

**WMO OMM**

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: Invitation to the WMO–ITU Global Seminar “Spectrum Use for Meteorology: Challenges, Opportunities and Evolving Requirements” (Geneva, 28–30 September 2026)

Dear Sir/Madam,

On behalf of the World Meteorological Organization (WMO), I would like to invite you to participate in the WMO–International Telecommunication Union (ITU) Global Seminar “Spectrum Use for Meteorology: Challenges, Opportunities and Evolving Requirements”, to be held from 28 to 30 September 2026 at the ITU headquarters in Geneva, Switzerland.

Access to the radio-frequency spectrum is an essential infrastructure for weather, climate and water services. It enables the collection and transmission of vital data that underpin forecasts and life-saving early warning systems, and forms a cornerstone of the WMO Integrated Global Observing System (WIGOS). Systems such as weather radars, wind profiler radars, radiosondes, lightning detection networks, and meteorological and Earth exploration satellites all depend on spectrum access to deliver the observations that support these services and broader socio-economic development. As outlined in the attached background paper (annex), increasing demand for spectrum from other radiocommunication services is placing growing pressure on frequency bands used by meteorological systems. Ensuring reliable and continuous access to these bands is therefore critical to maintaining the performance of weather, climate and early warning services worldwide.

The seminar will provide a platform to review current and emerging spectrum use in meteorology, discuss preparations for the world radiocommunication conferences (WRC) in 2027 (WRC-27) and 2031 (WRC-31), and examine related regulatory, technical and operational challenges, as well as emerging trends such as commercial data provision and cloud-based data processing.

The seminar will also mark the launch of the new joint WMO–ITU Handbook entitled “Use of Radio Spectrum for Meteorology: Weather, Climate, Water and Related Environmental Applications”.

More information about the seminar, including logistical details, can be found at: [Spectrum use for meteorology – ITU WMO | World Meteorological Organization](#).

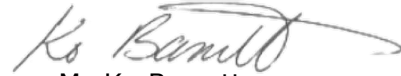
While WMO regrets that it is unable to provide financial support for participation in the seminar due to limited available resources, it is hoped that your Service may nevertheless be able to support participation through its own institutional resources.

To: Permanent Representatives of Members with WMO

cc: Hydrological Advisers
National Focal Points for Radio Frequency Matters

Should you be available and interested in participating in the seminar, I would be grateful if you could kindly confirm your participation, or nominate a representative from your organization at your earliest convenience, by contacting the Chief of the WMO Space Programme Section, Ms Natalia Donoho, at ndonoho@wmo.int.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Ko Barrett', with a long, sweeping horizontal flourish extending to the right.

Ms Ko Barrett
for the Secretary-General

BACKGROUND PAPER

WMO–ITU Global Seminar: Spectrum use for meteorology: challenges, opportunities and evolving requirements

Radio-frequency spectrum is a fundamental resource for meteorological observations and Earth system monitoring. Both space-based and terrestrial systems rely on spectrum not only for data transmission, but also as an essential part of the measurement process, particularly in passive sensing. Increasing demand for spectrum from other radiocommunication services is placing growing pressure on frequency bands used by meteorological systems, raising concerns regarding their long-term availability and protection. Meteorological observations underpin weather forecasting, climate monitoring and early warning systems. Any degradation in data quality or availability, including due to radio-frequency interference, may have direct consequences for public safety, economic activities and environmental protection. Ensuring reliable and continuous access to spectrum is therefore critical for maintaining the performance of meteorological services worldwide.

The observation ecosystem is rapidly evolving:

- major space programmes and coordinated international systems continue to provide the backbone of global observations;
- industry is advancing sensing technologies, including radars and radiometers;
- commercial operators are introducing additional data sources through small satellite constellations;
- data dissemination and processing increasingly rely on satellite broadcast systems and cloud-based platforms.

These developments create new opportunities, while also increasing the complexity of spectrum use and management.

Spectrum use is governed by the ITU Radio Regulations and supported by ITU Radiocommunication Sector (ITU-R) studies. Ongoing preparations for the world radiocommunication conferences (WRC), including WRC-27 and future work towards WRC-31, involve several agenda items relevant to meteorological services and require careful consideration to ensure adequate protection of essential frequency bands.

This WMO–ITU Global Seminar will:

- review the role of spectrum in meteorological observation systems;
- present user requirements from national meteorological agencies;
- discuss preparation for WRC-27 and WRC-31 on issues relevant to meteorology;
- address regulatory and interference-related challenges;
- highlight technological developments and industry perspectives;
- examine emerging trends, including commercial data and cloud-based processing.

The seminar will also mark the publication of a new joint WMO–ITU Handbook entitled “Use of Radio Spectrum for Meteorology: Weather, Climate, Water and Related Environmental Applications”, providing an updated reference on systems, requirements and spectrum considerations.

The seminar is expected to strengthen cooperation between stakeholders, improve understanding of spectrum requirements for meteorology, and contribute to ensuring the sustainable and resilient operation of Earth observation systems.
