Executive Council

Sixty-first session

Geneva
3–12 June 2009

Abridged final report with resolutions

WMO-No. 1042
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GENERAL SUMMARY OF THE WORK OF THE SESSION

1. ORGANIZATION OF THE SESSION (agenda item 1)

1.1 OPENING OF THE SESSION (agenda item 1.1)

1.1.1 The President of the Organization, Dr A.I. Bedritsky, opened the session at 10.00 a.m. on 3 June 2009.

1.1.2 The President extended a warm welcome to the members of the Executive Council, their alternates and advisers, the presidents of the technical commissions and regional associations, representatives of international institutions within the United Nations system and other international bodies, as well as all of the session’s participants and guests. A complete list of participants is given in the appendix to the present report.

1.1.3 The President welcomed new ex-officio members: Professor Victor E. Chub (Uzbekistan), as president of RA II and Arthur W. Rolle, as president of RA IV (Bahamas), and the new acting member, Mr Gary Foley (Australia). The President paid tribute to the outgoing members of the Council: Messrs. A. Majeed H. Isa (Bahrain), Carlos Fuller (Belize), Geoff Love (Australia), Pierre-Etienne Bisch (France), Ahri R.C. Bhatia (India), Tetsu Hiraki (Japan) and Soon-Kab Chung (Republic of Korea) for their important contributions to the Council and to the international meteorological and hydrological communities.

1.1.4 The President pointed out that the Council’s sixty-first session is taking place in the second year of the fifteenth financial period, a year of struggling with the food and economic crisis, and also a year of active multilateral negotiations on how to combat climate change and the problems associated with adaptation and mitigation, when practically all countries and international organizations have joined together to seek effective responses to these global challenges, and are placing special expectations and imposing demands on the competent organizations of the United Nations system.

1.1.5 The President emphasized that natural disasters and anomalous climate phenomena are continuing to have an impact on humankind, and that they have reached an immense scale and are continuing to grow. Natural disasters lead not only to direct losses of human life, but they also result in long-term economic consequences for natural potential, which aggravates economic problems.

1.1.6 The President highlighted that these issues are being discussed at the highest level, right up to Heads of State, and that there is no question that their resolution is one of the top priorities for various countries. He stressed that the key role of WMO in issues related to climate and reducing the risk of catastrophes is being acknowledged not only within the United Nations system, but even in the documents of the G-8 summit meeting. The serious support being provided by Governments and the entire United Nations system for the World Climate Conference-3 is yet further evidence of the broad recognition of the need for more accurate climate forecasts and reliable information for various economic activities, as well as confidence in WMO as a leader in this field. The conference will be held under the aegis of the “UN System Delivering as One on Climate Knowledge” initiative, which is being implemented by WMO and UNESCO. He praised the valuable work being done by the Secretary-General and the Secretariat staff, as well as the Government of Switzerland, who have purposefully and consistently promoted the Conference at all international forums and have organized a consultative process for all Governments.

1.1.7 The President underlined the most important issues facing the Council. The preparations for WCC-3, which will be held in Geneva from 31 August through 4 September 2009 for which every effort to achieve the goals of the Conference and to develop the proposed Global Framework For Climate Services have to be undertaken. WMO and the NMHSs need also to make a greater contribution to reducing the danger of natural disasters. WMO is one of the leading
organizations in the implementation of the International Strategy for Disaster Reduction (ISDR). This activity, which is now also viewed within the context of adaptation to climate change, has to be improved, especially through better observations, and collection and dissemination of statistical information, as well as timely delivery of early and accurate warnings of dangerous weather and climate phenomena.

1.1.8 The President continued stressing the need to issue directives regarding the preparation of a new Strategic Plan for the period from 2012, and also regarding the overall planning process, structural and programmatic implementation mechanisms, and monitoring and assessment of the achievement of expected results in order to arrive at a more clearly defined, intelligible, logical and all-embracing structure that takes into account the important contributions of all the constituent bodies as well as the Secretariat.

1.1.9 The Secretary-General welcomed all participants, in particular the new members of the Council and representatives of the UN and other partner organizations and all participants. He emphasized the importance of the session for framing the budget and the Strategic Plan in preparation of EC-LXII in 2010 which should provide firm guidance to Cg-XVI. He assured the Council that the Secretariat would provide all the necessary support to enable the Council to discharge its responsibilities in a most effective manner.

1.2 APPROVAL OF THE AGENDA (agenda item 1.2)

The Executive Council adopted the proposed annotated agenda as contained in EC-LXI/Doc. 1.2, REV. 1.

1.3 ESTABLISHMENT OF COMMITTEES (agenda item 1.3)

1.3.1 The Executive Council decided to conduct its business in Plenary throughout. In that context, Dr A. Bedritsky, President, would chair General Plenary and Camera sessions. Dr A.-M. Noorian, the First Vice-President, Mr T.W. Sutherland, the Second Vice-President and Dr A.D. Moura, the Third Vice-President, would chair Plenary sessions A, B and C respectively.

1.3.2 A Coordination Committee was established composed of the President, the Vice-Presidents, the Secretary-General or his representative, as well as others invited by the President, as necessary.

1.3.3 The Council decided to establish a number of Subcommittees to consider special items:

(a) Subcommittee on Budget with Mr W. Kusch and Ms L. Makuleni as Co-chairs, Mr W. Gamarra Molina and Mr J.L. Hayes as core members. The Subcommittee was open to all members of the Council;

(b) Subcommittee on the Theme for World Meteorological Day 2011 with Mr M. Ostojsky as Chairperson, and core members Mr M.A. Abbas and Mr W. Gamarra Molina. The Subcommittee was open to all members of the Council;

(c) Subcommittee on scientific lectures at sixty-second session of the Executive Council with Dr Zheng Guoguang as Chairperson. The Subcommittee was open to all members of the Council.

1.3.4 The Council designated Dr J. Mukabana as Rapporteur on Previous Resolutions.

1.4 PROGRAMME OF WORK OF THE SESSION (agenda item 1.4)

1.4.1 The necessary arrangements concerning working hours and allocation of agenda items to General Plenary and Plenaries A, B and C were agreed.
The Executive Council agreed to suspend Regulation 109 of General Regulations for the duration of the session.

The Council maintained its decision made at its fiftieth session (confirmed by Thirteenth Congress) that no minutes of plenary meetings at sessions of the Executive Council should be prepared unless otherwise specified. Recordings of Plenary sessions would continue to be made and retained for the record.

The Council noted the decisions made by the President on its behalf since its last session under General Regulation 9(7) (b) and Staff Regulations 9.5.

The Council took note of the report of the President. It dealt with related issues under the relevant agenda items.

The Council took noted of the report of the Secretary-General including the Mid-term Monitoring and Performance Evaluation Report.

The Council noted with appreciation the Secretary-General’s actions to increase the political profile and relevant contribution of WMO and NMHSs to international initiatives, especially those coordinated by the UN system, to respond to the global challenge of climate change, food and financial crisis.

The Council dealt with related issues under the relevant agenda items.

The Executive Council considered the report of the Financial Advisory Committee. It noted with appreciation the various recommendations of the Committee contained in Annex I to the present report. The Council took account of those recommendations in making its decisions under the various related agenda items.

The Council noted that the Meeting of the Presidents of Regional Associations held its first formal session on 31 May 2009 in Geneva focussing discussions on the role of Regional Associations in the WMO Strategic Planning Process, and on ways and means to improve the efficiency and effectiveness of Regional Associations (RAs).

The Council recognized that the Regional Associations have an important role to play in the WMO Strategic and Operating Planning (SOP), particularly in defining key outcomes (KOs) and providing guidance to the work plans of the Technical Commissions (TCs) and to the Secretariat in framing the organization-wide priorities and programmes for the SOP.

The Council stressed that it is within the regional context that the needs of the Members are best articulated. The Council emphasized the need to improve the coordination between RAs and TCs and the Secretariat to develop a mechanism to set priorities.
2.4.4 Noting the time frame for the preparation of SOP and considering that some RAs had already met while some had still to meet, the Council requested the RAs to mandate their Management Groups to assist in defining and providing regional input to the SOP process in their intersessional period.

Common regional issues of concern

2.4.5 The Council noted the respective reports of the presidents of regional associations and expressed satisfaction at the effective manner in which the activities of the various Associations were being undertaken. It commended the presidents for the continued dedication with which they worked in their respective Associations to assist in the development of the National Meteorological and Hydrological Services (NMHSs) of their Members.

2.4.6 The Council acknowledged progress made in all Regions in the preparation of regional Strategic Plans and requested the Secretary-General to continue to assist RAs to further develop and implement their Strategic Plans taking into account the Regions specific needs and requirements and WMO Strategic Plan. Considering the importance of setting regional priorities by RAs, the Council also requested the Secretariat technical departments to orient their work to the priorities set by the Regions in order to serve the Members in a more concise way.

2.4.7 The Council noted that the regional associations are enhancing the efficiency and cost-effectiveness of their meetings, including the organization of the agenda of their sessions by Expected Results and the adoption of new working mechanisms. The Council requested the Secretary-General to continue to support the regional associations in improving their structure and working mechanisms, in particular regional working groups.

2.4.8 The Council further noted that the RAs do not have the same priorities and need to link the priorities of RAs with Technical Commissions’ Plans and available resources. In this regard, the Council encouraged the presidents of RAs to make use of their reports in the future to provide more specific and focused recommendations.

2.4.9 The Council agreed that there is a need to strengthen, through appropriate mechanisms, the integration of meteorological and hydrological services so that all the activities of the Organization related to these institutions, are coherent and effectively reflect the priorities of the Members of the Region.

2.4.10 The Council recognized that in all Regions, in general, the basic systems of the WWW, the observing systems, the telecommunication facilities, and the data-processing and forecasting systems have operated more efficiently than in the past.

2.4.11 Noting the improvement of GTS connections at several National Meteorological Centres (NMCs), the Council stressed that there were still a number of NMCs that do not have adequate GTS links with Regional Centres with medium- or high-speed GTS circuits. The Council, therefore, requested the Secretary-General and Members to give high priority to the modernization of the GTS and the implementation of the WMO Information System (WIS) in the Regions to ensure operational exchange of forecasts, warnings and other information on a real-time basis, especially for establishing multi-hazard early warning systems, as appropriate. The Council further recognized the continuing need to improve the capabilities of NMHSs to access advanced products in the preparation and dissemination of adequate weather services and timely warning for severe weather and climate extremes.

2.4.12 Considering the importance of RCCs, the Council urged RAs, in coordination with CBS and CCI, to speed up the establishment of RCCs in their respective Regions.

2.4.13 The Council expressed its appreciation to donor Members for their continued support to human resources development in NMHSs in most of the Regions. The Council requested the Secretary-General, and urged Members, to maintain or increase their assistance for training through WMO fellowships programme and other mechanisms.
2.4.14 Noting the progress made in the preparation of the Third World Climate Conference (WCC-3) to be held in Geneva, Switzerland from 31 August to 4 September 2009, the Council recalled its request to assist regional associations to maximize the potential benefits of WCC-3 at national and regional levels.

2.4.15 Considering the WMO engagements to contribute to the efforts towards the attainment of the Millennium Development Goals (MDGs), especially with respect to food security, poverty alleviation, human health and energy, the Council requested RAs and TCs, in particular CCI, to ensure that appropriate skills are in place among Members to apply climate information and services for socio-economic development.

2.4.16 The Council expressed its appreciation and its gratitude to Mr D.K. Keuerleber-Burk (Switzerland) and Mrs Luz Graciela de Calzadilla (Panama) for their excellent services and valuable contribution while serving as president of RA VI and acting president of RA IV respectively.

Report by the president of Regional Association I

2.4.17 Noting the measures taken by the Secretary-General for the preparation of the Conference of Ministers in charge of NMHSs in Africa, the Council stressed that the organization of this high level Conference requires collective efforts and support from WMO and partners, including the African Union, Regional Economic Communities, and relevant UN system agencies. In this regard, the Council requested the Secretary-General to undertake further advocacy and resources mobilization actions towards the successful organization of the Conference The Council recognized that the Conference, which should be held as soon as possible, would contribute to raise public awareness on the role of NMHSs.

2.4.18 The Council noted the gracious offer made by Kenya to host the Conference. The Council welcomed the declaration of Finland to provide support for the organization of the Conference.

2.4.19 The Council noted that the Meteorological Association of Southern Africa (MASA) held an extraordinary meeting in Swakopmund, Namibia on 11 May 2009 where the MASA constitution was signed. The signing of this constitution commits member NMHSs to plan jointly and cooperate particularly in enhancing capacity building, telecommunications and observations networks. The signing of the MASA constitution was endorsed in a subsequent meeting of Southern African Development Community (SADC) Ministers responsible for Transport and Meteorology. MASA has furthermore established task forces for implementation of the activities in the Severe Weather Forecast Demonstration Project and also in aviation meteorology to promote aviation safety.

2.4.20 The Council noted the preparation phases of the RA I Strategic Plan (2008–2011) and requested the Secretary-General to provide the necessary support for its finalization as appropriate.

2.4.21 The Council gratefully acknowledged that the implementation of the Programme of Cooperation for West African NMHSs funded by Spain in close collaboration with WMO has had a good impact on the activities of the West African NMHSs. The Council was pleased to note that the Second Meeting of West African NMHSs, held in Niger in November 2008 under this Programme, adopted the Niamey Action Plan for 2009 to serve as a framework of regional projects and also as a regional cooperation forum. The Council requested the Secretary-General to maintain his support for the Programme and encouraged Members concerned to take advantage of these opportunities.

2.4.22 The Council encouraged the Secretariat to coordinate efforts associated with the expansion of the Severe Weather Demonstration Project (SWFDP), THORPEX Africa and THORPEX Interactive Grand Global Ensemble (TIGGE-GIFS AND TIGGE-LAM) in order to have efficient efforts to improve prediction and the utilization of forecast products over Africa.
2.4.23 Noting that the Climate for Development in Africa Programme (ClimDev Africa) has been formally approved by the Africa Union, the UN Economic Commission for Africa and the African Development Bank the Council requested the Secretary-General to continue to enhance the participation of NMHSs in Africa so as to play an important role in the implementation of ClimDev Africa. The Council further requested the Secretary-General to encourage the early implementation of the project and to call upon the sponsors of the project to keep Members concerned regularly informed about its development and implementation stages.

2.4.24 The Council expressed appreciation for the European Commission funded project on African Monitoring of Environment for Sustainable Development (AMESD), noting the project will provide the means to rejuvenate and maintain the PUMA stations at NMHSs in Africa, and involve the NMHSs in its implementation. The Council also urged the Secretariat to promote the European GMES Africa initiative with the relevant European Commission Directorates leading the implementation of the programme.

Report by the president of Regional Association II

2.4.25 The Council expressed its appreciation to the Government of Uzbekistan for having hosted the fourteenth session of Regional Association II (Asia) in Tashkent from 5 to 11 December 2008, with the participation of 27 out of 35 Members in RA II, four Members outside of the Region and two international organizations. The Council was pleased to note that the Association adopted the Strategic Plan for the Enhancement of NMHSs in Regional Association II (Asia) (2009–2011), which had been developed in alignment with the WMO Strategic Plan by updating and integrating the RA II Strategic Plan for the Enhancement of National Meteorological Services (NMSs) in RA II (2005–2008) and the Strategy for the Enhancement of National Hydrological Services (NHSs) in RA II (2006–2008).

2.4.26 The Council noted that the Association approved a total of 14 resolutions, agreed on the new working mechanism of the Association in alignment with the WMO and RA II regional expected results, and established four Working Groups on: WMO Integrated Observing System and WMO Information System (WG-IOS/WIS); Climate Services, Adaptation and Agrometeorology (WGCAA); Hydrological Forecasts and Assessments (WGH); and Disaster Risk Reduction and Service Delivery (WGDRS) as well as the Management Group. The Council was pleased to note further that the Association established three new pilot projects: to Enhance the Availability and Quality Management Support for NMHSs in Surface, Climate and Upper-air Observations; to Develop Support for NMHSs in Numerical Weather Prediction; and to Develop Support for NMHSs in Satellite Data, Products and Training.

2.4.27 The Council considered the report of the fourteenth session of Regional Association II (Asia) and embodied its decision in Resolution 1 (EC-LXI) – Report of the fourteenth session of Regional Association II (Asia).

2.4.28 The Council recognized that, after the disastrous tsunami on 26 December 2004, the setting up of an effective and sustainable tsunami warning system became an important task for coastal countries around the Indian Ocean. In most of these countries, NMHSs were the designated authorities for issuing tsunami warnings. In this regard, the Council requested the Secretary-General to continue assistance to Members in establishing multi-hazard early warning systems.

2.4.29 The Council welcomed the progress in the improvement of GTS connection at several National Meteorological Centres (NMCs), in particular as part of the WMO contribution to the regional tsunami early warning system and stressed the need to improve the capabilities of NMHSs to access more sophisticated products for the preparation and dissemination of adequate weather services and timely warning for severe weather and climate extremes.

2.4.30 The Council further recognized that the progress in the establishment of an RCC network of multifunctional and specialized centres had been pursued in RA II on a pilot basis, including the establishment of a portal site jointly operated by the Beijing Climate Centre (BCC)
and the Tokyo Climate Centre (TCC). Through close collaboration of CBS with CCl, these two Climate Centres have been designated as RCCs in RA II at CBS-XIV in March 2009.

2.4.31 The Council expressed its satisfaction with the successful implementation of the two RA II pilot projects on the Provision of City-Specific Numerical Weather Prediction Products to Developing Countries via the Internet; and to Develop Support for Developing Countries in the Aeronautical Meteorology Programme", which raised the profile of NMHSs of developing countries, especially LDCs with their own governments. Noting the establishment of three new pilot projects at XIV-RA II, the Council requested the Secretary-General, and urged Members, to support the implementation of these projects.

2.4.32 The Council welcomed the initiative of the Asian node of the WMO Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS) and urged Members in the region affected by these storms to participate in this regional node. It thanked the Republic of Korea for its chairmanship of the Regional Steering Group and requested the continued support of the regional SDS-WAS work plan by the SDS-WAS regional centre at CMA, Beijing.

2.4.33 As cost recovery, commercialization of products and services and certification/quality management continue to be of great concern to the Members, the Council requested the Secretary-General and Members to give high priority to these subjects in order to be able to address future challenges of the Region.

2.4.34 The Council noted that the functions of the Regional Office for Asia and the South-West Pacific were strengthened to provide harmonized capacity building support to Members. The Council recalled the important role of the WMO Office for West Asia in Bahrain, inaugurated on 12 March 2007, in various regional capacity development activities being carried out in close collaboration with Members and regional organizations.

Report by the president of Regional Association III

2.4.35 The Council noted that the preparation of the Regional Strategic Plan is well underway based on questionnaires that have been distributed to the Permanent Representatives so as to find out priority needs and requirements of the NMHSs in the Region.

2.4.36 The Council further noted with appreciation that the VI Meeting of NMHS’s Directors of Iberoamerican Countries, held in Panama in November 2008 with the attendance of the RA III and RA IV Spanish-speaking members, Brazil, Portugal and Spain, adopted the Action Plan of Panama 2009–2010 with an implementation cost to be supported by Spain, the main activities being the continuation of the Iberoamerican Climate Projects (CLIBER) to serve as a framework for regional projects and also as a regional cooperation forum. The Council requested the Secretariat to undertake follow-up actions as appropriate.

2.4.37 The Council welcomed the development of a new initiative on the alternative telecommunications system in RA III and requested the Secretariat to support the related activities in order to overcome telecommunications deficiencies in the Region.

2.4.38 The Council recognized the efforts made in Region III for the progressive implementation and functioning of two Virtual Centres for severe weather forecast and warnings, in the southeast and northern regions of South America. Furthermore, the Council requested the Secretary-General to maintain the support to the RA III Flash Flood Forecasting System.

2.4.39 The Council expressed its concern for the deficient situation of human resources in the majority of the NMHSs which are being affected by permanent reduction in their budget and loss of trained personnel because of retirement and the lack of resources to hire new ones. The Council encouraged RA III Members to continue to take advantage of the fellowships and training opportunities provided by the Secretary-General.
Report by the president of Regional Association IV

2.4.40 The Council expressed its appreciation to the Government of the Bahamas for having hosted the fifteenth session of Regional Association IV (North America, Central America and the Caribbean) in Nassau, Bahamas, from 24 April to 1 May 2009, with 44 participants from 18 Members of Regional Association IV, 2 invited experts and 2 observers from the Region, 4 observers from 2 Members from outside the Region and 7 observers from international organizations. The Council was pleased to note that the Association reviewed and made decisions on regional aspects of various programme activities, based on WMO expected results, and adopted the RA IV Strategic Plan (2009–2011) for the Enhancement of NMHSs.

2.4.41 The Council noted that the Association approved a total of seven resolutions, and agreed on the structure and working mechanisms of the Association. The Council noted that a consensus was obtained for a simplified three components Management Structure including: (a) the Management Group, with the Hurricane Committee Chair and the Hydrological Advisor as ex officio Members; (b) the Hurricane Committee; and (c) the Ad Hoc Task Teams, as required, with the corresponding subject matter experts.

2.4.42 The Council considered the report of the fifteenth session of Regional Association IV (North America, Central America and the Caribbean) and embodied its decision in Resolution 2 (EC-LXI) – Report of the fifteenth session of Regional Association IV (North America, Central America and the Caribbean).

Report by the president of Regional Association V

2.4.43 The Council was pleased to note that the RA V Management Group and its Task Team further developed the RA V Strategic Plan for the Enhancement of NMHSs in RA V (2009–2011) during the RA V Technical Conference on Management of Meteorological and Hydrological Services (Kuala Lumpur, 20–24 April 2009) in alignment with the WMO Strategic Plan, for formal adoption by the Association together with its Action Plan.

2.4.44 The Council acknowledged the on-going assistance provided by the Secretary-General and Members to support RSMC Nadi operational activities, in line with the findings and recommendations by the WMO fact-finding mission in July 2007. Recognizing the continuing challenges, such as shortage of professional meteorologists and tropical cyclone forecasters, the Council requested the Secretary-General and urged Members to continue providing assistance to Fiji/RSMC Nadi to address priority requirements and to develop a strategic approach for long-term assistance to ensure provision of regional services at its fully operational level.

2.4.45 The Council recognized that the Pacific Islands Forum Leaders at their thirty-ninth meeting in Niue in August 2008 called on the Secretariat of the Pacific Regional Environment Programme (SPREP) to urgently carry out a comprehensive review of regional meteorological services in the Pacific region, and to report intersessionally to the Leaders as soon as practicable on all options, including building on existing arrangements and consideration of other service providers. The Council requested the Secretary-General and urged Members, especially those of Pacific Small Island Developing States, to fully participate in this review.

2.4.46 The Council welcomed the initiation of an RA V Severe Weather Forecasting and Disaster Risk Reduction Demonstration Project (SWFDDP) in the South Pacific, with a first planning meeting having been held in Wellington, New Zealand in April 2009. The pilot phase of the project will commence in November 2009, with additional guidance on heavy rain, strong winds and damaging waves to be provided by RSMC Wellington to Fiji, Samoa, Solomon Islands and Vanuatu. The Council requested the Secretary-General and urged Members to provide support for the implementation of the RA V SWFDDP project.

2.4.47 The Council further recalled the recognition at its sixtieth session of the effectiveness of the biennial meeting of Regional Meteorological Service Directors (RMSD) in the Pacific region, co-organized by SPREP and WMO as well as the need for the development of a formal
arrangement for co-sponsorship with SPREP. The Council requested the Secretary-General to take the initiative to develop such an arrangement with SPREP and provide support for organization of future RMSD meetings.

2.4.48 The Council expressed its appreciation to donor Members for their continued assistance in support of human resources development in NMHSs in RA V. The Council requested the Secretary-General and urged Members to maintain or increase their assistance through WMO fellowships and other training events. The Council, noting that the RA V Technical Conference in Kuala Lumpur identified the priority need for qualified maintenance technicians, requested that the EC Working Group on Capacity Building (EC-CB) and the Commission for Instruments and Methods of Observation (CIMO) deal with enhancement of technical capacity on maintenance aspects.

2.4.49 Recognizing the continuing enhanced efforts of the WMO Office for the South-West Pacific to implement regional projects and participate in the development, management and operational activities of the United Nations, the Council reaffirmed the urgent need for strengthening the WMO Office for the South-West Pacific, and requested the Secretary-General and further invited Members to consider human resource support, including secondment of a hydrologist to the Office as requested by XIV-RA V.

Report by the president of RA VI

2.4.50 The Council expressed its appreciation to the World Bank and some NMHSs in Europe for their assistance in the organization, in Croatia, 11–12 June 2008, of the first session of the S-E European Climate Outlook Forum. The Council encouraged Members to continue to support the organization of these Forums on a sustainable basis.

2.4.51 Noting the organization in the Russian Federation in September 2008 of the Workshop on “CLIPS in Polar Regions: Climate Product Generation, User Liaison and Training”, the Council agreed with the Workshop recommendations to extend CLIPS and RCOF mechanisms to Polar Region.

2.4.52 The Council welcomed the launch in April 2009 of the WMO project on DRR in Western Balkans and Turkey, supported by the European Commission DG Enlargement, as a follow up activity of the RA VI Technical Conference on the “Role of the NMHSs in the prevention and mitigation of the natural hazards impact” organized in October 2008 in the Republic of Moldova.

2.4.53 The Council further welcomed progress made in the process of establishing a Regional Climate Centre Network of multifunctional and specialized centres in RA VI, including an implementation plan for the Network currently under development.

2.4.54 The Council recognized the research efforts in the Region to improve high impact weather prediction and the improved utilization of forecast products and encouraged RA VI Members to implement the weather research agenda put forth by the European WWRP-THORPEX Regional Committee and to expand activities.

2.4.55 The Council further encouraged the continued development of plans for Forecast Demonstration Projects and requested that the WMO Secretariat and its Members support these efforts.

2.4.56 The Council noted with appreciation about the CAREC/WB/UN-ISDR/WMO initiative in Central Asia and Caucasus, recognizing that the outcomes of this study raised the profile of NMHSs with their own governments, which in turn would encourage increased support to these Services.

2.4.57 The Council noted the coordination and cooperation activities within the WMO RA VI through the Informal Conference of Central European Directors of Hydrological and Meteorological Services. The twentieth informal Conference, which took place in March 2009, was hosted by the
Polish Institute of Meteorology and Water Management in Warsaw. The discussions covered a wide spectrum of issues related to the supporting and modernization of infrastructure, Numerical Weather Predictions, exchange of data, and outlining future priorities. In addition, the coordination of the development of the meteorological forecasting model Aladdin had continued at the twenty-sixth session of the LACE Council.

2.4.58 The Council noted also the successful development of a regional project, namely Integrated Nowcasting through Comprehensive Analysis (INCA CE), oriented towards the provision of enhanced nowcasting methods to the weather services in Central Europe.

2.4.59 The Council further noted with appreciation that WMO RTC Turkey had organized six international training activities in 2008, in which 85 participants from WMO Members had participated. Tuition fees had been waived, and all local expenses of the participants had been covered by the TSMS.

2.4.60 The Council noted with appreciation the reinforcement of the Regional Office for Europe owing to its importance for the RA VI Members, particularly its key role in the monitoring and implementation of the Regional Strategic Plan.

2.4.61 The Council noted that the XV-RA VI session planned for September 2009 in Brussels, Belgium would be organized with its agenda based on the expected results.

2.5 Report on the 2009 Meeting of Presidents of Technical Commissions and Reports by Presidents of Technical Commissions (agenda item 2.5)

Meetings of Presidents of Technical Commissions (PTC)

2.5.1 The Council noted that the PTC had held extensive discussions on Results-based Management (RBM) and actions towards the improvement of efficiency and effectiveness of the Commissions and aligning activities to the WMO Strategic Plan during their meeting. In particular, it noted the issues raised for further consideration in course of the development of the Strategic Plan. The Council noted the important role of the technical commissions in the strategic planning process. It noted that the PTC recognizes the cross-cutting nature and the principal and important role of the WMO Programmes. It noted with satisfaction the suggestions given by PTC for consideration by the Executive Council Working Group on Strategic and Operational Planning (EC WG SOP) indicating the need for further exploring the outlined concept, which suggested alternatives for conducting technical commission meetings. The Council has made recommendations on this item under item 8.3.

2.5.2 The Council agreed with the recommendation of PTC that air pollution, including the dispersion of haze, should be added to the list of hazards as this is an area where NMHSs are expanding their activities. This is an important issue in itself especially in relation to human health, and its intensification in connection with heat waves, where a large part of deaths and medical problems may originate from air pollution.

In-depth reports of the presidents of technical commissions

Commission for Aeronautical Meteorology (CAeM)

2.5.3 The Council noted with appreciation the in-depth report by Mr Carr McLeod (Canada) president of CAeM and that the forthcoming fourteenth session of the Commission for Aeronautical Meteorology would address the following priority issues:

- Training of aviation meteorologists to the requirements of WMO 258 Supp. 1, in particular the question how the Commission can assist Members in training their staff to this standard: It will consider the use of web-based (distance) learning and work closely with ETR and RTC’s as well as universities in providing practical curricula to achieve the necessary competencies;
• **Quality Management Systems for meteorological services to aviation:** The Commission will discuss how the positive results of the United Republic of Tanzania pilot project can be beneficially applied to other Members. In this context, the application of cost recovery mechanisms will also be supported;

• **Weather impact on aviation (delays/cancellations/re-routing) with emphasis on an area of 100 kilometres around busy hub airports:** The Commission will assist Members by coordinating and encouraging the scientific and technological development of new forecast products for this larger terminal area (also in support of the revolutionary Performance-based new air traffic management concepts such as NextGen (United States of America) and SESAR (Europe) envisaging a 4D-Cube of digital data as system-wide information base), and cooperate with ICAO to include these new requirements in Annex3/WMO-No. 49;

• **The reliability of SIGMET issuance gives rise to concern for aviation:** The Commission will consider the trial formation of Regional Advisory Centers in support of Meteorological Watch Offices including a discussion of what these centres could provide and their impact on cost recovered services. The Commission will also consider cooperation with ICAO in the validation, monitoring and further development of existing WAFS products of significant weather;

• **Environmental Impacts of Aviation and Climate Change:** The Commission will coordinate the provision of climate services and support for climate change mitigation measures for the aviation industry.

The Council expressed its appreciation to CAeM for the efficient way the meetings are organized and for the preparation of documents, taking into consideration the use of limited funds.

**Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM)**

2.5.4 The Council noted with appreciation the in-depth report by Dr P. Dexter (Australia) and Dr J.-L. Fellous (France), co-presidents of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), including the views of the Commission under the relevant strategic thrusts and expected results, and an overview of the major challenges and issues that the Commission had faced during the current intersessional period, and would continue to face in the years to come.

2.5.5 Recalling that JCOMM had come a long way since the development of the concept of a joint IOC/WMO technical commission in the mid-1990s, and its formal establishment in 1999, the Council recognized the substantial work carried out under in situ Met-ocean Observing Systems, Marine Data Management, and Met-ocean Forecasting Systems and Services. In particular, the Council noted the significant progress in support of the development and implementation of operational met-ocean forecasting systems and the delivery of real-time met-ocean services focused on marine user requirements. The Council noted that updated information on the review of JCOMM, that was requested by EC-LX, was provided under item 4.

2.5.6 The Council noted that the five theme areas proposed in the JCOMM work programme as pillars for the MMOP for the period 2010–2013 were: (1) Met-ocean Forecasting Systems and Services, including Coastal Marine Hazards and related Climate Change Adaptation in Coastal Areas; (2) Met-ocean QMF, including the Catalogue of Best Practices and Standards, and the development of a QMS for the provision of Met-ocean Services for International Navigation, in collaboration with international organizations representing the user community, such as IMO and IHO; (3) Long-term maintenance and enhanced implementation of the in situ and remote sensing Ocean Observing Systems, and contribution to the WIGOS; (4) Modernization of Met-ocean related Data Management Activities, including further development of interoperability between ocean data management systems and the WIS; and (5) Technology transfer and implementation support, with especial attention to LDCs and SIDSs. The Council expressed its support for this
approach, which takes into account slightly shifting priorities, in line with WMO and IOC Strategic Planning. In doing that, the Council suggested JCOMM to consider at its third session:

- Balancing requirements against available resources, and identifying a core set of tasks, as a basis for prioritizing the future work programme;
- Further strengthening its coordination with the IODE of UNESCO/IOC;
- Adopting a project-oriented structure for the Services Programme Area.

The Council noted the need to expand JCOMM’s role in the Polar Regions in line with the recent discussions on the EC Panel on Polar Observations, Research and Services. The Council recognized that JCOMM significantly contributes to oceanography and other environmental sciences, including its crossover link with CAS in developing improved, fully coupled ocean-atmosphere models, where the JCOMM Expert Team on Operational Ocean Forecasting Systems plays a critical role.

2.5.7 The Council noted that there were, naturally, resource issues for JCOMM associated with being able to adequately address these theme areas, compounded by the limited regular budget resources which both the WMO and the UNESCO/IOC were able to allocate to support the work of the Commission, together with the lack of sufficient number of experts engaged in the work of the Commission. The Council therefore requested the JCOMM Management Committee to develop, and present to the Commission at its upcoming session, a work programme for JCOMM which could be realistically implemented in the coming intersessional period, while maintaining the priority areas identified above. The Council appealed to Members to contribute extrabudgetary resources and engage their experts in the work of the Commission to allow the full implementation of the proposed JCOMM activities.

Commission for Climatology (CCI)

Priorities for the work of CCI (2010–2014)

2.5.8 The Council noted with appreciation the in-depth report of Dr P. Bessemoulin (France), president of the Commission for Climatology (CCI). CCI priorities for 2010–2014 seek to ensure establishment and implementation of regional climate services through RCCs and RCOFs, to provide reliable, uniform and useful global and regional scale climate information to Members, through these mechanisms. Based on the discussion and decisions on ad hoc CCI-XV agenda items, the Commission will develop a future programme of work, based on WMO, UN and regional priorities. The CCI Management Group, in consultation with the chairpersons of the Working Groups on Climate-related Matters of Regional Associations from all the six Regions of WMO, has developed proposals for the future priorities of the Commission taking into consideration regional requirements, available resources and areas of priorities as endorsed by the Executive Council in its sixty-first session (2009). Other factors of significance include the outcomes of the WCC-3 (especially the proposed Global Framework for Climate Services) and of the Technical Conference on ‘Changing Climate and Demands for Sustainable Development’, and WMO’s commitments to the UN System in the UN ‘Delivering as one’ initiative and to the Nairobi Work programme, in support of adaptation to climate change, as described in the EC already endorsed ‘WMO initiative to support climate change adaptation’. On this basis, the CCI MG has identified a list of potential themes and corresponding activities for the next intersessional period for the consideration of the Commission, and has proposed in each area of work, the appropriate structure (OPAG, expert team, task force, inter-commission and other expertise) required for optimal results. Each task that requires joint or Intercommission collaboration will require a formal agreement amongst all partners on roles and responsibilities. These will be described in the form of resolutions of the Executive Council, for the session immediately following CCI-XV (i.e. EC-LXII). The major areas of activity will mainly be as follows:
(ER 2):
– Climate data and observations and climate system monitoring and analysis of climate variability and change, including climate data management and metadata, and data rescue;
– Climate research application, best practices in transfer of research results (forecasting, prediction, projection, verification, downscaling, etc.) to operations and user needs to the research community at regional and global scales;
– Climate products and services;
– Climate applications for adaptation and risk management;
– Regional Climate Centres (RCCs), including evaluation of requests for designation, best practices in RCC implementation and operations.

(ERs 2, 7, 8):
– User Interface mechanisms, outreach products to promote regular RCOFs or national COFs, development of climate and water initiatives.

(ERs 2, 9):
– Capacity building and training activities, update of third edition of the Guide to Climatological Practices (WMO-No. 100) as needed, enhancement of the role of women and developing countries in the work of the Commission Coordination with and inputs to WMO expert on gender mainstreaming.

(ER 8):
– Interagency partnerships and collaboration: priorities should be established in a more coordinated manner, taking into account the new distribution of roles/responsibilities within the UN Delivering as One initiative. There is also a strong need for a better knowledge management policy of WMO. Technical Commissions need to update the format and content of their websites to improve dissemination of knowledge and visibility of the Organization.

Priorities for the work of the CCI (2015–2018 and beyond)

2.5.9 The Commission will be apprised of the priorities for the work of the Commission, for 2015 and beyond. During this time, it is anticipated that the partnering agencies within the Global Framework for Climate Services will have developed a basic set of products, along with guidance on how to create and provide these to user sectors. Therefore, in the next phase of establishment of the Global Framework, the CCI will then focus increasingly on building capacity at national levels to apply these tools and knowledge, and on further developing the global, regional and national scale portal to this information, for use by decision-makers. CLIPS will sunset in 2015, and it is anticipated that there will be a major conference that year on CLIPS achievements and its evolution into a global Framework for Climate Services. The Conference will review remaining priorities and will recommend on mechanisms to deal with them.

Commission for Atmospheric Sciences (CAS)

2.5.10 The Council noted with appreciation the in-depth report of Dr M. Béland, (Canada) president of the Commission for Atmospheric Sciences (CAS) and the excellent support given to the EC RTT. The Council noted that CAS is responsible for promoting, coordinating and facilitating research activities related to weather, environmental pollution, atmospheric chemistry and links to water and climate research as well as associated training and capacity building. It agreed that CAS has played, and will continue to play, a strong role in basic and applied research to strengthen observational systems, operational forecasts/predictions, service delivery and support of international conventions. EC-LVIII (3.3.1.2) agreed that the scope of CAS should expand in view of the latest developments of comprehensive Earth System Models for a broad range of forecasting applications including the chemical composition of the atmosphere, new efforts on developing interactive observing systems and ensemble methods being employed to produce probabilistic weather forecasts. It also agreed with CAS that the highest priority in the Atmospheric
Research and Environment Programme should be the implementation of GAW, THORPEX and the WWRP overall and that more emphasis should be given to the connection to climate research activities.

2.5.11 The Council emphasized the vital role that Members will play in the fifteenth session of CAS, 18–25 November 2009 in the Republic of Korea hosted by the Korean Meteorological Administration and in a technical conference on “Environmental Prediction in the Next Decade” preceding the session on 16–17 November 2009. It agreed that CAS review its activities related to a restructured WMO and to the next WMO Strategic Plan for 2012–2015. CAS-XV will deal with the main activities and directions of the Atmospheric Research and Environment Programme (Resolution 14 (Cg-XV)). In particular, it will focus on implementation of the Global Atmosphere Watch, the World Weather Research Programme including THORPEX and cross-cutting efforts between weather, climate, water and environmental prediction, assessment and analysis. The Council noted with appreciation the provision of vision papers for CAS-XV, as this model allows for an effective intellectual engagement with the community at large.

3. SCIENCE AND TECHNOLOGY DEVELOPMENT AND IMPLEMENTATION (agenda item 3)

3.1 ENHANCED CAPABILITIES OF MEMBERS TO PRODUCE BETTER WEATHER FORECASTS AND WARNINGS (agenda item 3.1)

Advancing the quality, use and access to Operational Weather Forecasts and Warnings

Severe Weather Forecasting Demonstration Project (SWFDP)

3.1.1 The Council recalled that following a one-year first phase demonstration, and in response to a request made by the Meteorological Association of Southern Africa (MASA) to continue the project and to include all the NMHSs of southern Africa, it (EC-LX) allocated additional funds from the surplus budget to support an expansion of the project.

3.1.2 The Council noted that in the SWFDP in southern Africa, in addition to the expansion into all sixteen countries of the region, RSMC Pretoria intended to extend its regional guidance role to include marine forecasting and to consider future incorporation of additional aspects, such as for aviation and flood forecasting, and a Web-based system for exchange and display of warnings in the region. The Council noted that the sustainability of the SWFDP and its transition into routine operations depended on the continued project-critical support from the global products generated and issued by the Met Office (United Kingdom of Great Britain and Northern Ireland), NCEP (United States), and ECMWF, as well as the roles played by the RSMCs Pretoria and La Réunion.

3.1.3 The Council recalled the Fifteenth WMO Congress had requested CBS to consider implementing other SWFDP projects in other regions, including one for the South Pacific Islands. The Council noted that planning had commenced for the organization of a Severe Weather Forecasting and Disaster Risk Reduction Demonstration Project “SWFDDP” in Regional Association V, which was due to commence its pilot phase in November 2009, and would focus on forecasting and warning services in relation to heavy rain, strong winds, and damaging waves for four Island States: Fiji, Samoa, Solomon Islands, and Vanuatu. Global products were planned to be provided by the Met Office (United Kingdom), NCEP (United States), ECMWF, and JMA (Japan). The central RSMC role for the project would be undertaken by RSMC Wellington (New Zealand), while RSMC Nadi (Fiji) and RSMC Darwin (Australia) would enhance their existing regional forecasting functions. French Polynesia (France) would also support the project with relevant guidance products related to sea-state. It was planned that in the full demonstration phase beginning November 2010, the SWFDDP would include all South Pacific Islands that wish to participate. Noting the collaboration and commitment required from the participants for the success of the project, the Council encouraged all participating centres to achieve the RAV SWFDDP’s early implementation.
3.1.4 The Council noted that the SWFDP framework represented a systematic approach for building capacity and for transferring knowledge and skills to NMHSs, especially those of developing countries, and was encouraged that the project and its approach could benefit other scientific and technological developments that are intended for operational implementation, as the framework was demonstrating:

(a) An accelerated implementation into operational use of the outputs from advanced NWP/EPS systems;
(b) Continuous learning by forecasters as an effective way of building capacity;
(c) A sustainable “tight” cycle of demonstration, adapting to regional needs, evaluation, and operational implementation;
(d) An important contribution to adopting practical probabilistic forecasting methods;
(e) An increase in the visibility, credibility, and value of meteorological services in public and economic sectors, supported by appropriate public relations and marketing;
(f) A possible new and important role of RSMCs of the GDPFS in synthesizing and providing forecast guidance for severe weather to regional groups of NMCs, and also to serve as a method for introducing promising prediction products from research and development such as from TIGGE/GIFS.

3.1.5 The Council encouraged the use of the SWFDP as a framework or project development process for regionally-driven initiatives to enhance observational systems and to improve the capability and capacity of Members in the production of forecasts and warnings, for multi-hazard Disaster Risk Reduction and Service Delivery. The SWFDP would, where appropriate, facilitate cross-programme coordination or project integration as a means of increasing the overall effectiveness of the results.

3.1.6 The Council noted that CBS-XIV (2009) had recognized that funds necessary to extend existing SWFDP projects and to commence new projects were very limited, and thus urged Members to seek funds from potential development partners and other agencies that stand to benefit from the important results of the SWFDP.

**Operational Weather Forecasting**

3.1.7 The Council was informed of, and appreciated, the decision of the ECMWF Council to provide WMO Members with NWP gridded outputs with increased resolution to 0.5 degree, and requested the Secretary-General to facilitate the access to the dataset by Members. The Council was also informed that 124 Members had at the time, requested password access to the ECMWF Website that had been established for the use of Members.

3.1.8 The Council noted that forecasting, as a central component of the end-to-end system for Service Delivery including warning services, depended heavily on outputs of numerical weather prediction (NWP) systems. It further stressed that the accuracy and usefulness of NWP depended critically on the quality and reliability of all observational data and other information for both NWP data-assimilation and for verification of forecast products.

3.1.9 The Council also recognized that weather radars are an important tool in the tracking, analysis and very short-range forecasting (nowcasting) of severe weather, including that associated with convective storms and tropical cyclones. It therefore called upon Members to consider developing sustainable national or regional weather radar projects. It suggested that Members’ capabilities in radar-based flash flood forecasting could be greatly developed or enhanced through the collaboration between nowcasting and hydrological experts. The Council also pointed out that radar data could enhance the output of global numerical weather prediction models. It therefore encouraged Members with radars to establish the appropriate signal
processing, quality control and transmission protocols that would allow for the assimilation and utilization of radar data and related ground data of cyclones into prediction systems.

3.1.10 The Council welcomed the developments in ground-based short-range and long-range lightning detection systems that have occurred in recent years, with long-range systems capable of covering areas without weather radar coverage. The Council recommended that CIMO, CBS and CAS address the current availability and quality of these data so that measurements can be optimized for future applications in nowcasting and other forecast applications including the exploitation of these measurements in combination with weather radar observations and other measurements.

**Manual on the GDPFS**

3.1.11 The Council noted the productive work of CBS experts in relation to the Global Data-Processing and Forecasting System (GDPFS), including collaboration with other relevant technical commissions that have resulted in the CBS-XIV recommendation (Recommendation 9 (CBS-XIV)) to adopt amendments to the Manual on the Global Data-Processing and Forecasting System (WMO-No. 485). The Council adopted the CBS recommendation in Resolution 3 (EC-LXI) – Report of the fourteenth session of the Commission for Basic Systems relevant to data-processing and forecasting systems, including emergency response activities.

3.1.12 The Council was informed of the decision by CBS-XIV (2009) to undertake a comprehensive review of the Manual on the GDPFS to bring it up to date, while taking into account the possible future evolution of the GDPFS, such as experienced through the SWFDP, as well as fundamental changes under way on the other components of the Basic Systems, including WIGOS and WIS.

**Cooperation among technical commissions**

3.1.13 The Council emphasized the importance of cooperation between technical commissions to benefit the capabilities of Members to produce better forecasts and warnings, and also to support improving climate information and prediction services.

3.1.14 The Council noted that the GDPFS, implemented through CBS, prepared a wide variety of products supporting both weather and climate services through the provision of weather forecasts and warnings, climate analyses and extended- and long-range forecasts that include monthly and seasonal (90-day) outlooks. The Council encouraged CBS and CCI to work together in close coordination with the regional associations, as a matter of urgency, accelerating the development of the WMO climate services network, including the rapid expansion of the RCC network and the support to the climate services capability delivered through the RSMCs (i.e. Global Producing Centres for Long-Range Forecasts).

3.1.15 The Council emphasized the importance of the contributions of:

(a) CAS in relation to nowcasting, forecast verification, probabilistic forecasting methods as applied to severe weather, and implementation of the Sand and Dust Storm Warning Advisory and Assessment System;

(b) CAeM in relation to aviation weather forecasting;

(c) JCOMM to promote the implementation of specialized numerical prediction capabilities for met-ocean forecasting, including for waves and storm surge, for example, as included in the SWFDP for the South Pacific Islands;

(d) CHy for improving hydrological forecasting, such as close coordination of the implementation of the Flash Flood Guidance System with the SWFDP implemented in southern Africa to further enhance these projects’ successes.
Support to Operational Tropical Cyclone Forecasting

3.1.16 The Council reaffirmed the use of ensemble techniques including multi-model consensus forecasting by the national and regional tropical cyclone warning centres to further improve the application of NWP to tropical cyclone forecasting. It also underlined the dissemination of ensemble-based probabilistic guidance to improve the representation of forecast uncertainty which will be especially useful for disaster risk management in threatened areas. In this regard, the Council noted with satisfaction that the Technical Forum for EPS and the operational system for data processing and display was successfully conducted in Jeju, Republic of Korea from 12 to 15 May 2009 with 80 participants from 12 Members of the Typhoon Committee. The Council recognized that such training workshops facilitate the use of ensemble-based products in forecaster- and user-friendly forms through a systematic and optimized approach. The Council therefore requested the Secretary-General to give high priority to the organization of such workshops in other regions for the best use of those products. The Council recognized the need for more research and development for the combined use of deterministic and EPS-based products to help Members in their risk assessment at an early stage in forecasting, and to improve decision-making processes for disaster risk management. It encouraged the use of relevant meetings of the regional associations and regional tropical cyclone committees as opportunities for researchers to exchange their views and expertise with other researchers, operational forecasters and managers.

3.1.17 The Council noted that the working environment of tropical cyclone forecasters had been changing rapidly in many NMHSs with increased availability of data from new observational systems as well as forecast products, including EPS from major NWP centres. In the meantime, demands were increasing from diverse user communities for the tropical cyclone warning service to be more closely integrated with their disaster risk management activities. Given those circumstances, the Council recognized the need to enhance support measures for the forecasters to optimize the efficiency of warning services and develop operational strategies to meet the growing demands from the users. Accordingly, the Council requested the Secretary-General to revise and update the Global Guide to Tropical Cyclone Forecasting as early as possible with due consideration for the newly emerging requirements. It also underlined that the new Global Guide should be linked to the Tropical Cyclone Forecaster's website so as to allow operational forecasters easier access to up-to-date tools and reference materials for use in the monitoring and forecasting of tropical cyclone tracks and intensities.

Warning Products for Aviation

3.1.18 The Council was informed that ICAO Universal Safety Oversight Audits and regular tests of operationally available data and products raised concern about the ability of some Members to provide warnings (SIGMET, AIRMET) according to Standards and Recommended Practices defined in ICAO Annex 3. The Council was also informed that a recent meeting of the ICAO Met Warnings Study Group had called for a feasibility study to explore the possible benefits of trial forecast and warning products from Members able to do so, which had offered to provide the resulting information to other Members so as to improve the reliable issuance of SIGMET by MWO’s. This first trial would concentrate on the African and Pacific regions, defining the content and format of such trial support products, and would report back to the next conjoint ICAO/WMO meeting planned for 2013/2014.

3.1.19 The Council expressed concerns regarding issues of sovereignty and national prerogative for aviation meteorological warning services, and recalled the need for enhanced exchange of data, such as Pilot Reports, weather radar and lightning detection. The Council strongly re-affirmed that enhancing safety of the aviation industry through meteorological services is the highest priority in the Aeronautical Meteorology Programme and further recognized that a move towards regionalized services posed a risk for cost recovery of the necessary meteorological infrastructure, which in turn could diminish the quality of data needed to support the warning service. The Council requested the Commission for Aeronautical Meteorology to provide expertise and support to Members, and the Secretary-General to maintain close liaison with ICAO to ensure that the interests of Members are respected in that situation. The Council, however, also recognized the important responsibility that Members undertook for the safety and regularity of
flight operations, which was a key to economic development, and called upon Members to ensure compliance with relevant regulations and to use the opportunities afforded by cascaded information from trial centres. Concerning the special situation in the Single European Sky area, the Council suggested that the NMHSs involved should develop and implement a joint solution for the SIGMET coordination, taking due account of the relevant SES Functional Airspace Blocks.

3.1.20 Recognizing the importance of the availability of suitably trained and qualified staff at aeronautical meteorological offices, especially in developing and least developed countries, the Council reiterated its support for a vigorous training and capacity building programme in aeronautical meteorology to meet these challenges, and encouraged Members with access to training and development resources, to cooperate with the Secretariat in support of training.

Support to Operational Marine Meteorological Forecasting

3.1.21 The Council recognized that a probabilistic forecast of ocean wave height exceeding specific thresholds provides early guidance of extreme events, and the combined use of deterministic and probabilistic wave forecast guidance would help the NMHSs in their risk assessment at an early stage in forecasting and improving marine-related decision-making processes. The Council requested the Secretary-General to promote the implementation of operational specialized numerical prediction systems on ocean waves, storm surge, sea ice, and marine pollution transport and weathering, and the use of the probabilistic prediction products. The Council expressed its appreciation to the advanced centres, including, for example ECMWF, BoM (Australia), the Meteorological Service of Canada, met.no (Norway), USAM/CNMCA (Italy) and NOAA/NCEP (United States), for making freely available on their Websites a broad range of global and regional wave products and datasets. Noting that NOAA/NCEP also provides access to spectral data and to the wave model source code WaveWatch-III, the Council requested the Secretary-General to facilitate and support the regional associations in the development of regional and sub-regional projects for building capacity of Members, including LDCs and SIDSs, in the implementation and use of such a model for marine forecasting. It urged the advanced centres concerned to consider providing technical expertise in support of these projects and encouraged its Members to make maximum use of these tools, as well as for downscaling purposes.

Research and Development: transition from Research to Operations and Next Generation Systems

3.1.22 The Council welcomed the over-arching strategy developed by CAS through WWRP (including THORPEX) in collaboration with WCRP, to enable the WMO to make progress in implementing seamless weather and climate predictions. It encouraged Members, in accordance with the report of the EC Task Team on research aspects of an enhanced climate, weather, water and environmental prediction framework (EC-RTT), to strengthen the cooperation between the weather, climate, water and air quality communities to accelerate the development of environmental predictions; and to facilitate technological transfer between research and service delivery.

Marine Meteorological Forecasting, Products and Services

3.1.23 The Council recognized the importance of symposia and workshops in the coordination of ocean wave and storm surge activities globally, including exchange of information on databases, methodologies and techniques, sharing expertise and provide technical advice to assist NMHSs in fulfilling their services’ duties in support of the requirements of users in the whole range of maritime activities and in the Disaster Risk Reduction. In this context, the Council noted that the 11th International Workshop on Wave Hindcasting and Forecasting and 2nd Coastal Hazard Symposium would be held in October 2009, in Halifax, Canada, and that participants would receive information on existing products worldwide, and new technologies and research methods on wave and storm surge forecasting being transferred to operations. The Council encouraged Members to participate in this event, and requested the Secretary-General to keep Members informed of these developments, to take the necessary actions to promote the involvement of marine forecasters in that event, and to continue to support such important workshops in the future.
3.1.24 The Council recalled the expansion of the wave forecast verification scheme to include validation against remote sensed data, including wave spectra and surface vector wind. It noted with appreciation that JCOMM had established collaborating arrangements with ESA in support of this scheme through the GlobWave project. The Council requested the Secretary-General to further promote participation of space agencies in that scheme, and encourage Members to disseminate the data and make maximum use of the verification scheme applications for marine forecasting purposes.

3.1.25 The Council recalled that, in its sixtieth session (June 2008) it had requested JCOMM, CAS and CHy, in close cooperation with other relevant UNESCO/IOC subsidiary bodies, to implement the scientific/technical recommendations from the First JCOMM Scientific and Technical Symposium on Storm Surges (Seoul, October 2007), including coastal inundation and linkages to storm surge forecast and warning operations in all relevant regions. The Council noted that a project for building improved operational forecasts and warnings capability for coastal inundation had been initiated and a kick-off meeting would be convened in late June 2009. The major outcome of this project would be the development of an effective software package involving both ocean and hydrological models to enable an assessment and forecast of total coastal inundation from combined extreme events. The Council reinforced the importance of an integrated effort for developing and improving forecasting capabilities and service delivery in coastal risk reduction by strengthening the existing cooperation between JCOMM, CHy, CAS and UNESCO, and requested the Secretary-General to give high priority to these activities, including the implementation of demonstration projects for improved operational forecast and warning systems for coastal inundation.

Interaction between Tropical Cyclone Operational Forecasters and Researchers

3.1.26 The Council recognized that, while tropical cyclone forecasts have attained increasing accuracy in the track forecasting, they still rely heavily on the research and technology developments for improvement of forecasting tropical cyclone intensities, associated heavy rainfall and storm surge, as well as their seasonal frequency. The Council therefore reiterated that high priority be continuously given to transferring from the research and development domain into operations new scientific advances related to the forecasting of rapid changes of track and intensity of tropical cyclones and the impact of associated hazards during tropical cyclone landfall due to its significance for disaster prevention. An ensemble-based probabilistic approach is especially important in the low-threat/high-risk scenario associated with tropical cyclone forecasting. To focus research and development activities and facilitate the transfer to operations, the Council encouraged active interaction between operational forecasters and researchers as a key to success. Noting that the research workshops and projects organized by TCP and WWRP provide excellent opportunities in this regard, the Council urged the Secretary-General to take necessary actions to promote the involvement of operational forecasters in those events particularly the Seventh International Workshop on Tropical Cyclones (IWTC) (November 2010) and the Second International Workshop on Tropical Cyclone Landfall Processes (October 2009). The Council also encouraged WWRP including THORPEX and the Tropical Cyclone Panel, and the SWFDP to work collaboratively with RSMCs specializing in tropical cyclone forecasting, and Tropical Cyclone Warning Centres, in developing prototypes for tropical cyclones related to ensemble-based probabilistic products in the context of a Forecast Demonstration Project for the Global Interactive Forecast System (GIFS-FDP).

3.1.27 The Year Of Tropical Convection (YOTC) initiative, supported by both WWRP/THORPEX and WCRP, was expected to play an important role in a comprehensive analysis and modelling approach to tropical convection that affects weather and climate on a variety of spatial and temporal scales and phenomena. The Council stressed the importance of the need to improve forecasts of tropical convection and stressed the need for the active involvement of scientists from developing countries, LDCs, SIDS, and tropical island nations in YOTC activities. The Council noted the progress of the YOTC Project, which is jointly coordinated between the WWRP and the WCRP, in completing their Science Plan, arranging access to high resolution forecast products at the ECMWF, and in moving forward with the development of an Implementation Plan for this project. Since a number of WMO Members are situated in regions...
characterized by intense tropical convection, such as the tropical maritime areas, the Council urged Members to participate in YOTC including nominating focal points for the upcoming YOTC Implementation Workshop to be held at the East-West Centre on the campus of the University of Hawaii at Manoa, Oahu, 13–15 July 2009.

Sand and Dust Storms

3.1.28 The Council recognized the progress in developing an Implementation Plan for the Sand and Dust Storm Warning, Advisory and Assessment System (SDS-WAS) and thanked Members for their support to develop regional nodes for northern Africa, the Middle East and Europe, and for Asia. The Council encouraged the continued support of these regional nodes, Members’ participation, and the cooperation of CAS and CBS so that a rapid transition from research to operational forecasting can occur and real-time exchange of aerosol observations. The Council also encouraged impact and assessment studies, such as by the Socio-Economic Research and Applications (SERA) Working Group of WWRP, to engage in the assessment of potential benefits from improved sand and dust storm predictions. The Council gratefully acknowledged Spain for its support of SDS-WAS aerosol observations in northern Africa through the GAW programme. It encouraged Members to implement the core aerosol measurements recommended in the WMO/GAW Aerosol Measurement Procedures Guidelines and Recommendations (WMO/TD-No. 1178). It welcomed the initiative of the Asian node of SDS-WAS to promote exchange of aerosol observations (PM10 and LIDAR) in near real time (1–3 hrs) through a forecast research demonstration project and thanked the Korean Meteorological Administration for taking the lead in hosting a regional workshop to design the project. It encouraged support by Members of workshops and training sessions that serve to involve SDS-WAS countries that are potentially impacted by sand and dust but do not yet have adequate sand and dust forecasting information.

Forecast demonstration projects

3.1.29 Technology transfer is a critical activity for sustaining and improving weather forecasting and related prediction services in NMHSs. The Council agreed that demonstration projects, such as the MAP D-PHASE and Beijing 2008, were highly effective in accelerating the transfer of research tools, modelling strategies and techniques to operational usage by NMHSs. It further noted that the Severe Weather Forecasting Demonstration Project (SWFDP) has been successful in accelerating the transition and utilization of state-of-the-art operational techniques and products to developing nations within southern Africa. The Council therefore encouraged increased coordination between the operational, research and regional departments within the Secretariat and the corresponding technical commissions to accelerate the transition from research to operations, including the GIFS-FDP, with special attention to projects in developing nations.

3.1.30 The Council noted the benefits and lessons learned from the Beijing 2008 Nowcasting Forecasting Demonstration Project (FDP) and the Mesoscale Research and Development Projects (RDP) and urged that these lessons learned, especially regarding verification and ensemble prediction be incorporated into the Shanghai MHEWS effort.

A Global Interactive Forecast System

3.1.31 The Council recognized the progress of CAS’s WWRP-THORPEX programme to deliver the THORPEX Interactive Grand Global Ensemble (TIGGE) archive, to conduct research that identifies areas where forecast skill and confidence might be improved by the multi-model ensemble approach and to demonstrate the concept of a multi-centre Global Interactive Forecast System (GIFS) by delivering tropical cyclone track predictions in real-time. The Council further noted the past encouragement of TIGGE activities by EC-LX (2008), including demonstrations of the potential value of GIFS in operational forecasting aimed at reducing human suffering, mitigate costs and deliver benefits; and thus recommended:
(a) Regional, CBS-, and CAS-related entities in the WMO collaborate with the THORPEX GIFS-TIGGE Working Group to plan and execute a GIFS Forecast Demonstration Project (GIFS-FDP) that is designed to benefit Members in the developing world;

(b) To take advantage of existing and planned activities, infrastructure and experience, wherever possible, GIFS-FDP subprojects will be carried out in conjunction with CBS SWFDP, which has an effective mechanism for cascading the benefit of new forecast systems to decision-makers in WMO Members States;

(c) The GIF-FDP should begin with the prediction of tropical cyclone tracks and ensemble-based diagnostics, since EC-LX urged continuation of this real-time programme. The Council encouraged the participation of the relevant TIGGE data providers, TIGGE archive centres, Tropical Cyclone Warning Centres (TCWCs), Regional Specialized Meteorological Centres (RSMCs, including RSMCs with activity specialization in Tropical Cyclones) and WMO Members in executing such GIFS-FDP activities, which will require training and the development of a common set of products;

(d) That a follow on from the GIFS-FDP should focus on improving prediction of heavy rainfall and other problems of high priority, such as contributing to improving food security. The Council requested support from the WWRP SERA Working Group and THORPEX Regional Committees in exploring various societal application areas;

(e) The WMO Secretariat, THORPEX and the TIGGE data providers should work to develop a suitable data policy that will allow the GIFS-FDP to proceed in order to reduce human suffering, mitigate costs and deliver benefits;

(f) For the longer term, CBS and CAS experts should work with the THORPEX community to develop a way forward with the GIFS vision including additional applications with prototype GIFS probabilistic products for high impact precipitation, wind speed, and near surface temperature forecasts that, if successful, could be transitioned into operations to benefit the international community, especially for the developing world.

THORPEX Pacific Asian Regional Campaign (TPARC) 2008

3.1.32 The Council thanked Members for their participation in T-PARC and encouraged Members to adopt operational and societal legacies from the summer and winter components of campaign to improve prediction of the critical processes associated with tropical cyclones, extratropical cyclones, as well as high impact weather over the Arctic through adaptive measurements and the utilization of advanced satellite techniques. The Council specifically recognized the importance of advancements in prediction of the rapid intensification of and structural changes within tropical cyclones and the potential contributions to these areas from the Tropical Cyclone Structure and Intensity (TCS-08) campaign taking place in collaboration with T-PARC. The Council also urged technology transfer and capacity building efforts on the lessons learned from these campaigns such as adaptive measurements for tropical cyclones and utilizing ensemble prediction systems to improve the skill of tropical cyclone and winter storm forecasts and the communication of these forecasts to emergency planners and the public. The Council welcomed the plan of the Japan Meteorological Agency to organize an International Conference on Advancements in Typhoon Track Forecasts in December 2009 in Japan to share the outcome of research using the T-PARC 2008 observations.

The IPY-THORPEX project cluster

3.1.33 The Council encouraged Members to incorporate into ongoing programmes operational legacies in observing systems, improved satellite data assimilation, and advancement in modelling capabilities that arise from the forecasting research, all of which are being undertaken within the ten programmes that comprise the approximately ten projects in the IPY-THORPEX cluster of activities. These programmes include activities in Polar Regions and adjacent lower latitude areas that are likely to impact predictions in Polar Regions, such as the winter campaign of T-PARC and the extratropical transition activities of the summer component of T-PARC.
Forecast Verification and Strategies for Assessing Forecast Skill for High Impact Weather

3.1.34 The Council noted the progress by the Joint (WGNE/WWRP) Working Group on Forecast Verification Research, which is a focal point for the development of new verification techniques, such as for precipitation, probabilistic forecasts, clouds, high-resolution deterministic models, and ensemble systems. It also noted the working group’s participation in training of forecasters in the use of a real-time forecast verification system, making available verification software, verification methodologies and their applications to the attention of a wider community. The Council encouraged collaboration between this working group and the newly established CBS expert group so that these research concepts are transitioned to operations and the involvement of both groups in the SWFDP efforts.

Nowcasting and Forecast Systems

3.1.35 The Council encouraged the extension of nowcasting activities to the problems of winter weather and complex terrain with the Vancouver 2010 (SNOW V10) Research and Development Project and recommended Member support of this new WWRP. The Council also urged WWRP to expand its activities to include satellite-based nowcasting of heavy rainfall for regions lacking adequate radar coverage.

3.1.36 The Council requested broad WMO involvement in addressing issues associated with the changing forecasting environment in NHMSs, including a growing tendency for forecasting systems to run locally on workstations and local networks, demanding new user requirements, an increased reliance on visualization, and an evolving role of human forecasters in parallel with increasing automation. The Council requested CBS to cooperate with CAS-WWRP in planning, implementation, and providing input to such a workshop, which should have a strong participation by NMHSs of developing countries, beginning with a small focused meeting in 2010.

3.1.37 The Council acknowledged the potential of the European Operational Programme for the Exchange of Weather Radar Data Information (OPERA) to provide a basis for international standards for the exchange of radar data and to enable their use in prediction systems. The Council requested the Working Group on Nowcasting of the WWRP to explore with CBS and CIMO the possibilities of applying the OPERA technological concept in other regions and provide recommendations to Executive Council. The Council recommended that studies to improve the compatibility of weather radar outputs be further developed with high priority by CIMO within the context of WIGOS development.

3.2 Enhanced Capabilities of Members to Provide Better Climate Predictions and Assessments (agenda item 3.2)

3.2.0.1 The Executive Council recognized that WMO climate activities included the observations, the research, and specialized knowledge of the treatment and use of climate information (analysis, predictions, products and services, etc.); the enhancements of the capacity of the Members, particularly in developing and least developed countries, as well as close partnerships with many organizations. It therefore noted that certain aspects of WMO climate activities may also be reflected in the documents related to Expected Results 4, 5, 6, 7, 8 and 9.

3.2.0.2 The Council noted that climate activities that fall under Expected Result 2 (Enhanced capabilities of Members to provide better climate predictions and assessments) are guided by a number of WMO constituent bodies and co-sponsored entities including the Commission for Climatology (CCl), the Commission for Basic Systems (CBS), the Commission for Instruments and Methods of Observation (CIMO), the Joint (WMO/Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO)) Technical Commission for Oceanography and Marine Meteorology (JCOMM), the Joint Scientific Committee of the World Climate Research Programme (WCRP JSC) and the Steering Committee of the Global Climate Observing System (GCOS SC). The Council urged enhanced interaction and coordination between these bodies, and relevant associated bodies at the regional and national
levels. The Council noted with appreciation that the WCRP JSC and CCI would hold their first joint session at the fifteenth session of the CCI (CCI-XV) (Antalya, Turkey, February 2010).

3.2.0.3 The Council noted the in-depth report of the president of the Commission for Climatology (CCI), including the recommendations on improving the structure and productivity of the Commission, as well as the alignment of its work with the WMO Strategic Plan and for the principal priorities for action following the World Climate Conference-3. The decisions related to the report of the president are presented under agenda item 2.5. The Council urged that the third edition of the *Guide to Climatological Practices* be finalized and published as soon as possible.

3.2.1 Climate Monitoring and Assessment

3.2.1.1 The Council reiterated the critical importance of Data Rescue activities (DARE) for climate science and applications and noted with satisfaction the ongoing CCI efforts in this matter, particularly the work of the CCI Expert Team on the Rescue, Preservation and Digitization of Climate Records (ET-RPDCR). The Council noted with satisfaction the great interest expressed by Members in developing regions (e.g., Africa, the Caribbean and Asia) to work closely with CCI ET-RPDCR and WMO to further develop and sustain DARE activities in their respective countries. It urged that data rescued under DARE projects should be made available to the research community through a web portal, and that a data policy be developed for DARE activities to ensure its availability.

3.2.1.2 The Council noted that there had been several data rescue programmes for African climate records, which had resulted in the recovery and digitization of a number of invaluable historical climate records. The Council appreciated the strengthened communication between Members regarding the exchange and rescue of climate data. It noted, however, the concern about archiving the rescued data under non-standard archiving conditions, which endangers the integrity of these data. The Council therefore urged Members in Region I to embrace the recommended safeguards of data storage in properly constructed archives, in compliance with WMO recommended practices (WCDMP-55/WMO/TD-No. 1210; WCDMP-68/WMO/TD-No.1481 and WCDMP-69/WMO/TD-No. 1480).

3.2.1.3 The Council noted the critical role of climate metadata in conducting homogeneity and adjustment studies for climate time series suitable for climate monitoring and assessment, and welcomed the ongoing efforts by CCI, CIMO and JCOMM and requested the Technical Commissions to further sustain and develop these efforts. The Council also recognized with appreciation the work of JCOMM to enhance the availability and quality of marine climate data, associated metadata, and data products, which represented a critical part of the overall climate record and assessment process.

3.2.1.4 The Council noted the latest WMO statement on the “Status of the Global Climate” which is produced annually in all WMO official languages, and likewise welcomed with appreciation the initiative of the NMHS of Germany, in consultation with NMHSs in Austria and Switzerland, to make available a German version of the WMO Statement. The Council further appreciated the ongoing efforts of Hungary to reproduce these Statements in Hungarian. The Council encouraged Members to undertake similar initiatives to produce the Statements in other non-official languages to reach a wider audience.

3.2.1.5 The Executive Council noted with appreciation the publication in 2008 of the “Assessment Report on Climate Change and its Consequences in the Russian Federation”, prepared on the initiative of Roshydromet, as the most comprehensive and up-to-date assessment of past, present and future climate change in the Russian Federation. The publication synthesizes information on climate conditions in the country; observed and expected climate change and the consequences of climate change for environmental and economic systems, human health, and possible adaptation measures.

3.2.1.6 The Council welcomed the plan of CCI/WCRP-CLIVAR/JCOMM Expert Team on Climate Change Detection and Indices (ETCCDI) to develop the guidelines on “Extremes in a
changing climate”, which would be a key contribution to capacity-building efforts and knowledge development. EC urged Members to promote the use of ETCCDI software on climate indices such as “RClimDex” [sic.] in their institutions including NMHSs, universities and research centres and requested CCI and the Secretariat to further promote this tool.

3.2.1.7 The Council urged Members to establish a mechanism within NMHSs to implement Climate Watch Systems based on the WMO recommended guidelines (WCDMP-No. 58, WMO/TD-No. 1269) to support improved climate services for decision making and users.

3.2.1.8 The Council appreciated the Progress Report on the Implementation of GCOS 2004–2008, prepared by GCOS in response to a request from the UN Framework Convention on Climate Change (UNFCCC). It urged Members to review this report and to take the actions necessary to ensure that continued progress is made. The Council reiterated that GCOS was still far from fully implemented and that efforts needed to be continued, in most parts of the world, to strengthen and maintain essential climate observing networks and systems. It encouraged the GCOS network monitoring centres for the GSN, GRUAN and GUAN to continue their efforts to identify the existing gaps while planning for the future and to report to the WMO World Weather Watch and the GCOS Steering Committee and its Atmospheric Observations Panel for Climate (AOPC). It urged Members to address these gaps in climate observing networks, especially Africa (RA I) and South America (RA III), as well as key ocean observing system components, including the Voluntary Observing Ships.

3.2.1.9 The Council acknowledged the critical importance of GCOS National Coordinators in facilitating coordination between atmospheric, terrestrial, and ocean observing domains at the national level in support of improved climate prediction, assessment, and adaptation. It welcomed the opportunity for using the UNFCCC process, in particular, the current negotiations over Long-Term Cooperative Action, to increase political support for strengthening all climate observing networks. It encouraged the GCOS network monitoring centres for the GSN, GRUAN and GUAN to continue their efforts to identify the existing gaps while planning for the future and to report to the WMO World Weather Watch and the GCOS Steering Committee and its Atmospheric Observations Panel for Climate (AOPC). It urged Members to address these gaps in climate observing networks, especially Africa (RA I) and South America (RA III), as well as key ocean observing system components, including the Voluntary Observing Ships.

3.2.1.10 The Council acknowledged the importance of the close cooperation with the WMO Technical Commissions and, in particular, with CIMO with regard to the upper air and other observations for climate to ensure the highest possible standard for measurements of climate data.

3.2.2 Climate Prediction and Modelling Research

3.2.2.1 The Council recalled the outcomes of the World Modelling Summit for Climate Prediction (Reading, United Kingdom, May 2008) and requested WCRP to ensure full and active participation of scientists from Member countries, particularly from developing countries, LDCs and SIDS, in the emerging Climate Prediction Project.

3.2.2.2 The Council recognized the many contributions of the WCRP Global Energy and Water Cycle Experiment (GEWEX) to improving the performance of global climate models and to the application of improved prediction methods in hydrology. It encouraged Members to continue their support for the associated field experiments, modelling studies, and archiving and the analysis of the resulting data. It also noted with particular appreciation the recent analysis of global precipitation products. The Council urged Members to continue their support for the collection, processing and analysis of the precipitation, cloud and radiation data from satellite and in situ measurements.

3.2.2.3 The Council noted with appreciation the success of the WMO/ICSU International Polar Year 2007–2008. It called the attention of its Members to the recommendations contained in IGOS Theme on Cryosphere Report and invited them to contribute to and support the establishment of a WMO Global Cryosphere Watch.
3.2.2.4 The Council noted with satisfaction the major modelling efforts being planned and coordinated by WCRP as input to the next assessment cycle of the Intergovernmental Panel on Climate Change (AR5). The Council was pleased to note that the Programme for Climate Models Diagnosis and Intercomparison (PCMDI) archive facility in the United States for WCRP model outputs (enabling interested parties to access data on simulations) would continue to be made available and encouraged Members to participate in the analyses of the modelling experiment outputs. Further, ongoing model-access activities within the United States may become available during the AR5 timeframe. The Council recognizes and supports new paths to these important high-volume datasets by the community.

3.2.2.5 The Council noted with appreciation that the draft of the review of WCRP carried out by a Panel appointed by its sponsors, including WMO, had been circulated to Members and that the comments received had been taken into account by the Panel. The Council requested the Secretary-General to disseminate the final report of the WCRP Review Panel to Members as soon as it is available, and urged the WCRP sponsors, including WMO, to implement its recommendations.

3.2.3 Operational Climate Prediction

3.2.3.1 Recognizing the continued need of Members for capacity building in order to provide climate information on relevant time and space scales, the Council appreciated the review taken at the completion of the 10 years of the RCOF process (Arusha, United Republic of Tanzania, 3–7 November 2008), and the ongoing efforts to expand, improve and standardize the activities and outputs under the process. The Council noted with appreciation that RCOFs already established around the world in Africa, South America, Asia and South Pacific Islands, continued to hold regular sessions, and to provide climate outlooks and that WMO had provided partial support to several forums in need of resources to enable experts from developing country to participate.

3.2.3.2 The Council noted that in a new initiative, the RCOF for Central Africa was revived after a lapse of nearly six years, and the third session of the forum (PRESAC-3) was held (Bangui, 20–24 October 2008), with support from WMO and ACMAD, whereby ACMAD provided the technical coordination of the session. PRESAC-3 provided seasonal forecast products for October-November-December (OND) rainy season in Central African countries, and focused on water resources management, agro-forestry and health as the core user sectors.

3.2.3.3 The Council expressed satisfaction that the first session of South Eastern Europe Climate Outlook Forum (SEECOF-1) was successful (Zagreb, Croatia, 11–12 June 2008), with a wide participation including international agencies, national and regional climate experts, and representatives of many user sectors. The Council thanked the World Bank, and the NMHSs of Switzerland, Germany, Croatia and Slovenia for their support for this inaugural event.

3.2.3.4 The Council acknowledged the remarkable progress in the implementation of RCOFs around the world, and appreciated the major impetus for this provided by the Climate Information and Prediction Services (CLIPS) project, and the support of NMHSs, regional institutions and sponsors. The Council urged the NMHSs and regional institutions to coordinate their efforts to sustain these activities on a regular basis, and requested the Secretary-General to provide the required guidance. Further, the Council urged the Secretary-General to identify other potential sub-regions that would benefit from RCOFs, and to take all possible steps to support their launch, in consultation with the concerned Members.

3.2.3.5 Noting with appreciation the WMO WCRP IPY Workshop on CLIPS in Polar Regions (St-Petersburg, Russian Federation, 8–11 September 2008), and the agreement to work towards the establishment of a Polar Climate Outlook Forum (PCOF), the Council urged all Members with interests in the Polar Regions, in either hemisphere, to actively contribute to the relevant efforts to identify the priority user requirements for climate information in these regions. The Council highlighted that this would be a unique opportunity for the NMHSs to contribute to the legacy of the ongoing International Polar Year 2007–2008 (IPY). The identification of priorities in the Polar
Regions by NMHSs will also contribute to the characterization of the activities to be undertaken by the EC Panel of Experts on Polar Observations, Research and Services.

3.2.3.6 The Council expressed satisfaction with the sustained efforts to issue consensus-based WMO El Niño and La Niña Updates. It urged NMHSs and other relevant institutions to actively participate and support the development of these Updates on a regular basis. In addition, the Council urged CCI and WCRP CLIVAR to consider expanding this process by including the development of reliable updates on other planetary-scale oscillations that have potential impacts on regional climates.

3.2.3.7 The Council expressed its satisfaction that Moscow (Russian Federation) and Pretoria (South Africa) have been approved for formal designation as WMO Global Producing Centres of Long Range Forecasts (GPCs) and that Korea Meteorological Administration (KMA) and NOAA’s National Centers for Environmental Prediction (NCEP) have been approved jointly as a new WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME). The Lead Centre is currently collecting data from 10 GPCs on a real-time basis, and providing them in a common format to WMO Members through its website. The Council urged Members to avail themselves of the products of the network of GPCs and Lead Centres, and urged the CCI and CBS to promote and guide the uptake of GPC products within RCC, RCOF and NMHS activities for operational climate prediction.

3.2.3.8 The Council recognized that the role of some GPCs will be expanded to provide interannual to decadal predictions to the proposed GFCS. The Council welcomed the statement from the UK Met Office that it would be willing to expand its GPC role to meet the new requirements.

3.2.4 Regional Climate Centres (RCCs)

3.2.4.1 The Council noted the growing interest of Members, and user groups in the establishment of Regional Climate Centres, for provision of a wide suite of regional-scale climate information. The Council emphasized that WMO has a responsibility to ensure that RCC activities complement global and national efforts, and that they adhere to standards and criteria that will ensure the highest quality products.

3.2.4.2 The Council noted the recent progress in the development of the amendments to the Manual on the Global Data-Processing and Forecasting System (GDPFS), Volume 1 (Global Aspects), and thereby setting procedures for the establishment of WMO RCCs. The Council complimented CCI, CBS, the regional associations and the Secretariat for their joint efforts in completing the task and adopted Resolution 4 (EC-LXI) – Establishment of Regional Climate Centres.

3.2.4.3 The Council acknowledged the concerted efforts of China and Japan during the RA II RCC pilot project, and noted with appreciation that Beijing Climate Centre (BCC) and Tokyo Climate Centre (TCC) have successfully demonstrated their compliance with the mandatory requirements for formal WMO RCC designation and have been designated as WMO RCCs in RA II. Further, the Council welcomed that India, the Islamic Republic of Iran, Saudi Arabia and the Russian Federation have initiated actions to establish RCCs as well. Noting that Regional Association VI (Europe) has launched a pilot project to establish an RCC-Network for the Region, with nodes for climate data (the Netherlands), long-range forecasting (France and Russian Federation) and climate monitoring (Germany), the Council urged Members in the Region to extend their full support to ensure the success of the initiative.

3.2.4.4 The Council urged the Secretary-General to promote rapid expansion of the RCC network to cover all Regions, and in particular to place high priority on meeting the climate-related needs of developing and least developed countries. In this context, the Council appreciated the support of the Korean International Cooperation Agency (KOICA) for enhancing the capacity of existing regional institutions in Africa to meet the requirements for designation as WMO RCCs.
Council urged the Secretary-General to facilitate such opportunities for extrabudgetary support for RCC development.

3.2.5 EC Working Group on Climate and Related Weather, Water and Environmental Matters (ECWG-CWE)

3.2.5.1 The Council noted the report of the second session of the EC Working Group on Climate and related weather, water and environmental matters (EC-WG-CWE) (Geneva, 11–13 February 2009), and that the Group had particularly focused on ‘Review of WCP and Climate Agenda’ and ‘Global Framework for Climate Services (GFCS)’.

3.2.5.2 The Council noted that the ECWG-CWE had considered possible re-orientation of the WCP, and had emphasized that it should primarily aim at enhancing climate services with adequate focus on user interaction. The Council agreed with the views of ECWG-CWE that the expected outcomes of WCC-3 in the form of the GFCS would be in line with many of the stated goals of the Climate Agenda.

3.2.5.3 The Council noted, from the report of ECWG-CWE, that while GFCS would include most of the components of the WCP (i.e. WCDMP, WCASP and WCRP) and GCOS, the way should be left open for UNEP to reinvigorate the WCIRP of WCP. The Council agreed with the recommendation of the ECWG-CWE not to attempt the revitalization of IACCA, and to use the UN ‘Delivering as One’ initiative to coordinate climate issues at the UN level. The Council therefore urged the Secretary-General, in conjunction with the preparation for WCC-3, to begin the consultations required with all sponsors of the Climate Agenda and IACCA, to prepare for this transition.

3.2.5.4 The Council noted the recommendation of the ECWG-CWE that the Climate Agenda should eventually be formally retired and replaced by the GFCS, but agreed to defer its final recommendation on the future of the WCP and the Climate Agenda until EC-LXII.

3.2.5.5 The Council noted that the new UN ‘Delivering as One’ initiative, a system-wide coherent approach to climate change activities had improved coordination among UN agencies, and appreciated that WCC-3 would provide a unique forum for the UN System to focus on the application of the climate knowledge to support adaptation to climate variability and change. To that end, the Council agreed that WMO should move forward on the ‘knowledge-base’ theme within the UN initiative, and make use of the opportunity given to WMO and UNESCO.

3.2.6 World Climate Conference-3 (WCC-3)

3.2.6.1 The Council noted the outcomes of the second and third meetings of the WCC-3 International Organizing Committee (WIOC) (Geneva, 3–5 September 2008, and Bonn, Germany, 16–18 March 2009) and the progress report from the Secretary-General on the preparations for the Conference. It also noted that by building on the achievements of the first and second World Climate Conferences, WCC-3 would further advance development in climate observations, research, and services.

3.2.6.2 The Council noted the efforts made by the Secretary-General in mobilizing resources for WCC-3, and enhancing partnerships with other UN agencies and international organizations and the private sector in its organization. It expressed its appreciation to the Secretary-General for arranging several briefings for the Permanent Missions in Geneva and for involving them in facilitating high level participation in the Conference. It further expressed appreciation to the Governments of Australia, Canada, China, Denmark, Finland, France, Germany, Greece, India, Ireland, Italy, Japan, Kenya, Norway, Pakistan, Russian Federation, Saudi Arabia, Spain, Switzerland and the United States, as well as to the European Union, FAO, and UNEP for their commitment of support for the WCC-3. The Council also thanked the Governments of Switzerland, United States and Kenya for providing, in addition to the above, in-kind support to the organization of the conference.
The Council was informed that the concept of a ‘Global Framework for Climate Services (GFCS)’, had been developed, under the guidance of the WIOC, as the proposed outcome of WCC-3, and that various WMO bodies including the Presidents of Technical Commissions (PTC) and the EC Working Group on Climate and Related Weather, Water and Environmental Matters (ECWG-CWE) had contributed to its content and direction. The Council noted with appreciation that the GFCS has evolved from the WMO initiative endorsed by EC-LX to support the adaptation to climate variability and change, but suggested that it would benefit from further input from the EC Research Task Team. The Council further noted the efforts of the WIOC to engage other international organizations and relevant sectors including the private sector in its work and in the sessions of the WCC-3 and fully supported the continuation of these efforts in the further refinement of the GFCS.

The Council supported the development of the proposed GFCS and noted that its successful implementation would facilitate the improvement of the existing climate services; the development of sector and user-targeted services; capacity building; and a more effective provider-user interface in the provision and application of climate services. As such it would contribute to disaster risk reduction; adaptation to climate variability and change; and economic development, and therefore would provide both near-term and long-term economic and social benefits to society, including WMO Members and their NMHSs.

The Council therefore endorsed the overall concept of the GFCS, which may build on a strengthened observation and monitoring component (strongly supported by the Global Climate Observing System (GCOS)); a strengthened research and modeling component (strongly supported by the World Climate Research Programme (WCRP)); and a new World Climate Services System (WCSS) involving two components: a Climate Services Information System (CSIS) and a User Interface Programme (UIP), which requires critical interactions with sectoral user communities. It stressed the importance of building on the strengths of the existing World Climate Data and Monitoring Programme (WCDMP), the World Climate Applications and Services Programme (WCASP), in particular, the Climate Prediction and Services (CLIPS) project, the GDPFS and in addition the relevant components of other WMO Programmes, in the development and operation of the CSIS and UIP. Further, the Council stressed the need to involve the much broader range of climate service providers and application sectors, beyond WMO, that are now contributing at global, regional and national levels, which would provide critical additional strength to the existing activities. It commended the Secretariat on the preparation of the GFCS Concept Note and urged its further elaboration in collaboration with WMO’s partner organizations based on the outcomes of WCC-3, to ensure multidisciplinary inputs.

The Council recognized the potential benefits to Members from the establishment and sustained operation of the existing and proposed global and regional mechanisms for climate service provision and application as part of the GFCS (especially the GPCs, Lead Centres for LRF-MME and the Standardized Verification System for Long-Range Forecasts (SVSLRF), RCCs, RCOFs and other RSMCs currently providing a range of climate services), and through their capability to support adaptation to climate variability and change, particularly to engage in and improve user liaison and development and delivery of products and services to users at national and local levels. The Council requested the Secretary-General to make every effort to ensure that NMHSs take a leading role in the service provision in the GFCS in cooperation with their partners, in order to make GFCS feasible and sustainable. The Council, therefore, urged the Secretary-General to prepare a position paper with the concurrence of ECWG-CWE on how WMO Programmes should become core elements of the GFCS, especially through the unique capabilities and capacities of the NMHSs, and to actively promote these contributions as elements of the proposed GFCS.

The Council emphasized the fundamental role of the NMHSs in climate observations, research, and service provision at the national level within their countries, as well as the increasing emphasis now being placed on more integrated approaches to weather, climate, and water observations, research, and service provision. Recognizing that most components of the proposed GFCS will require collaboration between NMHSs and their partner service provider and user communities, it noted with satisfaction that both the observations and research components
already enjoy strong participation from outside the NMHSs’ communities as a result of the sponsorship of GCOS and WCRP by WMO, other UN agencies and ICSU. It encouraged the development of similar broadly-based involvement of NMHSs’ partner organizations and other user communities in the newly proposed CSIS and UIP components of the GFCS. It further recognized that developing countries, and especially least developed countries, may need assistance in participating in the proposed GFCS and urged developed country Members to facilitate the participation of developing country Members in their implementation efforts in the GFCS.

3.2.6.8 The Council noted the recommendations of ECWG-CWE and requested the Secretary-General to ensure that, in consultation with WMO’s partner organizations, a comprehensive proposal for the establishment of the GFCS and the restructuring of the WCP by Cg-XVI is finalized in time for a thorough review by EC-LXII.

3.2.6.9 The Council welcomed the action of the Secretary-General in initiating consultations with Members through their Geneva Missions, as well as through their Permanent Representatives with WMO, on the content of the proposed Conference Declaration. It expressed appreciation to the Government of Switzerland for leading the intergovernmental consultation/negotiation process. After reviewing the most recent draft of the Conference Declaration, the Council requested the Secretary-General to ensure that the views of WMO constituent bodies are taken into account, as far as possible, in the further consultation/negotiation on the draft Declaration. It also requested the Secretary-General to activate additional processes, if necessary, to achieve wide consensus on the text of the draft Declaration in advance of the opening of the High-level Segment of the Conference. The Council further stressed the importance of informing the Parties at the UNFCCC COP-15 meeting in Copenhagen in December 2009 on the outcomes of the WCC-3, as represented in the final Conference Declaration.

3.2.6.10 The Council was informed that the WIOC has proposed that the further development of the GFCS into an action plan, following the WCC-3, be carried out by an ad hoc high level Task Force of independent advisors convened by the Secretary-General of WMO. The Council also reviewed the WIOC draft of the terms of reference of the proposed Task Force. While recognizing the need for prompt and effective follow-up on the outcomes of the WCC-3, the Council recommended that the Task Force be established in a manner so as to ensure its accountability and that it operate under terms of reference that would deliver effective and realistic results in a timely manner. It requested that the Secretary-General make use of the draft terms of reference, developed by WIOC, as a basis for prior consultations for establishing and convening the proposed Task Force as quickly as possible, to be ready to work immediately after the finalization and issuance of the WCC-3 Conference Declaration, and to ensure that the composition of the task force has the appropriate balance of geography, gender and expertise. The Council finally recommended that an action plan developed by the Task Force be made promptly available by the WMO Secretary-General to the UN System through the Chief Executives Board for Coordination (CEB) and be considered under the Climate Knowledge Base activities of the ‘UN System Delivering as One’.

3.2.6.11 Recognizing the need to promote climate applications in key socio-economic sectors and noting the need for partnerships with user sectors to realize more effective climate applications, the Council urged that the sector-specific outcomes from WCC-3, articulated through white papers on applications of climate information for individual sectors, be taken fully into account in implementation of the GFCS by WMO and its partner agencies.

3.2.7 Capacity Building for Improved Climate Prediction and Assessments

3.2.7.1 The Council recognized that CLIPS training sessions and RCOFs have significantly contributed to the capacity building of NMHSs, particularly those in the developing countries, enabling them to undertake climate predictions and assessments. Considering the continued need for sustained training activities, and keeping in view the resource constraints in organizing regional CLIPS training workshops, the Council urged WMO Regional Training Centres (RTCs) to include CLIPS curriculum as part of their regular training programmes, and to pay special attention to “training of trainers” with the collaboration of RTCs, in climate activities.
3.2.7.2 The Council appreciated the efforts of Member countries in supporting capacity building for developing climate services in developing countries, particularly the least developed countries. The Council urged all agencies involved in such capacity building activities to coordinate their efforts to ensure that they are complementary, and thereby optimize the utilization of available resources, and requested the Secretary-General to support such coordination through the provision of relevant information on capacity building activities, and by supporting the activities of relevant working bodies of regional associations and their interregional collaboration. The Council urged Members and the Secretariat to continue to support a range of climate training workshops as a means to enable NMHSs to deliver high quality climate data, information and services for decision and policy making, and users in various sectors.

3.2.8 Adaptation to Climate Variability and Change

3.2.8.1 The Council recalled that Cg-XV had entrusted CCI to review the CLIPS project and propose an implementation plan for its future evolution. In this context, the Council agreed with the recommendations of the CCI Management Group that, as a project, CLIPS should have an appropriate sunset date and its accomplishments (for example, RCOF) be consolidated should the GFCS assume the CLIPS legacy. In this regard, the Council requested CCI to define the role the Commission would play in GFCS implementation and its future programme of work at its upcoming session (CCI-XV, February 2010), which would be integrated into the Secretary-General’s comprehensive proposal to be submitted to the Executive Council at its sixty-second session.

3.2.8.2 Recognizing the need to understand the extent to which WMO Members are currently engaged in sector-specific activities relevant to Adaptation to Climate Variability and Change, the Council urged all Members to participate in the on-line survey launched in October 2008 by the WMO Secretariat, to facilitate the assessment of the current and potential future role of NMHSs in adaptation to climate variability and change in their respective countries and identify the key gaps.

3.2.8.3 The Council recognized the role of oceans in climate change as well as the impacts of climate change and variability on the marine environment. It therefore welcomed the results of the World Ocean Conference 2009, including the adopted *Manado Ocean Declaration*. In this context, the Council requested the Secretary-General to continue to support such important initiatives in the future, and to bring these results to the attention of Members and partners, including in relevant events such as the WCC-3.

3.2.8.4 The Council noted with interest the plan of the Japan Meteorological Agency to host the Tokyo Climate Conference in July 2009 where representatives of both providers and users of climate information in Asia and the Pacific are invited, and expressed its expectation for its outcome as an input to WCC-3.

3.3 Enhanced capabilities of Members to provide better hydrological forecasts and assessments (agenda item 3.3)

The Executive Council noted that WMO’s water related initiatives will support the operational activities of NMHSs. These are essential for the assessment of water resources, and improvements to hydrological and flood forecasting. They will serve the needs of national agencies relevant to flood risk management and adaptation to climate variability and change. To support the above, partnerships with organizations in the water sector have been established and emphasis has been placed on the enhancement of the capacity of Members, particularly in developing and least developed countries. The Council noted that WMO water activities are also presented with respect to Expected Results 4 (Integration of WMO observing systems) in agenda item 3.4; 6 (Enhanced capabilities of Members in multi-hazard early warning and disaster prevention and preparedness) in agenda item 4.1; 7 (Enhanced capabilities of Members to provide and use weather, climate, water and environmental applications and services) in agenda item 4.2; 8 (Broader use of weather-, climate- and water-related outputs for decision-making and implementation by Members and partner organizations) in agenda item 5.1; and 9 (Enhanced capabilities of National Meteorological and Hydrological Services in developing countries, particularly least developed countries, to fulfil their mandates) in agenda item 6.2.
3.3.1 Commission for Hydrology

3.3.1.1 The Council noted the progress/activity report of the president of the Commission for Hydrology, centered on the outcomes of the thirteenth session of the Commission. In particular, the Council endorsed the four theme areas that CHy-XIII had adopted as a priority for the work of the Commission in its intersessional period 2009–2012: Quality Management Framework – Hydrology (QMF–Hydrology); Water Resources Assessment; Hydrological Forecasting and Prediction; Water, Climate and Risk Management.

3.3.1.2 The Council noted the approach taken by the Commission of aligning its activities with the priorities as established in the WMO Strategic Plan, and appreciated that, as a consequence, the report of the president of CHy to this session of EC had been presented in combination with that of the Secretary-General. This was a clear indication that the successful implementation of the HWRP depends on and flows from the complementary actions of the Commission and the Secretariat.

3.3.1.3 The Council noted that CHy-XIII had made two recommendations to the Council, both of them included in Resolution 1 (CHy-XIII) – WMO Quality Management Framework – Hydrology regarding clear definition of the “mandatory publications” and the usage of the term “standard”. Having considered the report of CHy-XIII, including the resolutions and recommendations adopted at the session, the Council recorded its decisions in Resolution 5 (EC-LXI) – Report of the thirteenth session of the Commission for Hydrology.

3.3.1.4 The Council welcomed the approach of having pre-session electronic discussions adopted by CHy for some of its important documents, thereby enabling participation of experts without physically joining the session and recommended that other Commissions should evaluate following this example for their coming sessions.

3.3.1.5 The Council encouraged Members to nominate more experts to the Open Panels of CHy Experts, which should include leading experts that participate actively in the CHy work in the four priority theme areas. It also noted the increasing use of electronic media, especially the e-Board and the e-Forum being made by the Commission in carrying out its activities and supported the future development of such tools with a view on strengthening communication and feedback mechanisms of relevant projects and programmes. The Council encouraged Members to facilitate the participation of experts from their countries to contribute to the issues and topics being addressed in the e-Board and the e-Forum.

3.3.2 Other activities

3.3.2.1 The Council appreciated the progress made in the implementation of six HYCOS projects and requested the Secretary-General to consider the development of other components including a new project in South East Asia (SEA-HYCOS) to address the need of the transboundary basins in the region. The Council also requested the Secretary-General to make special efforts in ensuring that the recommendations made by the WHYCOS International Advisory Group (WIAG) are implemented.

3.3.2.2 The Council welcomed the progress made in the establishment of a HelpDesk for Integrated Flood Management and recognized the importance of the initiative in providing a demand-driven mechanism for continued guidance and capacity building on flood management policy and strategy. It also noted the broad-based support the initiative had received from key partners of WMO in the field of flood management.

3.3.2.3 The Council expressed its appreciation for the financial support provided to WHYCOS, the Associated Programme on Flood Management, the HelpDesk, the Flash Flood Guidance System and the capacity building activities in HWR by the African Water Facility, the European Union, and the Governments of France, Italy, Japan, Switzerland, the Netherlands, Spain and the United States.
3.3.2.4 The Council noted the active participation of WMO in the 5th World Water Forum (Istanbul, Turkey, 16–23 March 2009), and the efforts made at the highest level to raise the visibility of WMO and highlight the role of NMHSs in the water sector. A number of activities promoting involvement of the hydrology and water resources management sector – as a major stakeholder of the climate information user side - in the World Climate Conference-3 were undertaken. It also noted the crucial role of WMO at the 5th World Water Forum in promoting access to and exchange of hydrological data and products in support of the implementation of Resolution 25 (Cg-XIII).

3.3.2.5 Although recognizing the need of regional associations to streamline their structure in accordance with the Results-Based Management (RBM) principles, the Council expressed some concern that the recent trend of discontinuing some of the Regional Working Groups in Hydrology, or blending them into Climate and Water Working Groups, may have adverse impacts on the traditional/basic activities of the NHSs in the field of operational hydrology. The Council, therefore, urged regional associations to be inclusive and consider all the hydrology/water related needs (citing as an example those related to operational hydrological forecasting and warning), while expressing their needs and priorities and not restrict them to the emerging needs related to impacts of climate change and variability on water resources. It also requested the president of CHy, the regional associations and the Secretary-General to continue strengthening the communication and cooperation between the meteorological and hydrological communities. A successful example of this kind of cooperation was seen in the European Flood Alert System (EFAS) project financed by the European Union in RA VI where more than 20 NMHSs participate actively. EFAS makes use of mid-range meteorological forecasts from ECMWF and observations by NHSs to provide medium-range flood simulations across Europe with a lead-time between 3 to 10 days.

3.3.2.6 The Council noted that a number of projects in the areas of weather, climate and water have been or were being undertaken in WMO Regional Associations including the Flash Flood Guidance System project and the Severe Weather Forecast Demonstration Projects, amongst others. The Council recognized that an overall framework needs to be developed with active support of all technical commissions to coordinate joint, regional projects and initiatives at the regional level with the overall goal of establishment of a WMO-wide multi-hazard early warning system driven by regional priorities. This is especially valid for demonstration projects undertaken by various WMO Programmes.

3.3.2.7 The Council noted that with respect to hydrological forecasting and prediction, there are a number of research projects where coupled modelling systems are being used and that the WWRP-THORPEX and WCRP (through GEWEX) are involved in coordinating science aspects of these projects, working with hydrological scientists, and NMHS’s. EC encouraged CAS and WCRP to liaise with CHy as a representative of users to help develop next generation forecast systems. It also recommended CAS becoming a member of the proposed Inter-Commission Task Team for the implementation of the WMO Flood Forecasting Initiative.

3.3.2.8 The Council noted that WMO is closely liaising with UNESCO's International Hydrology Programme (IHP), in order to utilize the synergy between the two programmes and avoid any duplications/overlaps in the field of hydrology.

3.4 INTEGRATION OF WMO OBSERVING SYSTEMS (agenda item 3.4)

3.4.1 The Council noted the importance of a WMO Integrated Global Observing System (WIGOS) to Members as it brings under a single framework all of the observing systems that are vital to the activities of National Meteorological and Hydrometeorological Services (NMHSs). Given the wide scope of systems involved in WIGOS, in terms of technologies employed, parameters measured and locations of sensors, the discussion of the issues involved in further developing WIGOS was necessarily very complex.
Weather

Regional Basic Synoptic and Climatological Networks (RBSN/RBCN)

3.4.2 The Council noted signs of a leveling out in the global implementation of the Regional Basic Synoptic Networks (RBSN) and the Regional Basic Climatological Networks (RBCN) and also noted that the implementation of RBSN/RBCN and the availability of data varied from Region to Region. The Council was especially concerned with the sustainability of basic networks in RA I and RA III and the low availability of data from those networks. In this regard, the Council emphasized the need to further strengthen basic networks, especially in developing and least developed countries, and requested Members from developed countries to assist in mobilizing resources to support sustainability of observations in developing countries.

3.4.3 The Council considered that the lack of upper-air measurements in RA I was in part due to the challenge faced by Members from the high cost of consumables, and noted that an RA I Meeting on Procurement, Manufacture, Maintenance, Repair and Calibration Facilities (Geneva, November 2003) had taken place and recommended that follow-up actions relating to the bulk purchase of consumables be pursued by the Secretariat.

Evolution of the GOS

3.4.4 The Council noted the valuable contributions from various CBS expert teams and collaborators from other technical commissions in the development of the “Vision for the GOS in 2025”. The Council adopted this Vision in Resolution 6 (EC-XLI) – Report of the fourteenth session of the Commission for Basic Systems relevant to integrated observing systems. In this regard, the Council requested CBS to develop a new version of the Implementation Plan for Evolution of Space and Surface-Based Sub Systems of the GOS that will incorporate the “Vision for the GOS in 2025”.

Observing System Experiments

3.4.5 Noting the valuable conclusions and recommendations from the Fourth Workshop on the Impact of Various Observing Systems on the NWP approved by CBS-XIV, the Council requested CBS and the Secretariat to organize the fifth workshop in 2012. It also requested CBS to interact more closely on observational issues with CAS and the EC Panel of Experts on Polar Observations, Research and Services in THORPEX, AMMA and IPY activities, taking into account the need for legacy of these experiments and campaigns for the future of the GOS and the establishment of a sustainable coordination mechanism with regional associations.

Automatic Weather Stations

3.4.6 The Council noted that CBS approved revised Functional Specifications for Automatic Weather Stations following new inputs from technical commissions and adopted these specifications in Resolution 6 (EC-XLI).

3.4.7 The Council also noted that CBS approved the “Basic Set of variables to be reported by a Standard AWS for Multiple Users” and adopted this set of variables in Resolution 6 (EC-XLI).

Aircraft observations

3.4.8 The Council noted with interest that the WMO AMDAR Panel declared, at its eleventh session (19–21 November 2008), the AMDAR Programme fully operational. This declaration referred to wind, temperature and pressure observations collected through AMDAR systems and in use by the meteorological community. It requested CBS and CIMO to promote the inclusion of a suitable humidity sensor with a generic software and hardware solution for all major aircraft types and models.
Taking into account the cost-effectiveness of AMDAR observations and the potential to provide a better distribution of profile data, the Council requested Members to collect AMDAR data from outside their national territories, in compliance with national laws and regulations, and to exchange these on the GTS. The Council further requested Members to enhance the cost-effectiveness of AMDAR observations by implementing a data optimization system.

**Space-based observations**

The Council expressed its appreciation to the Members operating satellite systems. The Council was pleased to note that geostationary coverage was provided as planned through GOES-11, GOES-12, Meteosat-9, Meteosat-7, FY-2C/D, MTSAT-1R and was supplemented by GOES-10 over South America, Meteosat-8 for rapid-scan over Europe, and Kalpana-1 and INSAT-3A over the Indian Ocean. It noted, however, that GOES-10 would have to be deorbited in December 2009 and encouraged WMO, in consultation with CGMS and relevant bodies, to address the need for the continuation of this valuable service. The Council expected that the launch of GOES-O in 2009 and GOES-P in 2010 would enable NOAA to consider implementing a replacement mission for GOES-10 before the 2010 hurricane season. The Council also noted that operational meteorological satellites in polar-orbit included Metop-A, NOAA-19, FY-1D, FY-3A, complemented by pre-operational and secondary satellites, and that reference observation of ocean surface topography from 66° orbit was provided by OSTM/Jason-2, marking a transition of ocean radar altimetry to operational status. Several R&D satellites were extensively used in support of operational activities.

The Council noted the substantial enhancement of space-based observations in the new Vision for the GOS in 2025; it highlighted that the Vision anticipated a transition of several important missions from experimental to operational status. The Council stressed the importance of an active partnership between WMO and the space agencies to achieve this challenging goal.

In order to spread the benefits of space-based observation to all WMO Members, the Council encouraged actions at the regional level to address the limitations expressed by WMO Members regarding access to, and use of, satellite data and products. It welcomed the announcements by EUMETSAT related to the continuation of AMESD project, replacement of PUMA stations, the ninth User Forum in Africa in Burkina Faso in 2010 and the creation of a EUMETCast Products Dissemination Group for RA I.

The Council welcomed the five-year strategy for the Virtual Laboratory for Education and Training in Satellite Meteorology and its expansion through two new Centres of Excellence in Pretoria, South Africa and Moscow, Russian Federation, respectively.

The Council welcomed the planned setting up of an Inter-Programme Coordination Team on Space Weather involving representatives from CBS and CAeM.

Noting the increasing impact of space-based observation on WMO activities, and the related challenges and opportunities, the Council recommended that Members increase their support to WMO Space Programme activities in supplementing the budgeted space programme resources with extrabudgetary and in-kind support as appropriate, in adopting Resolution 6 (EC-XLI).

**Atmospheric Chemical Composition Measurements**

The Council acknowledged the lead role played to date by the WMO GAW programme in organizing an integrated global aerosols observation system for applications in weather, climate and air quality prediction and analysis. It endorsed steps taken to make this a network of GCOS and to link it to the development of the WMO Sand and Dust Storm Warning Advisory and Assessment System.

The Council encouraged the ongoing work on the global assessment of precipitation chemistry that combines observations and model simulations. The Council was informed on the activities of the Group of Experts on the Scientific Aspects of Marine Environment Protection
Working Group 38 (GESAMP WG 38). This was established by GESAMP to assess the atmospheric input of chemicals to the ocean. One of the charges to GESAMP WG 38 was: “...work with the WMO Precipitation Chemistry Data Synthesis and Community Project to evaluate the needs of the marine community and assist in clearly articulating them in the development of these WMO efforts.” In general, WG 38 recognizes a significant lack of coastal and open ocean measurements (wet, dry, atmospheric, and ocean water concentrations) which are needed to improve knowledge on the input and impact of chemicals into the oceans and therefore recommended the continuation of measurements of sulphur, nitrogen, mineral and sea-salt ions and, whenever possible, organic acids in precipitation.

Climate

3.4.18 The Council recalled that WMO’s climate observing activities are carried out as part of the Global Climate Observing System (GCOS), which WMO co-sponsors with IOC, UNEP, and ICSU. It recognized that GCOS consists of the climate-relevant components of GOS, GAW, the IOC-led Global Ocean Observing System (GOOS), and the FAO-led Global Terrestrial Observing System (GTOS). It expressed its appreciation to its observing system partners for their continuing cooperation in the implementation of GCOS. The Council also noted that in some respects GCOS is similar in concept to WIGOS as it seeks to integrate into an inter-operable framework, many observation types. WIGOS, however, seeks to cover the needs of weather, climate and water-related sectors within the WMO’s mandate, while GCOS seeks to cover all of the climate sector within and beyond the WMO’s mandate.

National Coordinators and Lead Centres

3.4.19 The Council reiterated its call to Members to establish GCOS National Committees and to identify GCOS National Coordinators in order to facilitate coordinated national action on observing systems for climate, taking into account the joint international sponsorship of GCOS.

3.4.20 The Council noted that there are now nine CBS Lead Centres for GCOS and that new Terms of Reference and areas of responsibility for these Centres have been approved by CBS-XIV. Changes in the structure of CBS Lead Centres for GCOS were adopted in Resolution 6 (EC-LXI).

WCRP and National Coordinators and Lead Centres

3.4.21 The Council noted the outcome of the third session of the WCRP Observations and Assimilation Panel (WOAP) and agreed that research-based funding, including one supporting activities under the auspices of WCRP represents a significant source of support for climate observations. It welcomed WCRP activities aimed at improvement of climate data records to be used for studies and assessments of climate variability and change and coordinated reprocessing of records with agreement on algorithms.

CEOP

3.4.22 The Council requested Members that had activities associated with the new WCRP GEWEX Coordinated Energy and Water Cycle Observations Project (CEOP) Regional Hydroclimate projects (former Continental Scale Experiments) to provide information to CEOP according to its standards.

Atmosphere

GRUAN

3.4.23 The Council welcomed the designation of six initial GRUAN sites, commended Members hosting those sites for their contributions, and encouraged them to continue their support. The Council further noted that first steps in defining a mode of operation of GRUAN have been taken with due consideration of existing WMO networks, manuals, and guides. It urged
Members in collaboration with CIMO, CBS, and the GCOS/WCRP AOPC to assist in further implementation of GRUAN, including the elaboration of standards and procedures.

**Oceans**

3.4.24 The Council recognized that ocean observations were delivered within the context of GOOS and that they supported not just climate, but also operational meteorology, oceanography and other key programmes of WMO and IOC. At the same time, within the overall GOOS, for which JCOMM provided the implementation mechanism, NMHSs had the responsibility for implementing and maintaining all or parts of major components such as the Voluntary Observing Ships (VOS) scheme and the surface drifter network.

3.4.25 Noting that the percentage of completion of the overall ocean observing system stayed at the 60 per cent level since EC-LX, the Council requested Members to commit additional resources to eventually ensure full implementation and sustainability of the observing components within their responsibility. In particular, the Council noted that, although the surface drifter network was in principle fully implemented, this did not apply to all drifter instrumentation, including atmospheric pressure measurements. The Council therefore urged Members to participate in the DBCP barometer upgrade scheme and install barometers on all drifting buoys.

3.4.26 Considering the need for high-quality observations to meet the needs of climate applications, the Council requested Members participating in the VOS Climate Project (VOSClim) to make sure that the required additional metadata and quality elements are properly recorded and distributed, and to collaborate with the shipping industry to maintain and increase the flow of VOS information. At the same time, the Council recognized the ongoing key role of the Port Meteorological Officers in recruiting and maintaining the VOS, and recording their essential metadata, and therefore urged Members to continue and expand, where possible, this key resource for supporting the ocean observing system.

3.4.27 The Council requested JCOMM to coordinate the development of cost-effective global in situ wave observing technology in support of the monitoring of extreme wave events for disaster risk reduction, wave modelling, and the calibration and validation of satellite wave measurements, and invited Members to assist in the development of technology through deployment, testing of prototypes, and evaluation of wave measuring instruments. The Council further requested JCOMM to address the establishment of a network of moored wave rider buoys to cover, in particular, data sparse ocean areas where storms are generated and propagated. The Council urged Members who have island territories under their jurisdiction to consider installing such equipment and exchanging the data obtained through the GTS.

3.4.28 The Council noted the proposal from the WIGOS Pilot Project for JCOMM to establish Regional Marine Instrument Centres (RMIC) and invited Members to consider offering national facilities to act as such on a trial basis in order to prove the RMIC concept.

3.4.29 The Council recalled that, at its session in December 2008, the UN General Assembly had designated 8 June each year as World Ocean Day. It was therefore pleased to recognize and support this international day under this agenda item, given the importance of ocean observations to the work of NMHSs.

**Terrestrial**

3.4.30 The Council noted with appreciation the GTOS report to the UNFCCC, “Progress in Assessing the Status of the Development of Standards for Essential Climate Variables (ECVs) in the Terrestrial Domain,” submitted in November 2008. It endorsed the proposed development of a UN/ISO framework dealing with observations of terrestrial ECVs and stressed the need for appropriate representation by WMO in such a framework through its Inter-Commission Task Team on the Quality Management Framework.
Cryosphere

3.4.31 The Council noted with appreciation the report on “Global Cryosphere Watch (GCW): Background, Concept, Status, Next Steps. It endorsed the next steps for developing the GCW, as follows: the conduct of pilot or demonstration projects to demonstrate the viability of the GCW; the initiation of a network of reference sites in cold climate regions operating a sustained, standard, cryosphere observing programme; the development of a mechanism to implement the Integrated Global Observing Strategy (IGOS) Cryosphere Theme recommendations within the GCW framework; identification of cryospheric observing data sources and systems to be part of GCW; establishment of a trial portal to access data and information, and development of resource requirements to support the ongoing operation of a GCW nationally, regionally and at the WMO Secretariat levels. The Council also requested that GCW engage pilot and demonstration projects in different regions of the world, including tropical regions with glaciers.

3.4.32 The Council requested the preparation of a GCW implementation strategy for consideration by the WMO Congress in 2011. The Council noted that the EC Panel of Experts on Polar Observations, Research and Services would provide guidance and momentum to the implementation of the GCW. Given the high desire and urgency to establish a Global Cryosphere Watch, it strongly urged Members to participate in the establishment of GCW, and requested Members to provide direct and in-kind contributions to support the next steps of GCW development. It urged the Secretary-General to facilitate these and other efforts to raise extrabudgetary funding to support GCW activities.

Observing systems under Global Atmosphere Watch (GAW) addressing Climate

3.4.33 The Council recognized the critical need for effective tools for estimating carbon dioxide exchange between the atmosphere and the Earth’s surface on a global basis that would support national and international carbon dioxide emission reduction and of mitigation policies developed under the UNFCCC. The session endorsed the recommendation of CAS Management Group that WMO plays a leading role in the development of an integrated Global Carbon Observation, Prediction and Assessment System. It noted that the WMO-GAW Global Carbon Dioxide and Methane Monitoring Network, a comprehensive network of GCOS, coupled with carbon cycle models of the GAW and associated research programmes run in inverse mode with operational meteorological analyses from major NWP centres will form the foundation of future operational tracking systems. The observations needed for carbon tracking include surface-based, aircraft and satellite measurements of carbon dioxide and methane. It recommended that the ongoing research on development of an operational carbon tracking observational/modelling system between GAW, WWRP, WCRP, GCOS, the WMO Space Programme, the Committee on Earth Observation Satellites (CEOS), GEO and the international programme office for Integrated Global Carbon Observations continues.

Climate monitoring from space

3.4.34 The Council noted with appreciation the continuing commitment by space agencies in their efforts to respond to the climate monitoring requirements for sustained, comprehensive satellite-based datasets and products formulated by GCOS. Progress was noted in the implementation of the Global Space-based Inter-Calibration System that contributes to the integration of satellite systems and consistency of satellite data records, as required for climate monitoring. Progress was also noted in the establishment of the Sustained Coordinated Processing of Environmental Satellite Data for Climate Monitoring (SCOPE-CM, previously referred to as R/SSC-CM). The Council urged Members with space agencies to support ongoing efforts. It welcomed the announcement by ESA of its Climate Change Initiative addressing several GCOS Essential Climate Variables.

GCOS Implementation Progress Report 2009

3.4.35 The Council noted with appreciation the draft Progress Report on the Implementation of GCOS 2004–2008, which assesses progress by Members and other “agents of implementation” in
advancing the 131 actions specified in the 2004 GCOS report, “Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC”. It also welcomed the efforts of the GCOS Secretariat and Steering Committee to initiate an update of the 2004 implementation plan and urged Members to provide comments on both draft reports.

Water

3.4.36 The Council noted that currently six WMO initiated hydrological observing systems’ projects are under implementation in RA I, RA II, RA IV and RA V (Niger-HYCOS, Volta-HYCOS, SADC-HYCOS, Mekong-HYCOS, Carib-HYCOS), Pacific-HYCOS and welcomed that out of 52 Member countries more than 30 are from the Least Developed Countries and 21 from SIDS.

Cross-Cutting Aspects

International Polar Year (IPY) 2007–2008

3.4.37 The Council noted that due to successful implementation of IPY there were substantial achievements primarily related to WMO area of responsibility:

(a) Extension of surface-based meteorological networks in polar regions through establishment or modernization of new stations as well as by deployment of automatic weather stations and upper-air sounding systems;

(b) Development of new integrated observing systems in the Arctic and the Southern Oceans based on the wide use of modern technologies such as gliders, ice-tethered profilers, marine animals equipped with sensors, Argo floats and others;

(c) Creation of an impressive array of new satellite data and products, thanks to the coordinated approach adopted by the space agencies;

(d) Implementation of new initiatives in hydrological cycle and cryosphere studies.

3.4.38 To secure the IPY observing system legacy, the Council agreed to build the partnership with the IPY observing legacy initiatives through its Panel on Polar Observations, Research and Services and encouraged further efforts to develop regional observing systems in both polar regions to reinforce existing global observing systems.

Instrument Standards and Best Practices

3.4.39 Recognizing the increasing need for standardization and the benefits that can be expected from it, the Council agreed with the proposal of the CIMO Management Group to develop a Manual on Meteorological Instruments and Methods of Observation that would be an Annex to the WMO Technical Regulations and requested CIMO to proceed with the development of this Manual, in collaboration with other relevant technical commissions as needed. The Council recommended that the development of the Manual takes into account aspects such as the interoperability of different observing systems, and the aims of reporting observational variables in physical units that are independent of the technology used in making the observations. The Council also noted the growing importance of metadata and the development of metadata standards and the need to address the robustness of instruments under extreme weather conditions.

Radio-Frequency Coordination

3.4.40 The threat on the full range of radio frequency bands allocated to meteorological systems and environmental satellites continues with the increasing development and expansion of new commercial radio communication systems. The Council urged all Members to ensure continuous coordination with their national radio communication administrations and to participate actively in the national, regional and international activities on radio communication regulatory
issues for meteorological and related activities, using as reference the new joint ITU-WMO Handbook "Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction" recently published and the WMO preliminary position for the next World Radiocommunication Conference (WRC-11), which was developed by the CBS/Steering Group on Radio-Frequency Coordination.

Implementation of the WIGOS concept

3.4.41 The Council took into account the status of the development and implementation of the WIGOS concept and agreed with deliberations of the second session of the Executive Council Working Group on the WMO Integrated Global Observing System and the WMO Information System (EC-WG/WIGOS-WIS), Geneva, Switzerland, 6–8 May 2009, the first session of its Subgroup on WIGOS, Geneva, Switzerland, 10–13 November 2008, the CBS Technical Conference on WIGOS, Dubrovnik, Croatia, 23–24 March 2009 and the fourteenth session of the Commission for Basic Systems (CBS-XIV), Dubrovnik, Croatia, from 25 March to 2 April 2009, as summarized in the following paragraphs.

3.4.42 In accordance with recommendation of CBS-XIV, the Council agreed that the CBS president be, ex officio, a member of EC-WG/WIGOS-WIS, as well as its Subgroup on WIGOS, reflecting the CBS leading role in the further development and implementation of the WIGOS initiative.

3.4.43 Considering the importance of the participation of all Members in WIGOS activities, the Council urged the Secretary-General and the relevant technical commissions to provide the Members with information on specific expected benefits for Members and with guidelines on WIGOS related activities to be implemented by Members. The Council also noted challenges that the developing countries and LDCs were facing when implementing WIGOS and underlined the need for relevant capacity building activities.

WIGOS Concept of Operations and Development and Implementation Plan

3.4.44 The Council adopted the updated versions of the WIGOS Concept of Operations (CONOPS) and the WIGOS Development and Implementation Plan (WDIP) as approved by the second session of the EC-WG/WIGOS-WIS, held in Geneva from 6 to 8 May 2009 (see: http://www.wmo.int/pages/prog/www/WIGOS-WIS/reports.html). It reiterated that Members, regional associations and technical commissions should actively collaborate in testing, developing, and implementing the WIGOS concept, and provide their input to WDIP.

3.4.45 The Council underlined the need for a comprehensive costed development and implementation strategy for taking WIGOS from a concept to reality and that this strategy should address, inter alia, the technical and coordination challenges and the associated roles and responsibilities; the process for capturing the lessons learned from WIGOS projects and other activities; capacity-building requirements to ensure that WIGOS benefits reach all Members; and designation of clear responsibilities across the WMO system for the further development of WIGOS.

3.4.46 The Council requested that the WIGOS implementation strategy clearly indicate that it complements rather than duplicates implementation plans of WIGOS systems, such as GOS, WHYCOS and GAW. Furthermore, the strategy should clearly distinguish between GCOS which is a "system of systems for Climate" and WIGOS which is the integration of observing systems need to meet WMO’s requirements in this area of activity.

WIGOS Demonstration (WDP) and Pilot Projects (WPP)

3.4.47 The Council emphasized the importance of the participation and leadership of regional associations in WIGOS. It noted two priorities in RA IV: (i) WIGOS Demonstration Project for RADAR; and (ii) Hydrology – Disaster Risk Reduction Project (with the World Bank) that illustrates
how to integrate data from different domains. The Council highlighted the number of projects undertaken and encouraged collaboration between the Regions and technical commissions.

3.4.48 The Council urged Members and technical commissions responsible for WDP and WPP to elaborate a detailed project implementation plan and work plan with specified tasks, activities, and achievable deliverables taking into account the guidance provided by EC-WG/WIGOS-WIS.

3.4.49 The Council recommended that the current process of implementing the WIGOS concept should focus on the test-of-concept phase, building on development of WDPs and WPPs initiated by NMHSs and technical commissions respectively; the later “implementation” phase would be developed in conjunction with the finalization of, and feedback from, WDPs and WPPs, based on appropriate evaluation criteria and agreed consolidation/implementation process.

3.4.50 The Council welcomed new WPPs, namely: (a) the Global Space-based Intercalibration System as a joint initiative of WMO and the Coordination Group for Meteorological Satellites; and (b) project for the implementation of the GCOS Reference Upper-Air Network.

3.4.51 The Council expressed its concern regarding the available time frame for testing the WIGOS concept due to late initiation of some WIGOS projects, very limited resources provided through contribution to the WIGOS Trust Fund to support limited funds available in the regular budget, and lack of staff support from the WIGOS Project Office. It was noted that there is a high risk that lack of funds will not allow for the completion of some WPPs/WDPs as planned for the timely development and testing of the WIGOS concept. In this regard, the Council requested Members to support WIGOS WPPs/WDPs by contribution to the WIGOS Trust Fund, and to support the Planning Office by secondment of experts to speed up WIGOS development and implementation.

Guidance for the future development of WIGOS

3.4.52 In light of its review of the advice from the EC-WG/WIGOS-WIS, the Council reaffirmed its strong support for the further development of the WIGOS concept and its implementation, following Cg-XVI endorsement, in collaboration with WMO’s partner organizations and their observing systems. It requested the Secretary-General to provide all possible support and resources for the actions needed to progress WIGOS from concept to reality, including the necessary support for the WIGOS Planning Office.

3.4.53 It stressed the importance of close alignment of GCOS and WIGOS planning to ensure that the climate components of WIGOS are effectively integrated with those of GOOS, GTOS, and other climate-relevant global observing systems.

3.4.54 The Council reiterated that the ownership and data-sharing policies of all observing components and partner organizations must be respected and ensured.

3.4.55 The Council further requested the Secretary-General to initiate and promote preparations for specific WIGOS-related WMO publications (in particular the Vision for GOS in 2025, the Implementation Plan for the Evolution of the Space and Surface-based Sub-systems of the GOS) in all WMO official languages to enhance and proliferate critical programmes on WMO observing systems at various levels, in particular decision and policy-makers.

QMF in the WIGOS context

3.4.56 The Council stressed that the further development of the WMO QMF is essential for the future of WIGOS operations. In this regard, strategic recommendations are sought from the EC Intercommission Task Team on Quality Management Framework as to how the quality management framework should be developed and implemented in operational practice and used for WIGOS. The Council also stressed the role of the technical commissions in the development and implementation of quality management systems that are necessary for the improvement of meteorological and hydrological observations.
3.4.57 Quality of data and benefits which will be received from WIGOS should be analyzed and carefully investigated by the scientific and operational community through Observing System Experiments, Observing System Simulation Experiments and various test-beds for the verification of impacts on various forecasting models in different application areas.

3.5 **DEVELOPMENT AND IMPLEMENTATION OF THE NEW WMO INFORMATION System** *(agenda item 3.5)*

3.5.1 **WIS development and implementation strategy**

**WIS Implementation Plan, including support to WIGOS**

3.5.1.1 The Council noted with appreciation that much effort had been made in keeping the momentum of the WIS development and implementation. The Council was encouraged by the major steps achieved towards the implementation of the first operational potential GISC centre by the end of 2009. It expressed its deep appreciation and fully endorsed the involvement of Members and their special efforts and resources in planning potential GISCs and/or DCPCs and in sharing the experience gained. The Council acknowledged the leading role and crucial importance of the CBS/OPAG-ISS contribution for the WIS development and implementation, and urged NMHSs, technical commissions, regional associations and the ICG-WIS to pursue interaction and contribution to the WIS Project Plan and WIS Implementation Plan.

3.5.1.2 The Council emphasized that, in addition to the considerable efforts made by a few NMHSs and organizations in the development of WIS, further financial and human resources were needed for ensuring the proper development and implementation of the WIS. It urged that efforts be continued, including with Permanent Representatives, to promote the value and benefits that are expected from the WIS, for both developed and developing countries, in order to further trigger Members’ decision towards implementation and funding. For example, it should be explained how WIS might eliminate critical gaps in service delivery, lead to a major improvement in service delivery and/or reduce costs. It expressed its deep appreciation to Members and organizations that had provided donations in kind and/or in funds; it invited donors to further contribute to the WIS Trust Fund or in staff secondments, which provide a crucial facilitating support to WIS development, including for capacity building activities for developing and least developed countries.

3.5.1.3 The Council re-affirmed that WIGOS was crucially dependant upon effective WIS support and services, e.g. the specialized data collection means, the generation, collection, management and handling of related metadata and the distribution of and access to the data. It therefore requested the ICG-WIS, in collaboration with the EC-WG/WIGOS-WIS and in coordination with relevant technical commissions, to ensure that the WIS elements and components required for the implementation and operation of the WIGOS pilot projects be developed and coordinated to meet the respective projects’ aims and requirements.

**Regulatory and guidance documentation**

3.5.1.4 The Council concurred with CBS’ endorsement of essential WIS documents and reference material, including the WIS Project and Implementation Plan (WPIP), the WIS Functional Architecture, and the WIS Compliance Specifications for GISC, DCPC and NC, that were developed in collaboration with the ICG-WIS and with the active support of the Secretariat. It agreed these are important building blocks towards the future Manual on WIS and should continue to be developed further. The Council re-affirmed the high priority need for the development of the Manual on WIS and concurred with the CBS action plan in this regard. It also stressed the need for training on metadata guidelines and development tools.

**Requirements on WIS**

3.5.1.5 The Council urged technical commissions to actively pursue their contributions to the refinement of WIS Rolling Review of Requirements to ensure that their programme requirements on WIS, at global and regional levels, are taken into account.
Involvements of Technical Commissions (TCs), Regional Associations (RAs) and NMHSs (including Developing Countries, and the Least Developed Countries)

3.5.1.6 The Council re-affirmed that the support and involvement of regional associations in the WIS development was a crucial factor for ensuring a successful implementation and a shared ownership of the system. It emphasized the need for building capacity in developing countries to enable them to participate in WIS and take early benefit from the first GISCs and DCPCs services, while taking into account the realistic capabilities, opportunities and constraints of the NMHSs and users of the developing countries. The Council supported the recommendation of the EC WG on Capacity Building to treat the migration to and participation of the developing countries and LDCs in WIS as a high priority. Noting with satisfaction directions taken by RAs II and IV in this respect, the Council urged regional associations, through the relevant working groups and with the support and coordination of the ICG-WIS, to develop and promote pilot projects for early use of WIS functions and services; and invited NMHSs from developed countries to support and assist in these initiatives, with assistance from the Secretariat. In this regard the Council welcomed the information regarding the development of the WIS Demonstration Project in Southern Africa and urged Members in the Region to participate fully in this endeavour. It requested the Secretary-General facilitate resource mobilization efforts to support such initiatives in Southern Africa.

GISC and DCPC designation process

3.5.1.7 The Council noted with appreciation the follow-up action taken by the ICG-WIS and CBS on the EC-LX request for the preliminary identification of potential GISCs and DCPCs, which is of crucial importance for the actual planning and implementation of WIS. Thirty-seven Members and two Organizations responded to a request from the Secretariat; thirty-one Members and two Organizations identified 102 potential DCPCs and 13 potential GISCs; the current status of potential centres as at 9 June 2009 is given in Annex II to the present report. The Council emphasized that it was important that processes now be developed to allow candidate centres to demonstrate WIS capabilities. The Council urged the relevant bodies to make known to Members as soon as possible the technical details on the GISC and DCPC designation process. The Council endorsed the plan of action taken by CBS to:

(a) Develop guidance and management procedures for the CBS demonstration and assessment of capabilities of candidate GISC and DCPC centres in the framework of the GISC-DCPC designation procedure as endorsed by Cg-XV; the outcome should be submitted to the forthcoming ICG-WIS session (October 2009) with a view to reporting to EC-LXII (2010);

(b) Organize demonstrations of capabilities of candidate GISC and DCPC centres at the CBS Extraordinary Session (2010);

(c) Submit formal designations of GISC and DCPC centres to Cg-XVI.

Coordination with related international projects (GEOSS)

3.5.1.8 The Council considered the role of WIS in the framework of GEOSS. Details are presented under agenda item 5.

WIS-GTS Communication Structure

3.5.1.9 Fifteenth Congress (Cg-XV) agreed that the WIS implementation plan has two parts that would be developed in parallel:

(a) Part A: consolidation and further improvements of the GTS for time-critical and operation-critical data, including its extension to meet operational requirements of all WMO Programmes;
3.5.1.10 For the WIS-GTS real-time network structure, the Council agreed with CBS on the concept of Area Meteorological Data Communication Networks (AMDCN), in which each GISC would be responsible for ensuring that telecommunication links and data flow in its area of responsibility are coordinated appropriately. The WIS real-time network (i.e. Part A) would be composed of a small number of AMDCNs and a WIS core network, essentially based on the current IMTN, interconnecting the GISCs and AMDCNs together. The Council recognized that not only GISCs’ efforts but also cooperation of all WIS centres (i.e. DCPCs and NCs) are important to develop and maintain AMDCNs appropriately. The Council also confirmed and emphasized that satellite-based data-distribution systems based on standard technology (e.g. DVB-S) with preferably wide coverage (e.g. multi-regional), should be integrated components of the WIS communication structure. The Council requested CBS and the ICG-WIS, in coordination with regional associations, and identified potential GISCs, to develop in more detail the concept and implementation plan for AMDCNs and the WIS core network.

3.5.2 Operation-critical data exchange and management

GTS implementation and improvements

3.5.2.1 The Council expressed its deep appreciation to Members for their continued efforts in upgrading and improving GTS components, including point-to-point circuits, managed data-communication networks (e.g. through MPLS services for the Improved MTN and Regional Networks) and data-distribution systems via satellites (e.g. using DVB or DAB techniques) that were operating as integrated components of the GTS. The Council reaffirmed that, as emphasized by Cg-XV, the sustained GTS progress through dedicated telecommunication means was essential to the WIS implementation as the core communication component for exchange and delivery of operation-critical data and products. The Council urged Members to pursue their fruitful efforts, and noted with satisfaction that CBS continued to provide updated technical guidance and further develop recommended practices, in order to benefit early from the rapidly evolving technologies. The Council emphasized the important role of RTHs in coordinating with their associated NMCs the smooth migration to new cost-effective data-communication technologies (e.g. MPLS).

3.5.2.2 The Council endorsed CBS-XIV guidance and recommendation in enhancing GTS operational procedures, including amendments to the Manual on the Global Telecommunication System (WMO-No. 386) (see Resolution 7 (EC-XLI) – Report of the fourteenth session of the Commission for Basic Systems relevant to the WMO Information System). The Council requested CBS to pursue this effort to further improve the GTS for the effective and flexible exchange of data, products (messages and files) and related metadata for all WMO Programmes, with a view to WIS.

3.5.2.3 With respect to the use of Internet, the Council noted with satisfaction that CBS was ensuring updated technical guidance for the efficient use of the Internet with minimized operational and security risks. The Council emphasized that the Internet plays an increasing role for access to and delivery of a wide range of data and products and for complementing the GTS, with particular importance for smaller NMHSs, and is the essential means for using WIS Data Discovery, Access and Retrieval service.

IGDDS development and implementation

3.5.2.4 The Council supported the progress of the global DVB-S infrastructure of the Integrated Global Data Dissemination Service (IGDDS), with the implementation of interregional data exchange mechanisms and user support services. The DVB-S infrastructure for satellite data and products currently includes EUMETCast (EUMETSAT) broadcast services over Europe, Africa and the Americas; FengYunCast (China) services over the Asia Pacific area and MITRA (Russian Federation) over Northern Asia. The Council encouraged their further development and expansion as operational components of the WIS architecture, and it supported implementation of WIS metadata and catalogue interoperability standards. It also recalled the complementary role of the
GTS and of the Internet to meet the various operational and other needs and ensure overall robustness.

**Water-related data exchange**

3.5.2.5 The Council supported the decision of CHy-XIII to determine the requirements and arrangements for taking benefit from WIS, in the area of information flows and outputs, including associated metadata, for WHYCOS, and to develop a WIS pilot project with the Pacific-HYCOS project and/or any other HYCOS projects, as may be determined by the WHYCOS International Advisory Group. CHy-XIII further decided to take advantage of WIS information flows and associated metadata under the Flash Flood Guidance System, as part of a WIS pilot project. The Council asked the ICG-WIS, CHy and CBS to coordinate and join their efforts on these pilot projects.

**Support to Early Warning systems and operations**

3.5.2.6 The Council noted the effective support currently provided by the GTS for the exchange and distribution of early warning and watch messages and related data. With respect to the development of Tsunami Early Warning Systems in several sea and ocean rims (e.g. Caribbean, North Atlantic, Mediterranean), under the mandate of the UNESCO/IOC and in coordination with WMO, the Council re-affirmed the effective capabilities of the WIS-GTS, including the essential operational role of NMCs of NMHSs, as a crucial WMO contribution to the effective exchange and distribution of early warning and related data.

3.5.2.7 The Council was informed of the benefits of using the Common Alerting Protocol (CAP, ITU Recommendation X.1303), which is a content standard designed for all-hazards and all-media public alerting, for the dissemination of weather, climate and water related alerts and warnings. It concurred with CBS that wide implementation of CAP will contribute to and facilitate the support of a virtual all hazards network within the WIS-GTS. It invited all Members and RAs, and asked the Secretariat, to spare no efforts in ensuring that the implementation of CAP benefits all user communities.

**Data representation and Metadata**

3.5.2.8 Noting that CBS had successfully tested new procedures enabling faster adoption of amendments to the Manual on Codes (WMO-No. 306) in view of rapid development of new requirements, the Council approved the CBS-XIV recommendation for Amendments to the Manual on Codes (Introduction chapter of Volumes I.1 and I.2) for new procedures for amendments, including the fast track procedure, the procedure for adoption during CBS sessions and the procedure for adoption between CBS sessions. The Council supported CBS' request to develop code tables in an appropriate electronic format for facilitating their use in automated processing systems of NMHSs.

3.5.2.9 Noting new requirements for data and observation parameters, the Council approved CBS-XIV recommendations for Amendments to the Manual on Codes for relevant additions in BUFR, CREX and GRIB 2 tables, with operational implementation of the amendments on 4 November 2009.

3.5.2.10 As regards the migration to table-driven code forms (TDCF), the Council noted the continued slow progress and recognized that some Members were having difficulty making the transition, but that there was a significant increase in the development of national Migration Plans that should lead to a significant increase of BUFR data exchange. The Council urged all Members to develop and implement their national plans, in particular by using available guidance, self-training and encoder-decoder software developed by the CBS expert teams, regional coordinators/rapporteurs and Members. It invited the GTS Regional Telecommunication Hubs (RTHs) to facilitate the step-by-step migration by assisting in the definition of ad hoc arrangements between zones of responsibility of RTHs, and by monitoring the exchange of TDCF bulletins and reports on the GTS. The Council emphasized the importance of providing training on TDCF in the
WMO Regional Training centres and agreed to give priority to the development and implementation of projects under technical cooperation activities required to support the migration.

3.5.2.11 The Council noted with satisfaction that the CBS started its work on assessing different Data Representation Systems (DRSs) and developing a CBS policy on Data Representation Systems (DRS) driven by users’ requirements. The preliminary analysis indicated that GRIB and BUFR are the most suitable DRSs for the real-time operational exchange of information between NMHSs, whereas the other DRSs offer some advantages for the distribution of information to the end users. It was pleased to note that a CAeM-CBS Expert Team (ET-ODR) was addressing the requirements of aeronautical meteorology, and the development of a pilot project for the presentation of OPMET data in XML. The Council urged all WMO technical commissions, and CBS as the lead Commission, to participate actively in this activity with a view to urgently consolidating a comprehensive WIS data representation systems policy.

3.5.2.12 The Council supported CBS’ endorsement of the WMO core profile version 1.1 of the ISO 19115 Metadata standard (available at http://wis.wmo.int), and requested centres preparing metadata for their data and products to use it. It noted with appreciation that Météo-France had developed an application, made available to all potential GISCs and DCPCs, for the conversion of the GTS operational information into metadata for WIS operation. It supported the CBS plan to develop, as a matter of priority, guidance material and some metadata entry and management tools to enable NMHS to start to create the required metadata; in this regard, it stressed the need for conducting training workshops and providing metadata experts to assist developing countries and LDCs. The Council stressed the importance for all WMO Programmes to review their requirements in terms of metadata and to submit relevant proposals for the further development of the WMO core profile of the ISO Metadata standard and contribute to the CBS activities (Inter-Programme Expert Team on Metadata and Data Interoperability (IPET-MDI)). As regards hydrological data, it noted that CHy-XIII recommended that the Global Run-off Data Centre (GRDC) should undertake the development of the metadata profile, in collaboration with interested parties, and it invited the GRDC to contribute to the CBS/IPET-MDI. Taking into account the variety of available oceanographic data, the Council requested CBS and JCOMM to continue their work on the development of the Marine Metadata Profile.

3.5.2.13 The Council emphasized the importance of operational catalogues, such as Discovery, Access and Retrieval (DAR) catalogues (sets of WMO core profile metadata descriptions) and agreed on the requirement for Feature Data Dictionaries and Feature Catalogues to be defined by the respective WMO Programmes, with a view to harmonizing the definition of features between catalogues.

3.5.3 Non real-time data exchange and management

**GISC and DCPC Data Discovery, Access and Retrieval services**

3.5.3.1 The Council noted and concurred with CBS that Data Discovery, Access and Retrieval (DAR) services based on request/reply “pull” mechanism with relevant data management functions, should comply with policy principles as follows:

(a) Procedures for managing access rights, control of data retrieval, registration and identification of users, should be defined, as and when required;

(b) Anonymous downloading is technically possible, but depends on whether a NC permits that feature;

(c) DAR mechanisms have no system-inherent features that would violate international legal frameworks.

3.5.3.2 To comply with the principles, DAR components and relevant protocols and procedures should be based on universal standards and independent from specific vendor architectures. DAR services are implemented essentially through the Internet with HTTP, FTP and other Internet
based protocols. The Council requested CBS and the ICG-WIS to urgently identify recommended procedures and practices for managing access rights, registration and identification of users based on international standards and current technologies for ensuring the security of data and products in accordance with data policies.

**Data Management Applications**

**Data Rescue**

3.5.3.3 The Council stressed again the high priority of Data Rescue and Digitization of climate records and welcomed the CCl plan to develop a global DARE portal which should emphasize the need for Climate Data Rescue and Digitization, the apparent lack of some digitized data in the international databases, the techniques and procedures for recovery, digitizing, composing, formatting, archiving, disseminating climate data and metadata.

3.5.3.4 The Council recommended the establishment of close collaboration between CCl and other WMO Programmes, co-sponsored programmes and technical commissions to promote multidisciplinary DARE projects for other type of data such as for marine, hydrology and remote-sensing and build up on the existing experience in these entities.

**Climate Data Management including Metadata**

3.5.3.5 The Council welcomed the CCl action to consider the WMO Metadata core profile for its suitability to represent the minimum level of description needed for climate metadata exchange and noted with satisfaction that a CCl expert meeting was focusing on WCP requirements for Metadata, with the participation of WIS/Metadata experts from CBS and CIMO.

**Future strategy for Climate Data Management Systems**

3.5.3.6 The Council noted with appreciation that during the past four year period, there had been substantial efforts in modernizing Climate Data Management Systems (CDMSs) in various regions, mostly supported through VCP. It further took note that WCDMP has organized training workshops for developing countries and LDCs in the Pacific SIDS, Caribbean, East Africa, Central Africa and South East Asia. It welcomed the WMO’s support to ACMAD and ICPAC in Africa on DARE activities and thanked Members contributions such as contribution from NOAA/NWS and the Met Office, UK to support DARE and Data Management trough VCP. It urged all Members to continue their full support to this activity.

3.5.3.7 The Council welcomed the joint effort of the Secretariat and CCl to monitor CDMSs operating in NMHSs and identify the status of operational migration from CLICOM. This is necessary action to help WMO and Members for better planning of future actions in supporting CDMSs and defining the level of capacity building needed in various regions. It urged all Members to provide full support for the success of these efforts.

**Requirements from special programmes and projects**

**THORPEX Interactive Grand Global Ensemble**

3.5.3.8 The Council recognized the progress of the THORPEX Interactive Grand Global Ensemble (TIGGE) to demonstrate the concept of a multi-centre Global Interactive Forecast System (GIFS) and that the data transfers required presented significant challenges for the development and implementation of WIS. It took note that one of the activities in GIFS was to develop and test GRIB2, an advanced protocol for data exchange. It also noted that discussions between CAS and CBS had occurred at CBS-XIV, and that a liaison was being established to pursue GIFS development in a harmonized way with WIS.

**International Polar Year**

3.5.3.9 Recognizing that one of the challenges of the IPY process is data exchange and preservation, the Council urged Members to ensure free and unrestricted exchange of IPY data. The WMO Information System is seen as a central mechanism to assist with data sharing and
interoperability. The Council requested the CBS/OPAG on ISS to assist the EC Panel to facilitate acquisition, exchange, and archiving of observational data from Polar Regions in compliance with WIS requirements related to data exchange. Regarding the long-term preservation of data ICSU was beginning to address this issue through the creation of the World Data System.

4. SERVICE DELIVERY (agenda item 4)

4.1 ENHANCED CAPABILITIES OF MEMBERS IN MULTI-HAZARD EARLY WARNING SYSTEM AND DISASTER PREVENTION AND PREPAREDNESS (agenda item 4.1)

Disaster Risk Reduction Programme Strategy and Implementation Framework

4.1.1 In reference to the decision of the Fifteenth Congress of WMO (Cg-XV), the Council was advised that the Disaster Risk Reduction (DRR) Programme has been working successfully with all relevant technical programmes, the Development and Regional Activities (DRA) Department, the Resource Mobilization Office within the Secretariat, and a small but strategic group of external partners to facilitate a coordinated approach for the implementation of a number of pilot and demonstration DRR projects at national and regional levels. In this regard, the Council noted the need for a strategic and systematic approach engaging WMO Programmes, constituent bodies, Members and external partners to scale up these efforts to benefit other Members.

4.1.2 The Council recalled the outcomes of the country-level fact-finding DRR survey conducted in 2006, which provided a benchmark on Members’ National Meteorological and Hydrological Services (NMHSs) capacities, requirements and priorities to support disaster risk management. In this regard, it recalled that the needs and requirements of the NMHSs were assessed along five primary areas. Based on the results of the survey, countries can be divided into four categories with respect to their capabilities, gaps and needs for support from WMO. The Council requested that the results of the survey should be one of the main drivers for the development of the WMO national and regional DRR-related projects undertaken by WMO Programmes, constituent bodies and with external partners.

Provision of hazard information and analysis for risk assessment and planning

4.1.3 In reference to the outcomes of the Country-level DRR survey, related to the top ten hazards of concern to all Members, and expressed need by 90% of NMHSs for guidance on standard methodologies for monitoring, archiving, and analysing hazards, the Council noted the activities of the Commission of Hydrology (CHy), the Commission for Agricultural Meteorology (CAgM), and the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) in developing such guidelines for floods, droughts and storm surges, respectively. It also noted that the Commission for Basic Systems (CBS) has established a task team, under its Public Weather Service (PWS) Open Programme Area Group (OPAG), in consultation with the Commission for Climatology (CCI) and Commission for Atmospheric Sciences (CAS), to address other meteorological hazards. The Council noted the role of the Commission for Instruments and Methods of Observation in developing instrumentation that could withstand the impacts of extreme events ensuring continued monitoring of the meteorological, hydrological and other environmental conditions. The Council also suggested that “best possible practice” approaches should be followed in the work of the technical commissions and their subsidiary bodies, in the development of standard methodologies on hazard and risk assessment. The Council agreed with the decision of the 2009 Meeting of the Presidents of Technical Commissions that air pollution needs to be also added to the list of priority hazards being addressed. The Council:

(a) Requested that the guidelines developed by the commissions first be tested and operationalized through national risk assessment and DRR pilot and demonstration projects as appropriate;
Encouraged Members to ensure that their NMHSs establish mechanisms and methodologies for the provision of meteorological, hydrological, climate hazard data and metadata, analyses, value-added information and technical expertise;

Requested the Secretary-General to facilitate initiation of, or participation in risk assessment pilot projects underway such as the World Bank’s Central America Probabilistic Risk Assessment Project (CAPRA) and the UNDP’s Global Risk Identification Programme (GRIP), in which the contribution of NMHSs for the provision of hazard data, analysis and mapping could be demonstrated;

Requested presidents of technical commissions to develop a joint framework for coordinated collection of statistical hazard information from NMHSs for use in international statistical reporting.

Multi-Hazard Early Warning Systems (EWS) and Emergency Response Operations

Following the expressed needs by nearly 80% of the Members for technical capacity development in support of early warning systems, that 90% of disasters caused by natural hazards are linked to meteorological-, hydrological-, and extreme climate-related events, and with reference to its pertinent decisions linked to Expected Results 1, 2, 3, and 7 under agenda items 3.1, 3.2, 3.3 and 4.2, the Council:

(a) Re-emphasized the continuing need to improve NMHSs technical capacities and methodologies for the generation of warnings particularly stressing related technical developments related to severe weather, riverine and flash floods, heat-health, sand and dust storm, marine meteorological and environmental hazards, and droughts. In this regard, it requested the Secretary-General: (i) to report to its next session the results achieved through these technical capacity development projects; and (ii) that these technical capacities must be linked at national level to operational disaster risk management and emergency preparedness processes, through well-defined projects, based on user requirements and participation;

(b) Noted the progress made towards the development of a Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS), welcomed the initiatives in this area, called for CAS and CBS collaboration to establish SDS-WAS Centres with the appropriate operational and research capabilities, and to clarify the future of the SDS-WAS Centres in the context of the GDPFS and RSMC structures. The Council recommended that the framework being developed for the SDS-WAS and Emergency Response Activities (ERA) be considered as a nucleus for the development of future WMO research, prediction and assessment systems related to forest and bush fires, and air quality services of WMO Members;

(c) Recognized the potential benefits of collaboration between DRR and activities taking place under CAS, for more rapid transfer of the tools currently under development by the research community for improved disaster risk management and preparedness. The Council stressed that operationalization of these capacities could provide unique, new and effective solutions, particularly for the developing nations. The Council highlighted the WWRP-THORPEX TIGGE project, which would provide critical information for risk quantification and urged the involvement of TIGGE in DDR demonstration projects;

(d) Emphasized the growing application by NMHSs of probabilistic forecasts to assist forecasters to improve, in particular, the warnings of severe weather. It urged the preparation of guidelines on communicating probabilistic forecasts to users to expand customers’ opportunities through appropriate use of this information.

In reference to its request to the Secretary-General to facilitate in consultation with UNESCO-IOC the development of storm surge watch schemes, the Council was pleased to note that through collaborative efforts of JCOMM and TCP, immediate actions were taken by the five
TCP regional bodies to assist their Members by establishing regionally coordinated frameworks for enhancing their capabilities to access and understand existing wave and storm surge products worldwide, and to make use of them for operational forecast and warning services. The Council requested the Secretary-General: (i) to keep Members informed of the developments and to continue; (ii) to give high priority to these activities, including facilitating and supporting the regional associations concerned in the development of storm surge watch schemes; and (iii) to continue capacity-building activities related to use of SSWS guidance information. The Council urged Members concerned to take appropriate actions to improve storm surge and wave forecast and warning services within their areas of responsibility. The Council was pleased to note the strengthened collaboration between WMO and UNESCO/IOC in the coordination of observing, monitoring, modelling, forecasting and warning systems of ocean-related hazards for improved coastal risk management. It acknowledged the UNESCO/IOC initiative in the development of technical and management solutions to address the risks of coastal hazards, including the guidelines on Hazard Awareness and Mitigation in Integrated Coastal Area Management (ICAM), on which WMO was a major contributor.

4.1.6 In recognition of the impacts of the TCP/JCOMM training workshop series on storm surge and wave forecasting, the Council requested the Secretary-General to continue to support such training workshops in the future.

4.1.7 The Council re-affirmed that sea level observations are critical for enhancing storm surge forecasting and thus contribute to the storm surge watch schemes and tsunami prediction. The Council therefore requested that efforts be made, by all concerned, to ensure that in situ and remote sensed sea level observations are routinely collected and disseminated via the GTS. It requested JCOMM/Global Sea-Level Observing System to continue supporting activities for extending the network of sea level measuring gauges, as well as increasing the number of those reporting in real-time, and other sea level observing techniques. The Council noted that GLOSS is facilitating real-time exchange of sea level data from its Core Network stations. It requested the Secretary-General to promote resource mobilization to further develop these activities and partnerships through national and international support. The Council urged Members already undertaking sea level observation programmes to make their sea level data freely available in real-time, in support of coastal marine hazard warning services, including in particular for storm surges and tsunamis. The Council also requested the Secretary-General to promote the participation of space agencies in the SSWS, and encourage Members to make maximum use of the scheme applications, including guidance products for marine forecasting purposes.

4.1.8 The Council recognized that severe coastal inundation events from extreme sea state conditions occurred in many parts of the world, including in the Gulf of Guinea, where coastal and ocean surface meteorological observations were still limited or absent, and requested JCOMM and other relevant technical commissions to consider implementing a Coastal Inundation Forecasting Demonstration Project for the West Africa region as a matter of priority. The Council also noted the effective support currently provided by the NMHSs in disseminating early warning and watch messages and related data through the GTS, in support of tsunami and other ocean-related warning systems. The Council recalled its consultation with UNESCO and its IOC in May 2006, related to the Comprehensive Nuclear Test-Ban Treaty Organization’s (CTBTO) operation of an advanced global seismological observation network, which had the potential to contribute significantly to the detection of a tsunami threat. The Council recalled that it had agreed with UNESCO-IOC that coordination with the CTBTO should be continued with a view to promoting the development of the CTBTO seismic observation system into a public service-oriented system that would contribute data freely and timely in support of disaster prevention and mitigation (EC-LVIII, paragraph 3.9.18).

4.1.9 The Council recalled the Shanghai multi-hazard early warning system project, which provides a coordinated framework for technical capacity development in nowcasting and forecasting of various hazards, including very strong convection, by the NMHSs, involving all relevant WMO technical programmes. The Council stressed the importance of these demonstration projects with the goal to scale up to other countries in need of technical capacity development requiring a multi-hazard approach and requested the Secretary-General to document
lessons learned from these technical capacity development projects and use this model to ensure that Members are assisted more efficiently.

4.1.10 Following the request from its sixtieth session, the Council was informed of the status and results, with respect to the establishment of demonstration projects with a multi-hazard approach and documented good practices in France, China (Shanghai), Cuba and Bangladesh. It appreciated Members’ efforts for the documentation of these four cases and contributions of France for hosting the Second Experts’ Symposium on Multi-Hazard EWS (MHEWS-II), in Toulouse, France, 5–7 May 2009. The Symposium finalized the first guidelines on “Capacity Development in Multi-Hazard EWS, with Focus on Institutional Coordination, Collaboration and NMHS,” based on lessons learnt from demonstration projects and documented good practices and other examples of end-to-end early warning systems. The Council further noted important outcomes of MHEWS-II with regards to identification of other examples of good practices in multi-hazard EWS and recommendations linked to transboundary issues and urged the Members concerned to document their experiences for sharing with other Members. It requested,

(a) The Secretary-General to ensure that the guidelines are utilized in training workshops for technical development projects to establish demand for NMHSs information within the national emergency planning, preparedness and response of the country and develop operational collaboration between the NMHSs and disaster management agencies;

(b) The Secretary-General to facilitate documentation of other good practices in multi-hazard EWS identified through MHEWS-II;

(c) The Secretary-General to take necessary actions to ensure that issues pertaining to transboundary operational cooperation and exchange of forecasts, warnings and other information could be addressed in relevant transboundary Multi-Hazard Early Warning demonstration projects, building on experiences gained in some WMO Regions, such as RA VI, from the projects on cross-border exchange of warnings and information implemented under PWS activities, and that lessons learned be documented to support future projects. The potential of the SWFDP in RA I, Southern Africa, to demonstrate and test protocols across boundaries was also noted, including the need for the development of a web-based software to display severe weather warnings of countries was also found to be ideal for effective cooperation and exchange of information over boundaries. Furthermore, the Council noted that since 2009, in RA III, a new Virtual Centre for Severe Weather involving Brazil, Argentina, Paraguay and Uruguay has been established and can be expanded to other countries through demonstration projects;

(d) Its EC Working Group on DRR and Service Delivery to assess the emerging results and conclusions and to make recommendations to the Council as regards to possible impacts on the strategic role of WMO Programmes and constituent bodies in this area.

4.1.11 The Council stressed the importance of operational cooperation of NMHSs with disaster risk management agencies for development of end-to-end EWS capacities, including task of the radioactive and pollutants’ transport, and particularly noted the need for development of concept of operations among these agencies. The Council further stressed the importance of reliance of emergency preparedness and response operations on the authoritative information provided by the NMHSs. The Council endorsed pilot projects in Central America and Southern Africa that were intended to optimize the utilization of existing tools, methodologies, and information of the NMHSs based on the understanding of user needs. The Council requested:

(a) The Secretary-General to report on progress with these projects in the next session of the EC;
Its EC WG DRR and SD to review lessons learned from these projects and provide recommendations and a road map on how these projects can be scaled up to benefit other WMO Members.

4.1.12 The Council noted that international humanitarian agencies’ involved in emergency contingency planning could improve their relief and response operations through analyses, forecasts, warnings and other information available from Regional Specialized Meteorological Centres (RSMCs) and NMHSs. In this regard, the Council strongly endorsed CBS’ efforts to establish a task team under its PWS OPAG involving experts from the Global Data Processing and Forecasting System (GDPFS) and WMO Information System (WIS) OPAGs together with operational humanitarian agencies to develop a work plan and propose a pilot project to operationally link GDPFS and NMHSs to humanitarian agencies.

Catastrophe insurance and weather risk management within financial risk transfer markets

4.1.13 In reference to the request at its sixtieth session, the Council endorsed the Secretary-General’s efforts to:

(a) Prepare a document on experiences of several NMHSs, currently serving these markets, and lessons learnt from these experiences to be published in 2010;

(b) Prepare with the World Food Programme (WFP), the International Fund for Agricultural Development (IFAD), the World Bank and NMHSs, a proposal for piloting the development of these markets in Africa, where funding would be available for strengthening of observing networks, data rescue and management systems of the NMHSs for provision of data products for the catastrophe insurance and weather risk management markets.

Leveraging Cooperation and Partnership to Strengthen the Role and Capacities of NMHSs in DRR

4.1.14 The Council stressed the need for enhanced recognition of NMHSs’ potential contributions in disaster risk management by their governments that would translate into resources for building and sustaining NMHSs capacities. In this regard, effective utilization of the PWS arm of NMHSs can be one such method that could greatly enhance achievement of success in this effort. The Council noted WMO strategic partnerships with agencies such as the ISDR, UNDP and World Bank that influenced national DRR planning and funding. The Council was informed of the progress with the DRR projects in partnership with these agencies in seven countries in Southeastern Europe (SEE) (launched in 2007) and eight countries in Central Asia and Caucuses (launched in 2009) and that discussions were underway to initiate similar projects in five countries in Southeast Asia and later in the Pacific. The Council stressed that these projects had demonstrated a successful model for cooperation with partners, whereby a small amount of WMO resources had resulted in much higher returns by leveraging partners’ resources and expertise and the cooperation had led to recognition of the role of NMHS by their governments. The Council requested the Secretary-General to continue efforts in development of similar partnership projects. Noting that the NMHS involved in these projects need significant technical development and operational partnerships with disaster risk management agencies, the Council urged the WMO technical programmes and constituent bodies to support these projects, as relevant and requested the Secretary-General to ensure a coordinated approach engaging all relevant WMO programmes in these projects.

4.1.15 The Council also recognized the importance of WMO contributions in the ISDR System, particularly in the ISDR Management Oversight Board (ISDR-MOB), ISDR Scientific and Technical Committees, as well as WMO’s initiatives in support of the ISDR Global Risk Assessment Report 2009. The Council stressed that the primary issue for these efforts is to raise awareness on the role of NMHSs in DRR that could, in turn, result in investments from their governments for strengthening and sustainability of NMHS capacities. The Council urged the participation of the NMHSs and regional associations in the national and regional DRR platforms, noting ISDR
Secretariat’s offer to assist in this regard, as this could lead to securing or increasing the funding for NMHSs through active engagement in the national and regional implementation plans. It also requested the Secretary-General to:

(a) Continue to participate in and service the international ISDR mechanisms and events;
(b) Facilitate participation of the NMHS and regional associations in the DRR and ISDR coordination processes at the national and regional levels;
(c) Further strengthen WMO partnerships with the ISDR partners for the implementation of national and regional DRR projects.

4.1.16 The Council recalled the potential increase in hydrometeorological disasters associated with climate variability and change. The Council stressed the importance of climate information from monthly to decadal time scales for climate adaptation and disaster risk management decision making. In this regard, the Council acknowledged the WMO/World Bank project, funded through GFDRR, to undertake “climate observations and regional modelling in support of climate risk management and sustainable development” in Africa and the need to expand this initiative to other regions. The Council requested the Secretary-General:

(a) To develop and implement DRR and climate adaptation demonstration projects at national and regional level through coordinated approach, involving the DRR and climate-related programmes, as well as external partners;
(b) To strengthen cooperation of the DRR Programme with the UNFCCC on the implementation of the relevant topics of the Nairobi Work Plan, and with UNCCD on topics related to combating drought and desertification.

Strategic Issues for the Implementation of the DRR Programme

4.1.17 The Council noted with appreciation the report of the Chairman of the EC WG DRR and SD regarding the outcomes of the first meeting of the working group from 19–21 March 2009. In light of the achievements of the DRR Programme reported to its session, the Council stressed the need for advice from its EC WG on a number of strategic issues that would enable scaling up of the pilots and lessons learnt to larger regions or for implementation on a global scale. In this regard, the Council particularly noted the need for development of a coordinated framework leveraging capacities and expertise of WMO Programmes, constituent bodies, Members and external partners with clarification of roles and responsibilities in the implementation of DRR programme at national and regional levels.

4.2 Enhanced Capabilities of Members to Provide and Use Weather, Climate, Water and Environmental Applications and Services (agenda item 4.2)

User focus

Public Weather Services (PWS)

4.2.1 The Executive Council took into consideration recommendations of the fourteenth session of Regional Association II (RA II, Tashkent, Uzbekistan, 5–11 December 2008) as well as the results of PWS surveys regarding enhancing user focus in National Meteorological and Hydrological Services (NMHSs). It agreed that any development of NMHSs through their public weather services should be undertaken in response to the real and stated needs of the user community, and not as an end in itself.

4.2.2 The Council recognized that understanding user needs was a fundamental requirement for the development of effective services. Furthermore, the Council noted that an important consequence of effective service delivery is the creation of a service user community that becomes an influential group of advocates for the services of the NMHS. This community of advocates is, in
turn, likely to have a positive impact on the policy makers who determine the funding levels of the NMHS.

4.2.3 In order to assist Members in their development of effective services, the Council requested the Working Group on Disaster Risk Reduction and Service Delivery to develop a Policy Framework for Service Delivery that would provide guidance to Members for the development of a user-centred approach to service delivery and also assist in raising the profile of NMHS with policy makers.

Agricultural Meteorology (AGM)

4.2.4 The Council requested the Secretary-General to take steps for the creation of a Network on Climate Change and Food Security in South Asia in order to strengthen regional institutional and policy mechanisms, and to promote and facilitate implementation of location-specific adaptation and mitigation practices. This request was based on the recommendation from the Dhaka Symposium Declaration of the International Symposium on Climate Change and Food Security in South Asia (Dhaka, Bangladesh, 25–30 August 2008).

4.2.5 The Council further agreed with the Dhaka Symposium Declaration regarding the establishment of a South Asia Climate Outlook Forum and requested the Secretary-General to facilitate the organization of the Forum in 2009. This, it noted, would contribute to minimizing short- and long-term vulnerability of South Asia to climate change, and advance food security in the region. The Council suggested that this initiative be linked with the ongoing activities of the seasonal climate outlook fora.

4.2.6 The Council noted and expressed support to the WMO expert mission to Bangladesh which was undertaken in December 2008, to review the existing Agrometeorological Services in the Bangladesh Meteorological Department, and help improve these services to the farming community in Bangladesh. The recommendations from the expert Panel were submitted for consideration to the Government of Bangladesh to improve agrometeorological services in Bangladesh.

4.2.7 The Council noted the comments that the UNDP administrator made to UNDP Board, “The truth is that the brunt of the negative impacts of climate change will be borne by some of the poorest countries and people in the world” and it urged the Secretary-General to develop closer links between WMO and UNDP programmes dealing with climate change impacts.

Marine Meteorology and Oceanography (IMO)

4.2.8 The Council recognized the importance of direct interaction with and feedback from the marine users and welcomed the results of the JCOMM survey on monitoring the effectiveness of the marine meteorological and oceanographic information produced and transmitted by NMHSs. The results demonstrated the increased demand for user-focused marine meteorological and oceanographic products and services. The Council therefore requested the Secretary-General to keep Members informed of the results of this and any further monitoring and urged Members concerned to take the appropriate actions to improve marine meteorological and oceanographic services within their areas of responsibility, in order to meet the marine users’ requirements.

4.2.9 The Council noted the International Maritime Organization (IMO) resolution A.705(17) on promulgation of maritime safety information, adopted by IMO/MSC-85 (2008). The resolution set out the organization, standards and methods which should be used for the promulgation and reception of maritime safety information, including navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships, as documented in the International Convention of Safety of Life at Sea (SOLAS). The Council requested the Secretary-General to establish and develop, in collaboration with the IMO, terms of reference for an IMO/WMO World-Wide Met-ocean Information and Warning Service (WWMIWS), to complement the existing IMO/International Hydrographic Organization (IHO) World-Wide Navigational Warning Services (WWNWS, IMO resolution A.706(17)) for consideration by EC-LXII.
Atmospheric Research and Environment (ARE)

4.2.10  The GAW Urban Research Meteorology and Environment (GURME) project has been working closely with the COST Action 728 “Enhancing Meso-Scale Meteorological Modelling Capabilities for Air Pollution and Dispersion Applications” and has agreed to host the final COST 728 Management Committee and related expert meeting at WMO in December 2009. The expert meeting would be jointly organized with PWS with the focus on user connection and dissemination. The Council welcomed this initiative for enhancing collaboration within and outside of WMO and for assisting NMHSs in expanding their activities and outreach, and public information aspects of air quality modelling.

Climate Services

4.2.11  The Council noted that a strong user focus in climate services was expected to be a key outcome of the forthcoming WCC-3. It urged NMHSs to commit strongly to their role in climate service provision in support of the full range of applications in climate-sensitive sectors such as food, water, health, energy, transport, tourism, water management, coastal zones and urban environment as part of the proposed global framework for climate services.

Improved products and services

PWS

4.2.12  The Council endorsed the Project Implementation Plan developed by the Science Steering Group (SSG) of the World EXPO 2010 Nowcast Services Demonstration Project (WENS) in the context of the Shanghai Multi-Hazard Early Warning Services, in November 2008. It also supported the goals of WENS which are: to demonstrate how nowcasting applications can enhance short-range forecasts of high-impact weather using the opportunity afforded by the World EXPO 2010; and to promote the understanding and enhance the capability of WMO Members in nowcasting services. The work on WENS is continuing with the participation of Australia, Hong Kong, China and China and will culminate in the demonstration of the nowcasting services during the Expo in 2010. The major outcomes from WENS include: publication of WMO Nowcasting services guidelines; and capacity building workshops for WMO Members. The Council encouraged WMO Members to support their experts’ participation in the WENS Demonstration Project and sharing of experiences gained during the project.

4.2.13  The Council expressed strong support for the Regional Subproject Implementation Plan of the Severe Weather Forecasting Demonstration Project (SWFDP) in Southern African countries that was produced at the Meeting of the Regional Technical Implementation Team held in Pretoria, South Africa, 24–27 February 2009. The Council recalled that PWS aspects had been included in the implementation of the SWFDP and noted the inclusion of new activities within the project aimed at the improvement of products and services. These activities include: verification of warnings; user-based assessments of the accuracy and usefulness of weather warning and forecast products; and enhancement of communication between forecasting centres in the exchange of warnings. In addition, the Council fully supported the inclusion of PWS in the proposed SWFDP in RA III and in the planned SWFDP in RA V, which was due to commence its pilot phase in November 2009. It requested the Secretary-General to support the implementation of SWFDP in WMO Regions concerned.

4.2.14  The Council was informed that Roshydromet had translated into Russian the WMO publication PWS-18, WMO/TD No. 1422, Guidelines on Communicating Forecast Uncertainty as a contribution of Roshydromet to the WMO programme “Public Weather Services”. These Guidelines are available on the Websites of Roshydromet and the Hydrometcentre of the Russian Federation. The information about the Guidelines was forwarded to the NHMSs of the Commonwealth of Independent States (CIS) countries.
AGM

4.2.15 The Council appreciated holding meetings of CAgM Expert and Implementation and Coordination Teams in conjunction with other institutions or organizations in order to obtain additional input for their work. It urged action on the following outcomes of the CAgM meetings: recommendations for producing and using weather and climate information to implement adaptation strategies at the national and regional levels; the publication of WMO Operational Guidelines for Fire Weather Agrometeorology and Proceedings of the Fire Danger Rating Workshop; and publication of select papers from the WMO/COST Action 734, “Symposium on Climate Change and Variability-Agro Meteorological Monitoring and Coping Strategies for Agriculture” in the Hungarian Meteorological Service journal ‘IDŐJÁRÁS’.

4.2.16 The Council noted that drought is the primary natural hazard that threatens agricultural production and supported the recommendation from the CAgM Expert Team on Drought and Extreme Temperatures: Preparedness and Management for Sustainable Agriculture, Rangelands, Forestry, and Fisheries (ETDRET, Beijing, China, 18–19 February 2008), that the Secretary-General urgently makes appropriate arrangements to identify the methods and to marshal resources for the development of standards for agricultural drought indices in a timely manner.

MMO

4.2.17 The Council recalled the recent widespread flooding in the exposed islands in many Pacific Islands Countries (PICs) as a result of large swells generated from distant winds over the North Pacific. The Council noted that a major marine weather-related threat for the Small Island Developing States (SIDSs) is due to the remotely generated swell. Forecasts of ocean wave period and probabilistic forecasts of wave height were seen as essential tools in the generation of warnings of such severe phenomena. Noting that advanced centres (e.g., ECMWF and NOAA/NCEP) make these products freely available on their Websites, the Council urged Members to make maximum use of these products and requested the Secretary-General that capacity-building activities be aimed at promoting and facilitating the use of such forecasts be continued in order to improve NMHSs’ marine services. The Council was pleased to note that, with the support of JCOMM, the SWFDDP for the South Pacific Islands (RA V) would include a component on damaging waves, both in terms of guidance information from the RSMC Wellington (New Zealand), but also through a dedicated website, on which sea state forecast products sourced from the ECMWF, the UK Met Office, and most likely NOAA/NCEP, JMA and French Polynesia (Météo-France) would be available.

4.2.18 The Council noted the importance of developing Web-based information and services systems by Members. In particular, the Council also noted that a Unified Information System for the World Ocean State, which provides a wide-range of ocean-related products, had been developed in the Russian Federation. The Council recommended that a list of national weather, climate, water and environmental products Web-resources be prepared by the Secretariat.

ARE

4.2.19 The Council noted that GURME is participating in the European Commission project MEGAPOLI (Mega cities: Emissions, urban, regional and Global Atmospheric POLlution and climate effects, and Integrated tools for assessment and mitigation). WMO is responsible for the task of implementation of integrated tools in mega cities and for encouraging global connections for this project. This task will feed directly into the COST work package on mitigation, policy options and impact assessment. The Council recommended that Members support this activity.

4.2.20 The Council noted that the GURME Shanghai project on air pollution, a component of the Shanghai Multi-Hazard Early Warning System (MHEWS) Demonstration project, has progressed well for provision of operational ozone forecasting and is providing real-time display of observational data. The Council noted that GURME should assist the Shanghai Meteorological Bureau to produce their best products and that a workshop planned for autumn 2009 should focus on delivering operational components. The Council also noted that it would be important to
proceed with the Heat Health Warning Systems (HHWS) as part of the Shanghai MHEWS, for the benefit of Members.

Service delivery

PWS

4.2.21 The Council recognized that PWS is the most important vehicle for the communication of achievements and outputs of other WMO Programmes, and therefore it should serve all programmes of WMO as well as NMHSs in the area of service delivery to stakeholders within civil society. It agreed that service delivery should be considered as an essential role of PWS so as to provide the overall mechanism for delivering services to all sectors of society that require services from their NMHS. The Council therefore requested the Secretary-General to assist NMHSs to strengthen their PWS Programmes to fulfil this role in meeting their mandate of protection of life and livelihood, and for the well being of citizens. The Council also noted that the Executive Council Working Group on Disaster Risk Reduction and Service Delivery was seeking to improve service delivery through PWS by recognizing the high priority of development of a Policy Framework for Service Delivery. This Framework will lead to standard approaches for reaching a diverse community of users of weather, water and climate products.

4.2.22 The Council welcomed the results of the Survey on Improving the Delivery of Public Weather Services by the PWS Expert Team on Service and Products Improvement (ET/SPI). The results demonstrated that NMHSs rated building the capability of their staff in effective communication with the public as well as engaging in public education and awareness raising, as high-priorities in attaining high-quality service delivery. There was also a high requirement by NMHSs to improve their Nowcasting capabilities in order to improve their warning services associated with severe weather. The Council requested that these stated needs be kept in view when planning the activities of the PWS Programme in assisting NMHSs in their service delivery efforts. It further requested that efforts be made in the framework of VCP activities, to organize workshops on presentation and communication of public weather warnings, forecasts and information using different media.

4.2.23 The Council encouraged the WMO regional associations (RAs) to keep in view the recommendations of the “International Symposium on Public Weather Services: A Key to Service Delivery” (Geneva, Switzerland, 3–5 December 2007) as a guide to the implementation of public weather services programmes and activities of Members. Noting that one of the recommendations of the Symposium was for PWS to continue to collect and document examples of best practices in service delivery, the Council recommended that RAs encourage their Members to use these examples in improving their service delivery practices.

4.2.24 The Council recalled that the “Learning Through Doing” (LTD) initiated by the PWS Programme, provides a new approach to building the capability of NMHSs to respond to user requirements and produce services and products to meet those requirements. The Council welcomed the actions of the Secretariat in implementing such projects in Madagascar, Chile, Peru, and more recently in Panama. In Chile and Peru, the project had got underway with kick-off workshops in 2008 which brought together the staff of NMHSs and representatives of a cross-section of user communities such as agriculture, fisheries, health and transport to start dialogue between user and provider communities and to work on the basics of economic analysis for application to evaluation of meteorological and hydrological services. A similar workshop had taken place in March 2009 in Panama, to identify the requirements of a number of user sectors including the public health. These projects have been accorded high priority by the participating NMHSs in view of their important contribution to building partnerships with the user communities and thus raising the profile of the NMHS. The Council expressed its appreciation to Spain for funding the projects in Chile, Peru and Panama.

4.2.25 The Council welcomed the successful workshop in the LTD-Madagascar project as the first step in the implementation of this project. The workshop, which was held in Madagascar in 2008, initiated a partnership between the Madagascar Meteorological Services and the Ministry of
Health and Family Planning which culminated in the establishment of a national Working Group on Weather, Climate and Health in the use of weather and climate information and services by the health sector. It noted that the workshop targeted the three diseases with the most disabling impact on the country namely, Malaria, Rift Valley Fever and Plague. The Council was pleased to learn of the steady progress in the implementation of this project, including a major effort in cross-training of the personnel from the NMHS and the public health authorities. It commended the signature of a Protocol of Partnership by the Ministers in charge of the two ministries concerned and agreed that similar efforts need to be made to promote dialogue, cooperation and partnerships between NMHSs and the public health sector. The Council endorsed the LTD as an effective approach to national capacity-building and requested the Secretary-General to continue to support the implementation of these projects.

4.2.26 The Council commended Members for their support and participation in the WMO Website 'World Weather Information Service (WWIS), at http://worldweather.wmo.int, which won the Stockholm Challenge Award – Environmental Category in 2008. The Website currently provides information in Arabic, Chinese, English, French, German, Portuguese and Spanish languages, and is coordinated by Hong Kong, China. The Council noted that the information for the WWIS Website (Hong Kong, China) in Russian would be provided with effect from the first quarter of 2010. Similarly, the Italian version of the WWIS Website would be launched soon. The Council was further informed that the Italian Meteorological Service is implementing a Memorandum of Understanding (MoU) with the Emergency Unit of the Ministry of Foreign Affairs to support the Italian citizens abroad through having this WWIS link in Italian language. This would substantially increase the visibility of the WWIS for Italian users. The Council urged Members to promote the use of the information on the Website, as well as increase their contribution of information to the Website.

4.2.27 The Council commended Hong Kong, China for organizing, in conjunction with WMO, and funding the WMO VCP Training Course on the Use and Interpretation of City-specific Numerical Weather Prediction Products (Hong Kong, China, 1–5 December 2008), for Members participating in RA II City-Specific NWP Products Pilot Project. The Council recommended that the possibility of repeating the project in other WMO Regions be explored, so as to strengthen the capabilities of NMHSs of developing countries to effectively deliver public weather services.

AGM

4.2.28 The Council noted that the World Agrometeorological Information Service (WAMIS) Website continued to assist Members in disseminating their products. Products from 50 countries or institutions were available on WAMIS, and there were over 90,000 visits to the Website in 2008 with a monthly average of 7600 visits. The Council urged Members to take advantage of WAMIS to disseminate their products, while also noting that the electronic dissemination of agricultural meteorological products through websites such as WAMIS is only one dissemination method used to communicate weather and climate information to the agricultural community. In order to ensure that the services reach the majority of rural communities, who have no access to internet but are vulnerable to weather and climate related hazards, especially in developing and least developed countries, the Council encouraged Members to use simple technologies such as RANET (Radio interNET) for dissemination of information in formats and language easily understood by the communities. The Council urged the Secretariat to support the use of RANET community radio stations and other similar initiatives, in developing and least developed countries.

MMO

4.2.29 The Council recalled the coordinated initiative by WMO, IMO and the IHO to expand the Global Maritime Distress and Safety System (GMDSS) into the Arctic waters and the commitment by the Environment Canada, Norwegian Meteorological Institute and Roshydromet (Russian Federation) to serve as Issuing Services for the new Arctic METAREAs. The Council noted that new METAREA Issuing Services had developed their operating plans, including timelines, for the implementation of marine meteorological and oceanographic operational services. Noting that the GMDSS for the Arctic region should be fully implemented by 2010/11, the Council requested the
Secretary-General to assist the Issuing Services concerned in implementing their operating plans for the provision of marine meteorological and oceanographic services for the Arctic region.

4.2.30 The Council commended Members for their contributions and participation in the GMDSS-Weather Website, which is managed and hosted by Météo-France. Noting the current expansion of this Website to include products prepared for the International Navigational Telex (NAVTEX) dissemination, the Council urged Members to disseminate these products through the GTS and to provide the appropriate metadata in compliance with the WIS.

4.2.31 Recalling the continuing importance to mariners at sea in receiving graphical products, the gradual demise of HF radiofax as a means of disseminating those products, including for the Arctic region, and the Council’s request, in its sixtieth session (EC-LX, Geneva, Switzerland, 18–27 June 2008), to JCOMM to continue researching methods for transmitting graphical products to marine users, the Council noted the successful development, in accordance with IHO standards, of product specification for sea ice information in Electronic Navigation Chart Systems (ENC). It encouraged Members to make maximum use of these essential tools and requested JCOMM, in consultation with IMO, to develop similar standards for other met-ocean variables. It requested the Secretary-General to promote resource mobilization to develop these activities and partnerships through national and international support. In addition, the Council encouraged Members to investigate low-cost options for on-demand approaches that are compatible with ENC.

AEM

4.2.32 The Council welcomed the production of the draft, “Guide on Aeronautical Meteorological Services Consultation and User Focus” currently published on the “caem.wmo.int” Website, and encouraged Members and other WMO Programmes to make use of this excellent material on customer relations and user focus.

Quality Management (QM)

Quality Management Framework (ICTT-QMF)

4.2.33 The Council took note that the third meeting of the Inter-Commission Task team (ICTT) on Quality Management held at the end of October 2008 had reviewed the status of the WMO-QMF, in particular in the different technical commissions, and the necessary next steps for a credible implementation of the framework throughout the organization including the Secretariat.

4.2.34 The Council noted the review that the third ICTT meeting had undertaken of the status of WMO mandatory publications and their orientation to Quality Management (QM) principles. The Task Team also developed a draft Technical Regulation Vol. IV that is available at the following site: http://www.wmo.int/pages/prog/www/QMF-Web/Documentation.html. The Council recommended that a consultation of WMO Members be carried out with a view of adopting the draft as an integral part of WMO Technical Regulations at EC-LXII, and requested that the Secretary-General provide further guidance and clarification on the intended use and applications of this proposed Volume IV as soon as practical, and prior to the consultation process.

4.2.35 The Council took note of the working arrangements between ISO and WMO as concluded on 16 September 2008. It further noted that the ICTT meeting had reviewed and developed a procedure to be adopted in the preparation of ISO/WMO common standards and formulated a draft resolution for consideration by the Council. The Council adopted Resolution 8 (EC-LXI) – Procedures to be followed in proposing common ISO/WMO Technical Standards and requested the Secretary-General to provide further, concise explanatory material and guidance on the way existing WMO regulations could become common standards, and how they could be used beneficially by Members, taking into account the difference between the levels of stringency between WMO regulations and ISO standards.
Quality Management Systems (AEM)

4.2.36 The Council, noting that the Aeronautical Meteorology Programme had progressed well towards integrating QM principles in the regulatory documents, and considering Resolution 8 (EC-LX) on the establishment of a WMO standard/regulation on meteorological service for international air navigation for inclusion in the WMO-QMF, recognized the need for full cooperation with ICAO as the “owner” of the Annex 3, which is the source for the publication WMO-No. 49, Vol. II, identical mutatis mutandis with Annex 3.

4.2.37 The Council noted the importance of the Pilot Project for the implementation of a QMS in the United Republic of Tanzania, congratulated the Tanzania Meteorological Agency and the Secretary-General for the excellent progress, and requested the Secretary-General to facilitate Members access to all documentation, lessons learnt and conclusions from this project.

Quality Management Systems (MMO)

4.2.38 Noting that the IMO resolution A.705(17) stated that common standards and procedures are applied to the collection, editing and dissemination of maritime safety information, the Council recognized the need for the development of a Quality Management System (QMS) for the provision of marine meteorological services for international navigation. It therefore requested the Secretary-General, in liaison with IMO, to integrate Quality Management (QM) principles in the regulatory documents on marine meteorological services. The Council urged Members to implement QMS for the provision of marine meteorological services for international navigation and to document the process in order to share with other NMHSs, with a view to facilitating and expending QMS implementations.

Socio-economic issues related to weather, climate and environmental applications

PWS

4.2.39 The Council recognized the “WMO Forum: Social and Economic Applications and Benefits of Weather, Climate, and Water Services” as a useful mechanism in the implementation of the Madrid Action Plan (MAP). It encouraged close interaction of major WMO programmes involved in service delivery with the Forum and participation in its activities, since the Forum will contribute to most of the WMO Expected Results.

4.2.40 Noting that there was need for sustained action for successful implementation of the MAP, the Council requested that resource mobilization at the Secretariat aim at providing financial support for the following major activities for this purpose in different WMO Regions, taking into consideration different socio-economic and climatic conditions:

(a) Pilot projects to assist NMHSs with techniques to enhance services to users;

(b) Development and publication of methodologies for the evaluation and demonstration of the socio-economic benefits;

(c) Production of guidance materials on user-provider dialogue.

4.2.41 The Council was informed of wide support in RA VI for studies to be conducted on socio-economic benefits of NMHSs services and noted that a study had been conducted on economic and social benefits of meteorology and climatology in Switzerland, which would soon be published in the journal “Meteorological Applications”. It encouraged the Secretariat to continue to inform Members on measures taken by the Secretariat and Members in response to the Madrid Action Plan and on the results of these actions.

4.2.42 The Council encouraged Members to contribute decision-support tools for uploading on the WMO Website: http://www.wmo.int/pages/prog/amp/pwsp/socioeconomictools.htm. These would help NMHSs to build capacity to assess, quantify and demonstrate benefits of weather,
climate and water services to user sectors such as health, energy, tourism, transport, water management, coastal zones and urban environment.

4.2.43 The Council noted the plans to organize an International Workshop on “Climate and Fisheries” in the South-West Pacific (RA V) sometime in 2010. It requested resource mobilization assistance from the Secretariat for this workshop.

Capacity-building and training

PWS

4.2.44 The Council supported the focus on service delivery in training activities in public weather services which had taken place since its last session in 2008. These covered the interpretation of city-specific NWP products; public weather services related to the use of GDPFS products; “Learning through Doing” workshops; and the assessment of socio-economic benefits of Meteorological and Hydrological Services.

AGM

4.2.45 The Council appreciated the funding by the State Meteorological Agency of Spain (AEMET) to support the Roving Seminars on Weather, Climate, and Farmers in West Africa. Over 35 seminars took place from September 2008 to January 2009 in some countries in West Africa. The seminars, coordinated by WMO and AEMET, strive to secure farmers’ self reliance in West Africa by informing them about effective weather and climate risk management and the sustainable use of natural resources for agricultural production. By using the local language of the community, the seminars increase the interaction and feedback between the rural farming community and NMHSs. AEMET is currently funding the second phase of the project in 2009 and has expanded the seminars to seven more countries. The Council urged Members to fund similar seminars in their countries.

MMO

4.2.46 The Council supported the continuing activities aimed at enhancing capacities of NMHSs to access the existing marine products worldwide and making use of these products for operational forecast and warning services. It noted with appreciation the training activities in marine meteorological services which had taken place during the intersessional period, including on wave and storm surge forecasting, and ice analysis harmonization. Recognizing the need for improved marine meteorological services for international navigation, including for the Arctic region, the Council reiterated its support for a vigorous training and capacity-building programme in marine meteorology, with special focus on GMDSS WWMIWS and on the role and responsibilities of issuing Services as METAREA Coordinators. It requested the Secretary-General, in consultation with IMO, to facilitate and support such training events in the future.

ETR

4.2.47 The Council recalled that EC-LX had requested the Task Team on Aviation Forecaster Qualifications (TT-AFQ) formed by the EC Panel on Education and Training to report to EC-LXI on a range of matters associated with the qualifications of aeronautical meteorological personnel. The Council took note of the outcome of the meeting of the TT-AFQ which made a number of recommendations including:

(a) That the term “or equivalent” in the fourth edition of WMO-No. 258 be understood to mean ‘or equivalent to the relevant professional qualifications” rather than “or equivalent to a degree”;

(b) That a pathway for non-degreed personnel to become a WMO Meteorologist be created;
(c) That the terms “Aviation Meteorological Forecaster” or “Aviation Meteorological Observer” used in WMO-No. 258 be replaced with the terms “Aeronautical Meteorologist” and “Aeronautical Meteorological Technician” to better reflect the changing nature of the job, and the level of education and training associated with these roles;

(d) That a revised implementation timetable for Members to meet the safety relevant competencies (November 2013) and education and training requirements (November 2016) for Aeronautical Meteorologists be put in place.

The Council endorsed the clarification of the term “or equivalent” made by the Task Team and reflected in Resolution 9 (EC-LXI). It noted the short implementation time frame and urged Members to work towards compliance based on the existing guidelines (Supplement 1 of WMO-No. 258) and the clarification of the definition of “Meteorologist” as a matter of urgency.

4.2.48 The Council further agreed on the proposal to include a summary list of required competencies of aeronautical meteorologists and aeronautical meteorological technicians in WMO-No. 49, Vol. II. This process will remove the currently existing inconsistency of “Standards” (in WMO-No. 49, Vol. II) referring to “Guidelines” (contained in WMO-No. 258). The Council noted the expected benefits of the proposed approach. In particular, the Council expressed its expectations that:

(a) The Task Team’s recommendations will improve the quality of the meteorological services provided to air navigation by ensuring uniformly high standards of competence for all meteorological personnel;

(b) They provide Members with further information on the recommended practices for ensuring that their personnel are competent to provide meteorological services to air navigation and provide a clear focus for their initial and ongoing education and training programmes;

(c) The proposed implementation timeframe should provide Members with sufficient time to act and respond to the recommendations. To ensure a synchronized approach between WMO and ICAO, the proposed timeframe is explicitly tied to the governing update cycle for ICAO Annex 3 and the associated WMO-No. 49, Vol. II.

4.2.49 The Council requested the EC Panel to further develop and refine the Task Team’s recommendations in order to produce and publish the fifth edition of WMO-No. 258 as soon as possible, given the challenging implementation timetable faced by affected Members. It also requested the Commission for Aeronautical Meteorology to review and refine the competence requirements currently contained in Supplement 1 to WMO-No. 258 in coordination with the EC Panel of Experts on Education and Training. The competence standards would then be submitted for approval by EC-LXII as Standards and Recommended Practices for inclusion in WMO-No. 49 Vol. II. The Council further requested the Secretary-General to work closely with Members on the implementation of the proposed changes in accordance with the given timetable.

4.2.50 In order to ensure a speedy implementation of the approved way forward, the Council adopted Resolution 9 (EC-LXI) – Qualification and competency requirements for aeronautical meteorological personnel.

JCOMM Review

4.2.51 The Council recalled that WMO and UNESCO/IOC Executive Councils (June 2008) endorsed the proposed JCOMM review. It noted that a broader study to examine the cooperation and interactions between UNESCO/IOC and WMO in the implementation of the Global Ocean Observing System (GOOS) was carried out by Dr James Baker (see http://www.wmo.int/pages/prog/amp/mmop/documents/Planning_and_Implementation_for_GOOS.doc). The Council noted that, generally, it was appreciative of the good work of JCOMM in the implementation of GOOS,
but considered that it was under-funded and under-staffed, and might struggle with the challenges of coastal GOOS. The Council noted that, from the twenty-two recommendations, a number were closely-related to JCOMM and its role in the implementation of GOOS. The Council encouraged Members to review this study and provide comments to the Secretariat within three weeks, in order for the recommendations and comments to be included in the relevant documents for the third session of the Commission, scheduled to be held in Marrakech, Morocco, from 4 to 11 November 2009, and for further consideration by EC-LXII.

Cooperation with the private sector

4.2.52 The Council recalled that EC-LX had requested the EC Working Group on Disaster Risk Reduction and Service Delivery (WG DRR & SD), in collaboration with the EC Working Group on WMO Strategic and Operational Planning (WG SOP) and the EC Working Group on Capacity Building (WG CB), to develop recommendations for EC-LXI on:

(a) Options for WMO to stimulate establishment of global or regionalized international representation bodies of the private sector service providers to better facilitate coordination between that sector and WMO;

(b) Approaches to address problematic issues connected with complementary and competitive cooperation between NMHSs and private sector service providers;

(c) Policy and guidelines for an ethical framework for engagement with corporate sponsors and donors, taking into account pertinent recommendations of the WMO Audit Committee;

(d) A mechanism involving the technical commissions concerned and the regional associations for developing guidelines for use by NMHSs on best practice models of partnership in furthering cooperation with the private sector, and in particular private sector service providers.

4.2.53 In addressing these issues, the Council noted that (a), (b) and (d) have many similarities and should be treated together whereas (c) is fundamentally different and should be treated separately.

4.2.54 As background to consideration of the issues listed under 4.2.52 (a), (b) and (d), it is relevant to note the roles commercial organizations play in the delivery of meteorological and related services can be grouped into four broad categories, that is, those that:

(a) Produce and sell instruments and software that is specific to the collection and processing of meteorological and related data;

(b) Provide contractor or outsourced services to NMHSs in support of their missions;

(c) Deliver, through the commercial media, forecasts and warnings of NMHSs to their various publics;

(d) Use the data collected, and data and products disseminated by NMHSs in the preparation of commercially provided meteorological and related services.

4.2.55 In categories (a) through (c), it is important that NMHSs build the necessary relationships to ensure that they take full advantage of the commercial sector on their countries while at the same time complying with relevant government policy on such matters.

4.2.56 For the WMO, different strategies need to be adopted when interacting with the private sector depending upon the role of the commercial entity. In dealing with some companies falling in category (a), the WMO has, for example, given strong support to the association of the Hydro-Meteorological Equipment Industry (HMEI), an Association that is available to provide
service to NMHSs as well as to the private sector. For relationships with commercial sector organizations within category (b), this is very much a national matter with NMHSs pursuing the approach most suited to their national circumstances. In category (c), the WMO has accepted the participation of the International Association of Broadcast Meteorologists (IABM) in its Executive Council and Congress as an observer, and encourages Members to reach agreements for the transmission of meteorological information, forecasts and warnings with national media organizations.

4.2.57 With regard to relationships with entities in category (d), the Council concluded that:

(a) It is for governments to decide how meteorological and related services will be provided to the public (with the available options including the exclusive use of Appropriation funding, through to the exclusive use of commercial mechanisms or through some hybrid of both of these);

(b) NMHSs should make their data and products available in a fashion that is consistent with national laws, and, to the extent that it is made available to the private sector, it is desirable that it be done on a non-exclusive basis;

(c) The aim of NMHSs should be to make the best quality data and products available to the widest possible group of users;

(d) In many countries there are user needs beyond the mandate of the NMHS that are best served by the private sector; additionally there may be user needs within the mandate of the NMHS that are beyond its capacity to meet: in this second situation these could be met by either the private sector or by another NMHS (as anticipated in Annex II of Resolution 40 (Cg-XII)).

4.2.58 The Council noted that the EC WG DRR&SD had agreed that, irrespective of whether services originate from public or private sector providers, WMO should work to ensure that weather-, climate- and water-related services that are provided are scientifically sound and fit for purpose. In that connection, the Council asked its WG DRR&SD to explore how WMO could help to achieve those goals.

Options to Stimulate Representation Bodies

4.2.59 The Council concluded that the WMO should not proactively encourage the representation of the private sector meteorological service providers to participate as observers in the working mechanisms of the Organization, rather that the WMO deal with any request on its merits, should one arise.

Approaches to Complementary and Competitive Cooperation

4.2.60 Key issues that cause friction between the private sector meteorologists and NMHSs are cost and ease of access to NMHS data and information, and possible conflict with the service provision activities of the NMHS. Because each government determines its approach to the delivery of meteorological and related services, and because the approaches vary substantially, it is not possible to advocate a single approach to issues connected with complementary and competitive cooperation between NMHSs and private sector service providers, rather options include:

(a) NMHSs meet regularly with the private sector to discuss areas of concern and to improve cooperation in areas of mutual interest;

(b) That NMHSs have in place formal agreements with the major media organizations that disseminate NMHS originated, public forecasts and warnings, and that where such agreements are in place, regular meetings are held to ensure that effective implementation of the agreements is occurring;
In those countries where there is an active private meteorological sector and a professional body representing meteorologists, the professional body be encouraged to develop clear policy guidance on the respective roles and responsibilities of the NMHS and private providers that is consistent with national legislation and government policy.

4.2.61 The Council recommended that Members consider these options when dealing with the private sector.

A Mechanism for technical commissions and regional associations for Developing Guidelines of Best Practice Models of Partnership in Furthering Cooperation with the Private Sector

4.2.62 With regard to paragraph 4.2.52 (d), the Council noted that:

(a) There is considerable variability between countries in their approach to dealing with private sector meteorology;

(b) The operational role of the private sector service providers is essentially one of providing value-added services to their clients, however this issue should not be characterised as one that revolves around service provision, rather it is an issue closely bound with national policy and all but the most general guidelines would have to take account of national approaches.

4.2.63 The Council further noted that it would be possible for the CBS OPAG on PWS to draw together information relating to the experiences of those Members that meet regularly with private sector providers, and from these develop draft, generalized guidance concerning options relating to such matters as their terms of reference, frequency of occurrence, use of independent facilitators and the like, for use by all Members.

An Ethical Framework for Engagement with Corporate Sponsors and Donors

4.2.64 In several countries, there is a clearly defined ethical framework for an NMHS engaging with corporate sponsors and donors. Noting the reference in paragraph 4.2.52 (c) for taking into account pertinent recommendations of the WMO Audit Committee, the Council considered that the Ethical Framework being sought is one that would be implemented within the WMO Secretariat.

4.2.65 In considering the issue of accepting donations or sponsorship, the Council noted that that the UN in general, and the WMO in this instance, is a force for “good”, and so it can be assumed that ordinarily funds received by the WMO will be used for a good purpose. This being the case, the question is not so much the purpose to which the money is put as the motivation behind the sponsorship, and the character of the sponsor.

4.2.66 The Council also noted that the UN Global Compact, a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption, as contained in Annex III to the present report should be used when assessing the character of potential sponsors and donors. The potential donors or sponsors that have adopted these principles are generally considered to be helping to ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere.

4.2.67 Before proposing to accept a donor’s or sponsor’s money, an essential next step would be to perform a risk analysis of the consequences that might flow from accepting the donation or sponsorship, the risk analysis to be guided by some basic principles.
Principles

1. The World Meteorological Organization (WMO) will not enter into any agreement or partnership, which might threaten its status as a UN Specialized Agency.

2. WMO may enter into partnerships which are directly supportive of the WMO mission and aims; and prohibit direct funding from any organizations, or individuals where there is conflict with the mission, objectives or reputation of WMO.

3. WMO will undertake a detailed review the activities of all organizations and individuals seeking to support WMO with sums in excess of (the equivalent of) CHF 50,000 before accepting such sponsorship/donation.

4. WMO will maintain a register of individual donations, grants and sponsorship support. Details of individual donations, grants and sponsorships in excess of CHF 10,000 p.a. will be made available on request (a handling charge will be made).

5. All offers of financial support are subject to written agreements acceptable to the WMO, specifying the terms and conditions of the offer. The following are precluded automatically for:
   - Seeking explicit or implied WMO endorsement of any products;
   - Adding literature that could be deemed marketing of a specific product to the WMO mailings, publications or the WMO Website.

6. The WMO name and/or logo may be used by external partners only with the express prior permission of the WMO and for the purposes requested. WMO retains editorial control over all published uses of its name and logo and other copyright protected information.

5. PARTNERSHIP (agenda item 5)

5.1 COOPERATION WITH UNITED NATIONS SYSTEM (agenda item 5.1)

5.1.1 The Council noted the actions taken by the Secretary-General to strengthen the cooperation with United Nations through the active participation of WMO in sessions of the United Nations General Assembly and high-level events on MDGs and Africa’s Development needs, the Commission on Sustainable Development, the ECOSOC, the United Nations Framework Convention on Climate Change, ministerial meetings and other events addressed to climate change, food and economic crisis.

5.1.2 The Council took note of the following resolutions of the sixty-third session of the UN General Assembly addressed to the UN specialized agencies and relevant to WMO:

8, 32, 37, 51, 89, 90, 100, 111, 124, 137–139, 141, 147, 159, 202, 205, 209, 212–220, 222, 224, 225, 227, 230, 232, 233, 235, 239, 260

The Council requested Members and the Secretary-General to ensure appropriate follow-up to those resolutions.

5.1.3 The Council commended the Secretary-General for actions to enhance the role of WMO in the UN system coordinated response to climate change and expressed its appreciation to UNESCO for its valuable support. It noted with appreciation that WMO climate-related activities were supportive of, and coherent with, the UN system-wide climate change action framework launched by the UN Chief Executives Board for Coordination (CEB) at UNFCCC COP-14 and the
Bali Road Map launched at the UNFCCC COP-13. The Council endorsed the initiatives put forward by WMO together with UNESCO to discharge the important responsibility, entrusted by the CEB, as convener for the cross-cutting area of climate knowledge: science, assessment, monitoring and early warning. The Council welcomed the brand “UN Delivering as One on Climate Knowledge”.

5.1.4 The Council further appreciated the efforts of the Secretary-General to foster partnerships with the UN system and other international organizations to enhance their involvement in the World Climate Conference 3 and recognition of benefits in discharging their mandates in respective sectors. The Council stressed that such partnerships were essential for the successful development and implementation of the Conference outcome. It further acknowledged the value of pursuing the relationship between WMO and FAO, as demonstrated during the High-Level Conference on World Food Security: the Challenges of Climate Change and Bioenergy (Rome, 3–5 June 2008).

5.1.5 The Council noted that, on the request of UNFCCC COP, the GCOS Steering Committee prepared the Progress Report on the Implementation of GCOS 2004–2008, which has been submitted for the 30th session of the Subsidiary Body for Scientific and Technological Advice and would be followed by an update of GCOS Implementation Plan in Support of the UNFCCC by the end of 2009. In this regard, the Council invited WMO Members to take an active part in the review and implementation of the updated plan.

5.1.6 The Council endorsed the initiative taken by WMO, the UNCCD Secretariat and the Organization for Security and Cooperation in Europe, to organize a Drought Management Centre for Central Asia in Tashkent, Uzbekistan and requested the Secretary-General to provide appropriate WMO support for the establishment of the Centre.

5.1.7 The Council appreciated the WMO contribution to the ISDR 2009 Global Assessment Report on Disaster Risk Reduction launched in May 2009 with the participation of the Secretary-General. The Council noted a number of concrete national and regional disaster risk reduction projects developed by WMO with the ISDR Secretariat and ISDR partner organization in South-eastern Europe, Central Asia, Caucasus and Central America. It also noted that WMO convinced the UN Communications Group to stress the importance of inviting WMO communications focal points within the NMHSs to UN media briefings at the country level, especially in crisis and natural disaster situations. The Council recognized that such partnerships result in increasing recognition of the role of NMHSs in disaster risk reduction by national governments, and greater opportunities in increased national and international investments for strengthening of the NMHSs capacities. The Council urged NMHSs and the regional associations to participate actively in the national and regional disaster risk reduction platforms.

5.2 COOPERATION WITH INTERNATIONAL ORGANIZATIONS (agenda item 5.2)

WMO/UNEP IPCC

Report of the Chairman of the Intergovernmental Panel on Climate Change

5.2.1 The Executive Council expressed its appreciation to the Chairperson of the IPCC, Dr R.K. Pachauri for his report on the current status of the work of the Panel.

5.2.2 The Council congratulated the Panel for the dissemination of information and the outreach effort it has carried out in order to widely publicize the findings of the Fourth Assessment Report. It noted with appreciation that copies of the report and summaries in the appropriate official UN languages were distributed to all WMO Members, and that a number of outreach events were hosted by Members and partner UN agencies. The Council was particularly appreciative of the efforts by the Panel, WMO Members and the Secretariat, in coordination with other UN agencies, to develop awareness of policy makers, of main professional actors and of the public at large of the challenges that society faces with respect to climate change.
5.2.3 The Council also congratulated the Panel for the translation in the appropriate official UN languages and distribution to all WMO Members of the Technical Paper on “Climate Change and Water” and of the report of the Expert Meeting “Towards New Scenarios for Analysis of Emissions, Climate Change, Impacts, and Response Strategies”. The first one is particularly relevant to the WMO activities in hydrology, and the second one as support to new modeling developments by the WCRP.

5.2.4 The Council welcomed the on-going reflection initiated by the Chairman and the IPCC Secretariat with active participation of governments and relevant organizations on the working arrangements of the Panel and the planning and content of the Fifth Assessment Report (AR5). It welcomed the on-going work on the Special Report on “Renewable Energy Sources and Climate Change Mitigation” to be ready by 2010, and the decision by the Panel to undertake a Special Report on “Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation”, a domain of particular importance for WMO Members and where the Organization offers to play a lead coordinating role. It stressed the need for WMO Members to strengthen their involvement in climate monitoring and climate change research, including adaptation strategies, and the need for increased cooperation in support of developing countries in the domain of climate change, in order to efficiently contribute to the content and quality of the AR5.

5.2.5 The Council congratulated newly elected IPCC Bureau members and WMO Members who are actively participating in IPCC, through direct financial contribution or by supporting Technical Support Units (TSUs) and/or the organization of IPCC meetings and other activities, and encouraged them to continue their support to IPCC throughout the fifth assessment cycle.

5.2.6 The Council welcomed the initiative by the Panel to set up a special trust fund making use of the Nobel Peace Prize funds and open to other potential donors, aimed at supporting the creation and dissemination of knowledge about climate change in a manner which increases the engagement of developing country scientists.

5.2.7 The Council acknowledged with appreciation the invitation by the Indonesian government to hold the 31st session of the IPCC, which will take place in Bali from 26 to 29 October 2009.

WMO/ICSU International Polar Year 2007–2008 (IPY)

5.2.8 The Council noted with satisfaction the remarkable progress in the implementation of IPY and highly appreciated the work of the WMO/ICSU Joint Committee (JC) for IPY, its Sub-Committees, IPY International Programme Office, and over 50,000 participants of the IPY projects from more than 60 countries. It was pleased to note that during the IPY period the researchers had observed exciting new phenomena, made fundamental scientific discoveries, developed new methods and tools, advanced interdisciplinary and international links in polar science and, most importantly, gained new understanding of the role of the Polar Regions in the total Earth system. Preliminary scientific and observational advances of IPY were summarized in the JC Statement “The State of Polar Research” publicly presented to WMO and ICSU Executive Heads on 25 February 2009 at the WMO headquarters. The Council recognized that the success of IPY had inspired many nations to continue IPY projects beyond the IPY “official” period and that an official closure of IPY was planned at the IPY Science Conference (Oslo, Norway, 8–12 June, 2010).

5.2.9 The Council noted that pursuant to Resolution 9 (EC-LX) a highly-qualified membership of the EC Panel of Experts on Polar Observations, Research and Services was determined in consultation with Members concerned, technical commissions and other bodies. The Council requested interested Members to make voluntary contributions to a trust fund and to assist with expert consultancies to enable the necessary support to activities of the Panel at the required level.

5.2.10 Noting that the Ministerial Declaration on the IPY and Polar Science adopted by the Antarctic Treaty – Arctic Council Joint Meeting (Washington, April 2009) which has recognized the extensive efforts of WMO and ICSU and IPY scientists around the globe, called for a number of
actions in support of IPY legacy including strengthening international collaboration at all levels in Polar Regions, the Council requested the Panel to establish close collaboration with the working mechanisms of the Arctic Council and Antarctic Treaty. The Council noted that a representative of WMO has been already included in the Contact Group for Arctic Council’s project on maximizing the legacy of IPY.

5.2.11 Recognizing that one of the challenges of the IPY is data exchange and preservation, the Council urged Members to ensure free and unrestricted exchange of IPY data. Regarding the long-term preservation of data, the Council agreed that the issue needs to be addressed by NMHSs concerned, funding agencies, and institutions, and welcomed the ICSU initiative on creation of the World Data System. The Council requested its Panel to consider this issue as a matter of priority, in order to facilitate acquisition, exchange, and archiving of observational data from Polar Regions.

5.2.12 The Council noted that the British Antarctic Survey maintains the READER database, which stores the definitive set of Antarctic climate data. The Council urged Members who operate Antarctic stations to contribute their quality controlled data to this database.

5.2.13 The Council further noted that the idea of an International Polar Decade expressed by the Council at its last session had been discussed and met positively at several international forums. The Council therefore requested its Panel to consider modalities and plans for the Decade, focusing on decadal needs and issues of long-term character based on lessons learned during IPY, and to make recommendations to its sixty-second session.

5.2.14 The Council further noted with satisfaction that the Ministers representing the eight Arctic States at the sixth Ministerial Meeting of Arctic Council on 29 April 2009 had welcomed commitments to deliver a lasting legacy from the IPY and decided to consider the proposal to arrange an International Polar Decade. The Council requested the Secretary-General to organize a workshop with participation of representatives of Arctic Council, Antarctic Treaty, International Arctic Science Committee, Scientific Committee on Antarctic Research, ICSU, UNESCO and its IOC and other international organizations concerned and the EC Panel, to develop a concept and structure of the Decade for consideration at EC-LXII.

5.2.15 The Council recognized that main objectives of the future polar-oriented activities should be: (a) long-term monitoring and studies of critical climate changes in polar regions discovered during the IPY that have an impact on the rest of the globe, the ecology of polar environment and quality of life of the Arctic circumpolar communities; (b) the integration of these observations using modern data assimilation systems, and their use in weather, climate and environmental prediction systems up to seasonal and longer time scales; and (c) development of concrete recommendations to governments for adaptation to these changes, with special attention to strengthening the adaptive capacities of Arctic residents. The Council emphasized that the structure of the future activities should be based on proposed IPY legacy initiatives such as Sustaining Arctic Observing Network, Southern Ocean Observing System, Global Cryosphere Watch, Polar Satellite Constellation, Polar Climate Outlook Forum, WWRP/THORPEX IPY and others.

Working arrangements and consultative status with WMO

5.2.16 The Council took note of the request submitted by the World Organization for Animal Health (OIE) in establishing formal working arrangements with WMO. Having considered the objectives and functions of OIE, and taking into account the practice followed by WMO in establishing working arrangements concerning its scientific and technical cooperation with other organizations, the Council agreed that it would be of mutual benefit to WMO and to OIE to establish a close working relationship. The Council, therefore, authorized the Secretary-General to finalize working arrangements with the Director General of the OIE on the basis of the texts contained in Annex IV to the present report.
5.2.17 The Council took note of the requests for consultative status from the International Trade Union Confederation (ITUC) and the New World Hope Organization (NWHO) and deferred its consideration until receiving further information on modalities for cooperation to ascertain benefits for WMO.

5.2.18 The Council took note of the invitation from the General Secretary of the Parliamentary Assembly of the Mediterranean (PAM) to WMO to participate in the work of the Assembly as an Observer in compliance with its statutes, and of the WMO Secretary-General’s reply offering a formal cooperation relationship to PAM under mutually agreed working arrangements. The Council deferred its consideration until the proposed modalities for cooperation are developed.

Cooperation with meteorological societies

5.2.19 The Council reaffirmed the important role of the regional and national meteorological societies in the development of meteorological science. It appreciated Secretary-General’s efforts in developing cooperation between WMO and meteorological societies and welcomed plans for holding the First International Forum of Meteorological Societies in conjunction with the Annual Meeting of American Meteorological Society (January 2010, Atlanta, United States). The Secretary-General was requested to further strengthen the relationship with scientific societies on meteorology, hydrology and other relevant fields. In that respect, the Council noted with appreciation that the Meteorological Association for Southern Africa, created in October 2007, was looking forward to receiving guidance and assistance from the WMO community through Members, the WMO Secretariat and meteorological societies in order to better fulfill its mandate.

WMO and Group on Earth Observations (GEO)

5.2.20 The Council recalled that Fifteenth Congress endorsed the Global Earth Observation System of Systems (GEOSS) and its 10-year Implementation Plan and that Congress requested that WMO provide full support to the GEO process and the resulting GEOSS to the maximum extent possible within WMO’s mandate, and to make available all essential data, as defined by WMO Resolutions 40 and 25 (Cg-XII and Cg XIII, respectively), through the GEO interoperable arrangements with the global community. Congress stressed that participation of WMO in GEO had to be on a basis of mutual benefit that maximized synergies while minimizing duplication.

5.2.21 The Council was informed that the WMO Secretariat leads or participates in over 30 of the 105 Tasks or sub-Tasks within the GEO 2009–2011 Work Plan and participates in GEO Committees, Working Groups and Task Forces. Together with the other United Nations Agencies who co-sponsor global observing systems (GCOS, GOOS, and GTOS), WMO provides a coordinated response to GEOSS. The WMO hosts the GEO Secretariat and provides administrative support through a service-level agreement.

5.2.22 The Council was also informed that a number of issues and concerns were discussed at the Commission for Basic Systems (CBS) meeting and as a follow-up to the recent GEO Executive Committee meeting with regard to WMO’s involvement in GEO/GEOSS.

5.2.23 The Council, recognizing the importance of the matter and in the light of the upcoming GEO Plenary in the United States (November 2009) and the GEO Ministerial Summit to be held in China in November 2010, requested the Secretary-General to undertake, in consultation with WMO Members involved in GEO, a review of WMO’s participation in GEO/GEOSS and to evaluate the contributions being made by WMO and the benefits and results that the Organization has gained through its participation and potential opportunities for enhanced involvement. The results of this review should be presented to the next session of the Council. The Council agreed that a full transparency in the WMO budget for supporting GEO should be established and formal agreement prepared for consideration by the Council.
5.3 COMMUNICATION AND PUBLIC AFFAIRS (agenda item 5.3)

5.3.1 The Council decided that the theme for the World Meteorological Day in 2011 would be: “Climate for you”.

5.3.2 The Council noted the report on the progress in implementation of the WMO Global Communication Strategy and activities that contributed to universal recognition for WMO and its Members as the authoritative voice about weather, climate and water. The Council urged the Secretary-General and Members to strengthen support to WMO communication activities as directed by the Congress and to enhance resources for communication activities, including extrabudgetary resources for production of high-quality communication products and events.

6. CAPACITY-BUILDING (agenda item 6)

EC Statement on the Role and Operation of NMHSs

6.1 The Council considered the draft Executive Council Statement on Role and Operation of National Meteorological and Hydrological Services, which had been recommended by the Working Group on Strategic and Operational Planning. The Council appreciated the work that had been put into the Statement. The Council also recognized that it was a challenge to prepare a Statement which was concise and flexible enough to accommodate the different modes of operation used for NMHSs in different countries, and consistent with evolving WMO policies and discussions on important matters, such as relationships with the private sector and Quality Management Systems.

6.2 It felt that further work was required on the Statement, and in this regard, requested the Secretariat to review the document taking into account inputs by members of the Executive Council and return a revised version to the EC Working Group on Strategic and Operational Planning for consideration. The Council agreed to reconsider the Statement at its next session after the further review by its Working Group.

Enhanced capabilities of NMHSs in developing countries, particularly least developed countries, to fulfil their mandates

6.3 The Council recognized the improved coordination that has occurred with the restructuring of the WMO Secretariat and the establishment of the Development and Regional Activities Department (DRA) bringing together the key WMO Secretariat Offices responsible for working with Members at a regional level on NMHS development issues. Furthermore the Council welcomed the further engagement of key partners and donors aimed at improving the capabilities of NMHSs in developing countries.

Development cooperation and partnerships

6.4 The Council applauded the success of and supported the approach taken by the Resource Mobilization Office and Regional Offices of the DRA in focusing strongly on the establishment of strategic partnerships with key organizations which resulted in an increase in the available development-related resources. These partnerships included the World Bank (WB), various Directorates of the European Commission, UN System Partners in particular UNISDR, FAO, WFP, and UNDP, Rockefeller Foundation and Regional Economic Groupings and also with WMO Members and the corporate sector for delivery of regional scale development projects.

6.5 The Council expressed appreciation at the significant and strategic work being undertaken in respect of regional programmes for capacity enhancement of NMHSs in West Africa, South Eastern Europe, Central Asia, Pacific and the Americas covering some forty countries. In this respect, the Council noted that financing for new and continuing development projects secured through various modalities with the facilitation of the WMO RMO amounted to more than US$ 19 million during this period. These capacity development programmes are delivered in
cooperation with WMO Members (Republic of Korea, Spain, Finland, Italy, United States of America) and with the major partners mentioned above. (See Annex V of http://www.wmo.int/pages/prog/tco/vcp/meetings_en.html.)

6.6 The Council strongly supported this regional and partnership oriented approach to development assistance for improvement of weather, water and climate services. The Council urged the Secretariat to continue working in this way and to encourage other WMO Members to consider supporting such regional development projects through the WMO and/or bi-lateral or other mechanisms.

6.7 The Council also noted that the human resources allocated to management of technical cooperation projects within the Secretariat has declined significantly in recent years in line with a decline with financial resources and urged the Secretary-General and Members to consider the need to enhance the capacity for project management and support of these regional initiatives within the Secretariat.

6.8 The Council requested the Secretary-General to consider allocating 50 per cent of overhead costs accruing from development cooperation projects to support project implementation.

6.9 The Council also called upon the Technical Commission Management Groups to assist the Secretariat in its capacity building activities. The Council also expressed caution on overextending the Secretariat’s capability to deliver, noting that to successfully manage projects funded in partnership, we must ensure we have the appropriate staff to define and deliver the projects as there is risk to WMO if we fail to achieve our commitments.

6.10 Noting the efforts being made to assist NMHSs of LDCs and SIDS in comprehensive needs analysis/assessment, management skill building, preparation of NMHS development plans and implementation of pilot and demonstration projects in service delivery and socio-economic benefits valuation, the Council requested the Secretary-General to pursue his strategy for raising the profile of the NMHSs concerned through sharing best practices on integration of weather, climate and water-related information and services into national and regional development frameworks.

6.11 The Council welcomed the initiative of the African Union Commission, the African Development Bank, and the UN Economic Commission for Africa to launch the Climate for Development in Africa Programme (ClimDev Africa). It noted the substantial potential of this Programme to improve climate observations and services in Africa. The Council urged the Secretariat to play an active role in the further development and implementation of ClimDev Africa and to assist African NMHSs to actively participate in it.

6.12 Noting further the UN General Assembly decision to convene the Fourth Conference on LDCs at a high level in 2011, the Council reiterated the need for WMO’s active participation in the intergovernmental preparatory process of the Conference, in consultation with the other UN system agencies. In this connection, the Council requested the Secretary-General to establish a Task Team on the Preparation for the Fourth UN Conference on LDCs to assist in planning, mobilizing and coordinating WMO’s efforts to support and address the substantive and organizational preparation aspects, including pre-conference events or thematic/sectoral review activities.

Infrastructure and operational facilities

6.13 Noting with concern that many developing countries, particularly LDCs and SIDS, do not yet have the infrastructure and operational facilities, and human resources capacity to meet the needs of their NMHSs in terms of observing systems, telecommunications and information technology with consequent significant impacts on their current and future ability to deliver services in support of development goals and safety, the Council urged the Secretary-General, Members and development partners to address these concerns by priority areas.
6.14  The Council welcomed the information that in 2008, in addition to the above mentioned regional development activities, additional support in the form of replacement, upgrading and extension of observing and communications infrastructure was provided through the VCP Programme through the various funding mechanisms, the VCP Trust Fund, the VCP Coordinated Mechanism and on a bi-lateral basis directly by Member countries. Some 20 countries received support through the VCP(F) (including short-term fellowships) while 7 countries were supported under the VCP(ES) Mechanism. A wider range of countries were supported through bi-lateral arrangements with financing of some US$ 11.5 million equivalent value of support was secured (See Annex II of http://www.wmo.int/pages/prog/tco/vcp/meetings_en.html.)

6.15  The Council, noting that the issue of supply and cost of consumables, particularly for developing countries, is a significant impediment to maintaining observations that are a “global good”, requested the Secretary-General to continue exploring options and possible opportunities to address this problem.

6.16  The Council was pleased to note the recent emergency assistance provided to WMO Members affected by natural disasters, including Bangladesh and Pakistan, and in particular to Myanmar following the 2008 Cyclone Nargis. Assistance was provided with the support of Australia, China and Japan as well as the Emergency Assistance Fund and the VCP(F). The Council expressed its appreciation to Members for their contributions in cash and in-kind for emergency assistance activities and urged Members to further participate in this initiative.

6.17  The Council noted progress being made in the Pilot Project on the implementation of an ISO recognized Quality Management System (QMS) in the provision of aeronautical meteorological services to international air navigation in the United Republic of Tanzania. Its effectiveness and relevance to service delivery was fundamental to the success of NMHSs of LDCs and SIDS in fulfilling their mandates. The Council noted that costs for the establishment of a QMS system are recoverable from aviation in countries where active cost-recovery mechanisms have been established. The Council requested the Secretary-General and development partners to support similar initiatives in developing countries and requested regional associations to work closely with the Commission for Aeronautical Meteorology in establishing implementation projects as a follow-up to this pilot project. Given the short time left before the 2010 ICAO deadline for the implementation of QMS in meteorological services to aviation, the Council requested the Secretary-General and development partners to endeavour to assist Members in resource mobilization and the development of opportunistic projects to implement QMS in Member States.

Human capacity development

6.18  The Council recalled that at its sixtieth session, the Secretary-General was requested to seek responses from the four WMO Regional Training Centres (RTCs) reviewed during the period 2006 and 2007 regarding the recommendations in their external assessment reports. The Council welcomed the Secretary-General’s report that all four RTCs had noted their agreement with the recommendations and in some cases had already taken action to implement the recommendations. Accordingly, the Council supported Recommendation 2 (PAN-XXIII) and reconfirmed the designation of the training centres in Angola, Brazil, the Islamic Republic of Iran, and Israel as WMO Regional Training Centres.

6.19  The Council thanked the Secretary-General for the increased communication provided to Members regarding education and training opportunities and the active collaboration and coordination between the WMO Programmes and groups such as the WMO Regional Training Centres and Member training institutions. The Council noted that the increased coordination and collaboration offered Members more and improved training opportunities. In regards to the WMO Fellowship Programme, the Council appreciated the Secretary-General's efforts to maintain a strong programme in the face of increasing financial pressures and demands. The Council also thanked Members for their direct and indirect contributions to the Fellowship Programme and encouraged Members to continue, if not increase, their support for this important long-term aspect of Human Capacity Development. The Council welcomed the information that the Australian Agency for International Development (AusAID) had decided to join the Bureau of Meteorology in
providing training fellowships to NMHSs worldwide by opening up the Australian Development Scholarships scheme to include the Bureau of Meteorology Training Centre as a provider for postgraduate training in meteorology under its Graduate Diploma in Meteorology Course.

6.20 The Council requested the Secretary-General to provide further information regarding the resource impact on developing countries and least developed countries of implementing the recommendations from the EC Panel Task Team on Aviation Forecaster Qualifications (refer to agenda item 4.2 of this Session) and to make allowance for these resource impacts in the budget preparations for the next financial period.

6.21 The Council appreciated the information regarding the training approaches being utilized within the various WMO Programmes and requested the Secretary-General and those Members able to provide or assist WMO with education and training opportunities to actively seek the most efficient and effective delivery means for the purpose of the training. The Council noted that comprehensive distance learning programmes offer a very cost effective solution for long-term training such as a degree / diploma in meteorology, as well as short-term training in specific topic areas. However, Internet connectivity issues and the availability of the distance learning programmes in local languages contribute to the slow uptake of these education and training programmes. It was felt that part of the solution would be to improve connectivity and this should be explored in conjunction with, for example, the CBS WIS implementation plan and other projects aimed at improving the basic infrastructure of Members. The Council further noted the very positive outcomes from the pilot project based approach (for example the Quality Management System pilot project in the United Republic of Tanzania, the Severe Weather Forecast Demonstration Project in Southern Africa, the Storm Surge Watch Scheme in RA V focused on Pacific Island Countries (PICs), and the Public Weather Service “Learning through Doing” project in South America and Africa). The Council acknowledged that the same level of impact may be difficult to sustain when applying the lessons learnt from these pilot projects on a broader scale unless the supporting resources were correspondingly increased.

6.22 The Council appreciated the human resource development opportunities being provided to Members through the Least Developed Country Programme and on a bilateral basis through seminars, online learning and exchange programmes. Considering the positive outcome of past capacity building activities for director-level executives, the Council encouraged Members to explore the possibility of providing opportunities for the director-level executives of NMHSs to exchange their experiences and opinions with a view to further improve the service performance of Members.

6.23 The Council recognized that the developing countries, especially Small Island Developing States (SIDS) and the Least Developed Countries (LDCs) are increasingly more vulnerable to tropical cyclone impacts due to lack of human resources and a high degree of economic vulnerability. The Council reaffirmed the need for sustainable training efforts especially for SIDS and LDCs to allow them to achieve skills and competencies required for effective operational tropical cyclone forecasting and warnings for minimizing tropical cyclone disaster risks. In this regard, the Council noted that the continuing collaboration between the Tropical Cyclone Programme (TCP) and the Public Weather Services Programme has proved its effectiveness in integrated training of tropical cyclone forecasters in Regions I, II, IV and V. The Council also underlined the importance of the transfer of practical techniques to the forecasters through the attachment trainings at TC RSMCs. The Council requested the Secretariat to include forecasters from all affected regions in future training of this nature.

Enhancing voluntary cooperation activities

6.24 The Council was informed of Members’ contributions to the WMO Voluntary Cooperation Programme in 2008 in terms of VCP(ES) and VCP(F) and reported bi-lateral support and welcomed the fact that in 2008, US$ 2.2 million equivalent of support was provided through the Trust Fund and VCP coordinated activities through the WMO and US$ 11.2 million equivalent was provided through bi-lateral arrangements between Members for a total of US$ 13.4 million. Additionally, the Council was informed that ten Members made new cash contributions to the VCP
Fund (VCP(F)), amounting to approximately US$ 272,748. (See Annex III of http://www.wmo.int/pages/prog/tco/vcp/meetings_en.html.)

6.25 The Council welcomed the trend towards support for major development programmes through the WMO by Members as complementary and significant contributions to development cooperation activities overall noting that in 2008 some US$ 12 million additional funds were secured for major development activities through WMO and bi-laterally. The Council noted however that the trend in contributions over the past five years through the VCP(F) Programme indicate a fairly constant support of this VCP mechanism but that it was associated with a slight increase in recent years in VCP coordinated activities. The overall trend in real value terms would however constitute a decline in use of VCP mechanisms to channel support to developing country members.

6.26 In this respect, the Council recognized that the VCP(F) and VCP(ES) mechanisms provide very valuable and fairly immediate short-term support to countries to enable them to maintain operations while also moving towards the development of strategic plans for longer term development. Noting the generally constant level of support to these mechanisms, the Council expressed concern that these mechanisms not be abandoned by donor Members and urged Members to join, continue and increase their support in these areas which are a necessary complement to broader development activities.

6.27 The Council considered the proposed nominal allocation of the VCP Trust Fund for 2009 as presented in Annex V to the present report and endorsed the nominal allocation as presented.

6.28 The Council agreed that after some 40 years in operation, the VCP mechanisms should be thoroughly reviewed by DRA with the assistance of the IPM in the light of changing geopolitical and economic circumstances including the recent global financial downturn. It requested the Secretary-General to look at innovative ways to strengthen the capacity building activities of the WMO over the next biennium with a view to presenting a new concept of effective development assistance to the WMO Congress in 2011.

Resource mobilization

6.29 Recalling that EC-LX in 2008 supported the Mission Statement and Resource Mobilization Strategy for 2008–2011 presented by RMO and in particular the proposed focus on supporting the NMHSs to enhance the level of in-country and external support and funding to activities aimed at development of NMHSs, with particular emphasis on the LDCs and SIDS, post conflict countries, the Council welcomed the progress made in the main areas of focus and agreed to: (1) VCP Programme; (2) Strategic Partnerships; (3) UN System Country Programmes; (4) Assisting NMHSs to find financing opportunities at national level especially using INTAD Networks and through capacity building; (5) Demonstration of Socio-Economic Benefits of NMHS Products and Services, and (6) Advocacy and Marketing of WMO and NMHSs. The Council expressed its pleasure concerning the increase of extrabudgetary resources attracted to WMO and applauded the work of the Resource Mobilization Director, and noted that these funds supplement assessed contributions and assist in achieving results.

6.30 The Council welcomed the recently initiated pilot project for public – private sector partnerships covering support for observations and services in three East African countries through a cooperative initiative involving the WMO, the Global Humanitarian Forum, a civil society sector and the telecommunications sector.

6.31 The Council noted in particular the potential for increased interaction with the UNDP and the UN Country Offices in the spirit of “delivering as one UN” in South-Eastern Europe through the jointly implemented European Commission funded project for Disaster Risk Reduction and also the establishment of a coordinating committee with UN Agencies for this activity and activities in Central Asia and Caucasus and expressed a hope that this model could be duplicated in other
regions to better integrate WMO and NMHSs into the “UN Delivering as One process”. In this respect the Council welcomed the move of the Secretariat to actively engage in the induction process of incoming UN Resident Coordinators.

6.32 The Council also welcomed the opening of discussions with the Rockefeller Foundation related to potential collaboration in support of food security programmes in East and S. Central Africa and for improvement of extension services on weather and climate and agriculture in Ethiopia.

6.33 The Council appreciated the report of the Chair of the Executive Council Working Group on Capacity Building (EC-CB) which held its first formal session since its establishment from 18 to 20 March 2009 jointly with the Informal Planning Meeting (IPM) of the Voluntary Cooperation Programme (VCP). The Council noted that EC-CB and the IPM had reviewed the development cooperation activities of the Development and Regional Activities Department (DRA) and the WMO Members that contribute to the VCP and had high praises for the achievements of the RMO. At the same time, the Council noted that the EC-CB and IPM shared concerns about the decline in human resources allocated to the management of technical cooperation activities in the Secretariat.

6.34 The Council noted the significant burden on the technical staff within the WMO Secretariat in processing technical approval of VCP and Emergency Assistance projects. It was pleased to note that, as a result, CBS-XIV had agreed to the request of the EC-CB to establish an informal Task Team comprising the chair of the EC-CB, the president and vice-president of CBS, the chair of the IPM (VCP) and relevant experts to assist the DRA in these activities. The Council noted that several Members, particularly those involved in VCP activities, had volunteered to provide experts for this purpose. The Council also welcomed the offer from the president of CIMO and other technical commissions to provide similar assistance as appropriate.

6.35 The Council also welcomed the approach by EC-CB to CBS, inviting CBS to work closely with the EC-CB in the development of plans for the implementation of new systems and technologies to Member States, particularly to the developing and least developed countries. Among the areas of particular interest were:

(a) The implementation of WIS and WIGOS, including demonstration projects;
(b) Support Global Observing Systems in developing and least developed countries;
(c) Support technical cooperation activities;
(d) Promote use of ensemble products from Numerical Weather Prediction models;
(e) DRR project/activities.

6.36 The Council noted that CBS had agreed to work towards greater liaison between all technical commissions, the EC-CB and the GCOS governing mechanisms, especially in relation to the GSN/GUAN silent stations. The Council urged the Secretariat to ensure a coordinated support to these activities. The Council was informed that in the coming year the EC-CB would focus its efforts on two or three issues of significant importance in terms of capacity of LDC Members and identify time-bound actions that would be delivered in the remainder of the 2008–2011 intersessional period. In this regard, the meeting identified the following specific areas that could benefit from specific EC-CB attention:

- Work with CBS on roll out of WIS in developing countries considering lessons learned from the Demonstration Projects where “proof of concept” has been demonstrated in a developing country context;
- Support Resource Mobilization efforts of the WMO and assist with identification of new potential sources of financing and / or strategic partnerships for development
6.37 The Council agreed with the views of the EC-CB that requests for assistance from Member countries, other than requests for emergency assistance, should be based on a formal and well articulated and sustainable NMHS development plan linked to an overall national development plan, on one hand, and to the Regional Strategic Plan for the NMHS that reflects the global programmes of WMO and relevant partners. Such an approach, it was felt, would be much more attractive to the VCP partners and other funding agencies that could better match their own priorities with national or regional priorities for capacity building.

6.38 The Council considered the recommendation of the EC-CB regarding the need for reconsideration of the WMO policy on overhead charges approved by EC-LVI with a view to moving towards a Full Cost Recovery Model and requested the Secretariat to initiate this review as soon as possible.

WMO Country Profile Data Base

6.39 The Council reviewed the progress towards the development of an integrated Country Profile Data Base (CDB) requested by Cg-XV and EC-LX and expressed its appreciation for the progress to date.

6.40 Recognizing the potential for such a capability to improve coordination, as well as the efficiencies for surveys and knowledge management across programmes and regions, the Council requested the Secretariat to continue development of the CDB with the involvement of the EC-CB, and the assistance of those Members willing to do so, noting the plan to complete the first phase of the project by the end of 2009. The Secretariat was also requested to further refine CDB requirements and functionality, for example, the sharing of Members information for those Members willing to do so, while keeping the cost of implementation down. The Council requested the Secretary-General to prepare a fully costed business case for the further development of the CDB beyond Phase I.

7. EFFICIENT MANAGEMENT AND GOOD GOVERNANCE (agenda item 7)

7.1 EFFECTIVE AND EFFICIENT FUNCTIONING OF CONSTITUENT BODIES (agenda item 7.1)

Concept and funding of WMO mandatory publications

7.1.1 The Executive Council reviewed the concept of WMO mandatory publications [ref: Annex to Resolution 26 (Cg-XV)] and noted that all of the publications listed provided essential information for NMHSs on standard and recommended practices and procedures, and on the governance of the Organization. It emphasized the essential contribution made by the mandatory publications to attaining the Organization's Expected Results. The Executive Council further noted that the target audience for these publications included also academic institutions, international organizations, policy makers, donors, private sector, NGOs, media, and other members of civil society, but that difficult decisions had to be made concerning publications, such as the Annual Report and the WMO Bulletin, in an environment of reduced budgets.

7.1.2 Furthermore, the Executive Council reviewed the list of Regular WMO programme-supporting publications [Annex 4 to Resolution 13 (EC-LVI)], and noted the need to disseminate the publications in hard copy and/or electronic form, depending on the target audience and intended use.

7.1.3 The Executive Council recalled that publications included on the list of WMO mandatory publications were formerly eligible for funding from the Publications Fund (until the fifteenth financial period, when this fund was discontinued), and recalled that publications on the list of WMO programme-supporting publications were planned and funded under the relevant WMO Programmes. In order to streamline the planning for and management and implementation of the Organization’s publications programme, the Executive Council recommended that the list of programme-supporting publications and the list of mandatory publications be merged into a single
list of WMO publications. The Council further recommended that the presidents of technical commissions, in reviewing the concept of mandatory publications (Resolution 5 (EC-LXI)), contribute to the creation of this new single list of publications; and that the publications on this new list, which would supersede all previously existing series and categories, be grouped into two categories, with translation requirements clearly specified:

(a) **Governance and technical publications**: includes those listed under Basic documents, Operational publications, Official records and WMO guides per the Annex to Resolution 26 (Cg-XV); and those listed in Annex 4 to Resolution 13 (EC-LVI) as “Regular WMO Programme-supporting publications”, with the exception of those mentioned under item B.7 (Booklets, including those on the subject of the World Meteorological Day and Joint inter-agency publications);

(b) **General information publications**: such as outreach publications targeting general public, policy and decision makers.

7.1.4 The Executive Council observed that it was not possible during the course of one financial period to produce all of the publications included on the list of WMO governance and technical publications. The Executive Council thus recommended that Sixteenth Congress approve a costed list of “WMO mandatory publications” that comprised only those publications that were recommended by technical commissions, the Executive Council and other constituent bodies, and for which funds were secured for the financial period. This would ensure that each financial period would have a limited selection of publications produced within the WMO Publications Programme. This new list of “WMO mandatory publications” would include publications from the two categories of publications, namely Governance and technical publications, and General information publications (including the *WMO Bulletin*). The Executive Council observed that the above new categorization of publications would provide a more transparent and balanced prioritization and funding of WMO publications. In this regard, the Executive Council recorded its decision in Resolution 10 (EC-LXI) – WMO mandatory publications for the sixteenth financial period.

7.1.5 The Executive Council recognized that an updated list of WMO mandatory publications should be adopted by Congress for each financial period and that this list should indicate the contribution made towards attaining the various Expected Results by the each mandatory publication. All other publications should also be managed centrally, through the Publications Programme, using extrabudgetary resources.

7.1.6 The Executive Council recognized the importance of priority-setting for the Organization’s publications programme and in this context, observed that the *Guide to Meteorological Instruments and Methods of Observation* (WMO-No. 8) is an example of an essential publication that should be regularly updated and disseminated in all WMO official languages.

**Publication distribution policy**

7.1.7 The sixtieth session of the Executive Council further requested that the Secretariat review the policy of publication distribution to Members, bearing in mind the possibilities offered by electronic distribution, and the need to keep costs to a minimum.

7.1.8 The Executive Council recalled that a specific number of hard copies of WMO publications was made available free of charge to Member countries, officers and members of WMO bodies, participants in meetings, regional training centres, depository libraries, United Nations and its specialized agencies, etc. For this purpose the Executive Council established a List of free distribution of WMO publications [ref: *Abridged final report with resolutions of the fifty-sixth session of the Executive Council* (WMO-No. 977), Annexes 1 and 3 to Resolution 13 (EC-LVI)].

7.1.9 Following Cg-XV recommendations and the wishes of WMO Members for the widest possible distribution of WMO publications, the Organization posted WMO mandatory publications, both basic and operational, on the WMO Website, and thereby provided these publications free of
charge through the Internet. In the interest of capitalizing on efficiencies made possible by
technological advances, and in the absence of a dedicated budget line in the regular budget that
covers the cost of printing and distributing WMO publications as provided on the list of free
distribution of WMO publications, the Executive Council agreed that the number of free, hardcopy
documents distributed be reviewed by the Secretariat and reported back to EC-LXII.

**Efficiency of constituent body sessions**

7.1.10 The Executive Council noted with satisfaction the efficiency gains made through an
innovative approach to the organization of sessions such as EC-LX, CHy-XIII, XIV-RA II, XV-RA V
and CBS-XIV. Therefore, it recommended that same efforts be deployed for the remaining
constituent body sessions of the fifteenth financial period.

7.2 **EFFECTIVE AND EFFICIENT MANAGEMENT PERFORMANCE AND OVERSIGHT OF THE ORGANIZATION (agenda item 7.2)**

**Report of the Audit Committee**

7.2.1 The Executive Council noted with appreciation the report of the Audit Committee since
EC-LX.

7.2.2 The Audit Committee had focused its oversight and advisory role on the review of
annual Financial Statements, on the work of the External Auditor; the plans and progress reports of
the Internal Oversight Office; projects proposed by the Secretariat, including those on the
proposed accounting systems changes from the UN Accounting system to International Public
Sector Accounting Standard (IPSAS); Enterprise Risk Management; and other financial and
management matters.

7.2.3 The Council took note of the recommendations made by the Audit Committee, on the
Financial Statements and the report of the External Auditor, on the Terms of Reference of the
Audit Committee, on the changes to the Financial Regulations required for IPSAS implementation,
on the Working Capital Fund and on the Policy on Disclosure of Internal Audit Reports, and
considered these recommendations in its decisions under the various agenda items.

7.2.4 The Council took note of the definition provided for the term “authorized representative”
in the policy on disclosure of Internal Audit Reports issued by Internal Oversight Office and agreed
that the “Assurance reports are available to members of the Executive Council, their alternates and
advisers, as well as to any authority specifically designated for that purpose by the Government of
the Member concerned. By default, Permanent Representatives with WMO and Ministries of
Foreign Affairs (including Permanent Missions in Geneva) shall have the power to designate the
persons whom they authorize to request access to assurance reports on behalf of the Member
concerned.”

7.2.5 The Council kept in force resolutions pertinent to the Audit Committee and noted the
change in membership that occurred in the intersessional period.

**Strategic Plan**

7.2.6 The Executive Council recalled the decisions taken earlier by Cg and EC, in particular
in EC-LX (paragraphs 7.2.1–7.2.11), with respect to the development of the next WMO Strategic
Plan (SP) and the WMO Operating Plan 2012–2015 (OP). It noted with appreciation the report and
recommendations of its Working Group on WMO Strategic and Operational Planning on these
issues.

7.2.7 Concerning the next WMO Strategic Plan, the Council considered and agreed to
endorse the following recommendations put forth by its Working Group:
(a) To develop a Strategic Plan and Operating Plan that is concise and that can be easily understood by different audiences including decision-makers;

(b) To base the strategic direction of the Organization on a set of Global Societal Needs (GSN) given in Table 1 of *Annex VI to the present report*: in connection with the GSN, the strengths of WMO and its unique contribution should be portrayed with a view to distinguish WMO clearly from other international organizations that also deal with such, or similar, GSNs in their strategic planning and programme delivery. A brief description of WMO’s major achievements illustrated by informative statistics, tables and graphics, should be used to underpin the unique competencies and contribution of the Organization;

(c) To describe what stakeholders outside WMO expect from the Organization in the medium and longer term, as well as the strategic priority areas the Organization defines for its Programmes with a view to optimize the effectiveness of its performance in responding to the GSN with limited resources;

(d) To use the “results chain”, i.e. Strategic Thrusts (ST) -> Expected Results (ER) -> Key Outcomes (KO) -> Deliverables -> Activities, as the structure of the strategic planning process. STs and ERs (and corresponding performance metrics) would be the backbone structure of the SP, and the ERs further detailed by the corresponding programme-based KOs (with performance metrics) and Deliverables should form the substance of the OP;

(e) The framework of the next SP should consist of the five Strategic Thrusts (ST) and eight organization-wide Expected Results (ER) given in Table 2 of *Annex VI to the present report*;

(f) The STs should be elaborated according to the outline given in Table 3 of *Annex VI to the present report*;

(g) To develop a focused set of limited Key Performance Indicators highlighting the added-value of the services rendered by the Organization to its Members. The Key Performance Indicators should remain stable and be measurable over the longer term enabling the monitoring and performance evaluation process. The framework given in Table 4 of *Annex VI to the present report* should guide the design of such a revised set of clear, measurable and result-oriented performance metrics. The Key Performance Indicators should enable the measuring of, on the one hand, the performance of the Secretariat and, on the other hand, the overall results achieved by the Organization;

(h) To involve regional associations and technical commissions in the development of Expected Results and Key Performance Indicators, Key Outcomes and a manageable number of related performance measurement parameters and to ensure that those are based on Members’ needs and adequately reflect the programme areas of the Organization. Such involvement would also facilitate the establishment of baselines and realistic target setting.

7.2.8 As regards the major achievements of WMO referenced in recommendation (a) above, the Council agreed with the draft given in Table 5 of *Annex VI to the present report*, noting that there is still room for improvement in e.g. the sharing of information based on Resolutions 40 (Cg-XII) and 25 (Cg-XIII).

**Operating Plan**

7.2.9 As concerns the WMO Operating Plan 2012–2015 the Council considered and agreed to endorse the following recommendations put forth by its Working Group:

(a) In view of the Cg and EC requests to develop the Operating Plan on an organization-wide basis, to invite the involvement of technical commissions and regional associations from the outset of the strategic planning process;
To develop the KOs in an active coordination process involving EC\(^1\), RAs, TCs\(^2\) and the Secretariat in a form that relates to the WMO Programmes and provides the basis for the necessary programme activities, the budget planning and the resulting budget proposal;

(c) In the course of that process to identify and benefit from cross-programme synergies between the technical commissions and regional associations so as to obtain effective and optimized programme implementation plans;

(d) To identify and describe in the WMO Operating Plan the roles and responsibilities of constituent bodies.

7.2.10 The Council agreed that separate planning documents, that include a WMO Strategic Plan, a WMO Operating Plan and a Secretariat Implementation Plan and Budget be developed.

7.2.11 A WMO strategic Executive Summary document written in language that would appeal to those outside WMO, particularly those who make decisions related to the funding of NMHSs and the Secretariat should be an additional document.

**Monitoring and Evaluation**

7.2.12 The Council noted the report of its Working Group on WMO Strategic and Operational Planning (Geneva, 16–18 March 2009) on matters related to the WMO Monitoring and Evaluation (M&E) Plan. The Plan outlines the main features of the System, the involvement of the WMO constituent bodies in the M&E process, and a phased implementation approach. The Council also noted that it was based on the findings of a cost-benefit analysis and M&E experiences reported by several NMHSs. The Council stressed the importance of the WMO M&E System for a successful implementation of RBM at WMO and endorsed the following recommendations of its WG/SOP:

- The WMO M&E Plan should be used as the action plan for the development and implementation of the WMO M&E System, including a Preparatory Phase (2009), a M&E Pilot Phase (2010–2011) and the full M&E System (as of 2012), with reporting by the Secretary-General to EC on progress made;


7.2.13 Specifically, the Council requested the technical commissions and regional associations to contribute to the M&E process through collecting and assessing monitoring and performance information related to programmes under their technical responsibility.

7.2.14 The Council requested that an evaluation of the Pilot Phase be conducted and submitted to Cg-XVI. In this context, the Council noted that the Secretariat had already developed the M&E framework for Expected Result 5, which would be used in the Pilot Phase. It reiterated the need for a cost prudent approach for the implementation of the M&E System and requested that the evaluation of the Pilots include a realistic assessment of the costs and workload for the Full Implementation Phase of the System.

**Budget for 2010–2011**

7.2.15 The Executive Council considered the Secretary-General’s budget proposals for the second biennium 2010–2011 of the fifteenth financial period (2008–2011). The Council appreciated that the budget proposals for the biennium 2010–2011 were prepared in accordance with Resolutions 35 (Cg-XV) – Maximum Expenditure for the Fifteenth Financial Period, Resolution 23 (EC-LIX) – Budget for the Biennium 2008–2009 and Resolution 12 (EC-LX – High-Priority

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\(^1\) The Council will determine the KOs of the programmes under its management responsibility, e.g., Education and Training Programme through its Panel, Technical Cooperation through its Working Group.

\(^2\) The TCs will develop the KOs for the programmes under their technical responsibility.
Activities for the Biennium 2008–2009 Funded from the Cash Surplus from the Fourteenth Financial Period.

7.2.16 The Council considered Recommendation 6 of the Financial Advisory Committee as contained in Annex I to the present report. The recommendation of the Financial Advisory Committee was to approve the budget of CHF 134,750,000 for the biennium 2010–2011 and to adopt Resolution 11 (EC-LXI) by including, when authorizing the Secretary-General under point (1), reference to Financial Regulation 7.3 and under point (2), reference to Financial Regulation 4.2.


Preliminary discussion on the budget for the sixteenth financial period (2012–2015)

7.2.18 The Council reviewed the proposals of the Secretary-General for outlining priorities and resources for the sixteenth financial period (2012–2015).

7.2.19 The Council considered Recommendation 7 of the Financial Advisory Committee as contained in Annex I to the present report. The recommendation of the Financial Advisory Committee was to decide to develop three options with regard to regular resources from assessed contributions for consideration by Congress. One should reflect zero nominal growth (ZNG), another zero real growth (ZRG) and a third to include a 2 per cent annual increase over ZRG. Each option should include an analysis of the impacts on the achievement of expected results.

7.2.20 After discussion, the Council adopted Resolution 12 (EC-LXI) – Outline priorities and budget resources for the sixteenth financial period (2012–2015).

International Public Sector Accounting Standards

Progress report on implementation of IPSAS

7.2.21 The Executive Council considered the progress report on the implementation of the International Public Sector Accounting Standards (IPSAS).

7.2.22 The Council took note of the actions taken by the WMO Secretariat in preparing for the adoption and implementation of IPSAS. It was noted that consideration of the potential risks relating to the upgrade of the WMO Oracle system to version R12 has resulted in changes in the project approach. In order to mitigate the risks and to ensure that an IPSAS compliant system would be available by January 2010, the project would be undertaken in two phases – the minimum enhancements would first be implemented on the current Oracle system and the upgrade to R12 would thereafter be implemented to include enhancements to facilitate and streamline the business processes and to sustain continued financial reporting capability.

7.2.23 The Council also noted the update of the activities and milestones and the revised budget. The change in the project approach would not have any additional financial implications to the budget approved for the project.

Revisions to WMO Financial Regulations

7.2.24 The Executive Council considered the revisions to the WMO Financial Regulations proposed by the Secretary-General to ensure compliance with IPSAS and the reports of the Audit Committee and the Financial Advisory Committee thereon.

7.2.25 In accordance with the authority delegated by Fifteenth Congress, the Council approved the necessary revisions to the relevant Financial Regulations, effective from 1 January 2010,
Proposal to increase the charges on payroll costs for funding of reserves for (a) recruitment and termination costs and (b) after-service health insurance benefits

7.2.26 The Executive Council considered the Secretary-General’s proposal to increase the charges on payroll costs for funding of the reserves for: (a) recruitment and termination costs; and (b) after-service health insurance benefits, as well as the recommendations of the Financial Advisory Committee.

7.2.27 The Executive Council noted that Reserve for Recruitment and Termination (RAT) Benefits was funded from a 4 per cent charge on payroll costs until 1997 by which time the reserve increased to CHF 6.3 million. The Executive Council also recalled that, noting the significant balance in the reserve, it reduced the charge from 4 to 3 per cent in Resolution 14 (EC-L).

7.2.28 The Executive Council noted that by the end of 2008, the balance in the reserve had been depleted, as recruitment and termination costs exceeded the funding available with a shortfall of CHF 411,000 being funded under the Regular Budget.

7.2.29 The Executive Council noted that Reserve for After-Service Health Insurance (ASHI) was being funded from a charge of 2 per cent on payroll costs. The Executive Council also noted that the reserve had decreased to CHF 1.3 million as at 31 December 2008 and that WMO’s liability for after-service health insurance (ASHI) benefits was CHF 78.7 million as of 31 December 2007.

7.2.30 The Executive Council also noticed that some organizations of the United Nations system had funded over 50 per cent of their ASHI liabilities by 31 December 2007.

7.2.31 The Executive Council approved the Secretary-General’s proposals to increase the charges on payroll costs for the funding of: (a) the reserve for recruitment and termination benefits from 3 to 4 per cent; and (b) the reserve for after-service health insurance benefits from 2 to 3 per cent.

7.2.32 The Council requested the Secretary-General to review the status of the two reserve accounts on a periodic basis and keep the Council informed of the financial implications and impacts on programmes, as appropriate.

7.2.33 The Council adopted Resolution 14 (EC-LXI) – Increasing the charges on payroll costs for the funding of the reserves for (a) recruitment and termination benefits and (b) after-service health insurance benefits.

Financing the shortfall in the capital of the Working Capital Fund

7.2.34 The Executive Council considered the Secretary-General’s proposal for financing the shortfall in the capital of the Working Capital Fund, as well as the recommendation of the Financial Advisory Committee.

7.2.35 The Executive Council approved the Secretary-General’s proposal to recommend to Sixteenth Congress that the shortfall of CHF 1,174,279 in the capital of the Working Capital Fund as of 31 December 2007 be funded from interest income of the Working Capital Fund starting with the fifteenth financial period.

7.2.36 The Council requested the Secretary-General to review the status of the shortfall in the funding of the Working Capital Fund on a periodic basis and keep the Council informed.

External Auditor, Internal Oversight Office and Audit Committee

7.238 Taking into account the reports of FINAC and the Audit Committee, the Executive Council considered and approved the audited financial accounts of the World Meteorological Organization for the year 2008. The Executive Council noted that the External Auditor has issued an unqualified opinion on the accounts for the year 2008.

7.2.39 The Council noted the regular budget expenditure of CHF 65.8 million for 2008. The Council took note of the assurance provided by the Secretary-General that the implementation of the regular budget for the biennium 2008–2009 proceeded in accordance with the approval provided by Members and within available resources.

7.2.40 The Council noted that the surplus at the end of 2008 amounted to CHF 8.6 million and that all of this amount is available for high priority activities during the fifteenth financial period, in accordance with Resolution 35 (Cg-XV) and Resolution 12 (EC-LX). The Council also noted that arrears of contributions decreased by CHF 0.6 million during the year 2008. The Council urged the Members to clear their dues at an early date.

7.2.41 The Council noted that the cash balance under the General Fund amounted to CHF 16.3 million by the end of 2008, which reflected, among others, funding for the surplus of CHF 8.6 million, contributions received in advance amounting to CHF 5.0 million, operating reserves of CHF 1.3 million, and net other liabilities of CHF 1.4 million. The Council noted that the Operating Reserve had decreased from CHF 3.9 million in 2007 to CHF 1.3 million by the end of 2008 because the New Building Maintenance Reserve, the Printing Cost Reserve, the Conference Facilities Reserve, and the Building Account were closed as of 1 January 2008, and the balances, amounting to CHF 2.5 million, were transferred to the capital of the Working Capital Fund, in accordance with Resolution 42 (Cg-XV).

7.2.42 The Council noted that extrabudgetary expenditure amounted to CHF 19.2 million in 2008 and extrabudgetary income to CHF 30.7 million. The Council also noted that the cash balance for extrabudgetary activities amounted to CHF 38.1 million, reflecting the WMO policy to engage in expenditure only after the extrabudgetary contributions have been received.

7.2.43 The Council considered the financial situation of the World Meteorological Organization as sound in view of the specific programme situation and operating principles.

7.2.44 The Council noted that the External Auditor had recommended that WMO put in place a process by which the Organization’s expenditure is regularly monitored against expected results through the financial period, and requested the Secretary-General to develop and implement such a process.

7.2.45 The Council requested that recommendations of the External Auditor accepted by the Secretary-General be assigned to a responsible party within the WMO Secretariat and an official timetable set for completion of each recommendation. Additionally, where appropriate, the Secretary-General should continue to provide members of the Audit Committee with a list of all recommendations made during the current and previous years, along with the status of implementation for each recommendation, and, if rejected, justification for such decisions.


Internal Oversight Office – Annual Accountability Report

7.2.47 The Council considered the accountability report of the Director of the Internal Oversight Office (D/IOO) for 2008, as well as the comments of the Secretary-General thereupon. The Council also took into account the report of the EC’s Audit Committee in considering the report of IOO.
The Council considered the summary of oversight findings, recommendations and actions taken in response, and D/IOO’s opinion on adequacy of governance, risk management and internal control processes. The Council noted the progress on implementation of audit recommendations, and the steps taken by the Secretariat to address the issues raised therein.

The Council requested that future recommendations of the Internal Oversight Office accepted by the Secretary-General be assigned to a responsible party within the WMO Secretariat and an official timetable set for completion of each recommendation. Additionally, where appropriate, the Secretary-General should continue to provide members of the Audit Committee with a list of all recommendations made during the current and previous years, along with the status of implementation of each recommendation, and if rejected, justification for such action.

**Joint Inspection Unit (JIU)**

Recalling the consideration of JIU Report “Review of Management and Administration in the World Meteorological Organization (WMO) (JIU/REP/2007/11)” and the Secretary-General’s reply to the report in the sixtieth session of the Executive Council in 2007, the Council noted that recommendations addressed to the legislative bodies have since been considered by the WMO Bureau in January 2009 and Working Group on Strategic and Operational Planning (EC-WG/SOP) in March 2009. The Council also took note of the EC-WG/SOP’s deliberations in March 2009 and of its views with respect to recommendations addressed to the legislative bodies.

The Council decided that Recommendations 1, 2, 4 and 5 of the said report did not require implementation in WMO. The Council agreed to accept Recommendations 3, 6–9, and 18 and noted that these were currently being implemented in accordance with Congress directives and established procedures. The Council also decided that Recommendations 19–21 be referred to the Audit Committee for its consideration and its views.

Recalling the WMO procedures of follow-up on JIU reports, approved by the fifty-fourth session of the Executive Council in 2002, the Council noted with appreciation the progress made by the Secretariat in the implementation of recommendations relevant to WMO, contained in JIU reports issued in 2007.

The Council requested that future recommendations of the JIU accepted by the Secretary-General be assigned to a responsible party within the WMO Secretariat and an official timetable be set for completion of each recommendation. Additionally, where appropriate, the Secretary-General should continue to provide members of the Audit Committee with a list of all recommendations made during the current and previous years, along with the status of implementation of each recommendation, and if rejected, justification for such action.

**Human Resource Management Issues (Staff Association)**

The president of the Staff Association expressed her appreciation on behalf of the staff for having the opportunity to address the Council and her satisfaction that WMO had conducted a survey of staff opinions about their conditions of service in autumn 2008, as requested by Fifteenth Congress. She outlined some of the key findings of the survey and reported that a Task Team, with members from management and staff, had been formed recently to recommend follow up actions based on the staff survey results. The Task Team has recommended that the Performance Appraisal System be reviewed with the objective of making it a more effective management tool. Additionally, a study group will be formed to investigate possibilities for enhanced career development opportunities for WMO staff.

The Council noted that a number of the specific issues of concern to staff are being discussed through the mechanism of the Joint Consultative Committee (JCC) and that the Staff Committee and management are working together to determine optimal ways to address issues including thorough assessments, investigation of methods employed by other international organizations, training, revised service notes, etc. An ongoing issue of concern amongst staff was
that the introduction of new administrative procedures and the freezing of some G posts might affect the Organization's ability to perform in an efficient and effective manner.

7.2.56 The Council expressed appreciation at the assignment, on a temporary basis, of the role of Ethics Officer to the Director of the Internal Oversight Office (IOO), but invited the Secretary-General, to intensify his current efforts to find a long term solution for the assignment of an Ethics Officer.

7.2.57 The Council expressed gratitude to the government of South Africa on the secondment of an expert to temporarily undertake the role of gender mainstreaming expert.

7.2.58 The Council took note of the initiative of management to review/update the Staff Rules and Standing Instructions as well as Service Notes with a view to compile an HR Manual.

7.2.59 The Council noted that the WMO Staff Committee is participating in the work of the WMO Task Group on a Climate Friendly Secretariat.

7.2.60 The Council noted that representatives of the WMO staff association participated in the 62nd session of FICSA [Paris, France, February 2009], and that the FICSA Council had taken note that the United Nations Chief Executives Board, under the leadership of UN Secretary-General Ban Ki-moon, is paying renewed attention to ensuring that the UN system as a whole maintains its status as a good employer, not only in terms of general working conditions, but also as concerns security, especially in the field.

7.2.61 The Council welcomed the opportunity to hear from the Staff Committee about conditions of work within the WMO Secretariat and invited the Secretary-General in the future to add his comments to the document if he so wishes. The Council was of the opinion that the Executive Council was the appropriate, but also the only constituent body to be addressed by the Staff Committee and recommended that Congress give its views on the matter.

7.2.62 The Executive Council expressed their sincere pleasure on being informed that the staff of the WMO Secretariat have been honoured with the “Distinguished Service and Achievement Award” of the World Association of Former United Nations Interns and Fellows, Inc., in recognition of their commitment to the goals and principles embodied in the Charter of the United Nations.

Pensionable remuneration of ungraded officials

7.2.63 The Council noted that, in accordance with the provisions of Article 54(b) of the Regulations of the United Nations Joint Staff Pension Fund, the scale of remuneration for the Professional and higher categories must be adjusted with the same effective date and by the same percentage as the net remuneration increase. The Council further noted that the ICSC had promulgated the consequent revised scale of pensionable remuneration applicable to those categories of staff and that comparable United Nations agencies (ITU and UPU) had consequently adjusted the pensionable remuneration of their ungraded officials. The Council therefore decided also to apply with retroactive effect from 1 August 2008 the following levels of annual pensionable remuneration:

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<th>Existing provision</th>
<th>New provision</th>
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<tr>
<td>Secretary-General</td>
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<td>US$ 321,772</td>
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<td>US$ 258,285</td>
<td>US$ 275,206</td>
</tr>
</tbody>
</table>

7.2.64 The Council requested the Secretary-General to take appropriate action as required by the decision thus taken. This amendment involves an increase of expenditures of US$ 8,687 for one year.
Salaries of ungraded officials

7.2.65 The Council noted that in December 2008, the General Assembly of the United Nations had adopted a new base salary scale for staff in the Professional and higher categories which came into effect on 1 January 2009. It further noted that this scale reflected an increase of 2.33 per cent through the standard consolidation procedure of reducing post adjustment multiplier points and increasing base salary, i.e. on a no loss/no gain basis.

7.2.66 The Council noted that in accordance with Staff Regulations 3.1, the revised salary scale showing the new net amounts had been implemented in the Secretariat in respect of staff members in grades P.1 to D.2.

7.2.67 The Council recalled that Fifteenth Congress had decided to authorize the Executive Council to carry out any adjustment of salary in respect of the Secretary-General, the Deputy Secretary-General and the Assistant Secretary-General, which might become necessary if an increase in the salaries of comparable United Nations staff occurred during the fourteenth financial period.

7.2.68 The Council noted that comparable United Nations agencies (ITU and UPU) were adjusting or had adjusted the salaries of their ungraded officials in accordance with the rates shown below.

7.2.69 Based on the decisions of the United Nations General Assembly, the Council decided to set the annual rates of net basic salary of WMO ungraded officials with retroactive effect from 1 January 2009 as follows:

<table>
<thead>
<tr>
<th></th>
<th>Existing provision</th>
<th>New provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretary-General</td>
<td>US$ 154,040</td>
<td>US$ 157,628</td>
</tr>
<tr>
<td>Deputy Secretary-General</td>
<td>US$ 141,395</td>
<td>US$ 144,689</td>
</tr>
<tr>
<td>Assistant Secretary-General</td>
<td>US$ 129,899</td>
<td>US$ 132,925</td>
</tr>
</tbody>
</table>

7.2.70 The Council requested the Secretary-General to take appropriate action as required by the decision thus taken, noting that this scale reflected an increase of 2.33 per cent through the standard consolidation procedure of reducing post adjustment multiplier points and increasing base salary, i.e. on a no loss/no gain basis.

Amendments to Staff Rules

7.2.71 The Executive Council noted the amendments to the Staff Rules applicable to Secretariat staff made by the Secretary-General since the sixtieth session of the Council.

Internal Secretariat Matters

Report on appointments, promotions, nominations and transfers of staff in the Professional category and above

7.2.72 In accordance with Article 21 (b) of the WMO Convention, the Council examined and endorsed the appointments made by the Secretary-General and the extensions of appointment of staff beyond the statutory age of retirement initiated by the Secretary-General since its sixtieth session. The Council noted the promotions made by the Secretary-General as a result of competition after issuance of vacancy notices and noted the transfers and/or changes initiated by the Secretary-General since its sixtieth session. The appointments, promotions, nominations and transfers of staff in the Professional category and above are listed in Annex VII to the present report.
Appointment of the Deputy Secretary-General

7.2.73 The Executive Council considered the appointment of the Deputy Secretary-General in accordance with the Article 21(b) of the Convention and the procedure laid down by the Ninth Congress (1983) recorded in paragraph 10.1.15 of its abridged report. The Council approved the proposal of the Secretary-General to appoint R.D.J. Lengoasa as Deputy Secretary-General.

8. FUTURE CHALLENGES AND OPPORTUNITIES (agenda item 8)

Challenges and opportunities facing prediction research

8.1 Welcoming the detailed report and recommendations (see Annex VIII to the present report) of the EC Task Team on Research (EC-RTT), the Council agreed that the vision presented is useful to Members in future structuring of research and its connections to service delivery. It also agreed that coordinated research will enhance Member capabilities to contribute to and draw benefits from the global research capacity for weather, climate, water, ocean and environmental science and technology development. The Council emphasized that one of the major goals of scientific research programmes of the WMO must be an accelerated transfer of research into end-to-end operational programmes such as the World Weather Watch. The Council recommended that WMO Members support the EC-RTT recommendations through WMO and its partners and ensure close links between the research, observations and service components of their organizations. It urged that the Secretary-General and Members actively promote extrabudgetary support of proposed activities, particularly those that act as a bridge between developed and developing countries. The Council also urges the Secretary-General to raise the global visibility of WMO research activities in order to gain additional financial support of the NMHSs from, for example, the near future Climate Adaptation Fund under preparation by the United Nations Framework Convention on Climate Change (UNFCCC).

8.2 The Council endorsed the need for a major change in the paradigm for prediction research to take into account the erosion of traditional boundaries between weather forecasting, seasonal forecasting and climate prediction as well as the expanded mandate of weather prediction services to provide not only traditional meteorological forecasts but also new and novel variables and products, particularly with respect to climate change. It encouraged Members to adopt a unified approach to weather, climate, water, ocean and environmental prediction research and the associated services. The unified approach to prediction and services should span multiple spatial scales as well as multiple time scales, including for example downscaling of climate information to local scale. The Council stressed the importance of managing user expectations in developing services.

8.3 The Council agreed that computing capacity is a major limiting factor in the advancement of prediction capabilities of Members and that there is a need for a step up in high-performance computing investments for coordinating and accelerating coupled weather, climate, chemical, ocean and hydrology model development, validation and use.

8.4 The Council supported the recommendation that better technology transfer from research to operations and services with optimal use of observations, data assimilation and models can be accelerated through cross-cutting Forecast Demonstration Projects. It requested the Secretary-General to propose a mechanism to promote cross-cutting projects taking into account the specific recommendation 3.3 of EC-RTT to set up a mechanism connected with budgetary decision making, whereby cross cutting project proposals developed jointly by at least two Commissions, and one regional association could be reviewed and prioritized by the presidents of technical commissions, for consideration by EC and the Secretariat for eventual implementation. Consideration should also be given to connecting the Forecast Demonstration Projects to pilot projects being developed under WIGOS/WIS.

8.5 The Council agreed with the EC-RTT specific recommendations 1.11 to 1.14 that there is a strong need for WMO to promote improvement and integration of observing systems and
8.6 The Council agreed on the importance of collaboration between the research communities and operational services through the implementation of Forecast Demonstration Projects, and urged those who develop such projects to involve National Meteorological and Hydrological Services in the projects from an early stage to ensure the feasibility and sustainability of the services in accordance with the users’ requirement and based on the expertise of the research communities. It requested the Secretary-General to consider the inclusion within the budget for the 2012–2015 financial period extra provision for the implementation of some of the recommendations including The Forecast Demonstration Projects.

8.7 The Council noted that the EC-RTT was supportive of the need to review the role, structure and cross-coordination of Commissions and organizations in light of the changing needs of Members. It recommended that the EC Working Group on Strategic and Operational Planning continue to emphasize the visibility and role of research in WMO strategic planning and programme implementation.

8.8 Noting the large number of specific recommendations (29) in the report, the Council suggested that a prioritization scheme would help focus activities, collaborations and eventual funding decisions. The Council suggested that a follow-up process be set up that: (1) would ensure this prioritization process; and (2) would monitor and measure progress in the implementation of the different recommendations. The Council therefore requested that the president of CAS call upon the Research Department, the Chair of the EC-RTT and some of its members, the Chair of JSC-WCRP, the regional presidents and the presidents of technical commissions to address these needs, and to further report to the EC Working Group on Strategic and Operational Planning and EC-LXII.

8.9 Considering the in-depth analysis and wide ranging recommendations of the EC-RTT report and its relevance to the World Climate Conference-3 and the role of research in a Global Framework for Climate Services, the Council requested the WMO Secretariat to publish it as a WMO Technical Document.

Role of policymakers in WMO

8.10 The Council recalled the outcome of its brainstorming session on “The Role of Policy Makers in WMO” at its sixtieth session. The Council further recalled that it requested the Secretariat to summarize the issues that emerged from that discussion for later consideration. The Council reiterated the importance of raising the profile of WMO at policy level and expressed its appreciation for the Secretary-General’s efforts to keep this issue under review. The Council also appreciated the endeavour of its Working Group on Strategic and Operational Planning for reviewing proposals made on how to proceed with enhancement of the role of policy makers in WMO.

8.11 The Council recognized that the diversity of political challenges facing Members and of opportunities and resources available to Members make it difficult to proffer a common approach dealing with matters related to policy making and policy makers of the Organization. In this respect, the Council emphasized the need for NMHSs to strategize on how to address their specific policy related challenges to enable them to connect more effectively with policy-makers and the public.

8.12 The Council’s extensive discussions on the various issues related to the role of policy makers in WMO reflected wide ranging views. These, inter alia, include the need to ensure that:
(i) the priorities of policy makers are well understood; (ii) a few specific current and strategically important issues are identified; (iii) NMHSs and WMO enhance their public outreach efforts including through reduction in the level of technical jargon and a greater use of common and pragmatic language that highlight the practical value of WMO and NMHSs and their importance to various socio-economic sectors; (iv) relevant experiences of other organizations and countries are taken into account; and (v) advantage is taken of various existing high level policy fora to engage decision-makers.

8.13 The Council stressed the importance of ensuring that the engagement with policy-makers becomes a continuous exercise. Building partnerships with relevant sectors of the society was also recognized as a key endeavour that should be undertaken. The Council further stressed the need for NMHSs and WMO to continue demonstrating their scientific and technical competencies as means of solving real-life problems of interest to policymakers and the public at large.

8.14 In recognizing the need for embarking on specific actions to enhance the role of policy makers in WMO using a pragmatic approach, the Council agreed to:

(a) Request the Secretary-General to develop a concrete proposal for the establishment of a Policy Advisory Board, which should include: (i) clear terms of reference and mode of operation; (ii) a definition of membership that could include former high-level policy makers; and (iii) identification of specific issues to be dealt with by the Board and expected value of their contribution to the betterment of WMO and its Members. The proposal should take into account the experience of WCC-3 and other high-level policy fora in engaging policy makers;

(b) Encourage the Secretariat to use the upcoming Conference of Ministers in charge of NMHSs in Africa as an opportunity to further promote the role of policy makers in WMO;

(c) Encourage high-level visits to policy makers by WMO officials and Permanent Representatives of countries to WMO as a way of propagating the image and work of the Organization. This approach would also help in raising the profile of NMHSs;

(d) Encourage NMHSs to pay attention to national development plans in their countries.

8.15 The Council emphasized that in the implementation of the above, the following should be taken into consideration: (a) that WMO is operating in a different context compared to other international organizations and agencies; (b) WMO as a specialized scientific/technical agency does not necessarily speak the language that is easily understood by politicians; (c) that not all NMHSs are under the same situation as far as access to policy makers is concerned; and (d) WMO should be conscious of the need to preserve its scientific and technical competence.

8.16 The Council further requested the Secretary-General to brief EC-LXII on the activities pursued by the Secretariat related to that topic and the results achieved.

Future Structure of WMO

Background

8.17 The Council referred to the decision taken at its sixtieth session (2008) to work towards creating a flexible and effective working mechanism for studying and developing recommendations for aligning the structure of WMO with the result-based Strategic Plan (Final report of EC-LX, paragraph 7.2.7). It appreciated that the Working Group on WMO Strategic and Operational Planning and the PTC-2009 meeting had considered a number of options on aligning programmes and working mechanisms of constituent bodies to the WMO Strategic Plan.

A proposal for joint meetings of technical commissions

8.18 The Council noted that the PTC-2009 had discussed some of the issues that limit the effectiveness of technical commissions including; the non-alignment of technical commission
meetings with the decision making processes of the Organization, at times poor communications between technical commissions and between technical commissions and the regional associations, and the large percentage of the budget of the smaller technical commissions that is spent on their quadrennial Commission meeting which in turn limits the resources available to the volunteers who carry out the implementation work of the Commissions.

8.19 The PTC-2009 considered a proposal that would see the technical commissions meet together at an eight-day, joint technical conference/intergovernmental meeting held every second (even) year. This joint technical commission meeting would have two components: (1) an intergovernmental component of two days where the work of the technical commissions is organized and elections for officers confirmed; and, (2) up to six days of a scientific/technical component where academia, operations and industry could meet and work together, and the management groups of the various technical commissions could meet to coordinate their work.

8.20 Two Commissions would meet in parallel, in an ‘intergovernmental mode’ to discuss their work plans, each with the team of interpreters supporting them, so that for the joint technical commission meeting there would be two teams of interpreters supporting eight Commissions over eight days on a rotation basis. The scientific/technical component of the joint meeting would be composed of parallel sessions focusing on the range of issues faced by the WMO’s technical programmes with NMHS, academic and industry contributions, and, where necessary, Plenary sessions to deal with key cross-cutting or high profile issues. The technical/science component would be held over the eight days of the joint meeting.

8.21 The Council noted that implementation of an arrangement whereby the current eight technical commissions met jointly every two years could be done by decision of the Executive Council as a part of the evolution of the working methods of the technical commissions in much the same way as a number of the technical commissions moved from the working group structure to Open Programme Area Groups (OPAGs) through internal decision.

8.22 The Council, having heard the opinions of presidents of technical commissions, reached a number of preliminary conclusions in its discussion of this particular proposal:

- Members may have great difficulty in releasing enough technical experts to service the needs of all technical commissions at the one time;
- Those attending the joint technical commission meetings would have to be sufficiently expert to make good technical decisions;
- The proposal appeared to offer the opportunity to make more resources available for technical work;
- The technical commissions do need to meet every two years as many experts do not stay in their positions for four years and so continuity is lost in key projects;
- The proposal offered the technical commissions the opportunity to better align their development of work programs with the decision making activities of the Organization;
- At least for some technical commissions (JCOMM and CAeM) there was a view that the time available to work in ‘intergovernmental’ mode would be adequate to complete those parts of their work that led to decision making that would affect Members (for WMO) and member states (in the case of UNESCO-IOC).

A proposal for a broader WMO reform

8.23 The Council noted that the EC Working Group on Strategic and Operational Planning at its March 2009 meeting had considered as a major reform the possibility of a changed number of technical commissions. One option considered was to have a smaller number of technical commissions with one focused on research, another on systems, another on services, and possibly one on capacity building. Such a major reform would need to be considered and agreed
by Congress. The Council reached a number of preliminary conclusions in its discussion of this particular proposal:

- A detailed analysis of the strengths, weaknesses, opportunities and threats should be carried out for all the Organizations working mechanisms, not just the technical commissions, before major reform of any single element;

- Major Organizational reform should be holistic in scope;

- Some delegates considered that under the current financial constraints the WMO may have too many technical commissions while others considered that to move away from thematically focused technical commissions to a smaller number of technical commissions focused on particular functions (services, systems or research), if not managed appropriately, would lower the technical effectiveness of the Organization;

- Many Council members considered that capacity building is integral to the work of all technical commissions and that in creating a separate technical commission for capacity building the outcome could well be an overall reduction in the amount of capacity building supported by the other technical commissions and ultimately by the Organization as a whole;

- In any re-structuring care must be given to not disenfranchise small but key technical groups such as those in the instruments, oceanography and hydrology areas of specialty.

8.24 The Council noted that there is a strong desire to review the working mechanisms of the Organization and carefully plan for change that would improve the effectiveness and efficiency of the WMO at a time when improved integration between its technical groups is imperative and when the pace of change in the external environment is very high. Any change would have to assist the Organization in being able to respond flexibly and quickly to new challenges as they arise.

8.25 For major reform to take place a well thought through proposal, possibly containing around three options for change, including the analysis of advantages and disadvantages, needs to be prepared for the consideration of Congress in 2011. The proposal would have to be developed through wide consultation and have the support of Members beyond those represented in EC.

8.26 The Council decided that a small task group be formed under the auspices of the Executive Council Working Group on Strategic and Operational Planning, consulting broadly with the Management Groups of the Regional Associations and Technical Commissions, and working with the Secretariat the task group should develop the proposals for change. The proposals should articulate the roles and responsibilities of the WMO's constituent bodies in terms of their concrete contributions to the implementation of the WMO Strategic Plan and to Members’ services, and should be in draft form for consideration by EC-LXII prior to submission to Cg-XVI.

9. GENERAL AND LEGAL MATTERS (agenda item 9)

9.1 WMO AWARDS (agenda item 9.1)

Fifty-fourth International Meteorological Organization Prize

9.1.1 The Executive Council awarded the fifty-fourth IMO Prize to Dr Eugenia Kalnay (Ms) (Argentina/United States).

9.1.2 The Council established the IMO Prize Selection Committee for the fifty-fifth IMO Prize comprised of Messrs A.D. Moura (chair), M.L. Bah, M. Capaldo and D. Grimes.
9.1.3 The Council, in order to continue this most prestigious award of the Organization, agreed that the funding of the annual IMO Prize should be funded from the IMO capital fund and then from the regular budget after the exhaustion of the IMO Fund. The Council requested the Secretary-General to submit a report on this matter to Sixteenth Congress.

Other WMO awards

Norbert Gerbier-MUMM International Award

9.1.4 The Council approved the proposal of the Selection Committee for the Norbert Gerbier-MUMM International Award and conferred the 2010 award on Drs J.M. Sánchez (Spain), G. Scavone (Italy), V. Caselles (Spain), E. Valor (Spain), V.A. Copertino (Italy) and V. Telesa (Italy), for their paper entitled “Monitoring Daily Evapotranspiration at a Regional Scale from Landsat-TM and ETM+ data: Application to the Basilicata Region” published in the *Journal of Hydrology* in 2008 (Volume 351, pages 58 to 70).

WMO Research Award for Young Scientists

9.1.5 Based on the recommendation of its Selection Committee, the Council conferred the 2009 WMO Research Award for Young Scientists upon Dr Alex J. Cannon (Canada) for the paper entitled “Probabilistic multi-site precipitation downscaling by an expanded Bernoulli-gamma density network”.

9.2 CONSTITUTIONAL AND REGULATORY MATTERS (agenda item 9.2)

Amendments to the general and financial regulations

9.2.1 The Council considered the practice developed by WMO constituent bodies in recent years of waiving the requirement contained in regulation 109 of the general regulations for documents to be distributed at least 18 hours before discussion. This practice has developed as a result of improvements of the working methods of constituent body sessions, including: (i) holding of sessions in the form of plenary meetings only; (ii) focusing documents on decisions; and (iii) increased use of electronic documentation, which were being made available quickly to all participants allowing discussion to proceed within a shorter timeframe without the need for an 18-hour delay. The Council however decided to retain current Regulation 109.

9.2.2 The Council took note of the decision made at its fiftieth session and confirmed by the Thirteenth Congress to dispense with preparation of minutes of plenary meetings at sessions of the Executive Council, regional associations and technical commissions, except where there is a specific request by the plenary for minutes to be prepared and distributed. The Council recalled the practice of the Fifteenth Congress of waiving the requirement for minutes for its plenary meetings. The Council therefore decided to recommend consolidating this practice in the amended Regulation 111 and adopted Resolution 17 (EC-LXI) – Amendments to Regulation 111 of the General Regulations.

9.2.3 The Council subsequently decided to recommend to Congress discontinuing mandatory publication of the proceedings of constituent body sessions.

9.2.4 In the course of discussion Council members drew attention to certain other aspects of the General and Financial Regulations that should be considered for amendment. These included a full review of the Regulations to ensure gender neutral language throughout; modifications to the Regulations to substitute the references to ‘long-term planning’ with a more appropriate term such as ‘strategic planning’; and reviewing relevant regulations which require pre-session documents to be distributed at least 45 days before the opening of a session to bring them into line with current practice while ensuring there is still sufficient time for Members to undertake adequate pre-session consultations. Such Regulations include Regulations 151, 132, 171 and 188.
9.2.5 The Council requested the Secretariat to conduct a general review of the General and Financial Regulations in the light of these comments and to make proposals for further amendment at EC-LXII. The Secretariat may include among these proposals for amendment of other regulations where it identifies a need to do so for modernization and consolidation with current established practices.

9.3 DESIGNATION OF ACTING MEMBER(S) OF THE EXECUTIVE COUNCIL (agenda item 9.3)

The Council designated Messrs G.P. Ayers (Australia), F. Jacq (France), A. Tyagi (India), K. Sakurai (Japan) and B.S. Chun (Republic of Korea) as acting members of the Executive Council in replacement of Messrs G. Foley (Australia), P-E. Bisch (France), S.R.C. Bhatia (India), T. Hiraki (Japan) and S-K. Chung (Republic of Korea) respectively.

9.4 REVIEW OF PANELS AND OTHER BODIES REPORTING TO THE EXECUTIVE COUNCIL (agenda item 9.4)

Following changes in the membership of the Executive Council, the Council decided on the following replacements and changes in the composition of its subsidiary bodies and other committees reporting to the Executive Council:

**EC Working Group on WMO Strategic and Operational Planning**
- Mr K. Sakurai to replace Mr T. Hiraki
- Mr F. Jacq to replace Mr P-E. Bisch
- Mr A. Tyagi to replace Mr S.R.C. Bhatia

**EC Working Group on the WMO Integrated Global Observing System and the WMO Information System**
- Mr K. Sakurai to replace Mr T. Hiraki
- Mr G.P. Ayers to replace Mr G. Love
- Mr A. Tyagi to replace Mr S.R.C. Bhatia

**EC Working Group on Capacity Building**
- Mr V.E. Chub to replace Mr M. Isa
- Mr A.W. Rolle to replace Mr C. Fuller
- Mr B.S. Chun to replace Mr S-K. Chung

**EC Working Group on Climate and Related Weather, Water and Environment Matters**
- Mr V.E. Chub to replace Mr M. Isa
- Mr A.W. Rolle to replace Mr C. Fuller

**EC Working Group on Disaster Risk Reduction and Service Delivery**
- Mr. B.S. Chun to replace Mr S-K. Chung
- Mr F. Jacq to replace Mr P-E. Bisch

**EC Panel of Experts on Polar Observations, Research and Services**

*Co-chairs*
- Mr D. Grimes
- Mr G.P. Ayers to replace Mr G. Love
Members

Mr S. Pendlebury  Australia
Lic. Juan Manuel Hörler  Argentina
Mr Jim Abraham  Canada
Mr Tim Goos  Canada
Mr J. Carrasco  Chile
Mr C. Xiao  China
Mr Juhani Damski  Finland
Mr Gérard Le Bars  France
Mr H.-W. Hubberten  Germany
Mr P. Lemke  Germany
Mr A. Snorrasson  Iceland
Mr S. Bove  Italy
Mr M. Drinkwater  Netherlands
Mr N.D. Gordon  New Zealand
Mr O. Hov  Norway
Mr R. Skalin  Norway
Mr A. Klepikov  Russian Federation
Mr J. Stander  South Africa
Mr Y. Csonka  Switzerland
Mr J.D. Shanklin  United Kingdom of Great Britain and Northern Ireland
Mr J. Key  United States of America
Mr K. Erb  United States of America
Ms Aimee Devaris  United States of America

Audit Committee

Mr M. Capaldo to replace Mr P-E. Bisch
Mr K. Sakurai – alternate member

WMO Staff Pension Committee

Mr M. Ostojsky to replace Mr P-E. Bisch
Mr B. Richard to replace Mr P. Garnier as alternate member

Selection Committee for the WMO Research Award for Young Scientists

Mr B.S. Chun to replace Mr S-K. Chung

Selection Committee for the Vaisala Award

Mr A. Tyagi to replace Mr S.R.C. Bhatia as Chair

Selection Committee for the Norbert Gerbier-MUMM International Award

Mr F. Jacq to replace Mr P-E. Bisch as Chair

10. SCIENTIFIC LECTURES AND DISCUSSIONS (agenda item 10)

10.1 SCIENTIFIC LECTURES AND DISCUSSIONS (agenda item 10.1)

10.1.1 The Council, at its last session, selected the following scientific lecture theme, “Adaptation to a variable and changing climate: challenges and opportunities for NMHSs.”

10.1.2 The President introduced the distinguished expert, Dr John Zillman (Australia), who had been invited to deliver a lecture on the theme.

10.1.3 The President thanked Dr Zillman for his lecture. The Council requested the Secretary-General to arrange for the appropriate publication of the lecture.
10.2 ARRANGEMENTS FOR SCIENTIFIC LECTURES DURING THE SIXTY-SECOND SESSION OF THE EXECUTIVE COUNCIL (agenda item 10.2)

10.2.1 The Council noted the continued importance of the lectures, but further noted the constraints being imposed by the continued need to increase the efficiency and effectiveness of the Executive Council sessions, and decided that “60 Years of WMO: realizing and building upon the visions and achievements of the IMO (the successful vision of the pioneers)” should be the subject of the scientific lecture to be presented at EC-LXII.

10.2.2 The Council requested the Secretary-General to make the necessary arrangements, including the selection of a lecturer for this purpose.

10.3 ARRANGEMENTS FOR THE TWELFTH IMO LECTURE (agenda item 10.3)

The Executive Council selected the theme “Predictability beyond Deterministic Limit” for the Twelfth IMO Lecture, to be presented at Sixteenth Congress. It requested the Secretary-General to draw up a list of scientists who would be invited, in order of preference, to deliver the lecture and submit the report to EC-LXII.

11. REVIEW OF PREVIOUS RESOLUTIONS OF THE EXECUTIVE COUNCIL (agenda item 11)

The Executive Council reviewed those of its previous resolutions which were still in force at the time of the sixty-first session and adopted Resolution 18 (EC-LXI) – Review of previous resolutions of the Executive Council.

12. DATE AND PLACE OF THE SIXTY-SECOND AND SIXTY-THIRD SESSIONS OF THE EXECUTIVE COUNCIL (agenda item 12)

12.1 The Executive Council agreed that the sixty-second session of the Council would be held at Headquarters of the Organization from Tuesday, 8 June to Friday, 18 June 2010.

12.2 The Council also agreed that the sixty-third session of the Council to be held at the Headquarters of the Organization from Monday, 6 June to Wednesday, 8 June 2011 following Sixteenth Congress.

13. CLOSURE OF THE SESSION (agenda item 13)

The sixty-first session of the Executive Council closed at 11.12 a.m. on 12 June 2009.
RESOLUTIONS ADOPTED BY THE SESSION

Resolution 1 (EC-LXI)

REPORT OF THE FOURTEENTH SESSION OF REGIONAL ASSOCIATION II (ASIA)

THE EXECUTIVE COUNCIL,

Having considered the report of the fourteenth session of RA II,

Decides:

(1) To note the report;

(2) To note Resolutions 1 to 14 (XIV-RA II);

Requests the Secretary-General to bring the above decision to the attention of all concerned.

Note: This resolution replaces Resolution 7 (EC-LVII), which is no longer in force.

Resolution 2 (EC-LXI)

REPORT OF THE FIFTEENTH SESSION OF REGIONAL ASSOCIATION IV
(NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN)

THE EXECUTIVE COUNCIL,

Having considered the report of the fifteenth session of RA IV,

Decides:

(1) To note the report;

(2) To note Resolutions 1 to 6 (XV-RA IV);

Requests the Secretary-General to bring the above decision to the attention of all concerned.

Note: This resolution replaces Resolution 8 (EC-LVII), which is no longer in force.
Resolution 3 (EC-LXI)

REPORT OF THE FOURTEENTH SESSION OF THE COMMISSION FOR BASIC SYSTEMS
RELEVANT TO DATA-PROCESSING AND FORECASTING SYSTEMS,
INCLUDING EMERGENCY RESPONSE ACTIVITIES

THE EXECUTIVE COUNCIL,

Having considered the Abridged Final Report with Resolutions and Recommendations of the Fourteenth Session of the Commission for Basic Systems (WMO-No. 1040), relevant to the Data-Processing and Forecasting Systems,

Noting Recommendation 9 (CBS-XIV) – Amendments to the Manual on the Global Data-Processing and Forecasting System (WMO-No. 485),

Decides to take action on the recommendation as follows:

(a) Approves this recommendation to take effect from 1 July 2009;

(b) Requests the Secretary-General to incorporate the amendments in the Manual on the Global Data-Processing and Forecasting System (WMO-No. 485);

(c) Authorizes the Secretary-General, in consultation with the president of the Commission for Basic Systems, to make any purely editorial amendments to the Manual on the Global Data-Processing and Forecasting System.

Resolution 4 (EC-LXI)

ESTABLISHMENT OF REGIONAL CLIMATE CENTRES

THE EXECUTIVE COUNCIL,

Noting:

(1) The Abridged Final Report with Resolutions of the Fifteenth World Meteorological Congress (WMO-No. 1026), sections 3.1 and 3.2,

(2) The Abridged Final Report with Resolutions and Recommendations of the Fourteenth Session of the Commission for Basic Systems (WMO-No. 1040),

(3) The relevant amendments to the Manual on the Global Data-Processing and Forecasting System (WMO-No. 485),

Recognizing:

(1) The enhanced worldwide attention to climate change, the associated socio-economic vulnerabilities and the need to support decision-making for adaptation to climate change and variability with more detailed regional climate information,

(2) The development of technical regulations, through the WMO Commission for Climatology (CCl) and Commission for Basic Systems (CBS), and regional associations, to include a formal WMO mechanism for designation of Regional Climate Centres (RCCs),
(3) That a Regional Climate Centre, categorized as a type of Regional Specialized Meteorological Centre, is designed to be a Centre of Excellence that assists WMO Members in a given Region to deliver climate services and products and that helps to strengthen the capability of a National Meteorological and Hydrological Service to meet national climate information needs,

Decides:

(1) That the establishment of RCCs and RCC networks shall be done in accordance with the Manual on the Global Data-Processing and Forecasting System, Volume 1 – Global Aspects;

(2) That only the centres or groups of centres designated by WMO shall carry the title “WMO RCC” or “WMO RCC-Network” respectively;

(3) That the establishment of RCCs or RCC-Networks is initiated by the regional associations in consultation with their regional groups responsible for climate services, and that the designation process is coordinated by CCI, CBS and the WMO Secretariat;

(4) That RCC responsibilities should be regional in nature while services – products, warnings and advisories – at the national level shall be provided by National Meteorological and Hydrological Services for their respective countries;

(5) That where more than one Regional Climate Centre is established within a WMO Region, there should be coordination amongst the Centres to minimize duplication of advanced products and services;

Requests the Secretary-General:

(1) To ensure that the RCC-related content of the WMO technical regulations, including the Guidelines documents, is reviewed and updated regularly by CCI and CBS, based on feedback from Members, advances in technology and evolving priorities for the Organization;

(2) To ensure revision, in consultation with CCI and CBS expert groups, of the interim “Guidelines for Establishment and Designation of WMO Regional Climate Centres”, incorporating all relevant decisions of the Commission for Basic Systems and the sixty-first session of the Executive Council regarding Regional Climate Centres, and to publish this as “Procedures for Establishment and Designation of WMO Regional Climate Centres and RCC-Networks”, and thus to lay down a well defined process for the establishment and implementation of RCCs and RCC-Networks;

(3) To facilitate the incorporation of the World Climate Conference-3 outcomes in the establishment and operation of RCCs and RCC pilot projects;

(4) To promote a global coverage of Regional Climate Centres, particularly keeping in view the needs of developing and least developed countries, through resource mobilization efforts with Members having capacity, relevant partnering agencies in the United Nations system and development agencies;

Urges:

(1) The regional associations to select a preferred structure (that is, one or more multifunctional designated RCCs serving the Region, or a designated RCC-Network that has several nodes), but to avoid combining the two in any one Region;
(2) The presidents of regional associations to consult with their relevant working groups or other entities responsible for coordination of climate activities within the Regions, on all matters related to RCC implementation;

(3) The Commission for Climatology and the Commission for Basic Systems to establish mechanisms for oversight and updating of the *Manual on the Global Data-Processing and Forecasting System*, (WMO-No. 485), Volume 1 – Global Aspects, for content related to RCC designation and criteria, and for demonstration and regular review of capabilities in support of their designation;

(4) The World Climate Research Programme to facilitate the linkages of its regional expert panels with the RCCs concerned;

(5) The Global Producing Centres for Long-Range Forecasts (GPCs) to provide the required products and related information and assistance on their use, to RCCs and to pilot RCCs to support their activities;

(6) Regional Climate Centres to additionally include as many as possible of the “highly recommended” functions in their activities;

(7) Regional Climate Centres to closely integrate the implementation of their mandatory as well as recommended functions with activities associated with the Climate Information and Prediction Services project in the respective Regions;

(8) All Members to support RCC activities, and to use their products and to provide feedback to RCCs and GPCs on effectiveness, improvement and tailoring, including the necessary data.

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Resolution 5 (EC-LXI)

**REPORT OF THE THIRTEENTH SESSION OF THE COMMISSION FOR HYDROLOGY**

THE EXECUTIVE COUNCIL,

Having considered the *Abridged Final Report with Resolutions and Recommendations of the Thirteenth Session of the Commission for Hydrology* (WMO-No.1033),

Noting the recommendations made by the Commission for Hydrology at its thirteenth session to the Executive Council:

“(1) That the Executive Council review the concept of mandatory publications in the light of the WMO QMF and the recent technological advances in publication and encourage each technical commission to define the required mandatory publications under this revised process;

(2) That the Executive Council, probably through the ICTT QMF, adopt a revised glossary on terminology related to the QMF including the usage of the term “standard”.

Decides:

(1) To note the report;

(2) To note Resolutions 1 to 8 (CHy-XIII);

(3) To embody the substance of Recommendation 2 (CHy-XIII) – Review of the resolution of the Executive Council based on previous recommendations of the Commission for
Hydrology, in Resolution 18 (EC-LXI) – Review of previous resolutions of the Executive Council;

(4) To take action on the two recommendations contained in Resolution 1 (CHy-XIII) – WMO Quality Management Framework – Hydrology, as follows:

(a) Regarding Recommendation (1), the Executive Council approved the recommendation and requested the presidents of technical commissions to review the concept of mandatory publications in the light of the WMO Quality Management Framework and the recent technological advances in publications and bring to the Executive Council at its sixty-second session a proposed set of criteria for defining a consolidated, revised set of mandatory publications for its endorsement by Sixteenth Congress;

(b) Regarding Recommendation (2), the Executive Council approved the recommendation and requested the Inter-Commission Task Team on Quality Management Framework to consider the development of a glossary on terminology related to the Quality Management Framework, including the use of the term “standard”.

Note: This resolution replaces Resolution 4 (EC-LVII), which is no longer in force.

Resolution 6 (EC-LXI)

REPORT OF THE FOURTEENTH SESSION OF THE COMMISSION FOR BASIC SYSTEMS RELEVANT TO INTEGRATED OBSERVING SYSTEMS

THE EXECUTIVE COUNCIL,

Having considered the Abridged Final Report with Resolutions and Recommendations of the Fourteenth Session of the Commission for Basic Systems (WMO-No. 1040),

Noting Recommendations 1 (CBS-XIV) – Vision for the Global Observing System in 2025, 2 (CBS-XIV) – Revised functional specifications for automatic weather stations, 3 (CBS-XIV) – Basic set of variables for a standard automatic weather station for multiple users, 4 (CBS-XIV) – Revised list of CBS Lead Centres for GCOS, including their areas of responsibility and their terms of reference and 10 (CBS-XIV) – WMO Space Programme,

Decides to take action on each of the recommendations as follows:

Recommendation 1 (CBS-XIV) – Vision for the Global Observing System in 2025

Approves this recommendation;

Recommendation 2 (CBS-XIV) – Revised functional specifications for automatic weather stations

(a) Approves this recommendation;

(b) Requests the Secretary-General to make arrangements for publishing the revised functional specification in the Guide to the Global Observing System (WMO-No. 488);

Recommendation 3 (CBS-XIV) – Basic set of variables for a standard automatic weather station for multiple users

(a) Approves this recommendation;

(b) Requests the Secretary-General to make arrangements for publishing these basic set of variables in the Guide to the Global Observing System (WMO-No. 488);
Recommendation 4 (CBS-XIV) – Revised list of CBS Lead Centres for GCOS, including their areas of responsibility and their terms of reference

Approves this recommendation;

Recommendation 10 (CBS-XIV) – WMO Space Programme

Approves this recommendation.

Resolution 7 (EC-LXI)

REPORT OF THE FOURTEENTH SESSION OF THE COMMISSION FOR BASIC SYSTEMS RELEVANT TO THE WMO INFORMATION SYSTEM

THE EXECUTIVE COUNCIL,

Having considered the Abridged Final Report with Resolutions and Recommendations of the Fourteenth Session of the Commission for Basic Systems (WMO-No. 1040),


Decides to take action on each of the recommendations as follows:

Recommendation 5 (CBS-XIV) – Amendments to the Manual on the Global Telecommunication System (WMO-No. 386), Volume I, Part II

(a) Approves this recommendation, with effect from 4 November 2009;
(b) Requests the Secretary-General to make the amendments, as given in the annex to this recommendation, to the Manual on the Global Telecommunication System;
(c) Authorizes the Secretary-General to make any consequent purely editorial amendments;

Recommendation 6 (CBS-XIV) – Amendments to the Manual on Codes (WMO-No. 306), introduction to Volumes I.1 and I.2

Recommendation 7 (CBS-XIV) – Amendments to the Manual on Codes (WMO-No. 306), Volume I.2

Recommendation 8 (CBS-XIV) – Amendments to the Manual on Codes (WMO-No. 306), Volume I.1

(a) Approves these recommendations, with effect from:
   (i) 1 July 2009 for applying the procedures for amending the Manual on Codes as defined in the annex to Recommendation 6 (CBS-XIV);
   (ii) 4 November 2009 for amendments to the Manual on Codes for operational use as defined in the annexes to Recommendation 7 (CBS-XIV) and in Recommendation 8 (CBS-XIV);
(b) Requests the Secretary-General to make the amendments, as given in the annexes to these recommendations, to the Manual on Codes;
(c) Authorizes the Secretary-General to make any consequent purely editorial amendments.
Resolution 8 (EC-LXI)

PROCEDURES TO BE FOLLOWED IN PROPOSING COMMON WMO/ISO TECHNICAL STANDARDS

THE EXECUTIVE COUNCIL,

Noting:

(1) Article 26 of the WMO Convention,

(2) Resolution 6 (Cg-V) – Relations with the United Nations and other international Organizations,

(3) The working arrangements between the International Organization for Standardization (ISO) and WMO formally adopted on 16 September 2008,

Recognizing the wide ranging benefits to National Meteorological and Hydrological Services and user communities resulting from the implementation of common Standards for meteorological, climatological, hydrological, marine and related environmental data, products and services,

Considering:

(1) The importance of following up on the working arrangements between the International Organization for Standardization and the World Meteorological Organization;

(2) The need to establish the benefit/cost implication to Members of elevating an existing Technical Regulation/Manual/Guide to a common Standard, considering the consequences of converting recommendations to compulsory Standards;

(3) The importance of determining cross-cutting elements of proposed common Standards with other WMO documents under the control of different technical commissions or Executive Council panels and working groups requiring action from these bodies following the approval of the common Standard;

Decides that, for each proposed common Standard, the responsible body initiating the proposal should prepare comprehensive supporting documentation that includes:

(1) The benefit/cost implication to Members of submitting an existing Technical Regulation/Manual/Guide for adoption as a common WMO/ISO Standard, considering the consequences of converting recommendations to compulsory standards (from “should” to “shall”) when applicable;

(2) A full description of the cross-cutting elements of the proposed common Standard with other WMO documents under the control of different technical commissions or Executive Council panels and working groups that would lead to a requirement for action from these bodies in the event of the Standard being created. To this end, presidents of technical commissions and Executive Council members are to be informed about potential impacts and invited to register an interest in the document being processed;

(3) An assessment of which elements in the common Standard could create a risk if adopted, and which ones would constitute a risk if omitted or not approved as a common WMO/ISO standard. This risk assessment should be provided with due reference to the AS/NZ 4360:2004 Standard for Risk Management.
Resolution 9 (EC-LXI)

QUALIFICATION AND COMPETENCY REQUIREMENTS FOR AERONAUTICAL METEOROLOGICAL PERSONNEL

THE EXECUTIVE COUNCIL,

Noting the pending decision by the International Civil Aviation Organization (ICAO), the Council requires Members to implement an internationally recognized Quality Management System, including Standards on the required qualifications of personnel in the provision of meteorological services to international civil aviation with the forthcoming Amendment 75 of ICAO Annex 3,

Noting further the concern expressed by the Executive Council at its sixtieth session and several Members over the difficulties experienced by Members to attract, retain and employ suitably qualified personnel with a relevant university degree,

Considering the existing ambiguity in the formulation of the required qualifications of aeronautical meteorologists of “a degree or equivalent”,

Considering further the proposals by the Task Team on Aeronautical Forecaster Qualifications,

Requests Congress to amend the definition of “Meteorologist” as given in the Guidelines for the Education and Training of Personnel in Meteorology and Operational Hydrology (WMO-No. 258), Volume I: Meteorology, to read: “Meteorologist – a person who holds a university-level degree or equivalent level of professional qualifications; who has acquired an appropriate level of knowledge of mathematics, physics, chemistry and computer science, and has completed the Basic Instruction Package for Meteorologists (BIP-M). The level of requisite academic qualifications shall be defined at the national level by Permanent Representatives with WMO in consultation with the appropriate governing bodies”;

Decides:

(1) To endorse the Task Team on Aeronautical Forecaster Qualifications proposal for the required competencies, that is, knowledge, skills and work attitudes, of aeronautical meteorologists to be included as Standards and Recommended Practices in future editions of the Technical Regulations (WMO-No. 49), Volume II – Meteorological Service for International Air Navigation;

(2) To request the Commission for Aeronautical Meteorology to review and refine the competence requirements in WMO-No. 258, Supplement No. 1: Training and Qualification Requirements for Aeronautical Meteorological Personnel, and then to submit to the Executive Council at its sixty-second session as Standards and Recommended Practices for inclusion in WMO-No. 49, Volume II, in coordination with the Executive Council Panel of Experts on Education and Training;

(3) To endorse the revised implementation timetable proposed by the Task Team on Aeronautical Forecaster Qualifications and urge Members to meet the required competencies by November 2013 and education and training requirements by November 2016 for aeronautical meteorologists.
Resolution 10 (EC-LXI)

WMO MANDATORY PUBLICATIONS FOR THE SIXTEENTH FINANCIAL PERIOD

THE EXECUTIVE COUNCIL,

Noting:

(1) The annex to Resolution 26 (Cg-XV) – WMO mandatory publications and the languages in which they shall be issued in the fifteenth financial period,

(2) Annex 1 to Resolution 13 (EC-LVI) – Guidelines on the planning, production and distribution of WMO publications,

(3) Annex 4 to Resolution 13 (EC-LVI) – Regular WMO programme-supporting publications,

Having considered the recommendations to the Executive Council for endorsement from the Executive Council Working Group on WMO Strategic and Operational Planning at its second session, held in Geneva from 16 to 18 March 2009,

Recognizing the vital importance of WMO publications for the achievement of the WMO expected results,

Recognizing further that the categorization of the Organization’s publications into WMO mandatory publications and WMO programme-supporting publications initially stemmed from the need to indicate which publications were eligible for funding from the Publications Fund, that is, until the fifteenth financial period, when this fund was discontinued; that both types of publications were now funded from the Organization’s regular budget; and that unifying the two lists would streamline the planning for and management and implementation of the Organization’s Publications Programme, and provide a more transparent and balanced prioritization and funding of WMO publications,

Recalling that as per Resolution 5 (EC-LXI) – Report of the thirteenth session of the Commission for Hydrology, the presidents of technical commissions will review the concept of mandatory publications in the light of the WMO Quality Management Framework and the recent technological advances in publications, and propose to the Executive Council at its sixty-second session criteria for defining a consolidated, revised list of mandatory publications for endorsement by Sixteen Congress,

Recommends:

(1) That Sixteenth Congress approve the merger of the lists of WMO programme-supporting publications and WMO mandatory publications into a single list of WMO publications, and that the publications on this new list, which would supersede all previously existing series and categories, be grouped into two categories, with translation requirements clearly specified:

(a) Governance and technical publications, which includes those listed under basic documents, operational publications, official records and WMO guides in the Annex to Resolution 26 (Cg-XV), and those listed in Annex 4 to Resolution 13 (EC-LVI) – “Regular WMO programme-supporting publications, with the exception of those mentioned under item B.7 – Booklets (including those on the subject of the World Meteorological Day) and C – Joint inter-agency publications;
(b) **General information publications**, such as outreach publications targeting general public, policy- and decision-makers;

(2) That Sixteenth Congress approve a costed list of WMO mandatory publications comprising only those publications that were recommended by technical commissions and for which funds were secured.

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Resolution 11 (EC-LXI)

**BUDGET FOR 2010–2011**

THE EXECUTIVE COUNCIL,

**Noting:**

(1) Financial Regulations – Articles 3, 4, 5, 6 and 7,

(2) Financial Rules – Rules 106.1, 106.2, 107.1 and 107.2,

(3) Resolution 35 (Cg-XV) — Maximum expenditure for the fifteenth financial period (2008–2011),

(4) Resolution 23 (EC-LIX) — Budget for the biennium 2008–2009,

(5) Resolution 12 (EC-LX) — High-priority activities for the biennium 2008–2009 funded from the cash surplus from the fourteenth financial period,

(6) Resolution 40 (Cg-XV) — Assessment of proportional contributions of Members for the fifteenth financial period,

**Further noting** that the budget proposed by the Secretary-General was prepared in accordance with the above-mentioned regulatory framework,

**Having considered** the activities and budgetary resource allocation proposed by the Secretary-General;

**Adopts** the budget for 2010–2011, as given in Annex 1 to this resolution;

**Decides** that the contributions of Members will be assessed as defined in the annex to Resolution 40 (Cg-XV) – Assessment of proportional contributions of Members for the fifteenth financial period;

**Authorizes** the Secretary-General:

(1) To re-appropriate any unspent balance that may arise from the first biennial budget (2008–2009) to the corresponding expected results of the second biennial budget (2010–2011) in accordance with Financial Regulation 7.3;

(2) To make transfers between sections within the appropriation lines of the budget for the biennium, as necessary, to achieve the expected results in accordance with Financial Regulation 4.2.
Annex 1 to Resolution 11 (EC-LXI)

(CHF’ 000)

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Expenditures</th>
<th>Budget</th>
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<tr>
<td>Assessed contributions 124 900.0</td>
<td>Enhanced capabilities of Members to produce better weather forecasts and warnings</td>
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<tr>
<td>Other income 7 000.0</td>
<td>Enhanced capabilities of Members to provide better climate predictions and assessments</td>
<td>8 576.7</td>
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<tr>
<td>Surplus funding 2 850.0</td>
<td>Enhanced capabilities of Members to provide better hydrological forecasts and assessments</td>
<td>4 149.6</td>
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<td></td>
<td>Integration of WMO observing systems</td>
<td>10 127.9</td>
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<td></td>
<td>Development and implementation of the new WMO Information System</td>
<td>3 702.4</td>
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<tr>
<td></td>
<td>Enhanced capabilities of Members in multi-hazard early warning and disaster prevention and preparedness</td>
<td>4 697.8</td>
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<tr>
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<td>Enhanced capabilities of Members to provide and use weather, climate, water and environmental applications and services</td>
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<td></td>
<td>Broader use of weather-, climate- and water-related outputs for decision-making and implementation by Members and partner organizations</td>
<td>15 376.7</td>
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<td>Enhanced capabilities of National Meteorological and Hydrological Services in developing countries, particularly least developed countries, to fulfil their mandates</td>
<td>12 354.5</td>
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<tr>
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<td>Effective and efficient functioning of constituent bodies</td>
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<tr>
<td></td>
<td>Effective and efficient management performance and oversight of the Organization</td>
<td>7 632.0</td>
</tr>
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</table>

TOTAL 134 750.0

Annex 2 to Resolution 11 (EC-LXI)

LIST OF PROPOSED MEETINGS

I. CONSTITUENT BODIES

1.1 Policy-making Organs (Offices of the SG, DSG and ASG)

001 Sixteenth Congress (2011)
002 1 full session of EC (2010)
003 1 short session of EC (2011)
1.2 Observing and Information Systems Department

008 CBS-Ext (2010)
009 CIMO-XV (2011)

1.3 Weather and Disaster Risk Reduction Services Department

010 Session of the Commission for Aeronautical Meteorology (CAeM-XIV) – carry over from the 2008–2009 biennium

1.4 Climate and Water Department

011 Session of CAgM (2010)
012 Session of the Commission for Climatology (CCI-XV) – carryover from the 2008–2009 biennium

1.5 Development and Regional Activities Department

013 Regional Association I (2011)
014 Regional Association III (2010)
015 Regional Association V (2010)

II. IMPLEMENTATION COORDINATION MEETINGS

2.1 Observing and Information Systems Department

017 2 Meetings of Intercommission coordination group on WIS (2010, 2011)

2.2 Weather and Disaster Risk Reduction Services Department

019 Intergovernmental Coordination Groups (tsunamis) and Integrated Coastal Area Management meetings (2010)
020 JCOMM Services Programme Area Coordination Group (2010)
021 Intergovernmental Coordination Groups (tsunamis) and Integrated Coastal Area Management meetings (2011)
022 Coordination Group NWP Verification (2011)
023 Coordination Group Nuclear ERA (2010)

2.3 Research Department

024 CAS Implementation Activity Support (including 2 management group meetings) (2010, 2011)
025 2 Implementation GAW/IGACO Ozone and UV Radiation Observations Research (2010, 2011)
026 2 Implementation GAW/IGACO Aerosols Observations Research (2010, 2011)
029 JSC-WWRP & Working Group Meetings on Strategic Implementation (2010, 2011)

2.4 Development and Regional Activities Department

030 LDCs Coordination Meetings (2010)

III. PANELS, WORKING GROUPS, STUDY GROUPS, AND EXPERT MEETINGS

3.1 Cabinet and External Relations

031 2 Meetings of President of TCs (2010, 2011)
3.2 Strategic Planning Office

- 032 2 Meetings of the Working Group on Strategic and Operational Planning (2010, 2011)

3.3 Communication and Public Affairs Office

- 033 2 World Broadcast Meteorology Conference (2010, 2011)
- 034 2 Training workshops for IPA focal points (NMHSs) (2010, 2011)
- 035 IPY Joint Committee meeting (2010)

3.4 Observing and Information Systems Department

- 036 2 Meetings on Hi-Priorities EC Tasking (2010, 2011)
- 039 Meetings on Technical Stand. (2010, 2011)
- 040 Meeting of ICT-IOS (2010)
- 041 Meeting of Expert Team-EGOS (2010, 2011)
- 042 Meeting of Expert Team-AWS (2010)
- 043 Meeting of Expert Team-AIR (2011)
- 044 Meeting of Expert Team-SBRSO (2010)
- 045 Meeting on Regulatory Material (2010)
- 046 Meetings on Technical Stand. (2010, 2011)
- 047 Exp Meetings on techniques & procedures (2010)
- 048 2 Expert Meeting(s) on RF coordination (2010, 2011)
- 049 Expert Meeting on GTS-WIS core communication structure (2010)
- 050 ICT on ISS Expert Meetings (2010)
- 051 4 Exp Meetings on WIS-WWW data management (metadata, catalogues, data representation and codes, monitoring, etc.) (2010, 2011)
- 052 CBS Management Group Meeting (2010)
- 053 CIMO Management Group (2010)
- 054 Experts meetings on observing requirements and standards for climate (2010, 2011)
- 055 Experts meeting on climate data management (2010, 2011)
- 056 Experts meeting on rescue preservation and digitization of climate records (2010, 2011)
- 057 EC WG WIGOS-WIS (2010)
- 058 SG WIGOS (2010)

3.5 Weather and Disaster Risk Reduction Services Department

- 059 CAeM Management Group (2011)
- 060 EC WG on DRR and Services (2010)
- 061 RA I TCC session (2010)
- 062 RAV TCC session (2010)
- 063 Hurricane Committee session (2010)
- 064 Hurricane Committee session (2011)
- 065 Panel on TC session (2010)
- 066 Panel on TC session (2011)
- 067 Typhoon Committee session (2010)
- 068 Typhoon Committee session (2011)
- 069 Expert meeting- ET on Services and Products Improvement (2010)
- 070 Expert meeting-ICT on PWS (2010)
- 071 Expert Meeting-EG on Public Education and NMHS CB (2011)
- 072 Expert Meeting-ET on Communication Aspects of PWS (2011)
- 073 Expert Meeting-ET on PWS in Support of DPM (2011)
- 074 Expert Meeting-TF on PWS Socio-economic Applications (2011)
- 075 WS project initiation (2010, 2011)
- 076 Expert meetings to develop procedures/products guidelines for linking humanitarian to GDPFS/WIS (2010, 2011)
- 077 2 expert meetings to develop guidelines for meteorological hazard statistics (2010, 2011)
- 078 JCOMM Expert Team on Waves, Surges and Costal Hazards (2010)
- 081 JCOMM Expert Team on Sea Ice (2010)
- 082 JCOMM Management Committee (2011)
- 083 EM-NWP/EPS e.g., apps (2011)
084 Expert Team E&LRF (2010)
085 EM Impl GDPFS products (2010)
086 EM Very S-RF on GDPFS (2011)
087 Expert Team nonNuclear ERA (2011)
088 EM ensembling, bktrk ATM (2010)
089 Expert Team-NTF / ATM Workshop (2010)
090 Expert Team-Education and Training / Workshop Website (2011)
091 Expert Team-CR / Workshop VAP (2011)

3.6 Climate and Water Department

092 1 CCI ICT meeting, cost sharing (2011)
094 CCI Expert Meeting on CLIPS Implementation (2010)
095 CCI Expert Meeting on El Niño and La Niña (2011)
096 CCI Expert Meeting on Climate and Health (2010)
097 CCI Expert Meeting on Climate and Energy (2011)
098 Expert Group meeting on Interaction between climate change (2011)
099 Expert meeting on water, climate and agriculture (2011)
100 CCI Management Group meetings (2010)
101 Regional Technical meeting on Climate Change & Desertification (2011)
102 CAgM Advisory Working Group (2010)
103 3 Meetings of AWGs (2010)
104 2 WIAG meeting (2011)
105 WMO/UNESCO Liaison Committee (2010, 2011)
106 IGWCO Planning Meeting (2010, 2011)

3.7 Development and Regional Activities Department

108 Informal Planning Meeting VCP/TCO (2011)
110 2 WG on Tropical Cyclones of RA I (2010)
111 WG on Hydrology of RA I (2011)
112 WG on WWW of RA I (2010)
113 Assistance to President of RA I (2010, 2011)
114 Assistance to President of RA IV (2010, 2011)
115 Assistance to President of RA III (2010, 2011)
116 WG on Climate of RA III (2010)
117 WG on Hydrology of RA III (2010)
118 WG on Hydrology of RA IV (2010)
119 Assistance to President of RA I (2010, 2011)
120 Assistance to President of RA II (2010, 2011)
121 Assistance to President of RA III (2010, 2011)
122 Assistance to President of RA IV (2010, 2011)
123 Assistance to President of RA V (2010, 2011)
124 Assistance to President of RA VI (2010, 2011)
125 Assistance to Regional HYD Advisors (2010, 2011)
126 2 WG on Tropical Cyclones of RA V (2010)
127 WG on Climate of RA V (2010)
128 WG on WWW of RA II (2010)
129 Advisory Working Group of RA II (2010)

4.1 Communication and Public Affairs Office

130 Workshops of Advisers on External Relations (2010, 2011)
131 Symposium on NMHSs External Relations (2010, 2011)
132 Seminars for Media representatives (2010, 2011)

4.2 Strategic Planning Office

133 Workshop on WMO Strategic Planning (WMO programmes and structure) (2010)
4.3 Observing and Information Systems Department

134 Regional training Courses and Virtual Laboratory for satellite-related training (2010, 2011)
135 Technical Conference (2010)
136 Training on UA Measurements for RA V (2011)
137 Training on Metrology for RA V (2011)
138 IPC-XI & Workshop on Radiation (2010)
149 Workshop on GTS-WIS support to Early Warning Systems (2011)
140 Training on migration to TDCF (CAL, roving seminars, video conferences) (2010)
141 Training workshops on rescue, preservation and digitization of climate records (2010, 2011)

4.4 Weather and Disaster Risk Reduction Services Department

142 RA I Training course on TC (2010)
143 SH Training course on TC (2011)
144 Workshop on Storm Surge (2011)
145 Workshop on Hurricane Forecasting (2010)
146 Workshop on Hurricane Forecasting (2011)
147 Workshop (Training Workshop-PWS in support of DPM) (2010)
148 2 Workshop on PWS (2010, 2011)
149 EWS training workshops (2010, 2011)
150 Workshop on El Niño (ocean component) (2011)
151 Workshop on Met-ocean Services, focused on Maritime Safety Services and Marine Pollution (2011)
152 Workshop on Wave and Surge Forecasting (2011)
153 Co-spon wksp eg ECMWF (2010, 2011)
154 ATM user's wkshp (2011)
155 Workshop on ATM/Met (Expert Team-NTF) (2011)
156 EWS for Tropical Cyclones Forecast and Verification Demonstration Project (2010, 2011)
157 EWS for Tropical Cyclones and Marine-associated Hazards (2010, 2011)
158 Kick off workshop between providers and users (2010)
159 Technical closing workshop on PWS (2010)
160 Training workshop on the applications of technical improvements (2011)
161 EWS training workshop (2010, 2011)
162 SWFDP-srn Africa training (2010)
163 SWFDP-srn Africa RTIT (2011)
164 SWFDDP-RA V - co-fund RSMT (2011)
165 UKMO/WMO Aviation Seminar (2010, 2011)
166 RA III Training Seminar Rad/Sat/NWP (2010)
167 CAeM Technical Conference (2010)
168 Seminar/Workshop Forecast Training (2011)
169 QMF Workshop (2010)

4.5 Research Department

170 Atmospheric chemistry research training and capacity building GAWTEC (2010, 2011)
171 WWRP/WCRP WGNE Annual Workshop (2010, 2011)

4.6 Climate and Water Department

172 Interdisciplinary Workshop on adaptation to climate (Agric, health, energy, development) (3 workshops) (2011)
173 Regional workshop on science-policy aspect of climate change (2010)
174 Workshop on Regional Climate Change Detection and Scenario Development (2010)
175 Workshop on Adaptation to Climate Change - Coping with Extremes (2011)
176 CLIPS Training Workshops including Curriculum Development (2010, 2011)
177 Symposium climate and land management (2011)
178 Roving Seminars on Weather, Climate and Farmers (2010)
179 International Symposium on Livelihood Crisis of Farmers (2010)
180 Regional/National Seminars/Workshop on the application of the Manuals on Hydrological Forecasting and Flood Hazard Mapping including development of promotional material (2010, 2011)
181 Roving Seminars (2010, 2011)
4.7 Development and Regional Activities Department

182 International Symposium on TCO (2010)
183 Workshop for South-West Pacific Regional (2010)
184 Regional Workshop for Africa (2011)
185 Specialized Training in Applications (2010)
186 Regional Resource Mobilization Workshops (2010)
187 National Workshops for Strategic Plan (2010)
188 Regional Seminar in RA I (2011)
189 Regional Seminar in RA III (2010)
190 4WG on Hurricanes of RA IV (2010)
191 4WG on Hurricanes of RA IV (2011)
192 Regional Seminar in RA V (2011)
193 Regional Technical Conference in RA II (2010)
194 Regional Technical Conference in RA V (2010)
195 3 GAW training workshops on measure & quality assurance (I3) (2010)
196 3 Training workshops on monsoon studies (I3) (2010)
197 1 Roving seminars on weather, climate and farmers (2010)
198 2 Roving seminars on weather, climate and farmers (2011)
199 Courses on hydrological forecasting according to E&T strategy for hydrology. (2010)
200 Courses on hydrological forecasting according to E&T strategy for hydrology. (2011)
201 4 Training workshops on medium and long-range forecast (2011)
202 4 Training workshops on very-short and short-range forecast (2011)
203 Course on water resources managements according to E&T strategy for hydrology (2010)
204 One Seminar on Sat meteorology (2010)
205 Training workshop on “Agromet”
206 Three workshops on hurricane forecasting (2010)
207 2 training seminars on instruments (2011)
208 Training workshop on “Aeronautical meteorology” (2010)
209 Training workshop on “Marine meteorology” (2010)
210 Regional seminars on Capacity building (2010, 2011)
211 Training workshop on climate forecasting and varif, (2010)
212 Training Seminar on Human Resources Development Planning (2011)
213 Two training seminars on GDPS (2010)
214 Organizing one Worldwide Symposium on E&T (2010)
215 Regional Training Seminars for National Trainers RA VI (2010)
216 Regional Training Seminars for National Trainers of RA I (2011)
217 Additional training seminar on capacity building (2011)
218 Additional workshop to support Severe Wx Demonstration project (2011)
219 Blended learning course for trainers on use of e-learning (2011)

V. WORKING GROUPS, STUDY GROUPS, AND EXPERT MEETINGS FUNDED BY THE WMO/ICSU/IOC JOINT CLIMATE RESEARCH FUND (JCRF)

5.1 World Climate Research Programme

220 2 Annual Session JSC (2010, 2011)
222 2 WG on Coupled Modelling (2010, 2011)
223 2 WG Seasonal-Inter-annual Prediction (2010, 2011)
224 Cryospheric Modelling Panel (2010)
225 Workshop Atmos. Reanalysis (2011)
226 2 Regional Climate Modelling WG (2010, 2011)
227 2 GEWEX SSG (2010, 2011)
228 GEWEX Hydromet. Panel (2011)
229 GEWEX Radiation Panel (2010)
230 Panel Cloud System Studies (2010)
232 Data Man. GEWEX Projects (2011)
233 CEOP Coordination Meeting (2010)
234 GEWEX Conference (2011)
235 2 CLIVAR SSG (2010, 2011)
236 2 CLIVAR Monsoon Panel (2010, 2011)
Resolution 12 (EC-LXI)


THE EXECUTIVE COUNCIL,

Noting:

(1) That the Council should undertake a discussion on the outline priorities and resources for the next financial period, which is expected to be held at the session of the Executive Council two years before Congress,

(2) That taking into account the guidance provided by the Council, the Secretary-General will submit his proposed budget for the sixteenth financial period 2012–2015 for consideration by the Council in 2010,

(3) That the Secretary-General will revise his initial proposed budget where required, and will submit the revised proposals to Congress in 2011,

Decides:

(1) That the Secretary-General should closely follow the WMO Strategic Plan based on the following global societal needs in preparing the proposed budget for the sixteenth financial period, in particular, in developing deliverables and activities that will be included in the proposed budget for the sixteenth financial period:

(a) Improved protection of life and property (related to impacts of hazardous weather, climate, water and other environmental events and increased safety of transport on land, at sea and in the air);

(b) Poverty alleviation, sustained livelihoods and economic growth (in connection with the United Nations Millennium Development Goals), including improved health and social well-being of citizens (related to weather, climate, water and environmental events and influence);

(c) Sustainable use of natural resources and improved environmental quality;
(2) That the budget for the sixteenth financial period (2012–2015) should include three options with regard to regular resources from assessed contributions for consideration by Congress. One should reflect zero nominal growth, another zero real growth and a third to include a 2 per cent annual increase over zero real growth, taking into account latest inflation available data. Each option should include an analysis of the impacts on the achievement of expected results in the context of the WMO Strategic Plan;

(3) That the budget for the sixteenth financial period (2012–2015) should be determined taking into account up-to-date estimates of regular resources from other income (income from rent, programme support, interest, sales of publications and others) as well as voluntary resources;

(4) That the proposed budget should include an analysis of the implication of zero nominal growth for the period 1996 to 2011 for governance, programme delivery and support activities;

(5) That the proposed budget should be presented in the results-based budget format as indicated in the annex to this resolution, and integrating the presentation of both regular and voluntary resources.

Annex to Resolution 12 (EC-LXI)


I. EXECUTIVE SUMMARY

II. PROPOSED BUDGET 2012–2015

Summary in the context of the WMO Strategic Plan

Expected Result 1: Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate and water and related environmental predictions, information and services in response to users’ needs and to enable their use in decision-making by all relevant societal sectors

Expected Result 2: Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate and water and related environmental elements

Expected Result 3: Enhanced capabilities of NMHSs to produce better weather, climate and water and related environmental information, predictions and warnings to support in particular climate impact and adaptation strategies

Expected Result 4: Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable surface-based and space-based systems for weather, climate and hydrological observations, as well as related environmental observations, based on world standards set by WMO

Expected Result 5: Enhanced capabilities of Members to contribute to and draw benefits from the global research capacity for weather, climate, water and environmental services and technology development
Expected Result 6: Enhanced capabilities of NMHSs, in particular in developing and least developed countries, to fulfill their mandates

Expected Result 7: New and strengthened partnerships and cooperation activities to improve NMHSs’ performance in delivering services and to increase the value of the contributions of WMO within the United Nations system, relevant international conventions and national strategies

Expected Result 8: An effective and efficient Organization

III. INCOME ESTIMATES 2012–2015

ANNEXES

A. List of meetings
B. Budget by organizational entity
C. Summary of budget in support of expected results (Resource management, common services, acquisition of capital assets, joint costs)
D. Financial indicators
E. Budget methodology
F. Organizational chart of WMO Secretariat

Resolution 13 (EC-LXI)

REVISIONS TO THE FINANCIAL REGULATIONS OF THE WORLD METEOROLOGICAL ORGANIZATION

THE EXECUTIVE COUNCIL,

Noting:

(1) That Article 8 (d) of the Convention of the World Meteorological Organization authorizes Congress to determine regulations prescribing the procedures of the various bodies of the Organization and, in particular, the Financial Regulations,

(2) The decision taken by Fifteenth Congress to delegate to the Executive Council during the fifteenth financial period the authority to approve the necessary revisions to the relevant Financial Regulations to ensure compliance with International Public Sector Accounting Standards,

Considering that Financial Regulations under Article 7 (Appropriations), Article 10 (Other income), Article 13 (Internal control), Article 14 (The accounts), Article 15 (External audit) and Annex (Additional terms of reference governing external audit) require revision,

Decides that the Financial Regulations as set out in the annex to this resolution shall apply effective 1 January 2010, concurrent with the adoption of International Public Sector Accounting Standards.
Annex to Resolution 13 (EC-LXI)

FINANCIAL REGULATIONS OF THE
WORLD METEOROLOGICAL ORGANIZATION

ARTICLE 1
Applicability

1.1 These Regulations shall govern the financial administration of the World Meteorological Organization (hereinafter called the Organization). They may be amended only by Congress. In the event of any conflict between any provisions of these Regulations and any provisions of the Convention, the Convention shall prevail.

ARTICLE 2
The financial period

2.1 The financial period shall be four years beginning on 1 January of the calendar year immediately following a session of Congress and ending on 31 December of the fourth year.

2.2 Nevertheless, in the event that a session of Congress is completed before the beginning of the last full year of a financial period, a new financial period shall begin on 1 January following that session of Congress.

ARTICLE 3
Maximum expenditures for the financial period

3.1 Estimates of maximum expenditures which may be incurred by the Organization in the financial period shall be prepared by the Secretary-General.

3.2 The estimates shall cover the income and expenditures for the financial period to which they relate and shall be presented in Swiss francs.

3.3 The estimates shall be presented in a results-based budget format and shall be accompanied by such informational annexes and explanatory statements as may be requested by, or on behalf of, Congress, and such further annexes or statements as the Secretary-General may deem necessary and useful.

3.4 The estimates shall be submitted to the Executive Council at least five weeks prior to the meeting at which they will be considered. The Executive Council shall examine them and prepare a report on them to Congress.

3.5 The estimates prepared by the Secretary-General shall be transmitted to all Members at least six months prior to the opening of Congress. The report of the Executive Council on the estimates shall be transmitted with the estimates or as soon as possible thereafter, but not later than three months before the beginning of the session of Congress.

3.6 The maximum expenditures for the following financial period shall be voted by Congress after consideration of the estimates and of any supplementary estimates prepared by the Secretary-General and of the reports of the Executive Council on them.

3.7 Supplementary estimates for the financial period may be submitted to the Executive Council by the Secretary-General during the interval between the submission of the estimates to the Executive Council and the opening of Congress.

3.8 The Secretary-General shall prepare each supplementary estimate in a form consistent with the applicable portion of the estimates for the financial period.

3.9 When time permits, the Executive Council shall examine the supplementary estimates and prepare a report thereon to Congress; otherwise they shall be left for consideration by Congress.

ARTICLE 4
Authorization of appropriations for the financial period

4.1 The maximum expenditures voted by Congress shall constitute an authority to the Executive Council to approve appropriations for each of the two bienniums comprising the financial period. The total appropriations shall not exceed the amount voted by Congress.
4.2 Transfers between appropriation parts may be authorized by the Executive Council, subject to the total amount of such transfers not exceeding 3 (three) per cent of the total maximum expenditure authorized for the financial period.

ARTICLE 5

The biennium

5.1 The first biennium will begin with the commencement of the financial period, followed by the second biennium beginning on 1 January of the third year of the financial period.

ARTICLE 6

The biennial budget

6.1 The biennial budget estimates shall be prepared by the Secretary-General.

6.2 The estimates shall cover income and expenditure for the biennium to which they relate and shall be presented in Swiss francs.

6.3 The biennial budget estimates shall be presented in a results-based budget format and shall be accompanied by such informational annexes and explanatory statements as may be requested by, or on behalf of, the Executive Council, and such further annexes or statements as the Secretary-General may deem necessary and useful.

6.4 The Secretary-General shall submit to the regular meeting of the Executive Council estimates for the following biennium. The estimates shall be transmitted to all members of the Executive Council at least five weeks prior to the opening of the regular session of the Executive Council.

6.5 The budget for the following biennium shall be approved by the Executive Council.

6.6 Supplementary estimates may be submitted by the Secretary-General whenever necessary.

6.7 The Secretary-General shall prepare these supplementary estimates in the same form as that of the applicable portions of the estimates for the biennium and shall submit the estimates to the Executive Council for approval.

ARTICLE 7

Appropriations

7.1 The appropriations approved by the Executive Council shall constitute an authorization to the Secretary-General to enter into commitments and make payments for the purposes for which the appropriations were approved and up to the amounts so approved.

7.2 Appropriations shall be available to enter into commitments during the biennium to which they relate.

7.3 Appropriations shall remain available for twelve months following the end of the financial year to which they relate to the extent that they are required to discharge commitments in respect of goods delivered and services rendered in the financial year and to discharge any other outstanding legal commitments of the financial year. At the end of the first biennium the remaining balance shall be re-appropriated subject to the approval of the Executive Council to the corresponding parts of the budget of the second biennium for the implementation of the programme approved by Congress. At the end of the second biennium the balance of the appropriations shall be surrendered.

7.4 At the end of the period provided in Regulation 7.3, the then remaining balance of any appropriations retained shall be surrendered.

7.5 Notwithstanding the provisions of Regulations 7.3 and 7.4 in the case of outstanding legal obligations in respect of fellowships, the portion of the appropriation required shall remain available until the fellowships are completed or otherwise terminated. At the time of the termination of the fellowship, any remaining balance shall be retained in the General Fund for the sole purpose of financing further long-term and short-term fellowships.

7.6 Amounts surrendered in accordance with Regulations 7.3 and 7.4 shall be retained for the purposes approved by Congress for the financial period subject to the provisions of Regulation 9.1.

7.7 A transfer between appropriation sections of the results-based budget format may be made by the Secretary-General subject to confirmation by the Executive Council.
ARTICLE 8
Provision of funds

Assessments

8.1 Appropriations shall be financed by contributions from Members of the Organization according to the scale of assessments determined by Congress, such contributions to be adjusted in accordance with the provisions of Regulation 8.2. Pending the receipt of such contributions the appropriations may be financed from the Working Capital Fund.

8.2 For each of the two years of a biennium the contributions of Member States shall be assessed on the basis of one half of the appropriations approved by the Executive Council for the biennium, except that adjustments shall be made to the assessment in respect of:

(a) Supplementary appropriations for which contributions have not previously been assessed on Member States;

(b) Half of the estimated miscellaneous income for the biennium for which credits have not previously been taken into account and any adjustments in estimated income previously taken into account.

8.3 After the Executive Council has approved the biennial budget and determined the amount needed for the Working Capital Fund, the Secretary-General shall:

(a) Transmit the relevant documents to the Members of the Organization;

(b) Inform the Members of their commitments in respect of annual contributions and advances to the Working Capital Fund;

(c) Request them to remit their contributions and advances.

8.4 Contributions and advances shall be considered as due and payable in full within 30 days of the receipt of the communication of the Secretary-General referred to in Regulation 8.3 above, or as of the first day of the year to which they relate, whichever is the later. As of 1 January of the following year, the unpaid balance of such contributions and advances shall be considered to be one year in arrears.

8.5 Annual contributions and advances to the Working Capital Fund of the Organization shall be assessed and paid in Swiss francs.

8.6 Notwithstanding the provisions of Regulation 8.5 and to facilitate payments by Members, the Secretary-General may accept, to the extent he may find it practicable, payments of contributions in freely convertible currencies other than the Swiss franc. The exchange rate applicable to these payments in establishing their equivalent in the currency of the State in which the Organization has its headquarters shall be the official United Nations rate of exchange in force on the date of credit to the WMO bank account.

8.7 Payments made by a Member of the Organization shall be credited first to the Working Capital Fund, then applied in chronological order to the reduction of the contributions which are due in accordance with the scale of assessments.

8.8 Notwithstanding the provisions of Regulation 8.7, amounts received in respect of the current year’s contribution will be credited to that year providing that the full yearly instalment due under the terms of special arrangements as established by Congress concerning the repayment of long-outstanding contributions has been paid to the Organization. These special arrangements may be concluded with any Member being in arrears for more than four years on the date of entry into force of such arrangements.

8.9 The Secretary-General shall submit to the regular sessions of the Executive Council a report on the collection of contributions and advances to the Working Capital Fund.

Contributions from new Members

8.10 New Members of the Organization shall be required to make a contribution for the unexpired portion of the biennium in which they become Members and to provide their proportion of the total advances to the Working Capital Fund at rates to be determined provisionally by the Executive Council, subject to subsequent approval by Congress.

Contributions from Members withdrawing from the Organization

8.11 A Member withdrawing from the Organization shall make its contribution for the period from the beginning of the biennium in which it withdraws up to and including the date of its withdrawal and shall be entitled only to the amount standing to its credit in the Working Capital Fund, less any sum due from that Member of the Organization.
ARTICLE 9

Funds

9.1 There shall be established a General Fund for the purpose of accounting for expenditures authorized under Regulations 7.1, 7.2 and 7.3. The General Fund will be credited with contributions paid by Member States under Regulations 8.1, 8.10, 8.11 and miscellaneous income as defined under Regulation 10.1. Cash surpluses on the General Fund except that part of such surplus which represents income from interest received on funds other than the Working Capital Fund shall be credited on the basis of the scale of assessments to the Members of the Organization as follows:

(a) For Members who have paid in full their previous contributions, by deduction from the next assessment;
(b) For Members who have paid in full their contribution in respect of all previous financial periods, but who have not paid in full their contributions in respect of the period that relates to the surplus to be distributed, by reduction of their arrears, and thereafter by deduction from the next assessment;
(c) For Members who are in arrears for more than the financial period concerning the one which relates to the surplus to be distributed, their share of the surplus will be retained by the World Meteorological Organization in a special account and will be paid when the provisions of Regulation 9.1 (a) or (b) are met.

9.2 Income from interest on funds other than the Working Capital Fund that forms part of the cash surplus for any financial period shall be disposed of in accordance with decisions of Congress, and in the manner determined by Congress due consideration being given to the date of receipt of assessed contributions of Members of the Organization.

Working Capital Fund

9.3 There shall be established a Working Capital Fund to an amount fixed by Congress and for purposes to be determined from time to time by the Executive Council. The moneys of the Working Capital Fund shall be advanced by the Members of the Organization, or at the discretion of Congress provided from interest to the extent that it is earned on the investment of the cash resources of the Fund. Interest retained in the Fund shall be credited to Members’ advance accounts in accordance with current balances. Advances by Members shall be calculated by the Executive Council in accordance with the scale of assessments for the apportionment of the expenses of the Organization, and shall be carried to the credit of those Members that have made such advances.

9.4 Advances made from the Working Capital Fund to finance appropriations during a biennium shall be reimbursed to the Fund as soon as and to the extent that income is available for that purpose.

9.5 Except when such advances are recoverable from some other source, advances made from the Working Capital Fund for unforeseen and extraordinary expenses or other authorized purposes shall be reimbursed through the submission of supplementary estimates.

9.6 Income derived from investments of the Working Capital Fund, not retained in the Fund to meet an increase in the level of the capital of the Fund, shall be credited to miscellaneous income.

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

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

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

ARTICLE 10

Other income

10.1 All other income, except:
(a) Contributions to the budget;
(b) Direct refunds of expenditures made during the financial year;
(c) Advances or deposits to funds and accounts;
(d) Interest earned on the Working Capital Fund to the extent that it is required to augment the level of the Working Capital Fund;

shall be classed as miscellaneous income, for credit to the General Fund, unless otherwise specified in accordance with Regulation 9.9.

Voluntary contributions, gifts or donations

10.2 Voluntary contributions, whether or not in cash, may be accepted by the Secretary-General, provided that the purposes for which the contributions are made are consistent with the policies, aims and activities of the Organization and provided that the acceptance of such contributions that directly or indirectly involve additional financial liability for the Organization shall require the consent of Congress or, in case of urgency, of the Executive Council.

10.3 Moneys accepted for purposes specified by the donor shall be treated as trust funds or special accounts under Regulations 9.7 and 9.8.

10.4 Moneys accepted in respect of which no purpose is specified shall be treated as miscellaneous income and shall be reported as “gifts” in the annual accounts.

ARTICLE 11

Custody of funds

11.1 The Secretary-General shall designate the bank or banks in which the funds of the Organization shall be kept.

ARTICLE 12

Investment of funds

12.1 The Secretary-General may make short-term investments of moneys not needed for immediate requirements and shall inform the Executive Council periodically of the investments thus made.

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

ARTICLE 13

Internal control

13.1 The Secretary-General shall:

(a) Establish detailed financial procedures in order to ensure effective financial administration and the exercise of economy;
(b) Cause all payments to be made on the basis of supporting vouchers and other documents that ensure that the services or goods have been received, and that payments have not previously been made;
(c) Designate the officers who may receive moneys, incur obligations and make payments on behalf of the Organization.

13.2 (a) In addition to payments authorized under clause (b) below, and notwithstanding Regulation 13.1 (b) above, the Secretary-General may, when he deems it in the interest of the Organization to do so, authorize progress payments;
(b) Except where normal commercial practice in the interest of the Organization so requires, no contract or purchase order shall be made on behalf of the Organization which requires a payment in advance of the delivery of goods or performance of contractual services.

13.3 No obligations shall be incurred until allotments or other appropriate authorizations have been made in writing under the authority of the Secretary-General.

Ex gratis payments

13.4 The Secretary-General may with the approval of the President make such ex gratia payments as he deems to be necessary in the interest of the Organization, provided that a statement of such payments shall be submitted to the Executive Council with the financial statements as detailed in Article 14.1.
Writing-off of losses or deficiencies

13.5 The Secretary-General may, after full investigation, authorize the writing-off of losses of cash, stores and other assets, except unpaid contributions, provided that a statement of all such amounts written off shall be submitted to the External Auditor with the financial statements.

Contracts and purchases

13.6 Tenders for equipment, supplies and other requirements shall be invited by advertisement, except where the Secretary-General deems that, in the interests of the Organization, a departure from the rule is desirable.

Internal oversight

13.7 Under the broader scheme of internal oversight, the Secretary-General shall establish an office to provide for an independent verification of financial, administrative and operational activities of WMO, including programme evaluation, monitoring mechanisms and consulting services. The office shall be called the Internal Oversight Office and shall ensure:

(a) The regularity of the receipt, custody and disposal of all funds and other financial resources of the Organization;
(b) The conformity of expenditure with the appropriations or other financial provisions voted by Congress or approved by the Executive Council, or with the purpose and rules related to trust funds and special accounts;
(c) The compliance of all financial and other management activities with the established legislation;
(d) The timeliness, completeness and accuracy of financial and other administrative data;
(e) The effective, efficient and economical use of all resources of the Organization.

13.8 The Internal Oversight Office shall also be responsible for investigating all allegations or presumptions of fraud, waste, mismanagement or misconduct and for conducting inspections of services and organizational units.

13.9 The Secretary-General shall appoint a technically qualified head of Internal Oversight Office after consulting with, and obtaining the approval of, the President of WMO acting on behalf of the Executive Council. Notwithstanding Articles 9, 10 and 11 of the Staff Regulations dealing with separation from service, disciplinary measures and appeals, respectively, the Secretary-General shall likewise consult the President of WMO acting on behalf of the Executive Council and obtain his approval before separation of the head of the Office. These actions by the President in accordance with General Regulation 145 shall be reported to the following regular session of the Executive Council.

13.10 The Internal Oversight Office shall function in accordance with the following provisions:

(a) The head of the Office shall report directly to the Secretary-General;
(b) The Office shall have full, free and prompt access to all records, property, personnel, operations and functions within the Organization that, in its opinion, are relevant to the subject matter under review;
(c) It shall be available to receive directly from individual staff members’ complaints or information concerning the possible existence of fraud, waste, mismanagement or misconduct. No reprisals shall be taken against staff members providing such information unless this was wilfully provided with the knowledge that it was false or with intent to misinform;
(d) It shall report the results of its work and make recommendations to the Secretary-General with a copy to responsible managers for action and the External Auditor. At the request of the head of the Office, any such report shall be submitted to the Executive Council together with the Secretary-General’s comments thereon;
(e) The Office shall submit a summary report annually to the Secretary-General with a copy to the External Auditor on its activities, including the orientation and scope of such activities. This report shall be submitted to the Executive Council by the Secretary-General together with any comments he wishes to make;
(f) It shall monitor the implementation of recommendations duly noted by the Executive Council.

ARTICLE 14

Financial statements

14.1 The Secretary-General shall submit to the Executive Council, for its approval, annual financial statements showing for the year to which they relate:
(a) A statement of financial position;
(b) A statement of financial performance;
(c) A statement of changes in net assets/equity;
(d) A statement of cash flow;
(e) A comparison of actual amounts and the approved budget;
(f) Notes, comprising a summary of significant accounting policies and other explanatory notes.

In addition, he shall maintain, for management purposes, such accounting records as are necessary.

14.2 The Secretary-General shall submit for the second year of the biennium, in addition to the financial statements for the year as indicated in Regulation 14.1, a statement showing for the biennium to which they relate the status of appropriations, including:
(a) The original budget appropriations;
(b) The appropriations as modified by any transfers;
(c) Credits, if any, other than the appropriations approved by the Executive Council;
(d) The amounts charged against those appropriations and/or other credits.

14.3 The financial statements of the Organization shall be presented in Swiss francs and shall be prepared in accordance with International Public Sector Accounting Standards. Accounting records may, however, be kept in such currency or currencies as the Secretary-General may deem necessary.

14.4 Appropriate separate accounts shall be maintained for all trust funds, reserve and special accounts.

14.5 The financial statements shall be submitted by the Secretary-General to the External Auditor not later than 31 March following the end of the financial year to which they relate.

14.6 The Secretary-General shall submit, in addition to the financial statements of the first year of the financial period a statement of the total expenditures made in respect of the previous financial period.

ARTICLE 15

External audit

Appointment
15.1 An External Auditor, who shall be the Auditor-General (or officer holding the equivalent title) of a Member State, shall be appointed in the manner and for the period decided by the Executive Council.

Tenure of office
15.2 If the External Auditor ceases to hold that office in his or her own country, his or her tenure of office as External Auditor shall thereupon be terminated and he or she shall be succeeded as External Auditor by his or her successor as Auditor-General. The External Auditor may not otherwise be removed during his or her tenure of office except by the Executive Council.

Scope of audit
15.3 The audit shall be conducted in conformity with generally accepted common auditing standards, and, subject to any special directions of the Executive Council, in accordance with the additional terms of reference set out in the annex to these Regulations.

15.4 The External Auditor may make observations with respect to the efficiency of the financial procedures, the accounting system, the internal financial controls and, in general, the administration and management of the Organization.

15.5 The External Auditor shall be completely independent and solely responsible for the conduct of the audit.

15.6 The Executive Council may request the External Auditor to perform certain specific examinations and issue separate reports on the results.

Facilities
15.7 The Secretary-General shall provide the External Auditor with the facilities he or she may require in the performance of the audit.

15.8 For the purpose of making a local or special examination or of effecting economies of audit cost, the External Auditor may engage the services of any national Auditor-General (or equivalent title) or
commercial public auditors of known repute or any other person or firm who, in the opinion of the External Auditor, is technically qualified.

**Reporting**

15.9 The External Auditor shall issue reports on the audit of the financial statements and relevant schedules, which shall include such information as he or she deems necessary in regard to matters referred to in Regulation 15.4 and in the additional terms of reference.

15.10 The External Auditor’s reports shall be transmitted, together with the relevant audited financial statements, to the Executive Council, which shall examine them in accordance with any directions given by Congress.

15.11 The financial statements, together with the External Auditor’s certificates, shall be transmitted to the Members of the Organization by the Secretary-General.

**ARTICLE 16**

**Decisions involving expenditures**

16.1 No regional association, technical commission or other competent body shall take a decision involving either an administrative change in a programme approved by Congress or the Executive Council, or the possible requirement of expenditure, unless it has received and taken account of a report from the Secretary-General on the administrative and financial implications of the proposal. Where, in the opinion of the Secretary-General, the proposed expenditure cannot be made from the existing appropriations, it shall not be incurred until the Executive Council has made the necessary appropriations, unless the Secretary-General certifies that provision can be made under the conditions of the resolution of the Executive Council relating to unforeseen expenditure.

**ARTICLE 17**

**General provisions**

17.1 In case of urgency and with the approval of the President of the Organization, the Secretary-General shall refer to Members, for decision by correspondence, financial matters that are beyond the competence of the Executive Council.

17.2 The applications of any of the present Regulations may be suspended for a period that shall not extend beyond the next session of Congress if the Executive Council has decided that the matter under consideration is of such a character that a decision should be taken before the next Congress. In such circumstances, the proposal of the Executive Council for such a suspension shall be communicated by the Secretary-General to all Members for consultation and subsequently for a postal ballot according to the procedures for voting by correspondence in the General Regulations.

17.3 In the application of Regulation 17.1 the proposal shall be adopted, and in the application of Regulation 17.2 the suspension of regulations shall be put into force, if two thirds of the votes cast for and against that have reached the Secretariat within 90 days of the date of dispatch of the request to vote to Members are in the affirmative. The decisions shall be communicated to all Members.

17.4 In case of doubt as to the interpretation or application of any of these Financial Regulations, the Secretary-General is authorized to rule thereon, subject to confirmation by the President in important cases.

17.5 The present Financial Regulations do not apply to the field projects of the technical cooperation activities of the Organization financed by the United Nations Development Programme; the Secretary-General is authorized to administer those activities under Financial Regulations and Rules established by the governing body and the Administrator of the United Nations Development Programme.

**ANNEX**

**ADDITIONAL TERMS OF REFERENCE GOVERNING EXTERNAL AUDIT**

(1) The External Auditor shall perform such audit of the financial statements of the Organization, including all trust funds and special accounts, as he or she deems necessary in order to satisfy himself or herself:

(a) That the financial statements are in accord with the books and records of the Organization;
(b) That the financial transactions reflected in the statements have been in accordance with the rules and regulations, the budgetary provisions and other applicable directives;

(c) That the securities and moneys on deposit and on hand have been verified by certificate received direct from the Organization's depositaries or by actual count;

(d) That the internal controls are adequate in the light of the extent of reliance placed thereupon;

(e) That procedures satisfactory to the External Auditor have been applied to the recording of all assets, liabilities, surpluses and deficits.

(2) The External Auditor shall be the sole judge as to the acceptance in whole or in part of certifications and representations by the Secretary-General and may proceed to such detailed examination and verification as he or she chooses of all financial records, including those relating to supplies and equipment.

(3) The External Auditor and his or her staff have free access at all convenient times to all books, records and other documentation that are, in the opinion of the External Auditor, necessary for the performance of the audit. Information that is classified as privileged and which the Secretary-General (or his designated senior official) agrees is required by the External Auditor for the purposes of the audit and information classified as confidential shall be made available on application. The External Auditor and his or her staff shall respect the privileged and confidential nature of any information so classified that has been made available and shall not make use of it except in direct connection with the performance of the audit. The External Auditor may draw the attention of the Executive Council to any denial of information classified as privileged that in his or her opinion was required for the purpose of the audit.

(4) The External Auditor shall have no power to disallow items in the financial statements but shall draw to the attention of the Secretary-General for appropriate action any transaction concerning which he or she entertains doubt as to legality or propriety. Audit objections to these, or any other transactions, arising during the examination of the financial statements shall be communicated immediately to the Secretary-General.

(5) The External Auditor shall express and sign an opinion on the financial statements of the Organization. The opinion shall include the following basic elements:

(a) The identification of the financial statements audited;

(b) A reference to the responsibility of the Secretary-General and the responsibility of the External Auditor;

(c) A reference to the audit standards followed;

(d) A description of the work performed;

(e) An expression of opinion on the financial statements as to whether:

   (i) The financial statements present fairly the financial position as at the end of the period and the results of the operations for the period;

   (ii) The financial statements were prepared in accordance with the stated accounting policies;

   (iii) The accounting policies were applied on a basis consistent with that of the preceding financial period;

(f) An expression of opinion on the compliance of transactions with the Financial Regulations and legislative authority;

(g) The date of the opinion;

(h) The External Auditor’s name and position;

(i) Should it be necessary, a reference to the report of the External Auditor on the financial statements.

(6) The report of the External Auditor to the Executive Council on financial operations of the period should mention:

(a) The type and scope of his or her examination;

(b) Matters affecting the completeness or accuracy of the financial statements, including, where appropriate:

   (i) Information necessary to the correct interpretation of the financial statements;

   (ii) Any amounts which ought to have been received but which have not been brought to account;
(iii) Any amounts for which a legal or contingent obligation exists and which have not been recorded or reflected in the financial statements;

(iv) Expenditures not properly substantiated;

(v) Whether proper books of accounts have been kept. Where in the presentation of statements there are deviations of a material nature from the generally accepted accounting principles applied on a consistent basis, these should be disclosed;

(c) Other matters that should be brought to the notice of the Executive Council, such as:
   (i) Cases of fraud or presumptive fraud;
   (ii) Wasteful or improper expenditure of the Organization's money or other assets (notwithstanding that the accounting for the transaction may be correct);
   (iii) Expenditure likely to commit the Organization to further outlay on a large scale;
   (iv) Any defect in the general system or detailed regulations governing the control of receipts and disbursements or of supplies and equipment;
   (v) Expenditure not in accordance with the intention of Congress and/or the Executive Council after making allowance for duly authorized transfers within the budget;
   (vi) Expenditure in excess of appropriations as amended by duly authorized transfers within the budget;
   (vii) Expenditure not in conformity with the authority that governs it;

(d) The accuracy or otherwise of the supplies and equipment records as determined by stock-taking and examination of the records;

(e) If appropriate, transactions accounted for in a previous year concerning which further information has been obtained or transactions in a later year concerning which it seems desirable that the Executive Council should have early knowledge.

(7) The External Auditor may make such observations with respect to his or her findings resulting from the audit and such comments on the Secretary-General’s financial report as he or she deems appropriate to the Executive Council or to the Secretary-General.

(8) Whenever the scope of audit of the External Auditor is restricted, or whenever he or she is unable to obtain sufficient evidence, the External Auditor shall refer to the matter in his or her report, making clear in the report the reasons for his or her comments and the effect on the financial position and the financial transactions as recorded.

(9) In no case shall the External Auditor include criticism in his or her report without first affording the Secretary-General an adequate opportunity of explanation on the matter under observation.

(10) The External Auditor is not required to mention any matter referred to in the foregoing that, in his or her opinion, is insignificant in all respects.

Resolution 14 (EC-LXI)

INCREASING THE CHARGES ON PAYROLL COSTS FOR THE FUNDING OF THE RESERVES FOR (A) RECRUITMENT AND TERMINATION BENEFITS AND (B) AFTER-SERVICE HEALTH INSURANCE BENEFITS

THE EXECUTIVE COUNCIL,

Noting that the charge on payroll costs of 3 per cent for the funding of the reserve for recruitment and termination costs was insufficient to cover related costs,
Noting further that the charge on payroll costs of 2 per cent for the funding of the reserve for after-service health insurance benefits was insufficient to cover related costs taking into account the actuarially determined estimate of the WMO’s liability for after-service health insurance benefits,

Approves the Secretary-General proposals to increase the charges on payroll costs for the funding of: (a) the reserve for recruitment and termination benefits from 3 to 4 per cent; and (b) the reserve for after-service health insurance benefits from 2 to 3 per cent.

---

**Resolution 15 (EC-LXI)**

FINANCING THE SHORTFALL IN THE CAPITAL OF THE WORKING CAPITAL FUND

THE EXECUTIVE COUNCIL,

Noting that the capital of the Working Capital Fund fell short of the level of CHF 7,500,000 set by Fifteenth Congress for the fifteenth financial period by CHF 1,174,279 as at 31 December 2007,

Noting further that the current global economic challenges may make it difficult for some Members to contribute to the budget of the Organization,

Recommends that Sixteenth Congress decide that the shortfall of CHF 1,174,279 in the capital of the Working Capital Fund as at 31 December 2007 be funded from interest income of the Working Capital Fund, starting with the fifteenth financial period and continuing into the sixteenth financial period.

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**Resolution 16 (EC-LXI)**

CONSIDERATION OF THE FINANCIAL STATEMENTS OF THE WORLD METEOROLOGICAL ORGANIZATION FOR THE YEAR 2008

THE EXECUTIVE COUNCIL,

Recalling Resolution 10 (EC-LVII) – Consideration of the accounts of the World Meteorological Organization for the year 2004,

Noting Article 15 of the Financial Regulations,

Considering the financial report of the Secretary-General on the financial statements of the Organization for the year ended 31 December 2008 and the report of the External Auditor to the Executive Council,

Gives formal approval to the audited financial accounts of the World Meteorological Organization for the year 2008;

Requests the Secretary-General to transmit the financial statements of the accounts together with his report and the report of the External Auditor thereon to all Members of the World Meteorological Organization;
Noting with concern the substantial amounts of outstanding assessed contributions of certain Members,

Urge the Members to clear their dues at an early date.

Resolution 17 (EC-LXI)

AMENDMENTS TO REGULATION 111 OF THE GENERAL REGULATIONS

THE EXECUTIVE COUNCIL,

Noting that Regulation 111 requires the Secretariat to prepare summarized minutes of discussions at plenary meetings of constituent bodies,

Considering the decision made by the Executive Council at its fiftieth session and confirmed by Thirteenth Congress that no minutes of plenary meetings at sessions of the Executive Council, regional associations and technical commissions should be prepared, except where there is a specific request, and the decision of Fifteenth Congress to suspend the operation of Regulation 111 for the duration of the session,

Noting that audio recordings of plenary meetings will continue to be made and will be retained for record purposes, and that the formal government statements will be summarized in the general summary of the work of the sessions,

Considering therefore that it is timely to amend Regulation 111 to bring it into line with the practice that has developed,

Decides to recommend to Congress to amend Regulation 111 of the General Regulations as follows:

REGULATION 111

At sessions of a constituent body the substance of the discussion and the decisions arrived at for each agenda item shall be recorded in the general summary of the work of the session.

Summarized minutes of the discussion at plenary meetings of constituent bodies shall be prepared by the Secretariat only where there is a specific request from the plenary. Audio recordings of plenary meetings shall be made and retained for record purposes.

Summarized minutes shall be distributed as soon as possible during the session or by correspondence to all delegations, which may submit their proposed corrections in writing to the Secretariat. Any disagreement on the proposed corrections shall be decided by the presiding officer after consultation with the person concerned. Summarized minutes will be adopted by the plenary in session or by correspondence.

Requests the Secretary-General to submit the report on this matter to Sixteenth Congress.
Resolution 18 (EC-LXI)

REVIEW OF PREVIOUS RESOLUTIONS OF THE EXECUTIVE COUNCIL

THE EXECUTIVE COUNCIL,

Noting:

(1) Regulation 155 (9) of the General Regulations, concerning the review of the Executive Council resolutions,

(2) Rule 27 of Rules of Procedure of the Executive Council on the same subject,

Having examined its previous resolutions still in force,

Decides:

(1) To keep in force the following resolutions:

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<td>14 (except paragraphs under DECIDES), 15</td>
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(2) Not to keep in force the other resolutions adopted before its sixty-first session.

Note: This resolution replaces Resolution 19 (EC-LX), which is no longer in force.
ANNEXES

ANNEX I
Annex to paragraph 2.3 of the general summary

RECOMMENDATIONS OF THE FINANCIAL ADVISORY COMMITTEE TO THE SIXTY-FIRST SESSION OF THE EXECUTIVE COUNCIL

Financial statements for 2008, including the report of the External Auditor

Recommendation 1:
That the Executive Council approve the audited financial statements of the World Meteorological Organization for the year 2008.

International Public Sector Accounting Standards (IPSAS)

Recommendation 2:
That the Executive Council approve the Secretary-General’s proposed revisions to the WMO Financial Regulations required for the introduction of IPSAS, as contained in Resolution 13 (EC-LXI), including the following text in Article 13.4 after “financial statements”: “as detailed in Article 14.1.”

Proposal for increasing the load on payroll for reserves for: (a) Recruitment and Termination Costs; and (b) After-Service Health Insurance Benefits

Recommendation 3:
That the Executive Council approve the Secretary-General’s proposals to increase the charges on payroll costs for the funding of: (a) the reserve for recruitment and termination benefits from 3 to 4 percent; and (b) the reserve for after-service health insurance benefits from 2 to 3 percent.

Proposal for financing the increase in the capital of the Working Capital Fund

Recommendation 4:
That the Executive Council recommends that the Sixteenth Congress decide that the shortfall of CHF 1.2 million in the capital of the Working Capital Fund as at 31 December 2007 be funded from interest income of the Working Capital Fund starting with the fifteenth financial period and continuing into the sixteenth financial period.

Interim financial situation

Members’ contributions

Recommendation 5:
That the Executive Council urge Members in arrears of contributions to settle their dues as early as possible so that the approved programmes of WMO may be implemented in the time frame and at the level foreseen in the plans.

Budgetary matters – Budget Proposals for 2010–2011, including high priority activities funded with surplus from fourteenth financial period

Recommendation 6:
That the Council review the programmatic priorities before adopting the Resolution 11 (EC-LXI), if required.
Budgetary matters – Preliminary discussion on the budget for the sixteenth financial period (2012–2015)

Recommendation 7:
That the Council decides to develop three options for budget proposals for consideration by Congress for the sixteenth financial period (2012–2015). One should reflect ZNG, another ZRG, and a third to include a 2% annual increase over the previous budget. Furthermore, each budget proposal should include an analysis of the impacts on the achievement of expected results.

ANNEX II
Annex to paragraph 3.5.1.7 of the general summary

LIST OF IDENTIFIED POTENTIAL WIS CENTRES AND THEIR FUNCTIONS
AS AT 9 JUNE 2009

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<th>GISC</th>
<th>Function</th>
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### ANNEX III

Annex to paragraph 4.2.66 of the general summary

**TEN PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT**

#### Human Rights
- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and,
- Principle 2: make sure that they are not complicit in human rights abuses.

#### Labour Standards
- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
• Principle 4: the elimination of all forms of forced and compulsory labour;
• Principle 5: the effective abolition of child labour; and,
• Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment
• Principle 7: Businesses should support a precautionary approach to environmental challenges;
• Principle 8: undertake initiatives to promote greater environmental responsibility; and,
• Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption
• Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

ANNEX IV
Annex to paragraph 5.2.16 of the general summary

PROPOSAL FOR WORKING ARRANGEMENTS BETWEEN
THE WORLD METEOROLOGICAL ORGANIZATION AND
THE WORLD ORGANIZATION FOR ANIMAL HEALTH

The World Meteorological Organization (herein referred to as WMO) and the World Organization for Animal Health (herein referred to as OIE), have agreed to promote closer cooperation through the following activities, inter alia:

1. Both organizations will keep one another informed of their activities that might be of common interest.
2. Each organization will invite the other to take part as an observer in any meetings that address issues of common interest, and will make available the reports of such meetings.
3. The OIE and WMO will exchange their catalogue of publications to enable both organizations to order publications on activities related to their activities. The OIE and WMO will exchange, free of charge, documents and publications on subjects of mutual interest. Both organizations will benefit from concessionary rates as applied to their Members or affiliated organizations for any new orders of publications.
4. The two organizations will endeavour to expand their cooperation by means of formal and informal consultations on issues of common interest, notably the following:

ISSUES OF COMMON INTEREST

(a) Dissemination of general climate information and predictions;
(b) Understanding the impact of climate variability and change on the development of animal diseases throughout the world;
(c) Development of climate-based early warning system for pathogens of animal origin and promotion of climate related risk management strategies;
(d) Cooperation with other intergovernmental organizations, especially the WHO and FAO, on climate- and disease-related issues.
ANNEX V
Annex to paragraph 6.27 of the general summary

VCP TRUST FUND – VCP(F)
PROPOSED NOMINAL ALLOCATIONS IN 2009 (CHF)

<table>
<thead>
<tr>
<th>Priority Areas</th>
<th>Proposed</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at 01/01/09 (after obligations)</td>
<td>903,286</td>
<td>1,203,286</td>
</tr>
<tr>
<td>Anticipated Contributions 01/01/09</td>
<td>300,000</td>
<td></td>
</tr>
<tr>
<td>Anticipated Available Balance 01/01/09</td>
<td>1,203,286</td>
<td></td>
</tr>
<tr>
<td>VCP Spares/shipping of equipment in good working condition</td>
<td></td>
<td>30,000</td>
</tr>
<tr>
<td>Expert services</td>
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<td>50,000</td>
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<tr>
<td>Short-term fellowships and training activities</td>
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<td>150,000</td>
</tr>
<tr>
<td>Project Development Activities for Regional Development Projects</td>
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<td>100,000</td>
</tr>
<tr>
<td>Improvement of GTS General</td>
<td></td>
<td>240,000</td>
</tr>
<tr>
<td>Improvement of GTS Central America and Caribbean</td>
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<td>40,000</td>
</tr>
<tr>
<td>Improvement of GTS Asia/Pacific</td>
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<td>40,000</td>
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<tr>
<td>Improvement of GTS Africa</td>
<td></td>
<td>40,000</td>
</tr>
<tr>
<td>Improvement of GTS South America</td>
<td></td>
<td>40,000</td>
</tr>
<tr>
<td>Improvement of GTS South-East RA VI</td>
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<tr>
<td>Improvement of GTS Central and Eastern Europe/Newly Independent States (NIS)</td>
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<td>40,000</td>
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<tr>
<td>Improvement of observing sub-system of GOS and GCOS General</td>
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<td>50,000</td>
</tr>
<tr>
<td>Improvement of GDPS</td>
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<td>10,000</td>
</tr>
<tr>
<td>Support to CDMS and climatological activities</td>
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<td>50,000</td>
</tr>
<tr>
<td>Emergency Assistance</td>
<td></td>
<td>50,000</td>
</tr>
<tr>
<td>Operational hydrology activities</td>
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<td>40,000</td>
</tr>
<tr>
<td>Improvement of satellite reception</td>
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<td>50,000</td>
</tr>
<tr>
<td>Internet capabilities</td>
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<td>40,000</td>
</tr>
<tr>
<td>Sub-Total</td>
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<td>860,000</td>
</tr>
<tr>
<td>Reserve</td>
<td></td>
<td>343,286</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>1,203,286</td>
</tr>
</tbody>
</table>
ANNEX VI
Annex to paragraph 7.2.7 of the general summary
ELEMENTS OF THE WMO STRATEGIC PLAN

Table 1: Global Societal Needs

| • Improved protection of life, and property (related to impacts of hazardous weather, climate, water and other environmental events and increased safety of transport on land, at sea and in the air) |
| • Poverty alleviation, sustained livelihoods and economic growth (in connection with the Millennium Development Goals) including improved health and social well-being of citizens (related to weather, climate, water and environmental events and influence) |
| • Sustainable use of natural resources and improved environmental quality |

Table 2: Strategic Thrusts and Organization-wide Expected Results

<table>
<thead>
<tr>
<th>STRATEGIC THRUSTS</th>
<th>ORGANIZATION-WIDE EXPECTED RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Improving service quality and service delivery</td>
<td>1. Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate and water and related environmental predictions, information and services in response to users' needs and to enable their use in decision-making by all relevant societal sectors</td>
</tr>
<tr>
<td></td>
<td>2. Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate and water and related environmental elements</td>
</tr>
<tr>
<td>II. Advancing scientific research and application as well as development and implementation of technology</td>
<td>3. Enhanced capabilities of NMHSs to produce better weather, climate, and water and related environmental information, predictions and warnings to support in particular climate impact and adaptation strategies</td>
</tr>
<tr>
<td></td>
<td>4. Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable surface-based and space-based systems for weather, climate and hydrological observations, as well as related environmental observations, based on world standards set by WMO,</td>
</tr>
<tr>
<td></td>
<td>5. Enhanced capabilities of Members to contribute to and draw benefits from the global research capacity for weather, climate, water and environment science and technology development</td>
</tr>
<tr>
<td>III. Strengthening capacity-building</td>
<td>6. Enhanced capabilities of NMHSs, in particular in developing and least developed countries, to fulfill their mandates</td>
</tr>
<tr>
<td>IV. Building and enhancing partnerships and cooperation</td>
<td>7. New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to increase the value of the contributions of WMO within the United Nations system, relevant international conventions and national strategies</td>
</tr>
<tr>
<td>V. Strengthening good governance</td>
<td>8. An effective and efficient Organization</td>
</tr>
</tbody>
</table>
Table 3: Outline for elaborating each Strategic Thrust

<table>
<thead>
<tr>
<th>Outline for elaborating each Strategic Thrust</th>
<th>Remarks/explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Rationale, issues and challenges</td>
<td>Rationale of that strategy and how it links to the ERs</td>
</tr>
<tr>
<td>+ Risks, opportunities and dependencies</td>
<td>Reference should be made to risk assessment approaches. It is important to attempt a definition of how the Organization will seize reasonable opportunities to be attuned with new and emerging events as well as needs of Members</td>
</tr>
<tr>
<td>+ Strengths, competencies and roles of WMO</td>
<td>The uniqueness of the role and the competencies of the Organization in the programmatic areas relating to the ST should be described</td>
</tr>
<tr>
<td>+ Strategic approaches</td>
<td>Which major actions the Organization is planning to take in pursuance of that strategic thrust; examples are: (i) review of programmes and their associated directions; (ii) modifying the TOR of a technical commission; (iii) redirecting financial or staff resources; (iv) giving more policy related impetus to activities of RAs; and (v) planning a major event, e.g. a world conference; etc.</td>
</tr>
</tbody>
</table>

Table 4: Performance metrics

- Indicator(s) (how the achievement of an ER will be measured)
- Baseline(s) 2012 (defining the situation at the beginning of the financial period)
- Targets at the end of the first biennium (2013) and at the end of the financial period (2015) (measurable milestone goals that specify the level of achievement to be reached)

Table 5: Major strategic achievements of WMO

Since its creation WMO has reached unique significant global achievements in the following key areas:

1. **Free and unrestricted exchange of meteorological and related data and products** – WMO has facilitated the free and unrestricted international exchange of meteorological, hydrological and related data and products globally. This has been essential for real time weather services, for climate prediction, for climate change detection and for a broad range of global environmental programmes.

2. **International Standards for Meteorological and Related Observations** – WMO has developed and maintained a set of world standards for meteorological and related observations that have ensured that data are intercomparable wherever they have been collected – a vital feature for, inter alia, the detection of climate change and for the development of global weather and climate models and for the services they underpin.

3. **Capacity Building** – WMO has supported the building of capability in NMHSs, in all parts of the world thereby making an invaluable contribution to the safety of life and property on a global scale.

4. **Promoting Science and Technology** – The Organization has furthered the capabilities of NMHSs worldwide by promoting the use of science and technology, in both supporting infrastructure and product generation and services.

5. **International Leadership** – WMO has become a recognized leader amongst the UN organizations for its capacity to promote the prediction, projection and assessment of Earth system and environmental problems.
### ANNEX VII

Annex to paragraph 7.2.72 of the general summary

**STAFF APPOINTMENTS, PROMOTIONS, NOMINATIONS AND TRANSFERS SINCE THE SIXTIETH SESSION OF THE EXECUTIVE COUNCIL**

Appointments made through competition after issuance of vacancy notices

<table>
<thead>
<tr>
<th>Name and nationality</th>
<th>Title, grade and organizational unit</th>
<th>Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOVE, Mr G.B.</td>
<td>Director (D.2), Weather and Disaster Risk Reduction Services Department</td>
<td>3 September 2008</td>
</tr>
<tr>
<td>(Australia)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZHANG, Mr W.</td>
<td>Director (D.1), Space Programme Office, WMO Integrated Global Observing System Branch, Observing</td>
<td>9 June 2008</td>
</tr>
<tr>
<td>(China)</td>
<td>and Information Systems Department</td>
<td></td>
</tr>
<tr>
<td>ZHANG, Mr W.</td>
<td>Director (D.2), Observing and Information Systems Department</td>
<td>1 August 2008</td>
</tr>
<tr>
<td>(China)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RYAN, Ms B.J.</td>
<td>Director (D.1), Space Programme Office, WMO Integrated Global Observing System Branch, Observing</td>
<td>2 October 2008</td>
</tr>
<tr>
<td>(United States)</td>
<td>and Information Systems Department</td>
<td></td>
</tr>
<tr>
<td>RICHTER, Ms C.M.</td>
<td>Director (D.1), Global Climate Observing System Joint Planning Office, WMO Integrated Global</td>
<td>31 March 2009</td>
</tr>
<tr>
<td>(Germany)</td>
<td>Observing System Branch, Observing and Information Systems Department</td>
<td></td>
</tr>
<tr>
<td>THOMAS, Mr D.J.</td>
<td>WIS Project Manager (P.5), WMO Information System Branch, Observing and Information Systems</td>
<td>1 July 2008</td>
</tr>
<tr>
<td>(Australia)</td>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>CHRISTIAN, Mr E.J.</td>
<td>WIS Project Senior Scientific Officer (P.5), WMO Information System Branch, Observing and Information</td>
<td>1 July 2008</td>
</tr>
<tr>
<td>(United States)</td>
<td>Systems Department</td>
<td></td>
</tr>
<tr>
<td>LIU, Mr S.</td>
<td>Chief (P.5), Human Resources Division, Resource Management Department</td>
<td>1 January 2009</td>
</tr>
<tr>
<td>(China)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRAN NGUYEN, Mr N.</td>
<td>Chief (P.5), Information Technology Division, Resource Management Department</td>
<td>1 April 2009</td>
</tr>
<tr>
<td>(Canada)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BLONDIN, Mr C.</td>
<td>Senior External Relations Officer (P.5), External Relations Office, Cabinet and External Relations</td>
<td>15 April 2009</td>
</tr>
<tr>
<td>(France)</td>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>IVANOV, Mr D.</td>
<td>WMO Representative for Europe (P.5), Regional Office for Europe, Office for the LDC Programme and</td>
<td>17 May 2009</td>
</tr>
<tr>
<td>(Bulgaria)</td>
<td>Regional Coordination, Development and Regional Activities Department</td>
<td></td>
</tr>
<tr>
<td>HEWITT, Mrs Elizabeth</td>
<td>Translator/Reviser (P.4), Linguistic Services and Publishing Branch, Programme Support Services</td>
<td>7 May 2009</td>
</tr>
<tr>
<td>(New Zealand)</td>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>TARASOVA, Ms O.</td>
<td>Scientific Officer (P.4), Atmospheric Environment Research Division, Atmospheric Research and</td>
<td>7 June 2009</td>
</tr>
<tr>
<td>(Russian Federation)</td>
<td>Environment Branch, Research Department</td>
<td></td>
</tr>
<tr>
<td>JEPSEN, Ms L.-A.</td>
<td>Administrative Officer (P.3), Secretariat of the Intergovernmental Panel on Climate Change</td>
<td>1 October 2008</td>
</tr>
<tr>
<td>(United States)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MANOHARAN, Ms A.</td>
<td>Finance Officer (Payroll) (P.3), Finance Division, Resource Management Department</td>
<td>1 October 2008</td>
</tr>
<tr>
<td>(Australia)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BERECHREE, Mr M.I.</td>
<td>AMDAR Technical Coordinator (P.3), Aircraft Observation Unit, WMO Observing Systems Division,</td>
<td>1 November 2008</td>
</tr>
<tr>
<td>(Australia)</td>
<td>WMO Integrated Global Observing System Branch, Observing and Information Systems Department</td>
<td></td>
</tr>
</tbody>
</table>
### Name and nationality | Title, grade and organizational unit | Effective date
--- | --- | ---
SHIMAZAKI, Mr A. (Japan) | Scientific Officer (P.3), WIS Data Representation, Metadata and Monitoring Division, WMO Information System Branch, Observing and Information Systems Department | 15 January 2009
BOSCOLO, Mrs R. (Italy) | Communications/Scientific Officer (P.3), World Climate Research Programme Joint Planning Staff, Research Department | 31 May 2009
SCHALK, Mrs M. (Brazil) | Personal Assistant to the Secretary-General (P.2), Office of the Secretary-General | 1 April 2008
HANSEN-VARGAS, Mrs S.E. (United States) | Conference Services Manager (P.2), Conference Services Unit, Conferences, Contracts and Facilities Management Branch, Programme Support Services Department | 1 September 2008
DOUNO, Mr M. (Côte d’Ivoire) | Internal Auditor (P.2), Internal Oversight Office | 30 April 2009

### Appointments made without issuance of vacancy notices (according to reasons given)

| Name and nationality | Title, grade and organizational unit | Effective date
--- | --- | ---
KUHN, Ms A. (Germany) | Junior Professional Officer (P.2), Global Climate Observing System Joint Planning Office, Observing and Information Systems Department [Donor country’s nominee] | 1 October 2008
BAUBION, Mr C. (France) | Junior Professional Officer (P.2), Disaster Risk Reduction Division, Disaster Risk Reduction and Service Delivery Branch, Weather and Disaster Risk Reduction Services Department [Donor country’s nominee] | 7 December 2008

### Extensions of appointment beyond the statutory age of retirement

| Name and nationality | Title, grade and organizational unit | Duration
--- | --- | ---
YAN, Prof. H. (China) | Deputy Secretary-General | a further 8 months to 28 February 2010
SCHIESSL, Mr D.C. (Germany) | Director (D.2), Strategic Planning Office, Office of the Assistant Secretary-General | a further 4 months to 30 April 2009
KORTCHEV, Mr G.I. (Bulgaria) | Special Adviser (D.1), Regional Office for Europe, Office for the LDC Programme and Regional Coordination, Development and Regional Activities Department | a further 1.5 months to 19 December 2008
NYENZI, Mr B.S. (United Republic of Tanzania) | Special Adviser (D.1) to Director, Climate and Water Department, and Director of WCC-3 | a further 12 months to 31 July 2009
KARPOV, Mr A.V. (Russian Federation) | Acting Director (P.5), Global Climate Observing System Joint Planning Office, WMO Integrated Global Observing System Branch, Observing and Information Systems Department | a further 3 months to 31 March 2009
WANG, Mr C. (China) | Senior External Relations Officer (P.5), External Relations Office, Cabinet and External Relations Department | a further 8 months to 31 March 2009
BATJARGAL, Mr Z.S. (Mongolia) | WMO Representative and Coordinator (P.5) to the United Nations and other international organizations in North America | a further 24.5 months to 31 July 2010
<table>
<thead>
<tr>
<th>Name and nationality</th>
<th>Title, grade and organizational unit</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>REQUENA, Mr F. (Argentina)</td>
<td>Executive Assistant to the Secretary-General (P.5), Office of the Secretary-General</td>
<td>12 months to 30 September 2009</td>
</tr>
<tr>
<td>DE SOUSA BRITO, Mr J.A. (Brazil)</td>
<td>Acting Director (P.4), WMO Information System Branch, Observing and Information Systems Department</td>
<td>12 months to 31 May 2010</td>
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</table>

**Nominations and/or promotions**

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<th>Name and nationality</th>
<th>Title, grade and organizational unit</th>
<th>Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARRIE, Dr L.A. (Canada)</td>
<td>Director (D.2), Atmospheric Research and Environment Branch, Research Department</td>
<td>1 December 2008</td>
</tr>
<tr>
<td>TYAGI, Mr A.C. (India)</td>
<td>Director (D.2), Climate and Water Department</td>
<td>1 December 2008</td>
</tr>
</tbody>
</table>

**Transfers and/or changes**

<table>
<thead>
<tr>
<th>Name and nationality</th>
<th>Title, grade and organizational unit</th>
<th>Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYENZI, Mr B.S. (United Republic of Tanzania)</td>
<td>Designated Special Adviser (D.1) to Director, Climate and Water Department, and Director of WCC-3</td>
<td>1 January 2009</td>
</tr>
<tr>
<td>SAHO, Mr M. (The Gambia)</td>
<td>Chief (P.5), Training Activities Division, Education and Training Office, Development and Regional Activities Department [transfer from Education and Fellowships Division]</td>
<td>4 May 2009</td>
</tr>
<tr>
<td>ADEBAYO, Mr Y.R. (Nigeria)</td>
<td>Chief (P.5), Education and Fellowships Division, Education and Training Office, Development and Regional Activities Department [transfer from Strategic Planning Office]</td>
<td>4 May 2009</td>
</tr>
<tr>
<td>BACHNER, Ms M.C. (Denmark)</td>
<td>Senior Programme Monitoring Officer (P.5), Office of the Assistant Secretary-General [temporary reassignment from Internal Oversight Office]</td>
<td>6 October 2008</td>
</tr>
<tr>
<td>SIVAKUMAR, Mr M.V.K. (India)</td>
<td>Acting Director (P.5), Climate Prediction and Adaptation Branch, Climate and Water Department</td>
<td>1 January 2009</td>
</tr>
<tr>
<td>DE SOUSA BRITO, Mr J.A. (Brazil)</td>
<td>Acting Chief (P.4), Information and Telecommunication System Division, WMO Information System Branch, Observing and Information Systems Department</td>
<td>20 May 2008</td>
</tr>
<tr>
<td>DE SOUSA BRITO, Mr J.A. (Brazil)</td>
<td>Acting Director (P.4), WMO Information System Branch, Observing and Information Systems Department</td>
<td>1 May 2009</td>
</tr>
</tbody>
</table>
ANNEX VIII
Annex to paragraph 8.1 of the general summary

EXECUTIVE SUMMARY OF THE REPORT OF THE EC TASK TEAM (EC-RTT) ON RESEARCH ASPECTS OF AN ENHANCED CLIMATE, WEATHER, WATER AND ENVIRONMENTAL PREDICTION FRAMEWORK

Advances in the geophysical sciences and computing have led to a number of opportunities for WMO. First, the distinction across timescales from weather to climate prediction is becoming more blurred; second the incorporation of chemical, hydrological and biological processes into weather and climate models will allow a much broader range of environmental parameters to be forecast, including air quality, flooding, sand and dust storms, changes in vegetation etc. Third, many of the applications and impacts of weather and climate share a common underlying scientific basis.

These and other considerations led to EC-LX forming the Task Team on the Research Aspects of an Enhanced Climate, Weather, Water and Environmental Prediction Framework. The mandate of the Team was to “strengthen and promote the linkages between climate, weather, water and environmental research to enable NMHS and other related services to provide improved services in the next decade”. A summary of the three General Recommendations and associated Specific Recommendations is given below.

General Recommendation 1 (Section 2.2). Coordinating and Accelerating Prediction Research: Develop a unified approach to multidisciplinary weather, climate, water and environmental prediction research, step up high-performance computing investments to accommodate the increasing complexity and detail of models, and to accelerate the development, validation and use of prediction models through Specific Recommendations:

Bridging Inter-disciplinary Gaps in Prediction Research (Section 2.2.1)

Gaps between weather, sub-seasonal and seasonal predictions

1.1 Support collaborative climate/weather efforts on the use of Numerical Weather Prediction (NWP) experiments with coupled ocean-atmosphere models for exploring error growth in simulations of modes of organized convection and of interactions between tropical and extratropical by establishing collaboration between the TIGGE and CHFP projects (Brunet et al., 2007).

1.2 Accelerate efforts to improve traditional parameterizations of atmospheric processes such as convection, boundary layer, clouds, precipitation and atmospheric chemistry in climate and weather models.

1.3 Significantly enhance the computing capacity of the world’s existing weather and climate research centres in order to accelerate prediction research (Shapiro et al. 2009, Shukla et al, 2009): the World Modelling Summit recommended computing systems at least a thousand times more powerful than those currently available to strive towards more accurate representation of critical small scale processes.

Decadal and multi decadal predictions as an initial value problem as well as a boundary forced problem

1.4 Subject IPCC-class models to data assimilation and the prediction of short term weather and ENSO-type variations like in the Transpose AMIP Integrations (Williamson et al. 2008, Brunet et al., 2007)

Interactively coupled weather and hydrology prediction systems

1.5 Follow the recommendations of HYMEX, HEPEX and the second phase of AMMA to develop stronger links with these efforts and develop a general strategic vision to address
the broader issue of collaboration between weather and hydrological research, including coupled meteorology/hydrology models for weather and climate prediction.

**Application of air pollution predictions and analysis to problems of human health, ecosystems, climate change and the cycling of greenhouse gases**

1.6 WMO provide advice, coordination of projects and capacity building in air quality forecasting globally.
1.7 WMO coordinate globally the technical work on the very long-range transport of air pollution between regions and continents.
1.8 WMO take the lead in coordinating globally the technical analysis of how climate variability and change and air pollution interact both ways on a regional basis.
1.9 WMO play a lead role globally in the analysis of carbon sequestration and reactive nitrogen in view of how the quality of the water supply is affected by reactive nitrogen runoff, and how the reactive nitrogen cycle interferes with air pollution, the carbon cycle and climate change.

**Incorporating aerosols and ozone interactively in operational analysis and prediction systems**

1.10 Provide global coordination of projects to incorporate aerosols and ozone as radiatively and cloud/precipitation active constituents in operational analysis and prediction systems, and thereby, enhance predictive capability for societal use.

**Implementing coordination mechanisms to optimize global and integrated observing systems (Section 2.2.2)**

1.11 WMO promote development of observation systems and sensitivity experiments based on the most advanced operational NWP data assimilation systems.
1.12 Build capacity for integrated observations globally through WIGOS working in collaboration with WMO research programmes.
1.13 WMO Members extend distribution and access to observations for research and associated application development through the new WMO Information System (WIS).
1.14 There is an urgent need to initiate a few pilot research projects in the area of coupled-model data assimilation.
1.15 Accelerate the utilization of data assimilation techniques for climate model development.

**Promoting Earth-System Reanalysis Projects (Section 2.2.3)**

1.16 Take an interdisciplinary weather-climate approach on data-assimilation methodologies in future reanalysis projects.

**Improving and Innovating Weather, Climate and Environmentalal Products (Section 2.2.4)**

1.17 Encourage liaison programmes such as the project Weather And Society*Integrated Studies (WAS*IS).
1.18 Encourage linkages between weather, climate and hydrometeorological service providers.
1.19 WMO promote hydrological forecast research demonstration projects.
1.20 WMO support research as an essential component of end-to-end systems for weather, climate, water and environmental services such as the Global Framework for Climate Services that is an expected major outcome of WCC-3.

**General Recommendation 2 (Section 3.3) Linking Research, Operation and Service Delivery: Develop closer linkages between research, operations and users through Forecast Demonstration Projects (FDPs) that accelerate technology transfer, through Specific Recommendations:**

2.1 Increase the two-way interactions between research, users and operations that begin early in the defining of a research problem and continue through the research process. Such
interactions will help focus basic and applied research on user needs and make a more rapid transfer of research to operations and end users. Operations and users could also increase the efficiency of this process by providing data, in real-time when possible, to meet research needs and facilitate the testing of new research approaches.

2.2 WMO should play a major role in identifying and facilitating mechanisms to implement the two-way interactions between research, users and operations.

2.3 Increase the involvement of scientists and users from developing countries in FDPs, particularly from NMHSs and their national partners in the research activities of the WMO.

2.4 Focus on distilling research advances into products specially at the regional level that can be readily made available and, through training activities, enable their use by those needing information (some research advances, such as ensemble prediction, have great utility but with interaction with users are difficult to distill into user-friendly information).

General Recommendation 3 (Section 4.3) The Role of WMO Commissions and the Visibility of Science: Implement a process to review and rationalize the roles and mandates of the Commissions, and to improve their effectiveness in enhancing WMO Member capabilities in research, observations, prediction and services, through Specific Recommendations:

3.1 EC and the Secretariat work closely with the PTC and the Research Department so that any necessary modification to the Commissions’ structures and their linkages with the organizational structure is effected to maximize the impact of the proposed paradigm change in prediction research. Simplification and clarity of the roles of the Commissions and the Departments should be the guiding principles of any final decisions.

3.2 Develop a process to harmonize research input, and cross-coordination between different Commissions.

3.3 Set up a mechanism connected with budgetary decision making, whereby cross cutting project proposals developed jointly by at least two Commissions, and one regional association could be reviewed and prioritized by the presidents of technical commissions, for consideration by EC and the Secretariat for eventual implementation.

3.4 Recognizing that WMO is fundamentally a science and technology based Organization, establish efficient mechanisms to ensure that optimal science input is provided to WMO decision making processes and bodies (Cg, EC and Secretariat).

3.5 Reaffirm and support international WMO science and technology leadership in its areas of competence, by nurturing a culture of excellence, relevance and impact, whilst recognizing that the increasing complexity of atmospheric related environmental issues necessitates an increasing partnership approach.

Given the breadth of the remit of the EC-RTT and limited time available to report, we have not made a comprehensive list of specific recommendations. Instead, we have focussed on making some specific recommendations which can be implemented quickly, if not immediately. Some of the other recommendations may take some time to develop and implement, particularly where they require people from different working cultures (e.g. research and services) to work much more closely together. This will be the case where, for example, research and operational departments are of different geographical sites, or where research on the various components (for example weather, climate, hydrology, air quality) is carried out in different institutions. However, this should not be a reason to delay action; indeed, it is quite the reverse - the sooner WMO initiates the changes, the sooner the potential benefits will be realised by the NMHSs and their users.
APPENDIX

LIST OF PARTICIPANTS

1. Officers

Alexander I. Bedritsky  President of WMO
Ali Mohammad Noorian  First Vice-President of WMO (3–5 June)
Tyrone W. Sutherland  Second Vice-President of WMO
Antonio Divino Moura  Third Vice-President of WMO
Mamadou L. Bah  President of RA I
Victor E. Chub  President of RA II
Arona Ngari  President of RA V (3–10 June)
Daniel K. Keuerleber-Burk  President of RA VI (3–11 June)

2. Elected members of the Executive Council

Magdy A. Abbas
A.C. Anuforom (Acting)
Gregory Ayers (Acting)
Ould Mohamed Laghdar Béchir
Yadowsun Booshoo
Sameer Abdullelah Bukhari
Francisco Cadarso Gonzaléz
Massimo Capaldo
Héctor Horacio Ciappesoni
Chun Byung-Seong (Acting) (3–5 June)
Wilar Gamarra Molina
David Grimes
Sri Woro Budiati Harioono (Ms) (3–6 June)
John L. Hayes (Acting) (3–9 June)
John Hirst (Acting) (3–8 June)
Francois Jacq (Acting)
Wolfgang Kusch
Linda Makuleni (Ms)
Joseph Romanus Mukabana
Mieczyslaw Ostojiški
M. Michel Rosengaus Moshinsky
Kunio Sakurai (Acting) (3–10 June)
Petteri Taalas (Acting) (3–11 June)
Ajit Tyagi (Acting) (3–10 June)
Franz Uirab
Zheng Guoguang (3–6 June)

3. Alternates and advisors to Executive Council members

Alexander I. BEDRITSKY
Alexander Gusev  Adviser (part-time)
Alexander A. Nurullaev  Adviser (part-time)
R.M. Vifand  Adviser (part-time) (3–11 June)
Igor A. Shiklomanov  Adviser (part-time) (3–7 June)
Vladimir M. Kattsov  Adviser (part-time) (3–10 June)
Marina V. Petrova (Ms)  Adviser (part-time) (3–11 June)
A.V. Frolov  Adviser (part-time) (8–11 June)
Vladimir Lenev  Adviser (part-time)

Ali Mohammad NOORIAN
M. Jabbari (Ms)  Alternate
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Tyrone W. SUTHERLAND
Fred Sambula Alternate
David Farrell Adviser
Glendell De Souza Adviser

Antonio Divino MOURA
Carlos Augusto Silva Alternate
Cleber Souza Correa Adviser
Luiz Augusto Toledo Machado Adviser (9–12 June)

Mamadou L. BAH
Amos Makarau Adviser

Arona NGARI
Neil Gordon Adviser

Daniel K. KEUERLEBER-BURK
Alex Rubli Alternate
Boris Richard Adviser

Magdy A. ABBAS
Moheb H. Doss Alternate
Ahmed H. Ibrahim Adviser

A.C. ANUFOROM
E.A. Afiesimama Adviser

Gregory AYERS
Gary Foley Alternate
Venantius Tsui Adviser
Andrew Tupper Adviser

Sameer Abdullelah BUKHARI
Jamal A. Bantan Adviser (5–12 June)

Francisco CADARSO
José A. Fernández Monistrol Alternate
Francisco Pascual Perez Adviser (3–6 June)

Massimo CAPALDO
Costante De Simone Alternate (3–5 June)
Sergio Pasquini Alternate (6 June)
Paolo Pagano Alternate (8–12 June)
Frederico Ferrini Adviser
Leone Maria Michaud Adviser

Héctor Horacio CIAPPESONI
Monica Marino (Ms) Alternate

Byung-Seong CHUN
Lee Ilsoo Alternate (11–12 June)
Nam Jae-Cheol Alternate (3–10 June)
Lee Ilsoo Adviser (part-time) (8–10 June)
Shin Do-Shick Adviser (part-time) (3–5 June)
Kim Se-Won Adviser (part-time)

David GRIMES
Bruce Angle Alternate
Michael Crowe Adviser (part-time)
Sylvie Gravel (Ms) Adviser (part-time)
Joanne St-Coeur (Ms) Adviser (part-time)
Johanne Forest (Ms) Adviser (part-time)
Mrs Sri Woro Budiati HARIJONO
Edvin Aldrian Alternate (8–12 June)
Edvin Aldrian Adviser (part-time) (3–7 June)
Dinar Sinurat (Ms) Adviser (part-time)
Ressa Mahardika (Ms) Adviser (part-time) (3–6 June)

John L. HAYES
Dan Thompson Alternate
Curt Barrett Adviser (part-time) (3–10 June)
Frederick Branski Adviser (part-time)
Brent Smith Adviser (part-time) (6–11 June)
Renee Tatusko (Ms) Adviser (part-time) (3–10 June)
Caroline Corvington (Ms) Adviser (part-time)
Harry Lins Adviser (part-time) (4–12 June)
Lisa Brodey (Ms) Adviser (part-time)
Robyn Disselkoen (Ms) Adviser (part-time)
Timothy Spanigler Adviser (part-time) (6–12 June)
Dave Blaskovich Adviser (part-time) (8–11 June)
Allyson Turnbull (Ms) Adviser (part-time) (3–9 June)
Ko Barrett (Ms) Adviser (part-time) (10–12 June)

John HIRST
Ian Lisk Alternate (3–8 June)
Mike Gray Alternate (9–12 June)
Ann Calver (Ms) Adviser (part-time) (9–11 June)
Mike Gray Adviser (part-time) (3–8 June)
Ann Calver (Ms) Adviser (part-time) (5–9 June)
Simon Gilbert Adviser (part-time) (3–11 June)
Karen McCourt (Ms) Adviser (part-time) (8–12 June)
John Mitchell Adviser (part-time) (4 June)

François JACQ
Frédérik Million Adviser (part-time) (4–12 June)
Marc Gillet Adviser (part-time)
Patrick Bénichou Adviser (part-time) (3–6 June)
Pierre Bessemoulin Adviser (part-time) (3–9 June)
Matteo Dell’Acqua Adviser (part-time) (8–12 June)

Wolfgang KUSCH
Detlev Frömming Alternate
Geerd-Rüdiger Hoffmann Adviser (part-time) (8–9 June)
Johannes Cullmann Adviser (part-time) (8 June)
Ralph Kellermann Adviser (part-time)
Axel Thomalla Adviser (part-time) (8–12 June)
Claudia Rubart (Ms) Adviser (part-time) (3–5 June)

Ms Linda MAKULENI
Mark Majodina Alternate
Modjadji Makoela (Ms) Adviser (3–9 June)

Joseph Romanus MUKABANA
Samuel W. Kahuha Adviser
Nicholas W. Maingi Adviser

Mieczysław OSTOJSKI
Lukasz Legutko Alternate (5–12 June)
Rafal Bakowski Adviser (3–5 June)

Kunio SAKURAI
Naoyuki Hasegawa Alternate
Hiroshi Koide Adviser (part-time)
Norihisa Washitake Adviser (part-time)
Seiichi Tajima Adviser (part-time)
Petteri TAALAS
Maria Hurtola (Ms) Alternate

YAP Kok-Seng
Neil Gordon Alternate (4–12 June)

ZHENG Guoguang
Shen Xiaonong Alternate
Yu Yong Adviser (part-time) (3–8 June)
Xie Pu Adviser (part-time) (3–8 June)
Yu Jixin Adviser (part-time)
Zhao Datong Adviser (part-time) (3–6 June)
Duan Yihong Adviser (part-time) (9–12 June)
Shi Peiliang Adviser (part-time) (8–12 June)
Li Mingmei (Ms) Adviser (part-time)

4. Presidents of technical commissions

Carr McLeod President of CAeM
Michael James Salinger President of CAgM
Michel Béland President of CAS
Frederick Branski President of CBS
Pierre Bessemoulin President of CCl (3–9 June)
Bruce Stewart President of CHy
John Nash President of CIMO
Peter Dexter Co-President of JCOMM (3–10 June)

5. Hydrological advisers

Igor A. Shiklomanov Hydrological Adviser to the President of RA II (3–7 June)
Roberto Coimbra Hydrological Adviser to the President of RA III (3–12 June)
Eduardo Planos Gutiérrez Hydrological Adviser to the President of RA IV (3–12 June)
Jan Kubát Hydrological Adviser to the President of RA VI (3–12 June)

6. Representatives of Members of WMO

Congo
Camille Loumouamou Representative
Benjamin Boungou Representative (4–12 June)
Célestin Tchibinda Representative

Croatia
Ivan Cacic Permanent Representative (3–8 June)

Finland
Mervi Kultamaa (Ms) Representative

Haiti
Margareth Desmangles (Ms) Representative

Indonesia
Boyke Nurdin Representative

Israel
Samuel David Breier Representative
Ron Adam Representative

Libyan Arab Jamahiriya
Ahmed R. El Haj Permanent Representative (3–4 June)
Abdouraowf M. El Belaazi Representative

Madagascar
Rochel Rakotonarivo Representative
Monaco
Gilles Realini  Representative

Norway
Gry Karen Waage (Ms)  Representative

Republic of Moldova
Victor Moraru  Representative

Serbia
H.E. Slobodan Vukcevic  Representative
Jelisaveta Djurickovic-Tuvcic (Ms)  Representative

Spain
Manuel Palomares  Representative

Sudan
Mohamed Hassan Khair  Representative

Switzerland
Gerhard Müller  Representative
Peter Morscher  Representative (5–12 June)
Gerhard Ulmann  Representative (11–12 June)

Turkey
H. Murat Pulla  Representative
Emir Salim Yüksel  Representative (5–12 June)

United Arab Emirates
Abdallah Ahmad Al Mandoos  Permanent Representative
Omar Abdulllah Al Yazeedi  Representative

7. Representatives of international organizations

Representatives of United Nations and related organizations and programmes
Verona Collantes (Ms)  United Nations
Charles Vincent  World Food Programme (WFP)

Representatives of specialized agencies and related organizations
Manzoor Ahmad (8–12 June)  Food and Agriculture Organization of the United Nations (FAO)
Boram Lee (8–9 June)  Intergovernmental Oceanographic Commission (IOC)

Representatives of intergovernmental organizations
Dominique Marbouty (3–5 June)  European Centre for Medium-Range Weather Forecasts (ECMWF)
Steven Noyes (8–9 June)  Network of European Meteorological Services (EUMETNET)
Lars Prahm (8–10 June)  European Organization for the Exploitation of Meteorological Satellites (EUMETSAT)
Paul Counet (8–9 June)  Intergovernmental Oceanographic Commission (IOC)
Don Hinsman (9–12 June)
Evangelina Oriol-Pibernat (Ms)  European Space Agency (ESA)
(8–12 June)
Abd El-Wahab Abd El-Aleem  League of Arab States (LAS)
(8–12 June)

Representatives of non-governmental organizations
Bruce Sumner  Association of Hydro-Meteorological Equipment Industry (HMEI)
Christine Charstone (Ms)  

8. Invited experts

John Zillman  President of GCOS Steering Committee
Graham Miller  External Auditor (3–8 June)
Tim Valentine  External Auditor (3–8 June)
Manjit Lall  External Auditor (8 June)
Cihan Terzi  Joint Inspection Unit (8 June)