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| WEATHER CLIMATE WATER | **World Meteorological Organization****COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS****Second Session**24 to 28 October 2022, Geneva | **INFCOM-2/Doc. 6.2(3)** |
| Submitted by:Chair SC-MINT29.IX.2022**DRAFT 1** |

**AGENDA ITEM 6: TECHNICAL REGULATIONS AND OTHER TECHNICAL DECISIONS**

**AGENDA ITEM 6.2: Standing Committee on Measurements, Instrumentation and Traceability (SC-MINT)**

# Instrument Centres

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| **Summary** |
| **Document presented by:** SC-MINT chair**Strategic objective 2020–2023:** 2.1 **Financial and administrative implications:** within the parameters of the Strategic and Operational Plans 2020–2023, will be reflected in the Strategic and Operational Plans 2024–2027.**Key implementers:** INFCOM, in collaboration with regional associations and UNESCO/Intergovernmental Oceanographic Commission (IOC)**Time frame:** e.g. 2023-2027**Action expected:** review the proposed draft resolution/recommendation |

# GENERAL CONSIDERATIONS

### Background

1. In view of the WMO reform, there was a need to modify some of the processes for designation and monitoring of WMO centres to account for the new technical commissions structure. The process for some centres were already addressed at EC-73. The process for the designation and assessment of Regional Marine Instrument Centres (RMICs) has now also been reviewed.
2. In order to simplify WMO processes, the processes for the approval of Regional Instrument Centres and Regional WMO Integrated Global Observing System (WIGOS) Centres had been harmonized to the extent possible. The process that is now proposed for RMICs is following the same approach.
3. It is recognized that further work is needed on the audit processes for those centres to be in line with the standard and recommended practices and procedures described in the [*Technical Regulations*](https://library.wmo.int/index.php?lvl=notice_display&id=14073)(WMO-No. 49), Volume I. Such work is underway.
4. [Resolution 8 (EC-75)](https://meetings.wmo.int/EC-75/_layouts/15/WopiFrame.aspx?sourcedoc=/EC-75/English/2.%20PROVISIONAL%20REPORT%20(Approved%20documents)/EC-75-d08-REVIEW-OF-PAST-RESOLUTIONS-approved_en.docx&action=default) – Review of previous resolutions and decisions of the Executive Council, emphasized the importance of incorporating text from past resolutions that needed to remain in force in any subsequent resolution adopted on the same subject. Therefore, relevant text from [Resolution 17 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008/#page=335) – Strengthening Regional Instrument Centres, has been incorporated in the draft recommendation/resolution on Regional Instrument Centres.

**Expected action**

1. Based on the above, the Commission may wish to adopt the two recommendations provided in this document that attempt at clarifying and harmonizing the terms of reference and process in place for the designation and assessment of instrument-/calibration-related centres within WIGOS. *[After the adoption of the resolution, the paragraphs above will be included in Part II of the final report. This paragraph will be modified as follows: “Based on the above, the Commission adopted Draft Recommendation 6.2(3)/1 and 6.2(3)/2 (INFCOM-2).”]*

# DRAFT RECOMMENDATIONS

## Draft Recommendation 6.2(3)/1 (INFCOM-2)

### Regional Marine Instrument Centres – Updated Terms of Reference, governance and assessment process

The Commission for Observation, Infrastructure and Information Systems,

**Recalling** [Resolution 9 (Cg-XVI)](https://library.wmo.int/doc_num.php?explnum_id=3429/#page=197) – Designation of Regional Marine Instrument Centres, and [Resolution 4 (EC-LXII)](https://library.wmo.int/doc_num.php?explnum_id=4989/#page=121) – Report of the third session of the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology, (in particular Recommendation 1 (JCOMM-III) – Establishment of WMO-IOC Regional Marine Instrument Centres),

**Recalling further** [Resolution 7 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=41) – Establishment of WMO Technical Commissions for the Eighteenth Financial Period, and [Resolution 43 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827#page=149) – Report of the Seventeenth Session of the Commission for Instruments and Methods of Observation, and[Resolution 17 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008/#page=335) – Strengthening Regional Instrument Centres,

**Noting** the existing Terms of Reference of RMICs as published in the [*Guide to Instruments and Methods of Observation*](https://library.wmo.int/index.php?lvl=notice_display&id=12407) (WMO-No. 8),

**Having considered** Members/Member States need for high-quality marine meteorology and oceanographic measurements from the world oceans to address the requirements of WMO and UNESCO/IOC programmes and co-sponsored programmes,

**Reaffirming** the importance of improving traceability of measurement and calibration results,

**Recognizing** the critical role that RMICs, together with Regional Instrument Centres (RICs) play in operations of WIGOS and in providing technical guidance, assistance and advice to Members and regional associations and regional alliances,

**Recognizing** **further** the need for strengthening RMICs and related process for their designation, assessment, and reconfirmation, and the need to continue harmonizing the processes used for different types of instrument-related centres,

**Taking note** of the recommendations from the final reports of the Regional Marine Instrument Centre Coordination Meeting held in 2016 ([here](https://goosocean.org/index.php?option=com_oe&task=viewDocumentRecord&docID=16899)) and of the Sixth Marine Instrumentation Workshop for Asia-Pacific Region held in 2021 ([here](https://goosocean.org/index.php?option=com_oe&task=viewDocumentRecord&docID=30449)),

**Recommends** to the Executive Council the adoption of:

(1) The updated RMIC Terms of Reference as provided in [Annex 1](#_Annex_1_to) to the draft resolution provided in the [annex](#_Annex_to_draft_1) to the present Recommendation;

(2) The Process for designation, assessment, and reconfirmation of RMICs as provided in [Annex 2](#Annex2) to the draft resolution provided in the [annex](#_Annex_to_draft_1) to the present Recommendation.

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Annex: 1

## Annex to draft Recommendation 6.2(3)/1 (INFCOM-2)

**Draft Resolution ##/1 (EC-76)**

THE EXECUTIVE COUNCIL,

**Recalling** [Resolution 9 (Cg-XVI)](https://library.wmo.int/doc_num.php?explnum_id=3429/#page=197) – Designation of Regional Marine Instrument Centres, [Resolution 4 (EC-LXII)](https://library.wmo.int/doc_num.php?explnum_id=4989/#page=121) – Report of the third session of the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology, [Resolution 7 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=41) – Establishment of WMO Technical Commissions for the Eighteenth Financial Period, and [Resolution 17 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008/#page=335) – Strengthening Regional Instrument Centres,

**Having examined** [Recommendation 6.2(3)/1 (INFCOM-2)](https://meetings.wmo.int/INFCOM-2/English/Forms/AllItems.aspx?RootFolder=%2FINFCOM%2D2%2FEnglish%2F1%2E%20DRAFTS%20FOR%20DISCUSSION&FolderCTID=0x012000DFD47F9206CDD640A4FDFBAA2EB0EF6E&View=%7BDBBC48FA%2DBEE2%2D4A94%2D8905%2DFBE98B87E342%7D),

**Having examined** the updated RMIC Terms of Reference and the Process for designation, assessment, and reconfirmation of Regional Marine Instrument Centres (hereafter referred to as “RMICs Process”), developed by the Commission for Observation, Infrastructures and Information Systems (INFCOM),

**Approves:**

(1) The updated RMIC Terms of Reference as provided in [Annex 1](#_Annex_1_to) to the present draft resolution;

(2) The Process for designation, assessment, and reconfirmation of RMICs as provided in [Annex 2](#Annex2) to the present draft resolution;

Both subject to a parallel approval by the next session of the UNESCO/Intergovernmental Oceanographic Commission (IOC) Assembly;

**Requests** the Secretary-General to arrange for the publication of the updated Terms of Reference for RMICs and of the Process in WMO-No. 8 and website;

**Authorizes** the Secretary-General to make any subsequent purely editorial amendments;

**Requests** further the Secretary-General of WMO to facilitate implementation of this recommendation and to provide appropriate technical advisory assistance to Members/Member States concerned as required;

**Requests** Members hosting RMICs to abide by those Terms of Reference and to collaborate with the WMO Secretariat in the development of the relevant RMIC webpages, similar to the Regional Instrument Centres webpages to advertise their services to Members/Member States;

**Requests** the regional associations, respective Members and INFCOM to follow the RMICs Process for all new nominations of RMICs, and for assessment and periodic reconfirmation of existing RMICs;

**Requests further** the regional associations to examine the need and explore ways, in consultation with UNESCO/IOC, for beneficial use of the available RMIC services by their Members;

**Invites** all Members to benefit from the services offered by already existing RMICs and consider proposing new RMICs, as appropriate;

**Requests** INFCOM:

(1) To ensure that the RMIC-related content(s) of the WMO regulatory and guidance publications are reviewed and updated regularly, based on feedback from Members, advances in technology and evolving priorities for the Organization;

(2) To consult with the WMO regional associations and UNESCO/IOC, and their relevant working groups or other entities responsible for the coordination of relevant activities within the Regions, on all matters related to RMIC implementation;

(3) To explore synergies and possible rationalization of instrument-/calibration-related regional centres, towards improved and more effective services to Members;

(4) To further develop the RMICs Process as standard and recommended practices and procedures of the WMO [*Technical Regulations, Volume I – General Meteorological Standards and Recommended Practices*](https://library.wmo.int/?lvl=notice_display&id=14073#.YEjEW0BFyUl) (WMO-No. 49), in collaboration with Regional Associations and in consultation with UNESCO/IOC to further harmonize practices related to designation, compliance and auditing of WMO-designated centres.

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Annexes: 2

## Annex 1 to draft Resolution ##/1 (EC-76)

**Terms of Reference for a
Regional Marine Instrument Centre**

A RMIC shall have the following capabilities to carry out their corresponding functions:

**Capabilities:**

(a) An RMIC shall have the necessary facilities and laboratory equipment to perform the functions necessary for the calibration of meteorological and related oceanographic instruments deployed to address the common requirements of WMO marine-related programmes and co-sponsored programmes;

(b) An RMIC shall maintain a set of meteorological and oceanographic standard instruments or references and establish the traceability of its own measurement standards and measuring instruments to the International System of Units (SI);

(c) An RMIC shall have qualified managerial and technical staff to fulfil its functions;

(d) An RMIC shall have technical procedures for the calibration of meteorological and related oceanographic instruments using equipment employed by the RMIC;

(e) An RMIC shall have and maintain a quality management system, preferably according to the ISO/IEC 17025 standard;

(f) An RMIC shall participate in, and/or organize, inter-laboratory comparisons of standard calibration instruments and methods;

(g) An RMIC shall, as appropriate, utilize the available resources and capabilities to the Members’ best interest;

(h) An RMIC shall, as far as possible, apply international standards applicable for calibration laboratories, such as ISO/IEC 17025;

(i) An RMIC shall ensure it is assessed by a recognized authority or by a WMO evaluation team, at least every four years, to verify its capabilities and performance.

**Corresponding functions:**

(a) An RMIC shall assist Members/Member States of the Region, and possibly of other Regions, in calibrating their national meteorological standards and related oceanographic monitoring instruments;

(b) An RMIC shall participate in, and/or organize inter-laboratory comparisons, and support instrument intercomparisons, following relevant WMO recommendations;

(c) According to relevant recommendations on the WMO Quality Management Framework, an RMIC shall make a positive contribution to Members/Member States regarding the quality of measurements;

(d) An RMIC shall advise Members/Member States on enquiries regarding instrument performance, maintenance and the availability of relevant guidance materials;

(e) An RMIC shall actively participate, or assist, in the organization of workshops on calibration and maintenance of meteorological and related oceanographic instruments;

(f) An RMIC shall contribute to the standardization of meteorological and related oceanographic measurements;

(g) An RMIC shall regularly inform Members/Member States and report, on an annual basis, to the WMO Secretariat on the services offered to Members/Member States and the activities carried out.

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**Annex 2 to draft Resolution ##/1 (EC-76)**

**Process for** **designation, assessment, and reconfirmation of**

**Regional Marine Instrument Centres**

### 1. Introduction

1.1 The WMO regional associations (RAs) are invited to conduct, in consultation with the UNESCO/Intergovernmental Oceanographic Commission (UNESCO/IOC) and in consultation with the Commission for Observation, Infrastructure and Information Systems (INFCOM), at least once in a four-year period, a survey of the WMO Members on regional needs for RMIC services and on the utilization and satisfaction with the offered RMIC services. The results of the survey will be used to underpin decisions related to a candidate entity applying for WMO RMIC status and, through assessment of the existing RMICs, to support decisions on their reconfirmation.

1.2 Evaluation of RMIC applications and assessment of RMICs will be done by INFCOM.

### 2. Preparatory Requirements

A candidate RMIC should be capable of carrying out all RMIC functions, as defined in the RMIC Terms of Reference, before an application is submitted.

### 3. Application

3.1 An application shall include at least:

1. Letter from Permanent Representative (PR) of country with WMO offering services of the candidate RMIC to the Members of the Region (and beyond, if possible);
2. Completed RMIC Evaluation Scheme;
3. Completed RMIC Reporting Form;
4. Preferably, proof of accreditation (if RMIC candidate is accredited according to the ISO/IEC 17025 standard).

Or, if the RMIC candidate is not yet accredited according to the ISO/IEC 17025 standard, proof of traceability assurance to (inter)national standards (for example, certificates of calibration) and proof of RMIC staff competency (for example, qualifications, experience, training certificates, membership of relevant professional organizations, publications) for RMIC candidate’s methods of calibration that are intended to be offered to Members.

3.2 The application will be sent to the presidents of the relevant RA, with copies to the president of INFCOM and to the WMO Secretary-General.

3.3 Should any required information be missing from the application, the WMO Secretariat will communicate the shortcoming(s) to the candidate RMIC, which must ensure that the missing information is provided before assessment of the application will proceed.

### 4. Evaluation of applications

4.1 When a submitted application is complete, the WMO Secretariat, in consultation with the president of INFCOM, will make arrangements for its evaluation by a team of experts. The team (hereinafter called the evaluation team) will be approved by the president of INFCOM, in consultation with the presidents of RAs.

4.2 The result of the evaluation process, together with a recommendation for acceptance/rejection of the application, will be submitted to the president of INFCOM for endorsement on behalf of INFCOM, and will then be conveyed to the Secretary-General of WMO. The Secretary-General will inform the president of the relevant RA and the Executive Secretary of UNESCO/IOC, and the PR of the country with WMO of the INFCOM recommendation.

### 5. Designation of RMICs

The WMO Executive Council (EC), will be invited to designate the new RMIC, upon successful evaluation of the application and positive recommendation of INFCOM. The EC will formally approve the designation of the RMIC.

### 6. Regular assessment of RMICs

6.1 According to the RMIC Terms of Reference, RMICs shall report on their activities annually using the RMIC Reporting Form, and conduct self-assessments using the RMIC Evaluation Scheme, every four years. The RMIC annual reports shall be submitted to the WMO Secretariat each year before the end of February. The WMO Secretariat will publish the RMIC reports on the WMO [website](https://community.wmo.int/activity-areas/imop).

6.2 The WMO Secretariat will ensure, in consultation with the president of INFCOM, regular review of the documentation (RMIC reporting forms, RMIC evaluation schemes, RMIC accreditation certificates, etc.) by the evaluation team to assess the compliance of the RMICs with their Terms of Reference. The results of each evaluation will be provided to the president of INFCOM, president of the respective RA, and the Executive Secretary of UNESCO/IOC. If necessary, the evaluation team might verify a RMIC capabilities and performances by making on-site visits.

6.3 Should a RMIC fail to report on its activities for at least two consecutive years, the WMO Secretariat will inform the president of INFCOM, the president of the RA and the Executive Secretary of UNESCO/IOC that the RMIC status is changed from compliant to non‑compliant and that RMIC should be re-assessed.

### 7. Reconfirmation of RMICs

7.1 Prior to each regular Congress, the WMO Secretariat will invite PRs of Members hosting RMICs to reconfirm their willingness to continue hosting their RMIC and providing RMIC services to Members.

7.2 Based on the outcomes of the RMICs re-evaluation and of the four-yearly survey of Members’ needs, RAs are invited to reconfirm their RMICs or take appropriate measures, in consultation with UNESCO/IOC, in the event that a RMIC has not provided satisfactory services or reporting, in compliance with the Terms of Reference.

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# DRAFT RECOMMENDATION

## Draft Recommendation 6.2(3)/2 (INFCOM-2)

### Regional Instrument Centres (RICs)

The Commission for Observation, Infrastructure and Information Systems,

**Recalling:**

1. [Resolution 17 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008#page=335) - Strengthening Regional Instrument Centres,
2. [Recommendation 6.2.3(1) (INFCOM-2)](https://meetings.wmo.int/INFCOM-2/English/Forms/AllItems.aspx?RootFolder=%2FINFCOM%2D2%2FEnglish%2F1%2E%20DRAFTS%20FOR%20DISCUSSION&FolderCTID=0x012000DFD47F9206CDD640A4FDFBAA2EB0EF6E&View=%7BDBBC48FA%2DBEE2%2D4A94%2D8905%2DFBE98B87E342%7D) - Regional Marine Instrument Centres – Updated Terms of Reference, governance and assessment process,

**Having been informed** of the potential for improvement of the capabilities and services provided by some RICs emerging from the evaluation of the annual RIC reports and the RICs evaluation schemes performed by SC-MINT,

**Reaffirming** the importance of improving traceability of measurement and calibration results,

**Recognizing** the need to harmonize the processes in use for designation, assessment, and reconfirmation of different types of WMO-designated centres,

**Recommends** to the Executive Council to:

1. Urge Members hosting RICs without accreditation according to ISO/IEC 17025 to do their utmost to achieve the accreditation prior to the next regular Congress;
2. Invite regional associations to conduct, in collaboration with INFCOM, a survey of WMO Members on their regional needs for RIC services, and on the utilization and satisfaction of the current offered RIC services;
3. Encourage regional associations to ensure that their RICs are fully compliant with the T[erms of Reference](https://community.wmo.int/activity-areas/imop/Regional_Instrument_Centres);

**Requests** SC-MINT to explore synergies and possible harmonization of the different types of instrument-related regional centres, towards improved services to Members.

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Annex: 1

## Annex to draft Recommendation 6.2(3)/2 (INFCOM-2)

**Draft Resolution ##/1 (EC-76)**

THE EXECUTIVE COUNCIL,

**Recalling** [Resolution 17 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008#page=335) - Strengthening Regional Instrument Centres (RICs),

**Recalling** the need to follow a uniform approach for auditing of WMO centres as stated in [*Technical Regulations*](https://library.wmo.int/?lvl=notice_display&id=14073#.YEjEW0BFyUl)(WMO-No. 49), Volume I, *[from Resolution 17 (EC-73)],*

**Recognizing** the need to harmonize the processes in use for designation, assessment, and reconfirmation of different type of WMO-designated centres, and the place where these processes are published,

**Having examined** [Recommendation 6.2(3)/2 (INFCOM-2)](https://meetings.wmo.int/INFCOM-2/English/Forms/AllItems.aspx?RootFolder=%2FINFCOM%2D2%2FEnglish%2F1%2E%20DRAFTS%20FOR%20DISCUSSION&FolderCTID=0x012000DFD47F9206CDD640A4FDFBAA2EB0EF6E&View=%7BDBBC48FA%2DBEE2%2D4A94%2D8905%2DFBE98B87E342%7D),

**Urges** Members hosting RICs without accreditation according to ISO/IEC 17025 to do their utmost to achieve the accreditation, prior to the next regular Congress, *[adapted from Resolution 17 (EC-73)];*

**Invites** regional associations to conduct, in collaboration with INFCOM, a survey of WMO Members on their needs for RIC services, and on the utilization and satisfaction of the current offered RIC services, prior to the next ordinary Congress;

**Requests** regional associations:

1. To take appropriate measures to ensure that their existing RICs are fully complaint with the [Terms of Reference](https://community.wmo.int/activity-areas/imop/Regional_Instrument_Centres);
2. To reconfirm their RICs, taking into account the recommendations from INFCOM;

**Requests** INFCOM:

1. To perform regular technical evaluation of RIC performances and assessment of RIC applications;
2. To arrange for audits of all non-accredited RICs, prior to the next ordinary Congress;
3. To explore synergies and possible harmonization of the different types of instrument‑related centres, towards improved services to Members.

**Requests** **further** INFCOM, in collaboration with the Commission for Weather, Climate, Water and Related Environmental Services and Applications (SERCOM) and the Research Board, to harmonize practices related to designation of WMO Global and Regional Centres, and for the publication of their Terms of Reference;

**Requests** the regional associations, the respective Members and INFCOM to follow the RICs Process for all new nominations of RICs and for the assessment and periodic reconfirmation of existing RICs; *[from Resolution 17 (EC-73)]*

**Requests** INFCOM, in collaboration with the regional associations, to further develop the RICs audit process to be in line with the standard and recommended practices and procedures described in the [*Technical Regulations*](https://library.wmo.int/index.php?lvl=notice_display&id=14073)(WMO-No. 49), Volume I. *[from Resolution 17 (EC-73)]*

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Note: This resolution replaces [Resolution 17 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008#page=335) – Strengthening Regional Instrument Centres, which is no longer in force.

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