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| **WORLD WEATHER WATCH**  **COMMISSION FOR BASIC SYSTEMS** |  | | |
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| STEERING GROUP ON RADIO FREQUENCY COORDINATION (SG-RFC) | | | |
| MeteoSwiss, Payerne, Switzerland, 22 - 25 September 2015 | | | |
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# Outcomes of the Commission for Basic Systems on Radio-Frequency Matters

The Commission for Basic Systems (CBS) at its extraordinary session on 8–12 September 2014 discussed many issues related to the use of radio-frequency spectrum and radio-frequency coordination. CBS developed some drafts related to radio-frequency matters for consideration by the 17th World Meteorological Congress and approved recommendations on radio-frequency coordination issues.

The relevant extracts from the CBS Abridged final report with resolutions and recommendations are provided in Annex 1.

**Annex 1**

**Extracts from the Abridged final report with resolutions and recommendations   
of the Extraordinary Session of the Commission on Basic Systems,   
Geneva, 8-12 September, 2014  
 on Radio-Frequency Matters**

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Information Systems and Services

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1.6.32 Noting the importance of radio frequency coordination to environmental observing systems and the importance of NMHSs contributing to the national and international radio frequency coordination activities as reflected in Resolution 4 (Cg‑XV) and Resolution 11 (EC-64) on “Radio frequencies for meteorological and related environmental activities”, the Steering Group on Radio-frequency Coordination (SG-RFC) has prepared a Guide to NMHS Participation in Radio Frequency Coordination for consideration of CBS to assist Members in this important activity.

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**Radio Frequency Matters**

Preparation for WRC-15

2.4.2 The Commission noted the progress on the preparation for the International Telecommunication Union (ITU) World Radiocommunication Conference 2015 (WRC-15). It noted the concerns of EC-66 relating to the potential impacts of WRC-15 decisions relating to WRC-15 Agenda Item 1.1 on International Mobile Telecommunications. It further noted that the guidance to ITU Member States on WRC-15 Agenda was available to those with access to ITU’s document system. The Commission requested the Steering Group on Radio-Frequency Coordination (SG-RFC) to review the draft WRC-15 Conference Preparatory Meeting Report, taking into consideration the concerns of EC-65 and to update the WMO Position Paper on WRC-15 Agenda as soon as possible for the guidance of National Meteorological and Hydrological Services (NMHSs) and submission to the second WRC-15 Conference Preparatory Meeting as well as other WRC-15 related preparatory meetings.

Matters for consideration by the Seventeenth WMO Congress

2.4.3 The Commission recalled Resolution 4 (Cg-XV) and Resolution 11 (EC-64) on “Radio frequencies for meteorological and related environmental activities” which identified frequency coordination activities as a matter of high priority. Noting that the demand on radio spectrum continued to increase, the Commission expressed its appreciation to the CBS Steering Group on Radio-frequency Coordination for its continued diligence and efforts in managing the very specialist issue of radio frequency coordination. The Commission adopted Recommendation 12 (CBS-Ext.(2014)) – Radio frequencies for meteorological and related environmental activities.

2.4.4 The Commission endorsed the draft of the NMHS Guide to Participation in Radio Frequency Coordination. It noted the need expressed by the Executive Council at its sixty-fourth session for this guide and the request of Resolution 9 (EC-65) for effective participation of NMHSs in national and international frequency coordination processes. The Commission encouraged Members to use this Guide in enhancing their participation in the current and future WRC preparations. It adopted Recommendation 13 (CBS-Ext.(2014)) – Guide for National Meteorological and Hydrological Services Participation in Radio-frequency Coordination.

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Collaboration with CIMO on Radio-Frequency Protection

3.1.33 The Commission noted the recent reappointment of CIMO Theme Leaders on Radio-Frequency Protection and urged SG-RFC to continue to liaise with them on relevant radiofrequency matters.

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Recommendation 12 (CBS-Ext.(2014))

Radio Frequencies for Meteorological and Related   
Environmental Activities

THE COMMISSION FOR BASIC SYSTEMS,

**Recalling**:

(1) Resolution 4 (Cg-XV) – Radio frequencies for meteorological and related environmental activities,

(2) Resolution 11 (EC-64) – Radio frequencies for meteorological and related environmental activities,

(3) Resolution 9 (EC-65) – Preserving the radio-frequency spectrum for meteorological and related environmental activities at the World Radiocommunication Conference 2015,

**Noting**:

(1) That the Executive Council at its sixty-sixth session agreed to keep as a priority issue Resolution 9 (EC-65),

(2) That the WMO observing systems comprise a wide number of different radio-based systems/applications operating in different radio services on a global and regional basis,

(3) That the World Radiocommunication Conference of the International Telecommunication Union is the decision-making forum for the regular review and revision of the Radio Regulations, an international treaty related to setting radio-frequency allocations and regulatory provisions applied to all global and regional radio services,

**Considering**:

(1) The increasing demand for meteorological and environmental data used by National Meteorological and Hydrological Services in weather forecasting, climate monitoring, protection of the environment, and detection and mitigation of the negative effects of disasters,

(2) The important role of radio-based meteorological and environmental monitoring systems/applications in obtaining and disseminating meteorological data,

(3) The crucial importance of the allocation of radio-frequency bands employed by space-based and surface-based WMO observing systems and the need for their protection from harmful interference,

**Recommends** that Resolution 4 (Cg-XV) be updated to reflect the continued importance of radio-frequency coordination in the seventeenth financial period, and that the draft resolution based on Resolution 4 (Cg-XV), as contained in the annex to the present recommendation, be presented for consideration by the Seventeenth World Meteorological Congress.

Annex to Recommendation 12 (CBS-Ext.(2014))

DRAFT REVISION OF RESOLUTION 4 (Cg-XV) – RADIO FREQUENCIES FOR METEOROLOGICAL AND RELATED ENVIRONMENTAL ACTIVITIES

Resolution 4X (Cg-XV17)

RADIO FREQUENCIES FOR METEOROLOGICAL AND RELATED   
ENVIRONMENTAL ACTIVITIES

THE CONGRESS,

**Noting**:

(1) The WMO Strategic and Operating Plans and the United Nations Millennium Development Goals,

(2) Resolution 34 (Cg-XIV) – Radio-frequencies for meteorological and related environmental activities,

(3) The current radio frequency allocations and regulatory provisions related to the meteorological aids, meteorological satellite, Earth exploration-satellite and radiolocation (weather and wind profiler radars) services in the Radio Regulations of ITU,

(4) The outcome of the ITU World Radiocommunication Conferences (WRC), especially WRC-2000 and WRC-03,

(5) The agenda of the forthcoming ITU World Radiocommunication Conferences (WRC-07) and related WMO positions submitted during the ITU preparatory process,

**Considering**:

(1) The prime importance of the specific radiocommunication services for meteorological and related environmental activities required for the prevention, detection, early warning and mitigation of natural and technological (man-made) disasters, the safety of life and property, the protection of the environment, climate change studies and scientific research,

(2) The importance of information provided by the Earth-exploration systems including meteorological systems for a wide range of economic activities such as agriculture, transportation, construction, tourism, etc.,

(3) The crucial importance of the allocation of suitable radio frequency bands for the operation of surface-based meteorological observing systems, including in particular radiosondes, weather radars, wind profiler radars,

(4) The crucial importance of the allocation of suitable radio-frequency bands for the operation of Meteorological and R&D satellites, including remote sensing, data collection and data distribution links,

**Stressing** that some radio-frequency bands are a unique natural resource due to their special characteristics and natural radiation enabling spaceborne passive sensing of the atmosphere and the Earth surface, that deserve adequate allocation to the Earth exploration satellite service (passive) and absolute protection from interference,

**Expresses** its serious concern at the continuing threat to several frequency bands allocated to the meteorological aids, meteorological satellite, Earth exploration-satellite and radiolocation (weather and wind profiler radars) services posed by the development of other radiocommunication services,

**Requests** the Commission for Basic Systems to pursue the continuous review of regulatory and technical matters related to radio frequencies for operational and research meteorological and related environmental activities, and preparation of guidance and information for NMHSs, in coordination with other technical commissions, especially CIMO, and in liaison with other relevant international bodies, in particular the Coordination Group for Meteorological Satellites;

**Urges** all Members to do their utmost to ensure the availability and protection of suitable radio frequency bands required for meteorological and related environmental operations and research, and in particular:

(1) To ensure that their national radiocommunication administrations are fully aware of the importance of and requirements for radio frequencies for meteorological and related activities, and to seek their support in the ITU World Radiocommunication Conferences and Radiocommunication Sector activities;

(2) To participate actively in the national, regional and international activities on relevant radiocommunication regulatory issues and, in particular, to involve experts from their Services in the work of relevant regional radiocommunication organizations and of ITU-R, especially ITU-R Study Group 7 on Science Services;

(3) To register adequately with their national radiocommunication administrations all radiocommunication stations and radio frequencies used for meteorological and related environmental operations and research;

**Appeals** to ITU and its Member Administrations:

(1) To ensure the availability and absolute protection of the radio-frequency bands which, due to their special physical characteristics, are a unique natural resource for spaceborne passive sensing of the atmosphere and the Earth surface; in this regard, the exclusive 23.6–24 GHz passive band that is associated with a water vapour absorption line is and are of crucial importance for weather, water and climate research and operations;

(2) To give due consideration to the WMO requirements for radio frequency allocations and regulatory provisions for meteorological and related environmental operations and research;

(3) To pay special attention to the WMO positions related to WRC-07 agenda, in the light of Appeals (1) and (2) above;

**Requests** the Secretary-General:

(1) To bring this resolution to the attention of all concerned, including the International Telecommunication Union;

(2) To pursue as a matter of high priority the coordination role of the Secretariat in radio frequency matters, especially with ITU-R, including participation of WMO in ITU-R Radiocommunication Study Groups, conference preparatory meetings and World Radiocommunication Conferences;

(3) To facilitate the coordination between National Meteorological and Hydrological Services and their national radiocommunication administrations, particularly in preparing the ITU World Radiocommunication Conferences, by providing appropriate information and documentation;

(4) To assist the Commission for Basic Systems in the implementation of this resolution.

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**Note**: This resolution replaces Resolution 34 (Cg-XIV), which is no longer in force

Recommendation 13 (CBS-Ext.(2014))

Guide FOR NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES Participation in Radio-Frequency Coordination

THE COMMISSION FOR BASIC SYSTEMS,

**Noting**:

(1) Resolution 4 (Cg-XV) – Radio frequencies for meteorological and related environmental activities,

(2) Resolution 11 (EC-64) – Radio frequencies for meteorological and related environmental activities,

(3) Resolution 9 (EC-65) – Preserving the radio-frequency spectrum for meteorological and related environmental activities at the World Radiocommunication Conference 2015,

**Noting further**:

(1) The importance of increased involvement of National Meteorological and Hydrological Services (NMHSs) in national frequency policy development to take into consideration the dependence of services operated by NMHSs on observation and communications systems in order to meet national priorities, including the provision of forecasts and warning services and for climate monitoring,

(2) The need for guidance on how NMHSs could be more effectively involved in the national, regional and global development and maintenance of the International Telecommunication Union Radiocommunication Sector’s Radio Regulations that govern the use of radio frequency,

**Recommends** that the Guide for National Meteorological and Hydrological Services Participation in Radio-frequency Coordination, as given in the annex to the present recommendation, be adopted in all WMO official languages.

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ANNEX XII  
Annex to paragraph 3.1.17 of the general summary

RECOMMENDATIONS REGARDING THE IMPLEMENTATION OF   
OBSERVING SYSTEMS IN THE WMO REGIONS

The recommendations of the Implementation Coordination Team (ICT) on Integrated Observing Systems regarding the implementation of observing systems in the regions are as follows:

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RA V

• Greater efforts by Members should be made in ensuring that their operational observing stations compile and transmit the climate-related messages according to existing WMO regulations.

• Continue and strengthen the integration of the RBSN & RBCN and other networks; and improve the data sustainability and availability performance of RBSN & RBCN to a satisfactory level to meet service requirements.

• Clarify the contribution of the Region in GCW.

• In order to protect present and future services provided by NMHSs for timely warning of impending natural and environmental disasters, accurate climate prediction and detailed understanding of the status of global water resources, it is essential that RA V Permanent Representatives ensure that national positions on radio frequency matters recognized the results of studies related to sharing of frequency bands allocated for meteorological and related environmental activities with other radiocommunication systems and especially that IMT/RLAN systems are made available to the wider radio frequency management community.

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