

4. Updates on capacity development activities by WMO Bodies

4.2 Updates from INFCOM

Presented by

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13th Meeting of Capacity Development Panel

(EC-CDP-13)

23 and 24 September 2026

Outline

- Items to be presented at INFCOM-4 (November 23-27 2026):
Proposed amendments to competency frameworks and other capacity development matters
- Highlights in Capacity Development Activities - Update to the INFCOM Capacity Development Materials Dashboard
- Highlights of Capacity Development Activities of 2026 and Preliminary Planning for 2027

INFCOM-4: Capacity Development Matters

(November 23-27 2026)

- Draft Resolution 4.1.2/1: Strategy for the Virtual Laboratory for Education and Training in Satellite Meteorology (2027–2030)
- Draft Recommendation 4.1.2/1: Competency frameworks developed or revised under the responsibility of the Infrastructure Commission
- Draft Decision 4.1.2/1 (INFCOM-4/Doc.1): Capacity Development Coordination within the Infrastructure Commission
- Draft Decision 4.1.2/2 (INFCOM-4/Doc.1): Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology, Volume II – Hydrology

INFCOM-4/Doc. 4.1.2: Proposed Amendments to Competency Frameworks and Other Capacity Development Matters

Draft Resolution 4.1.2/1: Strategy for the Virtual Laboratory for Education and Training in Satellite Meteorology (2027–2030)

Having considered:

- (1) The proposed Strategy for the Virtual Laboratory for Education and Training in Satellite Meteorology (2027–2030) (hereinafter referred to as the “VLab Strategy 2027–2030”), as reviewed by the Standing Committee on Earth Observing Systems and Monitoring Networks (SC-ON) and its Expert Team on Space Systems and Utilization (ET-SSU),
- (2) The endorsement of the VLab Strategy 2027–2030 by CGMS,

Decides to adopt the VLab Strategy 2027–2030, as provided in the annex to the present resolution, with effect from 1 January 2027;

...

INFCOM-4/Doc. 4.1.2: Proposed Amendments to Competency Frameworks and Other Capacity Development Matters

Draft Recommendation 4.1.2/1: Competency frameworks developed or revised under the responsibility of the Infrastructure Commission:

1. Frameworks developed by SC-Measurements, Instrumentation and Traceability (SC-MINT):
 - (a) Updated competency framework for personnel performing meteorological observations;
 - (b) Updated competency framework for personnel installing and maintaining instrumentation;
 - (c) Updated competency framework for personnel performing instrument calibrations;
 - (d) Updated competency framework for personnel managing observing programmes and networks;
 - (e) New competency framework for personnel performing hydrological observations;

(Consultation process with EC-CDP (CDP-12))

2. Frameworks developed by SC-WMO Integrated Processing and Prediction System (SC-WIPPS):
 - (a) New enabling skills framework: Numerical Weather Prediction skills and **knowledge** for operational meteorologists;
 - (b) New competency framework for personnel accessing, implementing and operating high-resolution numerical weather prediction systems;

(Consultation process with EC-CDP (CDP-12))



INFCOM-4/Doc. 4.1.2: Proposed Amendments to Competency Frameworks and Other Capacity Development Matters

Draft Recommendation 4.1.2/1: Competency frameworks developed or revised under the responsibility of the Infrastructure Commission:

3. Framework developed by WMO–CGMS Vlab under SC-Earth Observing Systems and Monitoring Networks (SC-ON)

(a) Updated enabling skills framework: Satellite skills for operational meteorologists and specialists in related application areas, describing the enabling skills for the use of satellite data in operational meteorology, climate and agrometeorological services;

(Consultation process with EC-CDP (CDP-12))

4. Framework developed by SC-Information Management and Technology (SC-MINT)

(a) Updated competency framework for operating and exploiting the WMO Information System

(Consultation process with EC-CDP)

To be presented to EC-81 as a Draft Resolution for inclusion in WMO-No. 1209

INFCOM-4/Doc.1: Capacity Development Coordination within INFCOM

(Summarised items from Draft Decision 4.1.2/1 INFCOM-4)

Draft Decision 4.1.2/1:

(1) Request the INFCOM Capacity Development Coordinator

1. **Promote knowledge and experience** sharing related to CD and training activities across INFCOM
2. **Reinforce coordination** among INFCOM CD initiatives;
3. Strengthen **coordination with** EC CDP, WMO Global Campus, RAs, SERCOM and other bodies and centres;
4. Continue development and maintenance of the **INFCOM CD Materials Dashboard** to improve and facilitate access to CD and training resources;
5. Further development and maintenance of the **WIGOS Learning Portal and other learning platforms**, and promote their use;
6. Support the continued development and update of the **WIGOS Training Framework** and promote its use by all including designated centres (ex: RWCs and RTCs);



INFCOM-4/Doc.1: Capacity Development Coordination within INFCOM

(Summarised items from Draft Decision 4.1.2/1 INFCOM-4)

7. Support the development and maintenance of the **WIPPS Learning Portal**; organisation and promotion of training **workshops and webinars on WIPPS** including **AI-based Earth system prediction** and of **their use**;
8. Promote and facilitate collaboration among INFCOM –related regional centres, WIPPS-Designated Centres, RTCs and Regional Offices;
9. Promote with SC-ON, CD and training on **access to and protection of the radio-frequency spectrum** and promotion of access to associated resources through various WMO learning platforms and the INFCOM CD Materials Dashboard (ref. point 4 above);

(2) Decides to continue regular, biennial WMO **Technical Conferences on Instruments and Methods of Observation** (TECO)

(3) Encourages partnerships with the private sector, in the organization and delivery of TECO and other events, subject to available resources.

INFCOM-4/Doc.1: Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology, Volume II - Hydrology

Draft Decision 4.1.2/2: Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology, Volume II – Hydrology

The Commission for Observation, Infrastructure and Information Systems:

- (1) Having considered the revised Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology, Volume II – Hydrology (WMO-No. 1083), including guidance for Members on the application of the Basic Instruction Package for Hydrologists (BIP-H) and the Basic Instruction Package for Hydrological Technicians (BIP-HT), developed by the Services Commission (SERCOM) in collaboration with the Infrastructure Commission (INFCOM);
- (2) Decides to concur with [draft Recommendation 4.2/2 \(SERCOM-4\)](#) related to the proposed Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology, Volume II – Hydrology.

Timeline INFCOM-4: Capacity Development

Pre-Session: October 29 11:00-12:00 UTC (Online)

Side-Event: Monday November 23 12:30-13:00 CET

INFCOM-4 Session - DRAFT: Cross-Systems (4.1.2) Monday November 23 14:00-15:00 CET

Highlights in Capacity Development Activities

Review of the INFCOM Capacity Development Materials Dashboard

Currently accessible via [Governance- INFCOM](#)

INFCOM

INFCOM contributes to the development and implementation of globally coordinated systems for acquiring, processing, transmitting, and disseminating Earth system observations, and related standards; coordination of the production and use of standardized analysis and model forecast fields; and development and implementation of sound data and information management practices for all WMO Programmes and their associated application and services areas.



Contacts Directory

See details, membership and terms of reference

Related Content

- [INFCOM Organigram](#)
- [Terms of References of subsidiary bodies of INFCOM](#)
- [Members Represented on INFCOM](#)
- [INFCOM Session Reports](#)
- [INFCOM MG Reports](#)
- [Capacity Development Materials Dashboard](#)

To WMO website



Home / Governance / Executive Council / Capacity Development Panel / Capacity Development Materials Dashboard

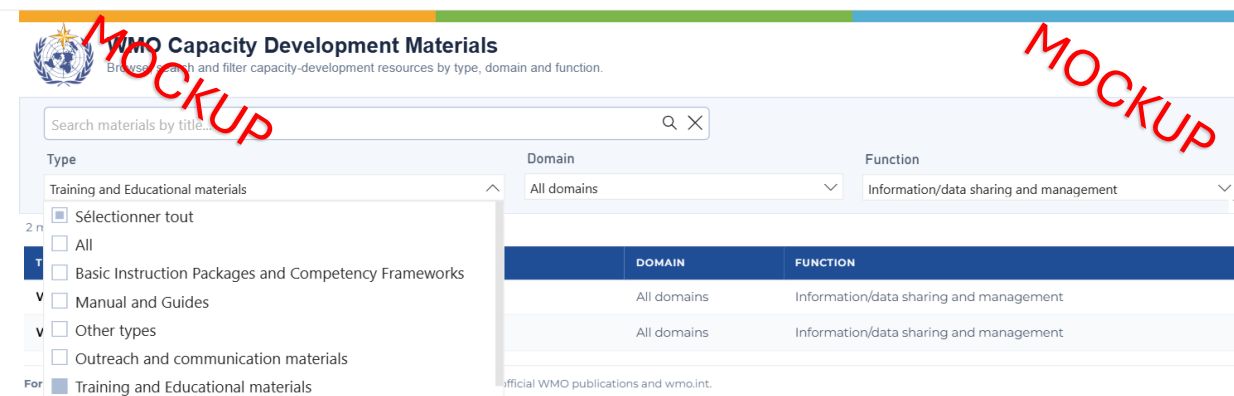
Capacity Development Materials Dashboard

Area	Newsletter	Manual and Guides	Other publications	Awareness and training materials
Information Management and Technology	WIS Newsletter, Operational Newsletter	WIS Manuals, Guide to WIS		WIS2 in a box, WIS2 Training
Earth Observing	WIGOS Newsletters, Aircraft-based Observations	WIGOS Manual, Guide to WIGOS, WIGOS Metadata Standard, Technical Guidelines for RWC on the WIGOS (WMO-No. 1224)	WIGOS Technical reports, OSCAR/Surface User Manual	WMO's Training Portal



Ongoing Review includes:

- (1) **Determine and design** of search capacity for categories/topics through a dynamic Power BI platform – Initial feedback received from focal points and secretariat
- (2) Review/update of current and future material and determine metadata sets to enable search
- (3) Develop Prototype with links
- (4) Testing of Prototype by CD focal points and users



Highlights in Capacity Development Activities

The WIS-2 Capacity Development Program (under SC-IMT):

- RA V WIS 2.0 Implementation Webinar (<https://wmo.int/events/community-event/ra-v-wis-20-implementation-webinar>)
- WIS2 training for eleven selected WIS2 Champions (March-April), in Indonesia, to support the implementation of WIS 2.0 at the regional and national levels.
- WIS2 training in Port of Spain (CMO) (June) - for Caribbean countries as a follow-up to the WIS2 Training held in 2023
- WIS2 training in Brasilia (September) - follow-up to the WIS 2.0 training held in 2023 for participants from 21 countries in Spanish

Planned for 2027: WIS2 training in Melbourne

- Dependent on budget considerations for 2027:
 - (1) planning for a training for RCCs;
 - (2) WIS2 training in Africa: stronger focus on the migration to WIS 2.0, and on accessing and using data from WIS2

Highlights in Capacity Development Activities

WMO Integrated Processing Prediction System (under SC-WIPPS):

- [WIPPS Newsletter](#)
- Weather AI Bootcamp (August)- lead by KMA for RA-II
- Introduction in Artificial Intelligence for Weather and Climate Modelling (October) – lead by ACMAD for RA-I
- WIPPS Webinars:
 - Webinar on [WIPPS Strategy including the incorporation of AI into WIPPS](#)
 - Webinar on new Standardized Verification for global and limited-area NWP products (WIPPS-DC and NMHS)

WIPPS Learning Portal (Plan)

The screenshot shows the WIPPS Learning Portal interface. On the left, a sidebar lists background skills (BKS) from 1.1 to 5.1. A red arrow points to the 'List in the Skills Framework' label. The main content area shows 'BKS 1.1 — Recognize the role and structure of WIGOS, WIS and WIPPS'. A blue callout box labeled '(2) A background knowledge and sub-skills' points to the BKS 1.1 title. Another blue callout box labeled '(3) Sub sections of each BKS' points to the 'Table of contents' on the right, which lists sections 1 through 5. A yellow callout box labeled '(1) List in the Skills Framework' points to the sidebar. A yellow callout box labeled 'Find and Map the existing training materials to the Skills Framework.' points to the 'WIPPS Portal' link at the bottom.

- Ongoing Development of WIPPS Learning Portal to be launched in 2027
- Launch of new WIPPS Web Portal 2 – to come
- **Draft** Infographics defining the Competency Framework for High Resolution NWP

The infographic is titled 'COMPETENCY REQUIREMENTS FOR HIGH-RESOLUTION NWP'. It is marked as a 'Draft'. It outlines six key competency areas: 1. Manage and operate HPC and related IT infrastructure, 2. Implement NWP models, 3. Implement data assimilation system, 4. Conduct verification, 5. Apply statistical and physical post-processing, and 6. Visualize products. A table titled 'COMPETENCY REQUIREMENTS BY NWP LEVEL' shows the required competencies for levels 1 through 6. The table has columns for Competency Area, Level 1, Level 2, Level 3, Level 4, Level 5, and Level 6. A large 'Draft' watermark is overlaid on the infographic.

Highlights in Capacity Development Activities

WMO Integrated Processing Prediction System:

- [WMO AI Webinars](#): in collaboration with many partners

January 2026	(1) Skillful long-lead nowcasting with NowAlpha in operations (KMA) (2) Integration of AI/ML into operational weather and environmental forecasting systems at ECCC (ECCC)
April 2026	(1) Advancing Nowcasting with Deep Learning techniques (ANDeL) for West Africa (KNUST) (2) WAS-NextGen: An Objective Multi-Method Framework for Seasonal Climate Forecasting in West Africa (AGRHYMET RCC-WAS)
June 2026	(1) Operational subseasonal to seasonal (S2S) prediction of drought using ML Downscaling (ESNZ) (2) Integrating AI in Seamless Prediction from Nowcasting to Medium-Range Weather Forecast (HKO)
July 2026	ENANDES project (1) Artificial Intelligence for Estimating Evaporation in Floating Solar Systems in Chile (DMC, Min Chile, UDP) (2) MLP Correction of Solar Radiation Forecasts from NWP Models in Argentina (SMN, UNSa) (3) AI-Based Downscaling of Climate Projections for Renewable Energy Atlases in South America (AMIGO)
24 Sept 2026	AI Weather Quest (with ECMWF) (1) The AI Weather Quest: Framework and Participation over the First Year (ECMWF) (2) Scientific Insights and Rankings (ECMWF) (3) Fengshun: Advancing AI-Driven Subseasonal-to-Seasonal Prediction (CMA) (4) Advancing Subseasonal Forecasting with Machine Learning (Microsoft and Harvard College) (5) How Far Does Forecast Bias-adjustment Take You? (Climate Data Factory) (6) What Comes Next for the AI Weather Quest (ECMWF)

Highlights in Capacity Development Activities

Earth Observing Systems and Monitoring Networks (under SC-ON)

- Webinar no 34 - Implementation of Updated WMO-No. 1224 regarding GBON tickets management (March)
- Webinar no 35 GBON Implementation and Compliance Status, and the GBON Compliance App (June)
- RA IV Online Course on OSCAR/Surface (February)
- Training Workshop on RWC Functions and Tools for RA IV (February)
- RA I Online Course on OSCAR/Surface for Hydrological Metadata Editors (April)
- ClimSA Training Workshop on strategic and implementation planning for sustainable observations (April)
- RA VI OSCAR/Surface online course (June)
- WMO Regional Workshop on RBON design for RA III and Strategies of Modernization on Station Data Management (June)
- Workshop on the Transition from Conventional to Automatic Observing Stations (June)
- [Joint WMO/ITU Regional Seminar on Radio Frequency Matters for Arab Member States](#) (February)

Highlights in Capacity Development Activities

- **Earth Observing Systems and Monitoring Networks (under SC-ON)**
 - Regional meetings for National Focal Points on Radio Frequency Matters : WMO RA-II/V; WMO RA-I/VI; WMO RA-III/IV (May)
 - Strengthening Early Warning Systems in Belize, Guyana, Jamaica and Suriname through Improving Satellite Data Utilization”: Virtual Application Training and Technical (September)
 - [Global ITU/WMO Seminar "Spectrum use for meteorology: challenges, opportunities and evolving requirements](#) (planned for Sept 28-30)
 - [16th Asia-Oceania Meteorological Satellite Users Conference Training](#) (planned for December)

Planned for 2027:

- Strengthening Early Warning Systems in (1) Belize and Jamaica (2) Guyana and Suriname through Improving Satellite Data Utilization: In-person Technical and Application Training (Feb/March)
- Regional meeting for National Focal Points on Radio Frequency Matters : WMO RA-II/V; WMO RA-I/VI; WMO RA-III/IV (May)
- [WMO 9th Workshop on the Impact of Observing Systems on Numerical Weather and Earth System Predictions and Implications for Observing System Design and Evolution](#) (September)

Highlights in Capacity Development Activities

Measurements, Instrumentation and Traceability (under SC-MINT)

- [WMO Online Training Course on Calibration](#) (on WMO Moodle):

7 main modules covering 11 learning lessons
(8 hours of video material available in total)

- supporting the Competency framework for personnel performing instrument calibrations



- [Webinar on WMO FM301 Radar Data Format](#) (July)
- Technical Conference on Instruments and Methods of Observations 2026: ["Developments in Earth System Measurements and Technologies"](#) (planned for 5-8 October, Amsterdam)
- Community of Practice course for Regional Instrument Centres (RICs)
- Various CD activities provided by the RICs



Thank you



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Plan for developing WIPPS Learning Portal

- **Phase 1: Prototype Development (September – December 2026)**
 - Design the structure of the WIPPS Learning Portal on the WMO Moodle platform.
 - Develop a prototype focusing on Skill 2.
 - *Skill 2. Assess recent model performance by interpreting verification metrics.*
 - Present the prototype at the RTCs' Directors' Meeting (7–11 December 2026, Nanjing, China).
- **Phase 2: Portal Development (January - July 2027)**
 - Collect existing learning materials from RTCs and WIPPS-DCs.
 - Develop the full Skills structure in the draft Portal.
 - Circulate the draft Portal to RTCs and WIPPS-DCs and collect feedback.
 - Revise the Portal by consolidating the feedback received.
- **Publish and officially launch the Portal (August 2027)**

Challenges

- **Content Availability**

- Responses from RTCs and WIPPS-DCs may require additional time.
- There may be limited availability of learning materials for some Skills, particularly:
 - *Skill 4. Analyse NWP products*
 - *Skill 5. Determine possible future weather outcomes*

- **Sustainability of maintaining the Portal**

- Limited Secretariat human and financial resources for the ongoing development and maintenance of the Portal.

- **Proposal to enhance ownership and engagement among RTCs.**

Option 1: Explore the possibility of an RTC(s) hosting the WIPPS Learning Portal

Option 2: Establish a group comprising representatives from RTCs to jointly develop and maintain the Portal.

WIPPS Learning Portal (Plan)

Home Dashboard My coursesELEdit mode

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> Background Skills

✓ Skill 1: Access and Integration ...

BKS 1.1 — Recognize the role an...

BKG1.2 Navigate diverse data so...

Full description of Skill 1

> Skill 2: Assess recent model pe...

✓ Skill 3: Analyse observations a...

✓ Skill 4: Analyse NWP products

✓ Skill 5: Determine possible fut...

✓ (Archive) Skill 1: Access and In...

WIPPS_LP / Skill 1: Access and Integration of Required Data

/ BKS 1.1 — Recognize the role and structure of WIGOS, WIS and WIPPS

 **BKS 1.1 — Recognize the role and structure of WIGOS, WIS and WIPPS**

Book Settings Import chapter More

The first background knowledge and skills (BKG) of the Skill 1 is to recognize the role and structure of WMO Integrated Global Observation System (WIGOS), WIS and WMO Integrated Processing and Prediction System (WIPPS) to identify data pathways.

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2. Section 1. Core Gateway

2.1. The WMO Portals

 **WIPPS DC Portal (V2)**

A one-stop directory for WIPPS Designated Centres and their products. Use it to quickly identify which centre provides which products and how they are accessed (via WIS and/or centre websites). Before using a product, confirm the designated centre/source and the correct access pathway.



 **WIPPS Portal**

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1. Introduction

1.1. Finding the right data for NWP interpretation

2. Section 1. Core Gateway

2.1. The WMO Portals

3. Section 2. Using the Portals

4. Section 3. Specialised Data & Standards

5. Summary and References

(1) List in the Skills Framework

(2) A background knowledge and sub-skills

(3) Sub sections of each BKS

Find and Map the existing training materials to the Skills Framework.