

VLab strategic orientation and 2025-2026 progress highlights

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Presented to CGMS-54 Working Group IV session, agenda item 6

Executive summary of the WP

The WMO–CGMS VLab continues to deliver a wide range of training activities, with a strong focus on capacity development for new-generation satellite systems and support to the Early Warnings for All (EW4All) initiative.

Sustained funding remains a key challenge, with declining contributions to the VLab Trust Fund affecting coordination and training delivery. Continued and increased support from CGMS members is essential.

Work has started on the VLab Strategy 2027–2030, with a draft is presented to CGMS-54 Plenary and approval planned at INFCOM-4 in Q4 2026.

The VLab Management Group (VLMG) continues to coordinate its activities via quarterly online and biannual in-persons meetings; CGMS members are encouraged to participate in the next in-person meeting (VLMG-12).

WMO-CGMS VLab overview

OUR MISSION:

- To support **protection of life and property and economic development** through improved weather, climate, water, and related environmental services by enabling WMO Members to **utilize satellite data in services and science.**

OUR LONG-TERM GOALS:

- Continuously **strengthen and advance** the effective operational and scientific **utilization of data from the space-based component of WIGOS** for weather, climate, water, and related environmental services that are increasingly reliant on satellite data, **through coordinated training, knowledge exchange, and user engagement;**
- Strengthen and sustain global capacity** by building knowledge and sharing expertise, methods, tools, and best practices related to **access to and use of satellite data**, with a particular focus on training and user engagement in support of **WMO Members with limited resources.**

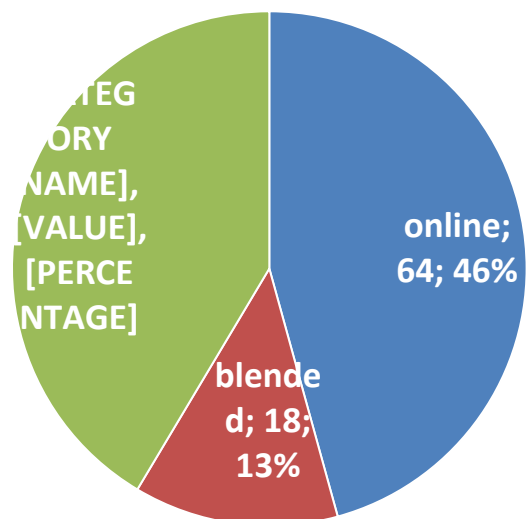


*13 Centres of Excellence and
6 satellite operators*

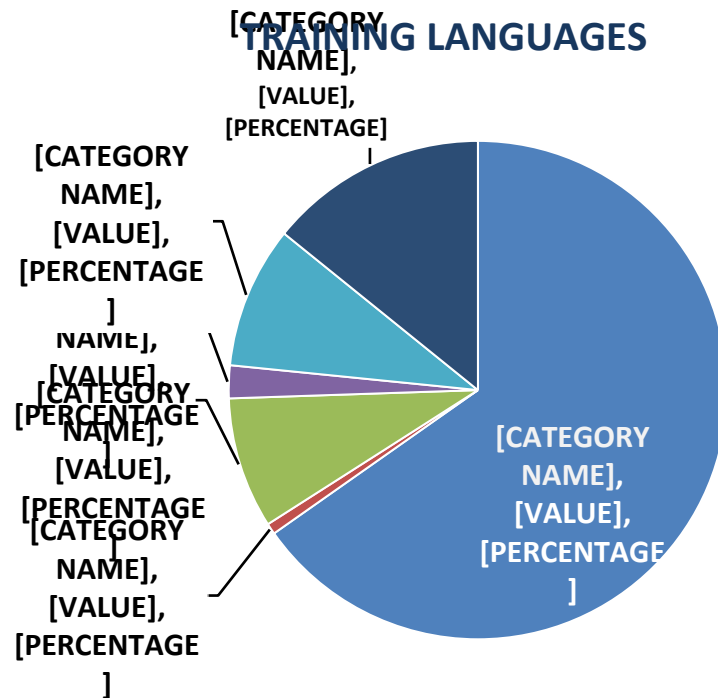
Overview of Training in 2025 as reported by members*

- **140 training activities** delivered by VLab partners
- **Over 6,000 learners** participated in VLab training
- Training offered in **6 languages**, with several **bilingual events**

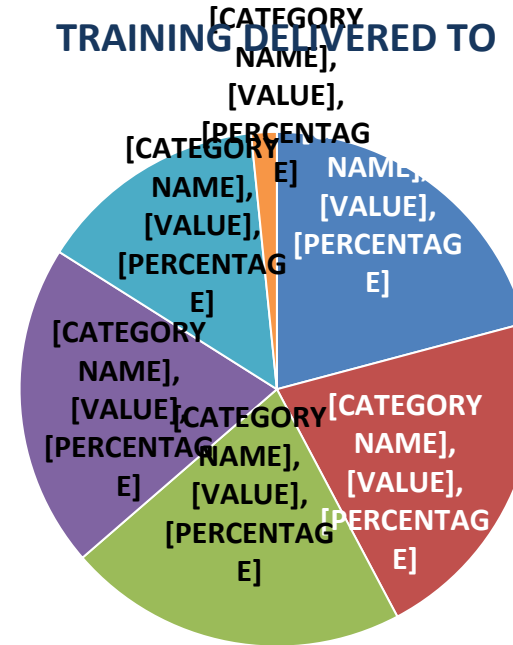
TRAINING DELIVERY MODE



TRAINING LANGUAGES



TRAINING DELIVERED TO



* Not all members reported



➔ Sustained funding remains a critical challenge for VLab

- ✓ Contributions to the VLab Trust Fund have decreased
- ✓ Current confirmed contributions: EUR 20,000 (EUMETSAT) and USD 10,000 (KMA)
- ✓ **Current funding supports the VLab TSO function at only ~50% of the previous SSA level and allows participation of only a few representatives in meetings and conferences**
- ✓ **Continued voluntary contributions** from CGMS members are essential for the long-term sustainability of VLab (additional contribution from CMA under consideration)

➔ Contributions to the WMO VLab Trust Fund are needed to support:

- ✓ Continued technical coordination through the VLab TSO
- ✓ Participation of VLab Members in Management Group meetings and User Conferences
- ✓ Support for Members with limited resources to attend training events and regional conferences
- ✓ Development of training resources

➔ CGMS space agencies are invited to contribute to the WMO VLab Trust Fund to support the continuation of VLab technical coordination activities and training delivery, including travel support for WMO Members with limited resources.

Supported Through VLab TF

- **VLab Management Group Meeting** – 20–23 January 2025, Oman, Muscat
(10 participants supported)
- **AOMSUC-14** – 2–7 Dec 2024, New Delhi, India (10 participants supported)
- **RAIDEG-18** – 10–11 Sept 2025, Geneva, Switzerland (12 participants supported)
- **Regional Training Events:**
 - [WMO-CGMS VLab Regional Training Event on the Utilization of Satellite Data](#)
8–10 Oct 2025, Uzbekistan (23 participants supported)
 - [WMO-CIMSS Forecaster Training on Satellite Meteorology Data and Applications](#)
18–19 Sept 2024, Kazakhstan (8 participants supported)
- **Regional Satellite Group Chairs** participation in ET-SSU – 29–31 Oct 2024, Geneva
(4 persons supported)
- [RGB Developers and Users Workshop](#) – Norrköping, Sweden, 1–3 April 2025
(1 participant supported)
- **Regional Seminars on RF Matters:**
 - Asia-Pacific – 3–4 March 2025 (17 participants supported)
 - Arab Region – 9–10 Feb 2026 (11 participants supported)



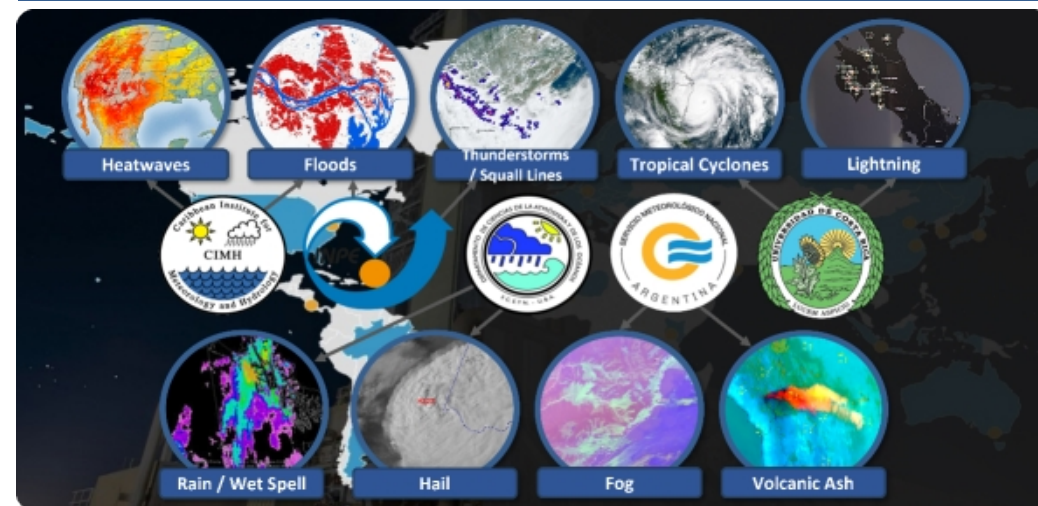
VLab TF in Action: Training in support of the EW4All initiative

Pilot EW4All Regional Training Initiative (Americas & Caribbean)

- VLab CoEs (Barbados, Brazil, Argentina, Costa Rica) developed multilingual, regionally tailored training resources
- Focus on satellite-based monitoring of key regional hazards (e.g. floods, heatwaves, tropical cyclones, lightning)
- CALMet presentation: [LINK](#)

HLPP Item 7.2.5 Ensure availability and training in usage of satellite data and products in monitoring regional priority hazards in addressing the UN EW4All initiative.

Regional priority hazards covered



Participants of the Pilot Project

Development of Training Resources by VLab Centers of Excellence in RA-III and RA-IV in Support of EW4All

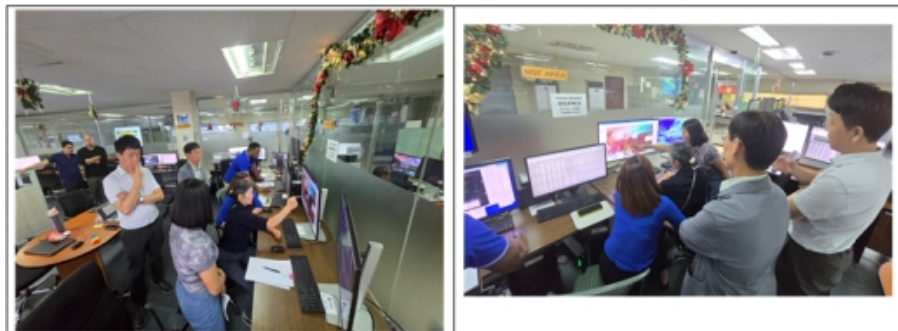
PARTICIPANTS OF THE PILOT PROJECT
VLab Centers of Excellence (CoEs)

VLab Focal Points				

Project Contributors

Training in support of the EW4All initiative

VLab Regional Focus Group meeting highlights since AOMSUC-14 A constellation of presenters from across the region



Coordination Group for Meteorological Satellites



Satellite Product Development



MAZU Training



BMKG is approved as WMO Vlab CoE on July 2023



Revision of the VLab Strategy (2027–2030)

Action 2

- The VLab community is currently finalising the update of the VLab Strategy.
 - Process
 - Draft presented to the CGMS Plenary for information and discussion
 - Final version to be circulated to CGMS Members for endorsement by correspondence in mid-August
 - Submission to INFCOM-4 for approval by 3 September (INFCOM-4 deadline)
- ➔ CGMS space agencies are invited to review the draft revised *VLab Strategy for Education and Training in Satellite Meteorology (2027–2030)* and take note of the planned endorsement process prior to its submission to INFCOM-4.

Mission: Refined and Strengthened

Previous (2024 - 2027)

“To improve weather, water, climate and related environmental services by enabling WMO Members to utilize satellite data.”

New (2027 - 2030)

“To support protection of life and property and economic development through improved weather, climate, water, and related environmental services by enabling WMO Members to utilize satellite data in services and science, through coordinating and delivering education, training, and knowledge exchange.”

Key Improvement: Explicit link to protection of life/property, economic development, and science + clearer description of VLab's coordination role.

Long-term Goals: Evolution

Common Elements

- Advance utilization of space-based WIGOS component
- Global knowledge sharing, especially for resource-limited Members

New Emphasis

“Continuously strengthen and advance the effective operational and scientific utilization...”

“Strengthen and sustain global capacity by building knowledge...” (stronger sustainability focus)

VLab Strategic Approaches (2027-2030)

Key Implementation Pillars (refined):

- Identify regional needs & prioritize interventions
- Develop/share/reuse training linked to competencies
- Evaluate impact of training (stronger focus)
- Promote materials in multiple languages + AI translation
- Engage next generation & interdisciplinary early-career professionals
- Promote mentoring & communities of practice
- Support via VLab Trust Fund (expanded: conferences, visiting scholars, scientific activities)

New Activity Emphasis: Dedicated opportunities for students/early-career at user conferences.

Quality Control and Evaluation: Major Upgrade

Previous (2024 - 2027)

Internal evaluations + annual reviews focused on priorities

New (2027 - 2030) - Under Discussion / Preliminary Ideas

- *Standardized approach across all CoEs*
- *Common evaluation indicators*
- *Move beyond “number of events” → impact, relevance, outcomes*
- *Measure contribution to improved capabilities & satellite data usage*
- *Procedures for consistency and continuous improvement*

New Annex: VLab Logic Map (Impact Pathway)

Long-term Societal Impacts (beyond direct VLab scope)

1. Protection of life and property
2. Economic resilience
3. Improved Earth system understanding

Outcomes VLab Supports

- Enhanced use of satellite data in warnings (nowcasting → seasonal)
- Environmental risk information & indices
- Earth system science (reanalysis, research)

VLab Role: Education/training, best practices, right tools for right tasks.

12th VLab Management Group meeting in China in 2027

- The Eleventh meeting of the VLab Management Group (VLMG-11) was hosted by the Oman Centre of Excellence in Muscat from 20 to 23 January 2025.
- The Twelfth meeting (VLMG-12) is planned for 2027 to be **hosted by CMA in China** (dates and location are to be confirmed).

➔ □ CGMS members are invited to ensure that a suitable representative is able to attend the 12th VLab Management Group (VLMG-12) meeting, preferably in person.

VLMG-11 - Meeting report:

<https://wmo-sat.info/vlab/vlmg11/>

**Coordination Group for
Meteorological Satellites**



To be considered by CGMS:

➤ For actions

1. CGMS space agencies are invited to contribute to the WMO VLab Trust Fund to support the continuation of VLab technical coordination activities and training delivery, including travel support for WMO Members with limited resources.
2. CGMS space agencies are invited to review the draft revised VLab Strategy for Education and Training in Satellite Meteorology (2027–2030) and take note of the planned endorsement process prior to its submission to INFCOM-4.

To be considered by CGMS:

➤ Reference to HLPP:

7.2.1 Continue to foster optimum use of satellite data for weather forecasting, climate applications, and environmental assessments including hazardous events such as volcanic ash and flooding.

7.2.2 Update and develop new training material through the WMO-CGMS Virtual Laboratory for Education and Training in Satellite Meteorology (VLab) and in partnership with the WMO Training and Education Programme. Link training materials to the 2025 update of 'Guidelines on Satellite Skills for Operational Meteorologists and Specialists in Related Application Areas'

7.2.3 CGMS Members and Centers of Excellence (CoE) to coordinate and collaborate on succession planning. Many members are experiencing staff shortages due to employee turnover and retirement.

7.2.4 CGMS members and CoEs to establish agreements to collaborate on training development programmes for CoE trainers.

7.2.5 Ensure availability and training in usage of satellite data and products in monitoring regional priority hazards in addressing the UN Early Warnings for All initiative.