WEATHER CLIMATE WATER
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World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

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Annex: 1

Subject: WMO preparation and coordination of the World Radiocommunication Conference in 2027 (WRC-27)

Action required: To inform your national spectrum regulator about the preliminary WMO position on the WRC-27 agenda

Dear Sir/Madam,

I would like to bring to your attention the fact that several agenda items of the upcoming International Telecommunication Union (ITU) World Radiocommunication Conference 2027 (WRC-27) are of prime interest to the meteorological community. WRCs are held every four years to review and revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and of geostationary and non-geostationary-satellite orbits.

At its meeting held from 4 to 6 February 2026, the WMO Expert Team on Radio-Frequency Coordination (ET-RFC) further elaborated the Preliminary WMO Position on the WRC-27 agenda (see annex).

As WMO only participates in WRCs with an observer status, it is essential that issues of importance to National Meteorological and Hydrological Services are duly recognized and taken into account by national delegations through their respective National Radiocommunication Authorities.

To support your coordination with national spectrum regulators in preparation for WRC-27, WMO has further developed its positions on the relevant agenda items. You are therefore kindly encouraged to promote these positions by engaging with your National Radiocommunication Authority and seeking its support on matters affecting meteorological and related environmental services.

Should you have any additional input or questions related to radio-frequency matters, please do not hesitate to contact the WMO Secretariat (Ms Natalia Donoho, ndonoho@wmo.int).

I would like to express my sincere appreciation for your continued support in advancing WMO activities.

Yours faithfully,

Ko Barrett

Ms Ko Barrett
for the Secretary-General

To: Permanent Representatives of Members with WMO

cc: National Focal Points on Radio Frequency matters
Mr Michel Jean, President of INFCOM

World Meteorological Organization **ET-RFC-7**

COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS

Expert Team Radio Frequency Coordination
4–6 February 2026, Hybrid Session

PRELIMINARY WMO POSITION ON THE WORLD RADIOCOMMUNICATION CONFERENCE 2027 (WRC-27) AGENDA

1. Introduction

WMO Members, through their National Meteorological and Hydrological Services (NMHSs) and supporting agencies, including operators of space-based observing systems, make available a wide range of essential services to observe weather, climate, water and related environmental events.

The observing networks provided by WMO Members form the backbone of the WMO Integrated Global Observing System (WIGOS) and are critically dependent on the use of radiofrequencies for the sensing and dissemination of data and information.

In this context, Resolution **673** of the International Telecommunication Union (ITU) World Radiocommunication Conference (Geneva, 2012)[1] considers that:

- Earth observation data are essential for monitoring and predicting climate changes, for disaster prediction, monitoring and mitigation, for increasing the understanding, modelling and verification of all aspects of climate change, and for related policymaking;
- Many observations are performed over the entire world which require spectrum-related issues to be considered on a worldwide basis;
- Earth observations are performed for the benefit of the whole international community, and their data are generally made available at no cost;

and resolves:

- To continue to recognize that the use of spectrum by Earth observation applications has a considerable societal and economic value;
- To urge administrations to take into account Earth observation radio-frequency requirements and in particular the protection of Earth observation systems in the related frequency bands;
- To encourage administrations to consider the importance of the use and availability of spectrum for Earth observation applications prior to taking decisions that would negatively impact the operation of these applications.

[1] World Radiocommunication Conference Resolutions are contained in Volume 3 of the in-force version of the Radio Regulations. The Radio Regulations can be obtained at: https://www.itu.int/hub/publication/r-reg-rr-2024/

In addition to meteorological observations, the WMO mandate also covers related environmental observations, including observations of space weather. The collection and exchange of space weather data are important for detecting solar activity events, including solar flares and high energetic particles, and their relevant consequences for Earth's geomagnetic and ionospheric conditions, and other space weather phenomena that impact services critical to the national economies and public safety.

Resolution **675** of the ITU World Radiocommunication Conference (Dubai, 2023) resolves:

- To recognize the importance of spectrum usage by space weather applications for monitoring space weather phenomena and events that impact services critical to the economy, safety and security of administrations and the populations of their countries;

- To urge administrations to take into account space weather radio-frequency requirements and in particular the protection of the related frequency bands.

The development of new, mass-market and value-added radio applications is putting increasing pressure on the frequency bands used for meteorological purposes. This presents potential risks to meteorological and other related environmental applications, but also opportunities for enhancing observations.

WMO remains committed to working with ITU towards optimizing the use of the radio-frequency spectrum for the benefit of the global community.

This document reflects the WMO position on the agenda of WRC-27[2].

2. General comments

WIGOS comprises components that make use of a wide number of different radio applications and services, some of which may be affected by WRC-27 decisions.

Space-borne sensing of Earth's surface and atmosphere is of critical and growing importance in operational and research meteorology, in particular for mitigating the impact of weather, climate and water related disasters, and in the scientific understanding, monitoring and prediction of climate change and its impacts.

The impressive progress made in recent years in weather, climate and water analyses and forecasts, including warnings for dangerous weather phenomena (heavy rain, storms, cyclones, etc.) and solar activity that affect all populations and economies, is to a great extent attributable to space-borne observations and their assimilation in numerical weather and environmental prediction models.

2.1 Space-based observations

Space-borne passive sensing for meteorological applications is performed in bands allocated to the Earth exploration-satellite service (passive) (EESS (passive)) operating on Earth observation and meteorological-satellite systems. Passive sensing requires the measurement of naturally occurring radiation, usually of very low-power levels, which contains essential information on the physical process under investigation.

The relevant frequency bands are determined by fixed physical properties (molecular resonance) that cannot be changed, ignored or duplicated in other bands. Therefore, these frequency bands are an important natural resource. Even low levels of interference received by a passive sensor

[2] ITU-R Resolution **813 (WRC-23)** "Agenda for the 2027 World Radiocommunication Conference"

may degrade its data, as the measurement sensitivity is designed for the observation of changes in natural background radiation. In addition, in most cases, these sensors are not able to discriminate between natural and man-made radiation.

For passive sensing bands shared with active services, the situation is becoming increasingly critical with an increased density of terrestrial active devices and serious cases of interference already being reported.

In the more critical passive sensing frequency bands, Radio Regulation (RR) footnote No **5.340**[3] stating that "all emissions are prohibited" enables in principle passive services to deploy and operate their systems with the highest reliability. However, in some cases this protection appears to be insufficient due to unregulated and potentially mass-market short-range devices allowed nationally to operate in these bands, or to unwanted emissions from adjacent bands not adequately regulated to ensure the protection of EESS (passive) systems from interference.

Several geophysical parameters contribute, at varying levels, to natural emissions, which can be observed at a given frequency and present unique properties. Therefore, measurements at several frequencies in the microwave spectrum must be made simultaneously in order to isolate and retrieve each individual contribution and to extract the parameters of interest from the given set of measurements. Consequently, interference affecting a given passive frequency band can cause disturbances in the overall measurement of a given environmental variable. Each passive frequency band cannot hence be considered on its own but should be seen as a component of a complete space-borne passive sensing system.

It should also be noted that full global data coverage is of particular importance for most weather, climate and water applications and services.

Space-borne active sensing, performed by altimeters, rain and cloud radars, scatterometers and synthetic aperture radars[4], provides meteorological and climatology activities with important information on the state of the ocean, ice and land surfaces as well as atmospheric phenomena.

Also of great importance is the availability of sufficient and well-protected radio-frequency spectrum allocations to the Earth exploration-satellite and meteorological-satellite services for telemetry, telecommand and control (2 200–2 290 MHz and 2 025–2 110 MHz) as well as for satellite downlink of the collected data (1 670–1 710 MHz, 7 450–7 550 MHz, 7 750–7 900 MHz, 8 025–8 400 MHz and 25.5–27 GHz).

2.2 Surface-based and in situ observations

In addition, meteorological radars and wind profiler radars are important surface-based instruments in the meteorological observation process. Radar data are input to nowcasting and to numerical weather and environmental prediction models for short-term and medium-term forecasting. There are currently about 100 wind profiler radars and several hundreds of meteorological radars worldwide that perform wind and precipitation measurements. These systems play a crucial role in the immediate meteorological and hydrological alert processes. Meteorological radar networks represent the last line of defence in a disaster warning strategy against loss of life and property in flash floods or severe storm events.

Meteorological aids systems, mainly radiosondes, are the main source of atmospheric in situ measurements (temperature, relative humidity and wind speed) with the high resolution required to provide real-time vertical atmospheric profiles that are and will remain essential for operational meteorology, including weather analysis prediction and warnings, as well as for

[3] Radio Regulations footnotes are found in Volume 1 of the Radio Regulations. The Radio Regulations can be obtained at: https://www.itu.int/hub/publication/r-reg-rr-2024/.

[4] Synthetic Aperture Radars (SAR) provide complementary information, which is useful for flood disaster management and many other applications.

climate monitoring. In addition, these in situ measurements are essential for calibrating space-borne remote sensing, in particular passive sensors.

2.3 WMO actions

The nineteenth session of the World Meteorological Congress (Cg-19), attended by 193 Member countries, adopted Resolution 31 (Cg-19) – WMO Position on the World Radiocommunication Conference 2023 (WRC-23) Agenda, in which all WMO Member countries are urged to do their utmost to ensure the availability and protection of suitable radio-frequency bands required for meteorological and related environmental operations and research.

Additionally, WMO Resolution 31 (Cg-19) "… stresses 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's surface, which deserve adequate allocation to the Earth exploration-satellite service (passive) and absolute protection from interference", and "… 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".

The dependency of observing systems on radio-frequency management has long-term ramifications on the sustainability and usability of essential weather, climate, water and other related environmental observations that also provide significant socioeconomic benefits to all administrations.

3. Preliminary WMO position on WRC-27 agenda items

Among the WRC-27 agenda items, 14 items or topics are related to frequency bands or issues of prime interest or concern for meteorology and related environmental fields:

Agenda item 1.1:	Fixed-satellite service (FSS) aeronautical and maritime Earth stations in motion (ESIMs) in the 47.2–50.2 GHz and 50.4–51.4 GHz bands
Agenda item 1.3:	FSS gateways in the 51.4–52.4 GHz band transmitting to non-geostationary-satellite orbit (NGSO) systems
Agenda item 1.4:	FSS and broadcasting-satellite service (BSS) downlinks in the 17.3 to 17.8 GHz range
Agenda item 1.7:	International Mobile Telecommunications (IMT) identifications in the 4.4–4.8 GHz, 7.125–8.4 GHz and 14.8–15.35 GHz bands
Agenda item 1.8:	Radiolocation service in the 231.5–275 GHz and 275–700 GHz ranges
Agenda item 1.11:	Space-to-space links in bands allocated to the mobile-satellite service (MSS) in the 1518 to 1675 MHz range and the 2483.5–2500 MHz band
Agenda item 1.12:	MSS in the 1427–1432 MHz, 1645.5–1646.5 MHz, 1880–1920 MHz and 2010–2025 MHz bands for low data rate NGSO systems
Agenda item 1.13:	MSS in the 694 to 2700 MHz range for direct connectivity to IMT user equipment
Agenda item 1.14:	MSS in the bands 2010–2025 MHz, 2120–2160 MHz and 2160–2170 MHz
Agenda item 1.17:	Regulatory provisions and protection of receive-only space weather sensors

Agenda item 1.18: Protection of EESS (passive) sensors from active services in adjacent bands above 76 GHz

Agenda item 1.19: New primary allocations to the EESS (passive) in the 4.2–4.4 GHz and 8.4–8.5 GHz bands for SST measurements

Agenda item 7: Satellite regulatory procedures

Agenda item 10: Preliminary agenda for WRC-31

3.1 Agenda item 1.1

"to consider the technical and operational conditions for the use of the frequency bands 47.2–50.2 GHz and 50.4–51.4 GHz (Earth-to-space), or parts thereof, by aeronautical and maritime Earth stations in motion communicating with space stations in the fixed-satellite service and develop regulatory measures, as appropriate, to facilitate the use of the frequency bands 47.2–50.2 GHz and 50.4–51.4 GHz (Earth-to-space), or parts thereof, by aeronautical and maritime Earth stations in motion communicating with geostationary space stations and non-geostationary space stations in the fixed-satellite service, in accordance with Resolution ***176 (Rev. WRC-23)****"*

This agenda item considers regulatory provisions to facilitate the deployment of Earth stations in motion (ESIMs) in the Earth-to-space direction by aeronautical and maritime ESIMs communicating with geostationary-satellite orbit (GSO) and non-geostationary-satellite orbit (NGSO) space stations operating in the fixed-satellite service (FSS). It introduces a potential for increased aggregate interference to the EESS (passive) in the frequency band 50.2–50.4 GHz by changing the way that FSS uses the frequency bands to which it is allocated by allowing operation of ESIMs.

WMO has concerns regarding the protection of EESS (passive) in the frequency band 50.2–50.4 GHz, which corresponds to a reference window for atmospheric temperature profiling (surface temperature) that is essential for weather prediction, the Early Warnings for All initiative, and climate monitoring.

The 50.2-50.4 GHz band is extensively used for lower tropospheric air temperature sounding and precipitation in conjunction with the band 52.6–54.25 GHz (subject to WRC-27 Agenda Item 1.3).

These two bands are used by hydrological and meteorological prediction systems to measure air temperature, wind speed, cloudiness and rainfall, allowing the prediction of severe events such as windstorms, floods and blizzards.

Measurements in these bands have been recorded since the late 1970s and they have helped advance our understanding of the evolution of Earth's climate in the satellite era. Interference in these measurements would impact the ability to measure surface and lower tropospheric air temperature and precipitation, which would lead to failure in detecting and predicting features associated with severe weather events.

It should be noted that in this frequency band, both RR footnote No. **5.340** and Resolution **750 (Rev. WRC-19)** apply. Resolution **750 (Rev. WRC-19)** emphasizes the critical importance of long-term protection of the EESS (passive) in various frequency bands including 50.2–50.4 GHz.

Resolution **750 (Rev. WRC-19)** already contains mandatory unwanted emission limits applicable to FSS (Earth-to-space) in the bands 49.7–50.2 GHz and 50.4–50.9 GHz for the protection of EESS (passive) in the band 50.2–50.4 GHz. These limits were determined for traditional FSS Earth stations, and these limits may not be appropriate for ESIMs.

In order to ensure that the EESS (passive) in the band 50.2–50.4 GHz is adequately protected, studies under WRC-27 Agenda item 1.1 should determine whether the current limits in Resolution **750 (Rev. WRC-19)** need to be modified, taking into account the aggregate interference from ESIMs and NGSO FSS systems and GSO FSS networks into the EESS (passive).

Working Party 4A is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.1

WMO does not oppose the operation of ESIMs in the bands 47.2–50.2 GHz and 50.4–51.4 GHz (Earth-to-space) provided that the protection of the EESS (passive) in the adjacent frequency band 50.2–50.4 GHz continues to be ensured. This may require revision of existing mandatory unwanted emission limits in Resolution **750 (Rev. WRC-19)**, taking into account the aggregate interference from ESIMs and NGSO FSS systems and GSO FSS networks into the EESS (passive).

3.2 Agenda item 1.3

*"to consider studies relating to the use of the frequency band 51.4–52.4 GHz to enable use by gateway Earth stations transmitting to non-geostationary-satellite orbit systems in the fixed-satellite service (Earth-to-space), in accordance with Resolution **130 (WRC-23)**"*

This agenda item considers extending the use of the FSS by gateway Earth stations transmitting to NGSO systems.

WMO has concerns that this agenda item could introduce an increased potential for interference to the EESS (passive) in the 52.6–54.25 GHz frequency band, which is essential for weather prediction, early warnings and climate monitoring.

The 52.6–54.25 GHz band is extensively used for lower tropospheric air temperature sounding and precipitation in conjunction with the 50.2–50.4 GHz band (subject to WRC-27 Agenda Item 1.1).

These two bands are used by hydrological and meteorological prediction systems to measure air temperature, wind speed, cloudiness and rainfall, allowing the prediction of severe events such as windstorms, floods and blizzards.

Measurements in these bands have been recorded since the late 1970s and they have helped advance our understanding of the evolution of Earth's climate in the satellite era.

It should be noted that in the 52.6–54.25 GHz frequency band both RR No. **5.340** and Resolution **750 (Rev. WRC-19)** apply.

Resolution **750 (Rev. WRC-19)** already contains mandatory unwanted emission limits applicable to GSO FSS (Earth-to-space) networks in the band 51.4–52.4 GHz for the protection of EESS (passive) in the band 52.6–54.25 GHz. However, NGSO FSS unwanted emission limits are not specified.

The activities under WRC-27 Agenda item 1.3 should develop the relevant corresponding limits for NGSO FSS (Earth-to-space) networks in the 51.4–52.4 GHz band, taking into account aggregation effects with the existing use of this band by gateway Earth stations transmitting to GSO FSS networks. Additionally, due to aggregation effects, there may be a need to adjust the existing GSO FSS limits in Resolution **750 (Rev. WRC-19)**, as stipulated in *recognizing j)* and *resolves 2*) of Resolution **130 (WRC-23)**.

Working Party 4A is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.3

WMO is not opposed to the use of the frequency band 51.4–52.4 GHz for gateway Earth stations transmitting to NGSO systems in the FSS (Earth-to-space) provided that the protection of the EESS (passive) in the frequency band 52.6–54.25 GHz is ensured. This may require inclusion of relevant mandatory unwanted emission limits for NGSO FSS and, if necessary, adjustments to the existing GSO FSS limits in Resolution **750 (Rev. WRC-19)**, taking into account the aggregate interference from GSO FSS networks and NGSO FSS systems into the EESS (passive).

3.3 Agenda item 1.4

*"to consider a possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3–17.7 GHz and a possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3–17.8 GHz in Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, and to consider equivalent power flux-density limits to be applied in Regions 1 and 3 to non-geostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3–17.7 GHz, in accordance with Resolution **726 (WRC-23)**"*

WMO highlights the need to ensure the protection of EESS (active) systems operating in the adjacent frequency band 17.2–17.3 GHz. Working Party 7C is updating ITU-R documents to reflect a planned space-borne synthetic aperture radar system that will operate in 17.2–17.3 GHz.

WMO notes that this agenda item builds upon the outcomes of WRC-23 Agenda item 1.19, which implemented a new primary FSS (space-to-Earth) allocation in the frequency band 17.3–17.7 GHz in Region 2 for both GSO networks and NGSO systems, subject to certain provisions. Since then, a new EESS (active) system in the adjacent 17.2–17.3 GHz band has been introduced in ITU-R Recommendation RS.2105-3. WMO therefore encourages studies on the compatibility of the FSS and broadcasting-satellite service (BSS) with this new EESS (active) system to validate whether the provisions implemented under WRC-23 Agenda item 1.19 would adequately protect WMO interests in the context of this agenda item.

Working Party 4A is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.4

WMO is not opposed to new allocations to the FSS (space-to-Earth) and BSS provided that the EESS (active) in the adjacent frequency band 17.2–17.3 GHz is protected.

3.4 Agenda item 1.7

*"to consider studies on sharing and compatibility and develop technical conditions for the use of International Mobile Telecommunications (IMT) in the frequency bands 4 400–4 800 MHz, 7 125–8 400 MHz (or parts thereof), and 14.8–15.35 GHz taking into account existing primary services operating in these, and adjacent, frequency bands, in accordance with Resolution **256 (WRC-23)**"*

WMO has major concerns regarding an International Mobile Telecommunications (IMT) identification in the 7 125–8 400 MHz frequency band (or parts thereof). Multiple frequency bands within this frequency range proposed for IMT operations are used extensively in support of EESS and meteorological-satellite service (MetSat) operations that are of critical interest to WMO.

Frequency Band	Operations	Notes
7 190–7 250 MHz	EESS (Earth-to-space)	Uplink used for telecommand and tracking of EESS satellites.
7 450–7 550 MHz	MetSat (space-to-Earth)	Used to enable wide bandwidths to meet high data rates for the downlink of raw instrument data from GSO MetSat systems (as per RR No. **5.416A**).
7 750–7 900 MHz	MetSat (space-to-Earth)	For transmitting i) the raw meteorological data from NGSO meteorological satellites to associated Earth stations, and ii) the global broadcast of the NGSO meteorological data directly to users' Earth stations ensuring compliance with low latency data access requirements essential for meteorological applications. The use of this band is limited to NGSO MetSat systems (as per RR No. **5.416B**).
8 025–8 400 MHz	EESS (space-to-Earth)	Earth stations in this band constitute a critical part of the EESS communications infrastructure. Used to enable wide bandwidths to meet high data rates for the downlink of i) raw instrument data from EESS systems to associated Earth stations, and ii) the broadcast of EESS data directly from the satellite to users' Earth stations. These stations facilitate the immediate use of observations of the local environment for a wide variety of tasks such as forecasting weather, monitoring agricultural productivity, and disaster forecasting, monitoring, and mitigation (including wildfires and floods).
8 175–8 215 MHz	MetSat (Earth-to-space)	Used for uplink of High-Resolution Image Transmission (HRIT) data to GSO meteorological satellites. These HRIT data are subsequently disseminated to users via EESS/MetSat (space-to-Earth) allocations. An IMT identification could impose constraints on the future deployment of Earth stations in this band.

WMO considers that studies assessing the potential interference from EESS and MetSat service transmitters operating in the 7 190–7 250 MHz and 8 175–8 215 MHz bands into IMT base station (BS) receivers potentially deployed in the same frequency bands (often referred to as "reverse studies") need to be conducted. This should allow for the determination of the separation distances needed to ensure compatibility between EESS/MetSat Earth stations and IMT systems.

WMO holds the view that a potential IMT identification in the frequency band 7 190–7 250 MHz cannot be considered as a development of the existing mobile service, and therefore, that footnote RR No. **5.460A** does not apply. Sharing studies to ensure the continued reliable use of this band by EESS (Earth-to-space) are necessary.

There is currently a very high number of MetSat and EESS Earth stations deployed worldwide in urban, sub-urban and rural environments including a large number of receive-only stations

that do not need to be licenced, meaning that their locations may not be known. These stations can be at fixed locations (installed near the premises of end users), or transportable (placed in the vicinity of the area to image). The antenna sizes can vary, depending on the specific scenario and user needs.

It must be noted that the number of filed systems and their associated Earth stations have been increasing over the last years. The number of Earth stations is expected to increase even further due to current and future needs for EESS missions. This is driven by a growing user base for current/planned EESS missions, and entrance of commercial operators providing service in these frequency bands.

This agenda item also calls for the consideration of an IMT identification in the 14.8–15.35 GHz frequency band. A primary allocation to the EESS (passive) exists in the adjacent band 15.35–15.4 GHz, where RR No. **5.340** applies. However, no use of the frequency band for EESS (passive) operations has been confirmed by ITU-R Working Party 7C.

It has to be noted that due to the IMT identification in the frequency band 6 425–7 125 MHz during WRC-23 and the possible IMT identification in the band 7 125–7 250 MHz under Agenda item 1.7 of WRC-27, the new EESS (passive) allocations considered under Agenda item 1.19 in the bands 4 200–4 400 MHz and 8 400–8 500 MHz are absolutely necessary to ensure the future sea surface temperature (SST) measurement capability.

In this context, if IMT identifications are made under WRC-27 Agenda item 1.7 in the frequency bands above 4.4 GHz and below 8.4 GHz, there would be a need to study the impact from these new IMT identifications on the potential new EESS (passive) allocations for SST measurements in the bands 4 200–4 400 MHz and 8 400–8 500 MHz under consideration (see WRC-27 Agenda item 1.19). The definition of appropriate out-of-band emission limits for the IMT applications in the mobile service to ensure the protection of EESS (passive) operations in the 4 200–4 400 MHz and 8 400–8 500 MHz bands would be necessary.

Also, in relation to SST measurements, preliminary results of studies ongoing in ITU-R Working Party 7C show that interference will occur on current and planned SST measurements, especially in coastal areas, if IMT is deployed in any portion of the 6 425–7 125 MHz band. A similar conclusion can be drawn for the 7 125–7 250 MHz band if an IMT identification is made in that frequency band.

Working Party 5D is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.7

WMO opposes any IMT identification:

- in the 7 450–7 550 MHz frequency band to ensure the protection of MetSat (space-to-Earth) allocations used for the transmission of data collected from GSO MetSat systems.
- in the 7 750–7 900 MHz frequency band to ensure the protection of MetSat (space-to-Earth) allocations used for the transmission of data collected from NGSO MetSat systems for direct broadcasting to end-user Earth stations to comply with low latency data access requirements for meteorological applications.
- in the 8 025–8 400 MHz frequency band to ensure the protection of EESS (space-to-Earth) allocations used for the transmission of data collected from Earth exploration satellites. Additionally, within the 8 175–8 215 MHz portion of this frequency band, an IMT identification could constrain the future deployment of MetSat (Earth-to-space) stations used for uplink of processed High-Resolution Image Transmission (HRIT) data to GSO meteorological satellites.

Introduction of widely deployed IMT networks would limit future deployment of MetSat and EESS Earth stations that are essential for the distribution of meteorological, related environmental (including space weather) and Earth observation data to the WMO user community.

WMO stresses the importance and value of protecting the significant investments that many administrations have made in both satellite systems and Earth stations operating in the EESS and MetSat services that provide significant socioeconomic benefits via the availability of EESS/MetSat data as a free public service to the global community.

Additionally, WMO does not support an IMT identification in the 7 125–7 250 MHz frequency band since sea surface temperature (SST) measurements, performed in the overlapping 7 075–7 250 MHz frequency range, are of prime importance for weather forecasting, early warnings and climate monitoring. The 7 075–7 250 MHz frequency range used for SST measurements will always be needed to ensure continuity with past and current SST measurements. Combining this frequency range with nearby channels considered under Agenda item 1.19 is required to improve science retrievals and to mitigate radio-frequency interference (RFI).

WMO considers that, due to the specific characteristics and deployment of IMT, a potential IMT identification in the 7 190–7 250 MHz frequency band cannot be regarded as an extension of the mobile service as defined by ITU-R Recommendation M.1825. As a result, the constraint preventing EESS space stations from claiming protection from mobile stations, as specified in RR No. **5.460A**, does not apply.

WMO supports the development of ITU-R studies to determine the potential for interference from EESS and MetSat Earth stations in the Earth-to-space direction into IMT systems.

WMO requests that the impact of the potential new IMT identifications in the frequency ranges 4 400–4 800 MHz and 8 215–8 400 MHz on the potential new EESS (passive) allocations under Agenda item 1.19 be taken into consideration. In particular, the definition of appropriate out-of-band emission limits for IMT would be required to ensure the protection of EESS (passive) operations in the 4 200–4 400 MHz and 8 400–8 500 MHz bands.

3.5 Agenda item 1.8

"to consider possible additional spectrum allocations to the radiolocation service on a primary basis in the frequency range 231.5–275 GHz and possible new identifications for radiolocation service applications in the frequency bands within the frequency range 275–700 GHz for millimetric and sub-millimetric wave imaging systems, in accordance with ***Resolution 663 (Rev. WRC-23)****"*

Agenda item 1.8 considers regulatory changes to support the operation of radiolocation systems within the 231.5 to 700 GHz frequency range. The specific frequency bands to be studied for radiolocation operations have not yet been specified.

WMO is concerned that there is potential that frequency bands to be studied will overlap or be adjacent to frequency bands used for current or future EESS (passive) operations. The relevant EESS (passive) allocations in this range are: 226–231.5 GHz (RR No. **5.340** applies), 239.2–242.2 GHz, 244.2–247.2 GHz and 250–252 GHz (RR No. **5.340** applies). Additionally, the frequency band 237.9–238 GHz is allocated to EESS (active) by RR No. **5.563B**.

Above 275 GHz there are currently no allocations in the RR, but RR No. **5.565** identifies a number of frequency bands that are relevant and already used for EESS (passive) measurements. RR No. **5.564A** contains a list of bands which previous studies have shown cannot be shared with fixed service and mobile service applications unless suitable conditions are determined.

Further, ground-based passive atmospheric sensing is carried out in the frequency bands 235-238 GHz, 250-252 GHz and 265-275 GHz to monitor atmospheric constituents (see RR No. **5.563A**).

Frequencies above 230 GHz (for example, around 243 GHz, 325 GHz, 448 GHz and 664 GHz) offer unique possibilities to measure atmospheric cloud ice, snowfall, supercooled liquid water and water vapour profiles to further improve weather forecasts and climate predictions.

In general, it is important to consider the cumulative impact of a large number of devices that could operate in the potential new radiolocation service (RLS) allocations and identifications, given their widespread use, in particular automotive devices that are, by nature, operated outdoors. Studies indicate that co-channel frequency usage between such RLS applications and nadir and/or conical EESS (passive) sensors is not feasible (below 356 GHz) and that appropriate unwanted emission limits to be applied to RLS systems are necessary to ensure adjacent band compatibility. Thus, the implementation of appropriate provisions in the RR will be required to ensure the protection of EESS (passive) allocations and identifications.

The current documentation for Agenda item 1.8 indicates that the RLS will include the use of hand-held/mobile devices. If such low-power devices (short-range and ultra-wideband) are intended to be covered under this Agenda item, WMO has concerns regarding the consideration of such kinds of applications, to operate under a radiocommunication service in order to obtain rights under the RR. This could be a source of negative impact in the future in frequency bands, outside this agenda item, in which low-power device applications are operated.

Working Party 5B is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.8

WMO opposes any new allocations to the radiolocation service in the frequency band 250–252 GHz where RR No. **5.340** applies and in frequency bands overlapping with nadir and/or conical scanning EESS (passive) sensors in the frequency range 296–356 GHz. This means consideration of new allocations/identifications to the radiolocation service should be focused on the frequency ranges 252–296 GHz and 356–439 GHz, provided that the protection of the existing allocations/identifications to the EESS (passive) is ensured, from both in-band and/or out-of-band emissions. In particular, such protection will require appropriate unwanted emission limits to be applied to RLS systems, taking into account aggregate interference from widely deployed RLS systems.

WMO is of the view that short-range devices and ultra-wideband applications are not considered to operate under a radiocommunication service and therefore are not within the scope of this agenda item.

WMO is also of the view that consideration should be given to the protection of ground-based passive atmospheric sensing in the bands 235–238 GHz, 250–252 GHz and 265–275 GHz.

3.6 Agenda item 1.11

"to consider the technical and operational issues, and regulatory provisions, for space-to-space links among non-geostationary and geostationary satellites in the frequency bands 1 518–1 544 MHz, 1 545–1 559 MHz, 1 610–1 645.5 MHz, 1 646.5–1 660 MHz, 1 670–1 675 MHz and 2 483.5–2 500 MHz allocated to the mobile-satellite service, in accordance with Resolution ***249 (Rev. WRC-23)****"*

This agenda item calls for studies on provisions to allow space-to-space links to be operated in several frequency bands allocated to the mobile-satellite service (MSS).

WMO concerns are specifically related to the consideration of the frequency band 1 670–1 675 MHz and its potential impact on:

- the MetSat service operating in the adjacent band of 1 675–1 710 MHz;
- the meteorological aids (MetAids) service operating in the frequency band 1 668.4–1 700 MHz.

With respect to adjacent band MetSat usage, the 1 675–1 710 MHz frequency band is globally used by GSO and NGSO MetSat systems for the downlink of the measured data as well as the global dissemination of the data directly to users. For a number of different applications, the use of the 1 675–1 710 MHz MetSat band is an indispensable component of current GSO and NGSO MetSat satellite systems/networks as well as in future constellations of small MetSat satellites. Therefore, it is important to preserve the long-term availability and protection of the band 1 675–1 710 MHz for MetSat use.

With regards to the MetAids usage, the frequency band 1 668.4–1 700 MHz is used for radiosonde operations to offer the possibility to operate MetAids systems independently of international radionavigation systems.

Working Party 4C is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.11

WMO is not opposed to studying regulatory provisions for space-to-space links among GSO and NGSO satellites in bands allocated to the MSS provided that there is no negative impact on MetSat systems in the 1 675–1 710 MHz frequency band or MetAids systems in the 1 668.4–1 700 MHz frequency band.

3.7 Agenda item 1.12

*"to consider, based on the results of studies, possible allocations to the mobile-satellite service and possible regulatory actions in the frequency bands 1 427–1 432 MHz (space-to-Earth), 1 645.5–1 646.5 MHz (space-to-Earth) (Earth-to-space), 1 880–1 920 MHz (space-to-Earth) (Earth-to-space) and 2 010–2 025 MHz (space-to-Earth) (Earth-to-space) required for the future development of low data rate non-geostationary mobile-satellite systems, in accordance with Resolution **252 (WRC-23)**"*

WMO has concerns regarding the protection of the EESS (passive) allocation in the frequency band 1 400–1 427 MHz and the EESS (Earth-to-space and space-to-space) and space operation service (SOS) in the frequency band 2 025–2 110 MHz.

The EESS (passive) allocation in the frequency band 1 400–1 427 MHz, where RR No. **5.340** applies, is used for measurements of soil moisture, sea-surface salinity and vegetation. WMO recognizes that the proposed MSS operations in 1 427–1 432 MHz are in the space-to Earth direction; however recent studies have shown that, depending on interference path geometry, space-to-Earth transmissions can result in interference to EESS (passive) operations. If confirmed by the studies, appropriate modifications of relevant mandatory unwanted emission limits in Resolution **750 (Rev. WRC-19)** will be required.

EESS/MetSat systems operate Telemetry, Tracking and Command (TT&C) uplinks in the 2 025–2 110 MHz frequency band to control their satellites in the framework of the space operation service (SOS). Since this band is an indispensable component for the command and control of existing and planned EESS/MetSat systems, radio-frequency interference from unwanted emissions in this band could affect a large number of EESS/MetSat systems.

Working Party 4C is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.12

WMO does not oppose consideration of MSS allocations for low data rate applications provided that:

- Studies are conducted which consider the need for MSS unwanted emission limits for the protection of the EESS (passive) in the adjacent 1 400–1 427 MHz frequency band, where RR No. **5.340** applies, and those studies form the basis for mandatory unwanted emission limits, if required, in Resolution **750 (Rev. WRC-19)**.
- There is no negative impact on EESS/SOS operations in the adjacent 2 025–2 110 MHz frequency band.

3.8 Agenda item 1.13

*"to consider studies on possible new allocations to the mobile-satellite service for direct connectivity between space stations and International Mobile Telecommunications (IMT) user equipment to complement terrestrial IMT network coverage, in accordance with Resolution **253 (WRC-23)**"*

This agenda item considers new frequency allocations to the MSS to supplement terrestrial IMT network coverage where IMT user equipment would obtain service via MSS space stations. The agenda item does not indicate specific frequency bands to be considered within the broad frequency range of 694–2 700 MHz.

Based on discussions and documentation of ITU-R WP 4C, this agenda item appears to only deal with possible new allocations to the MSS for direct connectivity in frequency bands that are already allocated to the mobile service and identified for IMT (694–960 MHz, 1 427–1 518 MHz, 1 710–2 200 MHz and 2 300–2 690 MHz).

WMO concerns are focused on the protection of systems in bands adjacent to those bands identified for use by IMT as follows:

- Meteorological radars operating in the 2 700–2 900 MHz band, for which MSS providing service to IMT user equipment in the frequency band 2 500–2 690 MHz could result in similar compatibility issues that were studied between high altitude IMT base stations (HIBS) operating below 2 690 MHz and meteorological radars operating above 2 700 MHz under WRC-23 Agenda item 1.4;

- EESS (passive) systems operating in the frequency band 1 400–1 427 MHz which are used for measurements of soil moisture, sea-surface salinity and vegetation (RR No. **5.340** applies);

- MetSat in the 1 675–1 710 MHz band, which is used globally by GSO and NGSO MetSat systems/networks for the downlink of measured data as well as the global dissemination of data directly to users;

- EESS and SOS in the 2 025–2 110 MHz frequency band, which are used for TT&C of EESS/MetSat satellite systems.

Working Party 4C is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.13

On the understanding that activities under Agenda item 1.13 are limited to frequency bands with mobile allocations already identified for IMT in the frequency range between 694 MHz and 2.7 GHz, WMO is not opposed to possible new allocations to the MSS for direct connectivity between space stations and IMT user equipment provided that there is no negative impact on the following adjacent bands:

- EESS (passive) in the 1 400–1 427 MHz band, where RR No. **5.340** applies
- MetSat systems in the 1 675–1 710 MHz band
- EESS and SOS systems in the 2 025–2 110 MHz band
- Meteorological radar systems in the 2 700–2 900 MHz band

3.9 Agenda item 1.14

*"to consider possible additional allocations to the mobile-satellite service, in accordance with Resolution **254 (WRC-23)**"*

This agenda item calls for studies on possible new frequency allocations to the MSS in the frequency bands 2 010–2 025 MHz (Earth-to-space) and 2 160–2 170 MHz (space-to-Earth) in Regions 1 and 3 and 2 120–2 160 MHz (space-to-Earth) in all Regions.

WMO has concerns regarding the frequency band 2 010–2 025 MHz (Earth-to-space) to ensure that the adjacent frequency band (2 025–2 110 MHz), used for TT&C of EESS/MetSat systems (Earth-to-space), is not impacted.

Working Party 4C is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.14

WMO does not oppose possible additional allocations to the MSS in the 2 010–2 025 MHz (Earth-to-space) band, provided that there is no impact on the operation of EESS/MetSat systems in the adjacent 2 025–2 110 MHz frequency band.

3.10 Agenda item 1.17

*"to consider regulatory provisions for receive-only space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies, in accordance with Resolution **682 (WRC-23)**"*

This agenda item is the follow-up to WRC-23 Agenda item 9.1 topic A. WRC-23 approved Resolution **675 (WRC-23)** and added Article **29B**, which defines space weather and designates space weather sensors to the MetAids service as the subset MetAids (space weather). The elaboration of these regulatory provisions in the RR allowed WRC-23 to approve Resolution **682 (WRC-23)**, which resolves to conduct:

(1) Studies on spectrum needs, appropriate protection criteria for receive-only space weather sensors, and system characteristics;

(2) Sharing and compatibility studies pertaining to potential new primary allocations to MetAids (space weather) for receive-only sensors in the following frequency bands:

- 27.5–28.0 MHz,
- 29.7–30.2 MHz,
- 32.2–32.6 MHz,

- 37.5–38.325 MHz,
- 73.0–74.6 MHz,
- 608–614 MHz;

(3) studies on possible regulatory provisions of the Radio Regulations to accommodate the possibility for an administration that wishes to notify a receive-only space weather sensor station for inclusion in the Master International Frequency Register.

Agenda item 1.17 is of primary interest to WMO since the focus is to establish regulatory provisions for the protection of receive-only space weather sensors within select frequency bands to ensure their long-term protection. In accordance with Resolution **682 (WRC-23)**, this must be accomplished without claiming protection from, or constraining the future development of, incumbent services in these frequency bands or in adjacent bands by taking into account the existing services in accordance with RR Edition 2024. This will establish regulatory status for space weather sensors in the event that a future WRC considers new allocations in or adjacent to one of the subject frequency bands.

WMO emphasizes the importance of monitoring space weather, which is essential for safeguarding both ground- and space-based infrastructure. It provides vital support to critical sectors such as telecommunications, transportation, energy, finance, health, water supply, and services for aviation and space-based human activities.

Working Party 7C is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.17

WMO supports new primary allocations to MetAids (space weather) for receive-only sensors in all the frequency bands listed in, and in accordance with, Resolution **682 (WRC-23)**.

WMO also supports the principle that these new allocations should be made without claiming protection from, or imposing constraints on, existing primary services allocated in accordance with RR Edition 2024 or the future development of those services.

Furthermore, WMO also supports the introduction of regulatory provisions to the RR to notify a receive-only space weather sensor station for recording in the Master International Frequency Register. This can be achieved by modifications of RR Article **1**, Article **11** and Appendix **4**, and the addition of a new nature of service in the Preface to the BR International Frequency Information Circular.

3.11 Agenda item 1.18 (*resolves 1*)

*"to consider, based on the results of ITU Radiocommunication Sector studies, possible regulatory measures regarding the protection of the Earth exploration-satellite service (passive) and the radio astronomy service in certain frequency bands above 76 GHz from unwanted emissions of active services, in accordance with Resolution **712 (WRC-23)**".*

The work on this agenda item is split into two separate topics in Resolution **712 (WRC-23)**, with *resolves 1* – addressing the protection of EESS (passive) and *resolves 2* – addressing the protection of the radio astronomy service.

The interest of WMO falls under *resolves 1*, where regulatory measures are to be considered for protection of the EESS (passive) from unwanted emissions of active services operating in frequency bands adjacent to certain EESS (passive) allocations where RR No. **5.340** applies.

Resolution **750 (Rev. WRC-19)** is to be updated should any regulatory measures be required to ensure the protections of the EESS (passive). The following EESS (passive) bands and adjacent active services are to be studied:

EESS (passive) frequency band	Active service frequency band	Active service
86–92 GHz	81–86 GHz	Fixed-satellite service (FSS) (Earth-to-space), mobile service (MS)
	92–94 GHz	MS, radiolocation service (RLS)
114.25–116 GHz	111.8–114.25 GHz	Fixed service (FS), mobile service (MS)
164–167 GHz	158.5–164 GHz	FS, FSS (space-to-Earth), MS, mobile-satellite service (MSS) (space-to-Earth)
	167–174.5 GHz	FS, FSS (space-to-Earth), inter-satellite service (ISS), MS
200–209 GHz	191.8–200 GHz	FS, ISS, MS, MSS, radionavigation service (RNS), radionavigation-satellite service (RNSS)
	209–217 GHz	FS, FSS (Earth-to-space), MS

WMO also notes that in some services/frequency bands listed in the table above, no system characteristics have yet been provided in the framework of WRC-27 preparation. An appropriate regulation is needed to ensure that future development of equipment in those services/frequency bands will ensure the protection of EESS (passive) allocations.

The so-called window channel in the band 86-92 GHz (together with other window channels at 164–167 GHz and 200–209 GHz) is fundamental for passive remote sensing of several atmospheric, cloud and precipitation parameters, and it also contributes to land surface characterisation (snow and sea ice properties).

Measurements in the 86–92 GHz bands have been recorded since 1987 enabling the construction of Climate Data Records of several key hydrological variables, and thus allowing for analysis of trends and variability in relation to climate change of key hydrological variables associated to extreme weather, water resources, and impacts (floods and droughts).

The 114.25–116 GHz band is important for temperature sounding in the atmosphere, providing complementary information to the 50 GHz band.

Underestimation of precipitation over land due to radio frequency interference would lead to failure in detecting and predicting features associated with severe weather (e.g. hail, deep convection, flooding, coastal inundation) and would impact the ability to estimate hydrological and atmospheric parameters.

WMO also highlights that Resolution **731 (Rev. WRC-23)** calls for compatibility studies between the EESS (passive) in the bands 100–102 GHz, 148.5–151.5 GHz, 182–185 GHz, 190–191.8 GHz and 226–231.5 GHz and active services in adjacent bands, that are not within the scope of this agenda item.

Relevant studies are currently ongoing in ITU-R, but one can already mention that the studies related to the compatibility between EESS (passive) and FS above 92 GHz have recently been finalised in newly released ITU-R Report F.2558-0.

Working Party 7C is the responsible group for studies requested in *resolves 1* of Resolution **712 (WRC-23)**.

Preliminary WMO position on WRC-27 Agenda item 1.18

WMO supports the implementation of new mandatory unwanted emission limits in Resolution **750 (Rev. WRC-19)** applicable to active services operating in adjacent frequency bands, in order to ensure the protection and long-term usability of EESS (passive) in the frequency bands 86–92 GHz, 114.25–116 GHz, 164–167 GHz and 200–209 GHz.

WMO also supports the need to develop appropriate regulatory provisions to ensure the long-term protection of EESS (passive) in the frequency bands listed above from unwanted emissions of active services allocated in adjacent frequency bands where no parameters have been provided.

WMO stresses the need to address this issue by WRC-27 before there is widespread deployment of active services in the bands to be studied.

3.12 Agenda item 1.19

*"to consider possible primary allocations in all Regions to the Earth exploration-satellite service (passive) in the frequency bands 4 200–4 400 MHz and 8 400–8 500 MHz, in accordance with Resolution **674 (WRC-23)**"*

The objective of this agenda item is to consider possible primary allocations in all Regions to the EESS (passive) in the frequency bands 4 200–4 400 MHz and 8 400–8 500 MHz in order to allow for the continuity of SST measurements that are of prime importance for weather forecasting and climate monitoring.

The frequency range 6 425–7 250 MHz is currently used for conducting SST measurements from satellites on an unprotected basis in accordance with RR No. **5.458**. Preliminary studies performed in the ITU-R show that SST measurements would be severely constrained by high-density deployment of communication systems (e.g. RLAN or IMT) in this frequency range.

Based on these studies, RFI to SST measurements in the 6/7 GHz frequency range is expected to increase significantly in the near future due to the WRC-23 decision to identify the 6 425–7 125 MHz frequency band for use by IMT. Therefore, WRC-27 Agenda item 1.19 was established to create a long-term solution for EESS (passive) sensors for conducting SST measurements.

Preliminary studies performed in ITU-R WP 7C during the previous study cycle showed some opportunities for SST measurements in the frequency bands 4 200–4 400 MHz and 8 400–8 500 MHz.

The aim of the studies under WRC-27 Agenda item 1.19 is to determine the conditions of usage of the frequency bands 4 200–4 400 MHz and 8 400–8 500 MHz by the EESS (passive). These potential new allocations to the EESS (passive) would be used in conjunction with the 6/7 GHz frequency range. Combining multiple nearby channels in this way is required to improve science retrievals and to mitigate RFI.

With respect to the existing mobile except aeronautical mobile service allocation in the frequency band 8 400-8 500 MHz, in order to avoid the same situation as in the 6/7 GHz and ensure the protection of EESS (passive) SST measurements, a new regulatory constraint needs to be specified to prohibit the deployment of high-density mobile systems.

WMO notes that Agenda item 1.7 is evaluating possible new IMT identifications in the adjacent frequency bands of 4 400–4 800 MHz and 8 215–8 400 MHz. In case IMT identifications are created under WRC-27 Agenda item 1.7 in these frequency bands, it is necessary to define appropriate out-of-band emission limits for IMT to ensure the protection of EESS (passive) operations in the bands 4 200–4 400 MHz and 8 400–8 500 MHz.

Working Party 7C is the responsible group for studies.

Preliminary WMO position on WRC-27 Agenda item 1.19

WMO supports new primary EESS (passive) allocations in the frequency bands 4 200–4 400 MHz and 8 400–8 500 MHz in order to ensure the long-term continuity of sea surface temperature (SST) measurements in conjunction with the existing 6/7 GHz frequency range.

Protection of these new primary EESS (passive) allocations in the frequency bands 4 200–4 400 MHz and 8 400–8 500 MHz from the potential new IMT identifications in adjacent bands (as considered by Agenda item 1.7) should be ensured by appropriate mandatory regulatory provisions.

WMO also supports the development and implementation of appropriate regulatory provisions to ensure that high-density mobile systems shall not be introduced in the 8 400–8 500 MHz frequency band allocated to mobile, except aeronautical mobile, service.

3.13 Agenda item 7

*"to consider possible changes, in response to Resolution **86** (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, on advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution **86 (Rev. WRC-07)**, in order to facilitate the rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit"*

This standing agenda item deals with any possible changes to the RR affecting the advance publication, coordination, notification and recording of satellite networks and requires WMO consideration.

One of a number of potential agenda item 7 topics is the consideration of transparency measures and improvements to the application of RR No. **4.4** to space/satellite services.

Preliminary WMO position on WRC-27 Agenda item 7

WMO will monitor the development of Agenda item 7 topics to ensure that no unnecessary constraints are imposed on MetSat and EESS systems, and that the regulatory procedures for the corresponding ITU filings in the frequency bands used by these systems are not overly complicated.

Specifically, WMO is not opposed to the consideration of transparency measures and improvements to the application of RR No. **4.4**. In this context, WMO highlights that, in bands covered by RR No. **5.340**, a notification of frequency usage of any service other than those authorized in these bands (i.e. passive services) cannot be accepted even with a reference to No. **4.4** in accordance with the corresponding ITU-R Rule of Procedure (RoP). Therefore, WMO would be opposed to any proposal that would not be in line with this RoP.

3.14 Agenda item 10

*"to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution **804 (Rev. WRC-23)**"*

WRC-23 established the Preliminary Agenda for WRC-31. The preliminary agenda will be reconsidered at WRC-27 where each preliminary agenda item will be evaluated for inclusion in the final WRC-31 Agenda.

The current WRC-31 preliminary agenda has a number of items of interest and/or concern to WMO:

> ***Agenda item 2.1** – to consider potential new allocations to the fixed, mobile, radiolocation, amateur, amateur-satellite, radio astronomy, Earth exploration-satellite*

(passive and active) and space research (passive) services in the frequency range 275–325 GHz in the Table of Frequency Allocations of the Radio Regulations, with the consequential update of Nos. ***5.149****,* ***5.340****,* ***5.564 A*** *and* ***5.565****, in accordance with Resolution* ***721 (WRC-23)****;*

WMO position: WMO is not opposed to assessing the possibility of new allocations in the frequency range 275–325 GHz provided that the existing EESS (passive) identifications (RR No. **5.565**) are upgraded to primary allocations and their protection is ensured.

Agenda item 2.2 *– to consider the possible [frequency bands] for [non-beam and beam] wireless power transmission to avoid harmful interference to the radiocommunication services caused by wireless power transmission, in accordance with Resolution* ***910 (WRC-23)****;*

WMO position: WMO will monitor the development of this preliminary agenda item to assess potential impacts on WMO interests.

Agenda item 2.3 *– to consider the use of aeronautical and maritime Earth stations in motion communicating with non-geostationary space stations in the fixed-satellite service (Earth-to-space) in the frequency band 12.75–13.25 GHz, in accordance with Resolution* ***133 (WRC-23)****;*

WMO position: WMO is not opposed to this preliminary agenda item provided that the following is taken into account:

- protection of the EESS (active) in the adjacent frequency band 13.25–13.75 GHz
- protection of the EESS (passive) in the adjacent frequency band 10.6–10.7 GHz from unwanted emissions produced by non-GSO FSS systems communicating with aeronautical and maritime stations in motion operating in the paired downlink frequency band 10.7–10.95 GHz (space-to-Earth).

Agenda item 2.6 *– to consider the identification of the frequency bands [102–109.5 GHz, 151.5–164 GHz, 167–174.8 GHz, 209–226 GHz and 252–275 GHz] for International Mobile Telecommunications, in accordance with Resolution* ***255 (WRC-23)****;*

WMO position: WMO is concerned with the protection of the EESS (passive) from IMT unwanted emissions, noting that each of the proposed frequency bands is adjacent to an EESS (passive) allocation that is subject to RR No. **5.340**.

Agenda item 2.10 *– to consider a possible new primary allocation to the Earth exploration-satellite service (Earth-to-space) in the frequency band 22.55–23.15 GHz, in accordance with Resolution* ***664 (Rev.WRC-23)****;*

WMO position: WMO supports the preliminary agenda item for a new primary allocation to the EESS (Earth-to-space) in the frequency band 22.55–23.15 GHz. Such a new allocation will pair with the existing EESS (space-to-Earth) allocation in 25.5–27 GHz, allowing uplinks and downlinks on the same transponder. It will also provide future capacity for TT&C as demand increases.

Agenda item 2.13 *– to consider studies on coexistence between space-borne synthetic aperture radars operating in the Earth exploration-satellite service (active) and the radiodetermination service in the frequency band 9 200–10 400 MHz, with possible actions as appropriate, in accordance with Resolution* ***722 (WRC-23)****;*

WMO position: WMO will monitor progress on this preliminary agenda item due to its potential impact on meteorological radars and the EESS (active).

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