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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 17th World Meteorological Congress on Radio-Frequency Coordination Issues

The 17th World Meteorological Congress paid significant attention to the radio-frequency coordination issues and to the needs of WMO systems and applications in the radio-frequency spectrum and adequate protection of radio-frequencies employed by meteorological systems/applications for accurate climate prediction, detailed understanding of the status of global water resources, disaster prediction, detection and mitigating negative effects of disasters.

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

**Annex 1**

**Extracts from the Abridged final report with resolutions
of the Seventeenth World Meteorological Congress,
Geneva, 25 May - 12 June, 2015
 on Radio-Frequency Coordination Issues**

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***Radio-frequency coordination***

4.2.2.87 Congress noted the progress on the preparation for the International Telecommunications Union (ITU) World Radiocommunication Conference 2015 (WRC-15). It expressed its appreciation to the CBS Steering Group on Radio-frequency Coordination (SG-RFC) for its continued diligence and efforts in managing the very specialist issue of radio-frequency coordination and for maintaining the WMO Position Paper on WRC-15 Agenda for the guidance of National Meteorological and Hydrological Services (NMHSs). It noted that the position paper had been submitted to the second WRC-15 Conference Preparatory Meeting as well as other WRC-15 related preparatory meetings.

4.2.2.88 Congress noted the potential impacts of WRC-15 decisions, in particular WRC-15 agenda item 1.1 related to additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications to facilitate the development of terrestrial mobile broadband applications. Congress urged WMO Members and regional associations to ensure that the WMO Position Paper on WRC-15 Agenda is brought to the attention of their national and regional radio-frequency spectrum managers and taken into consideration in the development of national and regional preparations for WRC-15. It also encouraged NMHSs to maintain close contact with respective national radio-frequency authorities during and after the WRC-15 process.

4.2.2.89 Emphasizing that radio-frequency coordination activities remained a matter of high priority as the demand on radio spectrum continues to increase, Congress adopted Resolution 29 (Cg-17) – Radio frequencies for meteorological and related environmental activities.

4.2.2.90 Noting that EC-64 had identified the need for a guide on radio-frequency coordination matters and the request of Resolution 9 (EC-65) for effective participation of NMHSs in national and international radio-frequency coordination processes, Congress adopted Resolution 30 (Cg‑17) – Guide to National Meteorological and Hydrological Services’ Participation in Radio-frequency Coordination. It encouraged all NMHSs and regional associations to make use of this guide to enhance their effectiveness in radio-frequency coordination matters at national, regional and global levels.

4.2.3 WMO Information System (agenda item 4.2.3)

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6.3 WMO and the Global Earth Observation System of Systems (agenda item 6.3)

6.3.1 Congress noted the actions taken by the Executive Council and WMO Members to reinforce the guidance issued by Cg-XVI regarding participation in the Group on Earth Observations (GEO). Congress was informed of the benefits resulting from WMO’s contribution to the Global Earth Observation System of Systems (GEOSS) including, but not limited to, collaboration on data sharing and data dissemination and on radio-frequency coordination. Congress noted that WMO contributes programmatically to the (GEOSS) 10-year Implementation Plan (2005–2015) through the World Weather Watch (WWW), including the GDPFS, and through WIS and WIGOS, including the WMO Space Programme activities. Examples include the contributions of the WMO Programmes and co-sponsored Programmes under WIGOS, i.e. GOS, GCOS, WWRP, GAW and GCW, to the agriculture, climate, water and weather Societal Benefit Areas (SBAs) of GEO.

6.3.2 Congress encouraged WMO Members to continue to engage fully with national GEO coordination mechanisms in order to reinforce the central national, regional and global role – and the recognition of this by GEO – of the NMHSs in the specification, acquisition and dissemination of observations to support a broad range of weather, climate and water applications. Recognizing that the number of Members joining GEO continues its increase, Congress called on Members to closely coordinate their national activities related to observations and their contributions to regional global GEOSS activities and encouraged NMHS Directors to work closely with GEO Principals at the national level.

6.3.3 Congress was informed that in order to ensure interoperability with the GEOSS Common Infrastructure (GCI), the WMO Information System (WIS) had maintained close coordination with the GCI by providing access to observational data and information collected by NMHSs. In this regard, Congress noted with satisfaction that data in WIS could now be discovered in GEOSS, and vice versa, thanks to Germany, Japan and the Republic of Korea providing WMO metadata to the GEOSS Common Infrastructure through the GEOSS Open Modeller. This was seen as an important step toward making both GEOSS and WIGOS observations available through both WIS and GCI, as requested by Cg-XV.

6.3.4 Congress welcomed the Geneva Declaration adopted by the GEO Ministerial Summit in January 2014, by which the mandate of GEO was renewed until 2025. It noted the strengthened relationships between WMO and GEOSS through the implementation of the Global Framework on Climate Services (GFCS), reflecting the alignment with some GEO SBAs of the four GFCS priority areas, in particular agriculture and food security, water, health and disaster risk reduction. Congress encouraged similar close collaboration with the emerging energy priority area and the GEO energy SBA. In addition Congress noted the good collaboration between WMO and GEO on initiatives such as GEO’s Global Agricultural Monitoring (GEOGLAM), Global Carbon Observation and Analysis (GEO Carbon), Cold Regions activities and Global Urban Observation and Information efforts.

6.3.5 Congress urged GEO to ensure that the contributions of WMO to GEOSS through its programmes, technical commissions, NMHSs etc. be properly recognized and acknowledged in publications, strategic documents and plans. Congress acknowledged the steps being taken by GEO to address its governance structure to give proper recognition to the role of UN agencies as being distinct from that of their programmes.

6.3.6 Congress noted the initiation of the AfriGEOSS initiative and encouraged it to build on the complementary efforts by WMO, in particular WIGOS, and to engage with WMO Members in Region I (Africa) especially through their NMHSs in this activity. Congress urged GEO to give proper recognition to WMO’s contribution in Africa, and noted with satisfaction the increased collaboration between WMO, through WIGOS, and AfriGEOSS in Region I, as encouraged in the Praia Ministerial Declaration issued by AMCOMET-3 in Cabo Verde, February 2015.

6.3.7 Concerning radio-frequency coordination, Congress noted with satisfaction that GEO had contributed to a WMO Position Paper on the importance of protecting the 5350–5470 MHz frequency band, and that it had prepared a GEO Position Paper, both of which had been submitted to the Joint Task Group meeting in preparation for the 2015 World Radiocommunication Conference. Congress further expressed its appreciation of the fact that the GEO-X Plenary had highlighted the need to preserve the 5350–5470 MHz frequency range, which is of high importance to the Copernicus Sentinel-series satellites and other Earth Observation (EO) missions providing benefits to WMO Members and Programmes.

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Resolution 29 (Cg-17)

RADIO FREQUENCIES FOR METEOROLOGICAL AND
RELATED ENVIRONMENTAL ACTIVITIES

THE WORLD METEOROLOGICAL CONGRESS,

**Noting**:

(1) The WMO Strategic and Operating Plans,

(2) Resolution 4 (Cg-XV) – 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 the International Telecommunication Union (ITU),

(4) The outcome of the ITU World Radiocommunication Conferences (WRCs),

(5) The agenda of the forthcoming ITU World Radiocommunication Conference and related WMO positions submitted during the ITU preparatory process to WRCs,

**Considering**:

(1) The prime importance of the specific radiocommunication services for meteorological and related environmental activities required for the detection and early warning of hazards and the prevention and mitigation of natural and technological (human-induced) 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 and tourism,

(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 and wind profiler radars,

(4) The crucial importance of the allocation of suitable radio-frequency bands for the operation of meteorological and research and development 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 space-borne passive sensing of the atmosphere and the Earth surface, which 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 radio-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 National Meteorological and Hydrological Services, in coordination with other technical commissions, especially the Commission for Instruments and Methods of Observation, 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 (ITU-R) 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 telecommunication organizations and of ITU‑R, especially ITU-R Study Groups 5 and 7 on Terrestrial (including radiolocation) and Science Services, respectively;

(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 the International Telecommunication Union 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 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 the WRC agenda, in the light of Appeals (1) and (2) above;

**Requests** the Secretary-General:

(1) To bring the present 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 for the ITU World Radiocommunication Conferences, by providing appropriate information and documentation;

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

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**Note**: This resolution replaces Resolution 4 (Cg-XV), which is no longer in force.

Resolution 30 (Cg-17)

GUIDE TO NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES’ PARTICIPATION IN RADIO-FREQUENCY COORDINATION

THE WORLD METEOROLOGICAL CONGRESS,

**Having considered** the *Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session 2014 of the Commission for Basic Systems* (WMO-No. 1140),

**Noting** Resolution 29 (Cg-17) – Radio frequencies for meteorological and related environmental activities,

**Considering** Recommendation 13 (CBS-Ext.(2014)) – Guide to National Meteorological and Hydrological Services Participation in Radio-frequency Coordination,

**Decides** to approve the Guide to National Meteorological and Hydrological Services’ Participation in Radio-frequency Coordination, as provided in the annex to Recommendation 13 (CBS-Ext.(2014));

**Requests** the Secretary-General to take appropriate action to publish the new Guide in order that Members are able to use it in their preparation processes for the World Radiocommunication Conference 2015;

**Authorizes** the Secretary-General to make any consequent editorial amendments.

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