item, the documents to be discussed, the chair for the agenda item and the deadlines for submitting written confirmation of interventions. Just printing (to PDF) the Google Calendar in Agenda form added too much irrelevant detail. An alternative way of preparing the Daily Order of Business is needed – that retains the automation and the link to the meeting calendar.

Revise the format of the Daily Order of Business.

A5.5 COORDINATION MEETINGS.

A5.5.1 Daily coordination meetings were held at 0800. These were too long – they should be focussed on issues that need decisions.

A5.6 APPROVAL OF DOCUMENTS

A5.6.1 The short time between the end of the session and the start of the social programme led to delays in obtaining written approval for documents. Electronic approval methods might circumvent this, and also speed publication during the day.

Consider electronic approval of documents (for example by email)

A5.7 IT SUPPORT

A5.7.1 The main issues with the IT provided by the local host were: connectivity in the meeting room, prevalence of viruses and inconsistent configuration of desktop PCs. The projectionists were efficient, but used the same PC to project the session materials as they used for the background images displayed during breaks and the cultural displays – severely limiting the opportunities for speakers to load their presentations. It would be nice to have a laptop on the speakers stand for the speaker to control the slides show.

Projection

A5.7.2 The two large screens were a good size for the room. The monitors provided so that those on the podium could see what was being presented without turning round were a great benefit. The roving TV camera helped identify the speakers and would benefit other sessions.

Connectivity in the meeting rooms

A5.7.3 The internet bandwidth required was specified at 50Mbps. The local hosts provided a 20Mbps connection that was sufficient for the needs of the meeting. As at Dubrovnik, the issue for delegates was connecting to the network. Whereas at Dubrovnik the issue was caused by a rogue PC requesting all the available connections, in Jakarta the infrastructure provided by the local hosts initially only permitted 80 devices to connect. In practice, there were probably closer to 500 devices in the room. At the end of the first day, the local hosts rebuilt the network overnight and there were no more problems.

Ensure that the local host's network solution allows for enough devices to connect (at least two, probably three per delegate). Review the proposed technical solution to make sure the requirement has been understood.

The initial network implementation required a login each time a device connected – impracticable for tablets and other devices that enter sleep mode.

Prevalence of (computer) viruses

A5.7.4 The desktop PCs provided by the local hosts did not have antivirus software installed. Although the projection laptops did run antivirus, memory sticks were so large that the scans took too long and were cancelled by the operators. As a result, viruses multiplied – and on one occasion prevented memory sticks being read, holding up the session.

Use an alternative to exchanging presentations by memory stick – such as providing an internet storage area for speakers to load their presentations to, and from which the projectionists can download them.

If memory sticks have to be used, use only small ones to reduce the time for virus scanning.

Contingency for failing IT infrastructure

A5.7.5 Shortly before the meeting a method of making a copy of the session website was implemented on a staff laptop. This meant that a copy of the documents was available locally, and a backup was created mid-week.

A daily local copy of the documents from the website is needed for backup

A5.7.6 Contingency planning had allowed for an inadequate internet connection (loading the files onto a local ftp server – but this had not been configured). The promised USB 3G data connections were not provided – but as it turns out were not needed.

A5.7.7 What was needed in practice was a way of distributing documents if the local network was unavailable. The solution was to place copies of the documents on the “internet café” PCs – this was hardly used because the problem was on the first day and most delegations already had copies of the drafts on their laptops.

A distribution solution is needed as contingency for the network being unavailable when draft 2 and later documents are issued.

Inconsistent software on provided desktops

A5.7.8 Some of the provided desktops did not have PDF readers installed – and those that did used an unlicensed copy of a reader. All had Office 2010 installed – which made document preparation difficult because of the unfamiliar interface.

Headsets

A5.7.9 Headsets were unreliable, batteries appeared not to be charged, and the quality of reproduction was poor. On several occasions the session chair could not hear the interpretation – and sometimes could not hear interventions in the chair’s own language. The loudspeaker in the conference hall was too loud, making it difficult to listen to a different channel.

A5.8 ACCOMMODATION

A5.8.1 The biggest problem with the accommodation was its late availability – another event was using it until 1300 on the day before the meeting started. The local host’s teams worked hard overnight, and things were ready just in time – but there was not time for testing or for refining things such as the seating plan.

The seating plan must be available at the start of the first session – so a plan of the room layout is needed before the session.

The room and infrastructure should be ready the evening before the session to allow testing and correction of issues identified.

Facilities for testing the critical aspects of the IT infrastructure are needed – number of connected devices, bandwidth, and latency when the network is under load.

A5.9 SICKNESS

A5.9.1 Several members of staff, delegates (including session chairs) and an interpreter were ill during the session. Fortunately there was only one occasion on which the key expert was unavailable for their session. Similarly, because of the combination of languages involved, it was possible for the interpreter’s position to be covered – had it been an interpreter with a different combination of skills this would not have been possible.

**Remind all staff to pack their UN medical kit.
Make sure that more than one person knows how to do each job.**

A5.10 NOMINATION OF EXPERTS

A5.10.1 Although some nominations were made using the online form, many were still received by email or fax. Some of the largest countries ignored the application forms and sent nomination

letters that did not include the requested information. Despite a deadline of 15 August, several countries made nominations at the meeting. This resulted in a large administrative load to transfer these into the summary documents during the meeting (this was done by staff in Geneva). The nomination forms did not allow for the nomination of OPAG chairs or other specialist roles, and this needs to be addressed in the preparations for the next session.

**Plan for administrative support to transcribe expert nominations during the meeting.
Persist with an online form.
Modify the nomination form to ask for nominations of OPAG chairs etc.**

A5.11 SELECTION OF CHAIRS AND CO-CHAIRS

A5.11.1 The in session procedure needs to be improved to increase transparency and to encourage members to participate in the selection. Training for Expert Team chairs in their responsibilities was also suggested.

Set up a “working structure committee” to propose the chairs and co-chairs of OPAGs and Expert Teams.

A5.12 CERTIFICATES

A5.12.1 Preparation of the certificates was time consuming. Three of the classes were thought to be worthwhile – “outstanding”, “leadership” and “country.” The “contribution” certificate was given to all that had attended meetings or had contributed outside meetings; such a wide distribution may not be helpful. The certificates were prepared and signed so that they could be distributed to delegations at the meeting. At the last minute the decision was made that they should be sent directly to PRs – had this been known in advance, the costs associated with the certificates would have been reduced.

**Decide on the distribution method for the certificates.
Consider withdrawing the “contribution” certificate.
The TV display of certificates was appreciated.**

A5.12 TECO AND THE TECO FOCUS SESSIONS

A5.12.1 The TECO (especially the second session on “value”) and the TECO Focus sessions were of benefit and should be continued. The lack of interpretation may have reduced the benefit of some sessions, although some members interpreted on behalf of others.

Retain the TECO focus sessions.

A5.13 INTERPRETATION

A5.13.1 One team of interpreters was able to cover the planned sessions, but allowed no contingency for over-running or sickness. TECO would have benefited from interpretation, and a larger team would have given more flexibility in running the session and provided more opportunity for discussion.

Include more interpretation in the plans for the next session.

A5.14 BADGES, IDENTIFICATION AND REGISTRATION

A5.14.1 The local organisers had produced badges. Although suitable for delegates, they did not allow delegates to identify the secretariat. Country nameplates are heavy and easily created locally. The seating plan was not available for the start of the first session, making the task of the chair difficult. The registration room used on the Sunday was too small without enough space – and the manual procedures set up because the registration database could not be used needed

even more space. Delegates now expect email addresses to be included in the list of participants. The registration form should include an “opt out” box for those delegates that do not want their email address to be published in the proceedings.

Insist that the local organisers provide enough desks and space for registration from midday the day before the meeting starts.

Badges should make it easy to identify who is in the secretariat

Produce country nameplates locally rather than taking them from Geneva

Accurate seating plans should be available for all sessions, even the first.

Amend the registration form to allow delegates to state they do not wish their email address to appear in the proceedings.

A5.15 SUBSTANCE OF DISCUSSION

A5.15.1 The short time available placed delegates under pressure not to intervene. There was a lack of debate on key topics, such as feedback on the EGOS and WIGOS implementation plans. As a result, delegates did not appear to take “ownership” of the decisions.

Identify strategies to encourage debate.

Review the length of the meeting.

A5.16 COMMUNICATION WITH STAFF REMAINING IN GENEVA

A5.16.1 Some staff in Geneva were taking an active role in running the session, but the communications back to them (and others affected by decisions at the meeting) was poor.

Improve communications with staff in Geneva (“tweeting progress and news”)

A5.17 DIVISION OF LABOUR

A5.17.1 Many roles were combined in the session – because the change to electronic working introduced different methods of working, and because of the reduction in the number of staff supporting the meeting. The following roles should be separated:

ICT coordinator – liaison with the local organisers to make sure that problems with ICT are resolved

Business planner – preparing the “daily order of business” by adjusting the agenda depending on how discussions have gone and which papers are available

Formal document manager (provided by Conference Services)

Informal document manager (“website manager”) to handle the flow of information that is relevant to the running of the session (for example papers to inform committees, presentations)

“Administrative note taker” – acting as the “expert” for the administrative papers (such as the working structure).

Clarify the roles and assign them to people who are trained in the required skills.

A5.18 RETAINING MEMORY OF HOW TO RUN A SESSION

A5.18.1 There is no central place for a session coordinator to go to learn what has to be done or the techniques that work. A “running a CBS session manual” would provide a corporate memory, and would be a repository for example documents (for example the revised nomination of experts form).

Produce a Guide to Running a CBS session

ANNEX 6: STRUCTURE OF TECHNICAL REGULATIONS FOR THE DATA PROCESSING AND FORECASTING SYSTEMS

The appropriate structure for Technical Regulations for the Data Processing and Forecasting Systems is given below.

PART III. WMO GLOBAL DATA-PROCESSING AND FORECASTING SYSTEMS (GDPFS)

III.1 SCOPE OF THE GDPFS

III.2 DATA-PROCESSING AND FORECASTING SYSTEMS OF WWW

III.3 CLIMATE PREDICTION SYSTEM

III.4 HYDROLOGY FORECASTING SYSTEM (REF. VOL. III)

ANNEX 7: AMENDMENT TO *MANUAL ON GTS*

A5.1 The following text should be inserted into the *Manual on GTS* in section 1.3, at the end of principle 2:

Note that in this document, the word circuit is traditionally understood to represent a physical link between two Centres, but in today's modern telecommunication systems, could also be understood to represent a logical stream of data between two Centres which are interconnected using a network. In this latter situation, several circuits could be implemented from a given Centre over a single physical connection to a network.

A5.2 (For information only) CBS-MG agreed with the recommendation from ICT-ISS that the link status for connection to the WIS Core Network as defined by ET-WISC could be generalised to any WIS/GTS link between WIS centres as follows:

B1=Negotiating;

B2=Link Operational;

B3=Pending GTS status; and

B4=GTS Link.