WMO-CGMS Virtual Laboratory for Education and Training in Satellite Meteorology (VLab): Who are we and what do we do?

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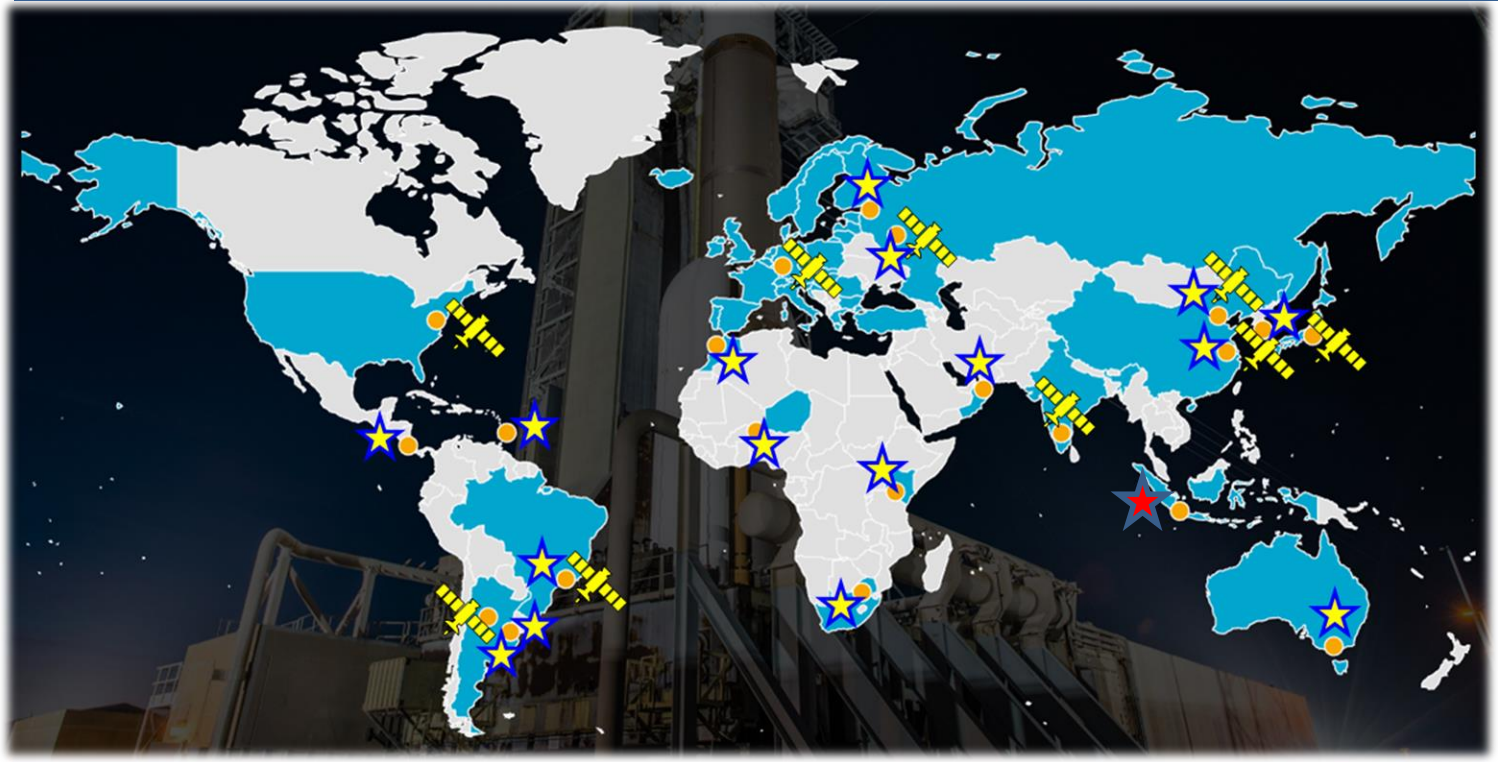
VLab Co-Chairs
Zoya Andreeva, WMO
Marcial Garbanzo, UCR, Costa Rica (TSO)

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

WMO OMM
World Meteorological Organization
Organisation météorologique mondiale

CGMS

WMO-CGMS VLab - established in 2000



The Virtual Laboratory for Training and Education in Satellite Meteorology (VLab)

Satellite Agencies

CMA, CONAE, EUMETSAT, INPE, JMA, KMA, NOAA, ROSHYDROMET, IRSO

Centres of Excellence

Costa Rica, Barbados, Brazil, Argentina, Morocco, Niger, Oman, Kenya, South Africa, Russian Federation, Republic of Korea, China, Australia

Candidate as a New Centre of Excellence : BMKG Indonesia

Coordination Group for Meteorological Satellites (CGMS) and World Meteorological Organization (WMO)

Our Mission

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

What we do:

We provide training that promotes the interdisciplinary application of satellite data for user services.

We share knowledge, experience, methods, and tools related to access and usage of satellite data, especially in support of WMO Members that have limited resources.

Our audience:

Mainly operational meteorologists: those performing the duties of analysis, diagnosis, prognosis and forecasting of the weather.

…and includes students, researchers, trainers, managers, and others spanning related disciplines that use weather and climate information

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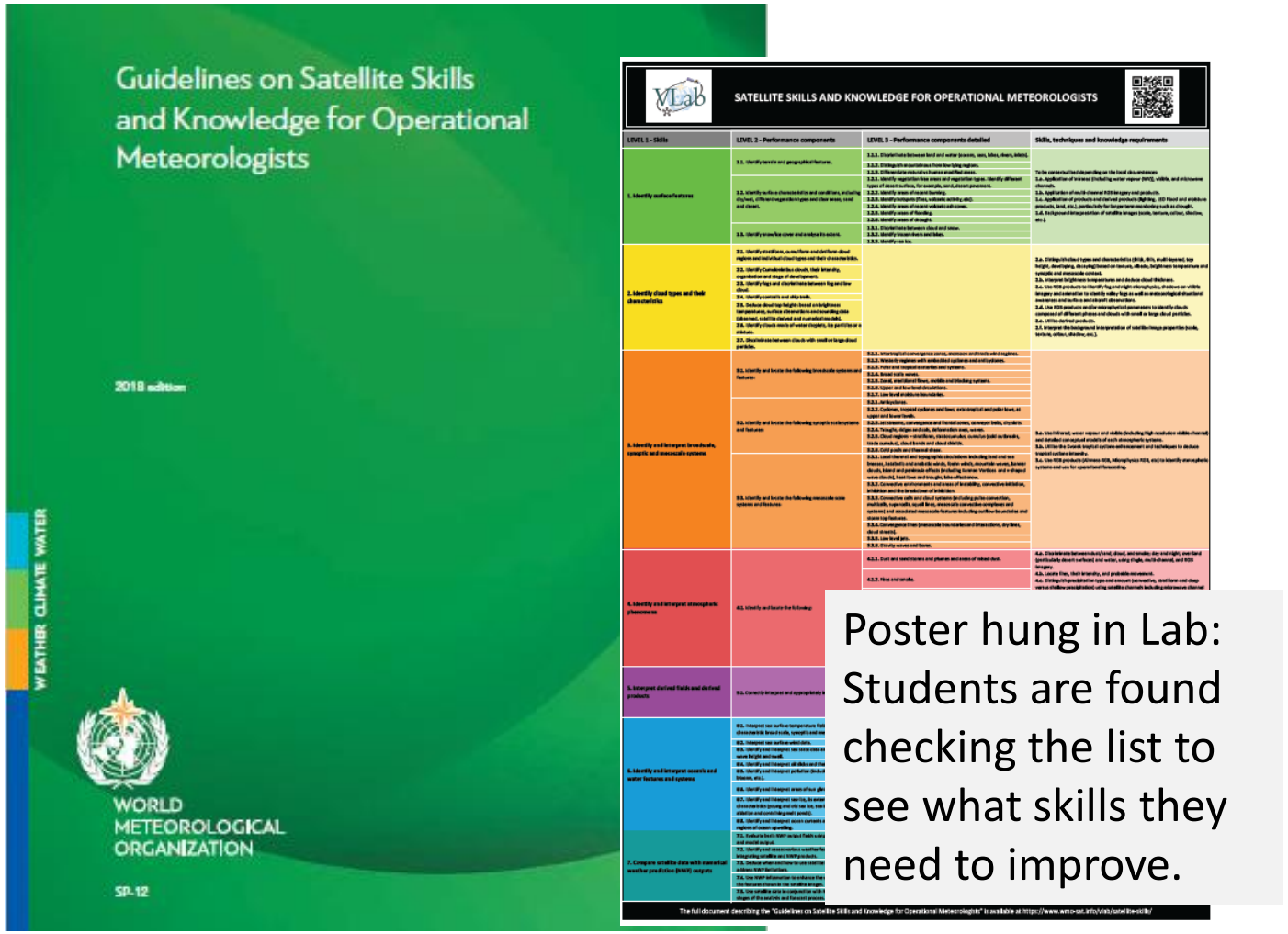
Satellite Skills



Poster hung in Lab: Students are found checking the list to see what skills they need to improve.

- Recognition and inclusion of lightning measurements

Review of additional skills:

- Skill 8: Apply satellite-based climate data records for Meteorological Services
- Skill 9: Apply satellite-based products for Agricultural monitoring

https://library.wmo.int/index.php?lvl=notice_display&id=19843

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How do we implement competency-based training?

1. Include Satellite Skills in the training plan

- Identify the skills that will be addressed
- State the skills in the course description
- Add the skills to the back of the certificates

2. Link the training to the existing WMO competency framework

- In Calendar announcements
- In the Library of training resources

Challenge

- Reaching wide adoption of the Satellite Skills in training.

Solution tried

- Awareness campaign.

Reported Benefits

- Skills helped Trainers to write clearer learning objectives;
- Skills helped professionals to identify gaps in their skill sets.

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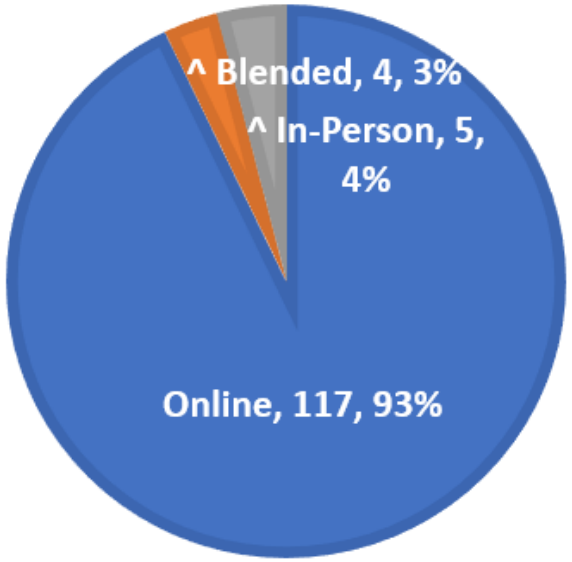
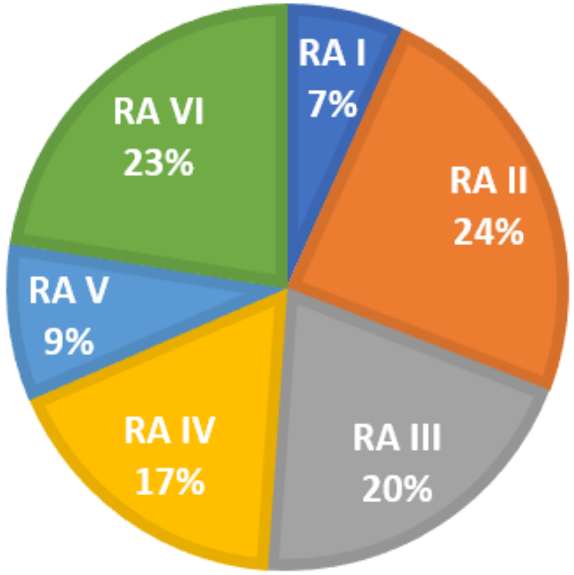
Overview of Training: December 2020 through November 2021

- A total of **126** training events were organized by VLab partners in 2021.
- About **4,250 learners** participated from all WMO Regional Associations (RA).
- Training offered in 7 languages; some events were bilingual.

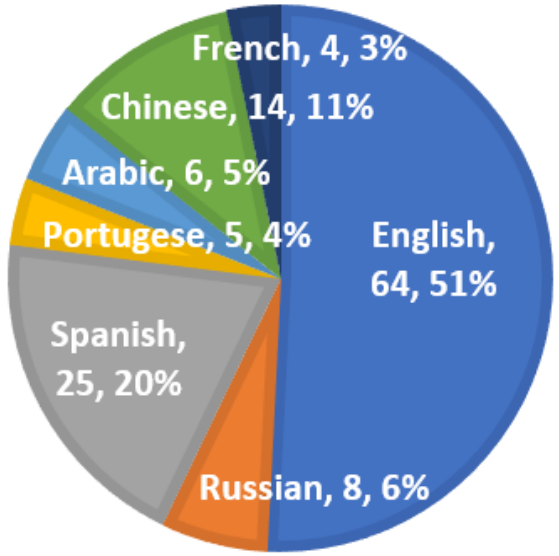
TRAINING DELIVERY MODE



TRAINING DISTRIBUTION



TRAINING LANGUAGES



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Continuous Professional Development

1. Promote initiatives

- CoE Courses
- Themed events
- Internships
- Regional Workshops
- Hackathons
- Regional Focus Groups

2. Train the Trainers and Gather Input and Feedback

- Offer regional training of trainers
- User Conferences & Surveys
- Adopt WMO Education & Training guidelines

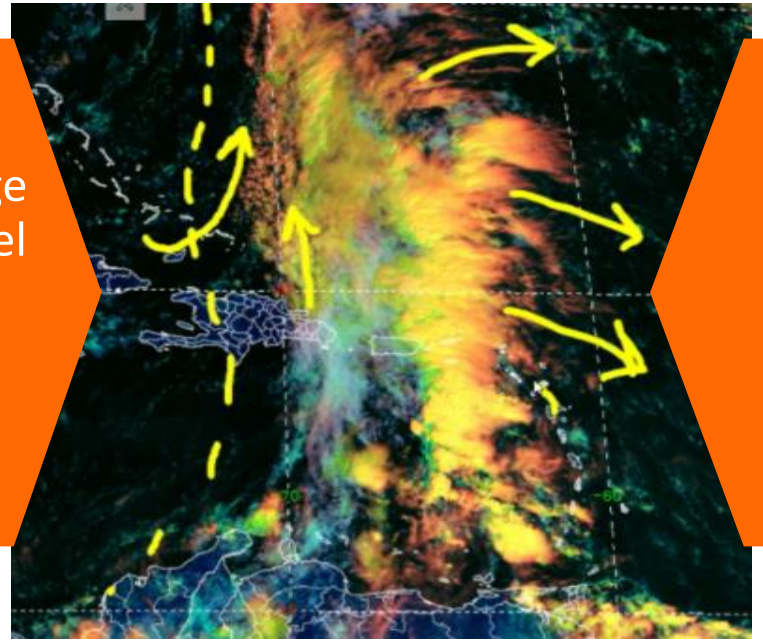
3. Global Campus

Sharing of

- Training materials
- Instructional innovations
- Assessment methods

Challenges

- Maintaining up to date knowledge and skills of operational personnel and trainers;
- Raising awareness of developments in satellite meteorology.



Approaches

- Work closely with subject matter expertise;
- Foster communities of practice;
- Encourage sharing of training resources.

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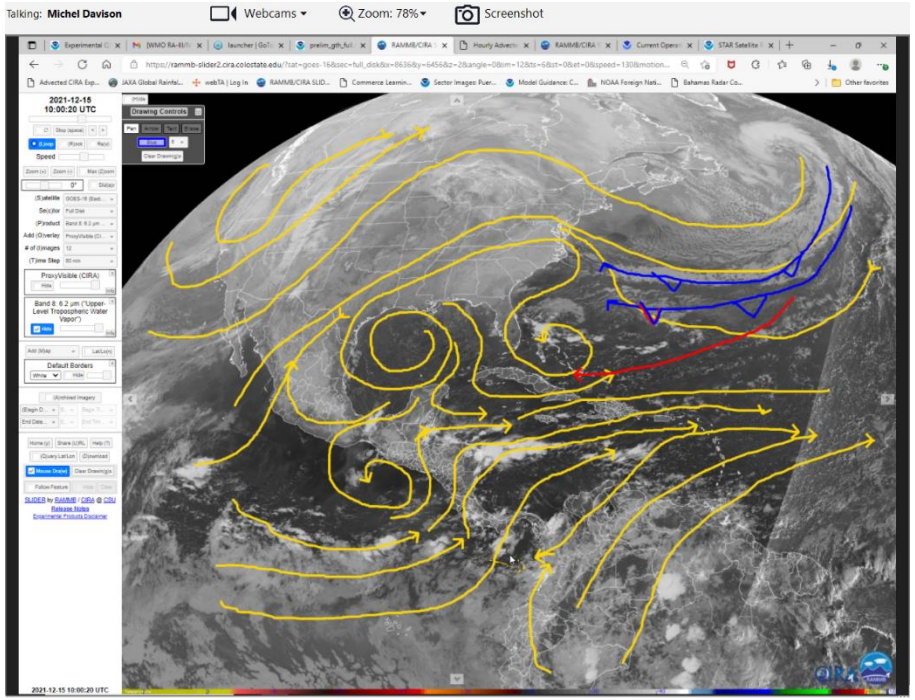
What is a Focus Group?

- **A long term Community of Practice that brings together diverse stakeholders**
- **Informal learning (no participation certificates are offered)**

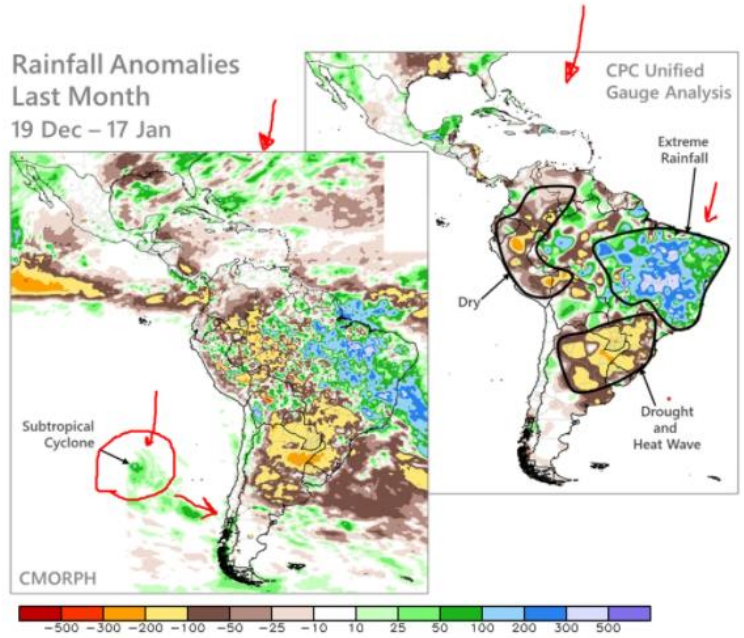


Synoptic Overview

Too many topics to address during this session:

Dec 30	Fires in Colorado ✓
Dec 23 -Jan 11	Extreme Rainfall in Brasil, persistent SACZ events ✓
Jan 10-17	Heat wave amid drought in the Parana/La Plata Basin ✓
Jan 11-12	Subtropical Cyclone off the coast of Chile ✓
Jan 15	Tonga Volcano Explosion ✓

Review of significant events over the past month



Climate Indices & Summaries

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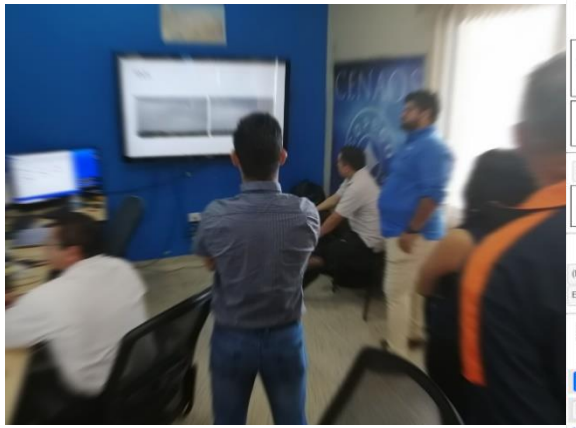
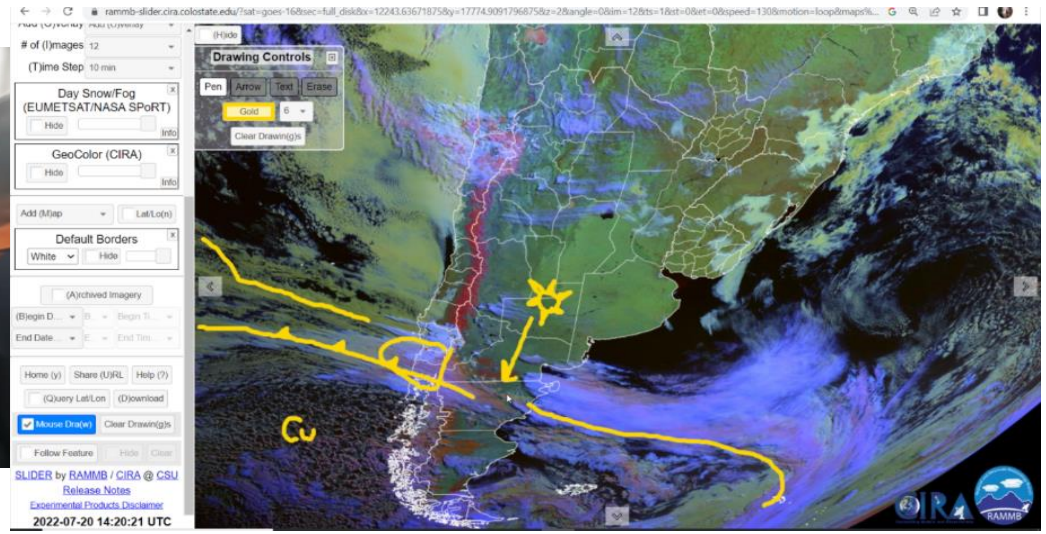
Continued Engagement through Virtual Monthly Regional Focus Group Weather and Climate Discussions
Example for the Americas and the Caribbean

CIRA + NCEP + CIMH + UCR + INPE + SMN & UBA = VLab

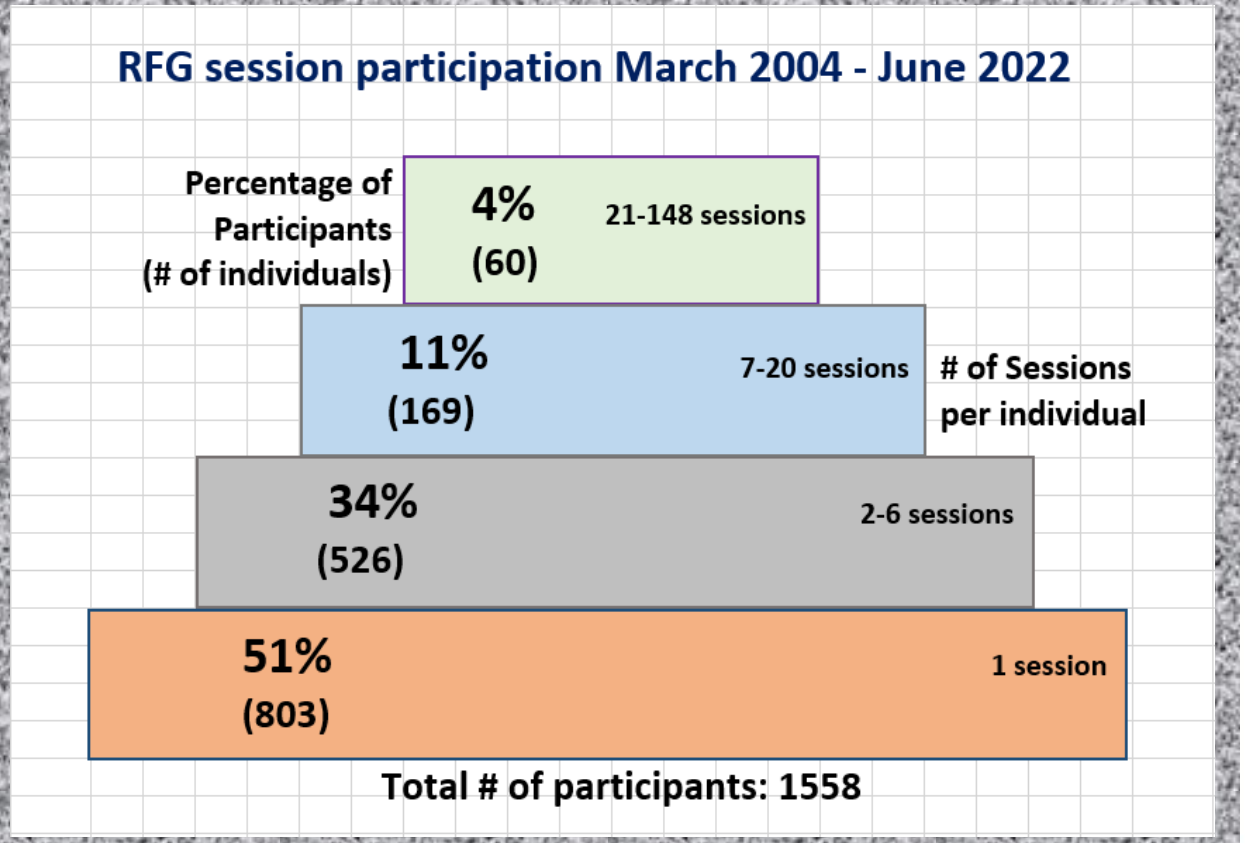
WPC Int. Desks

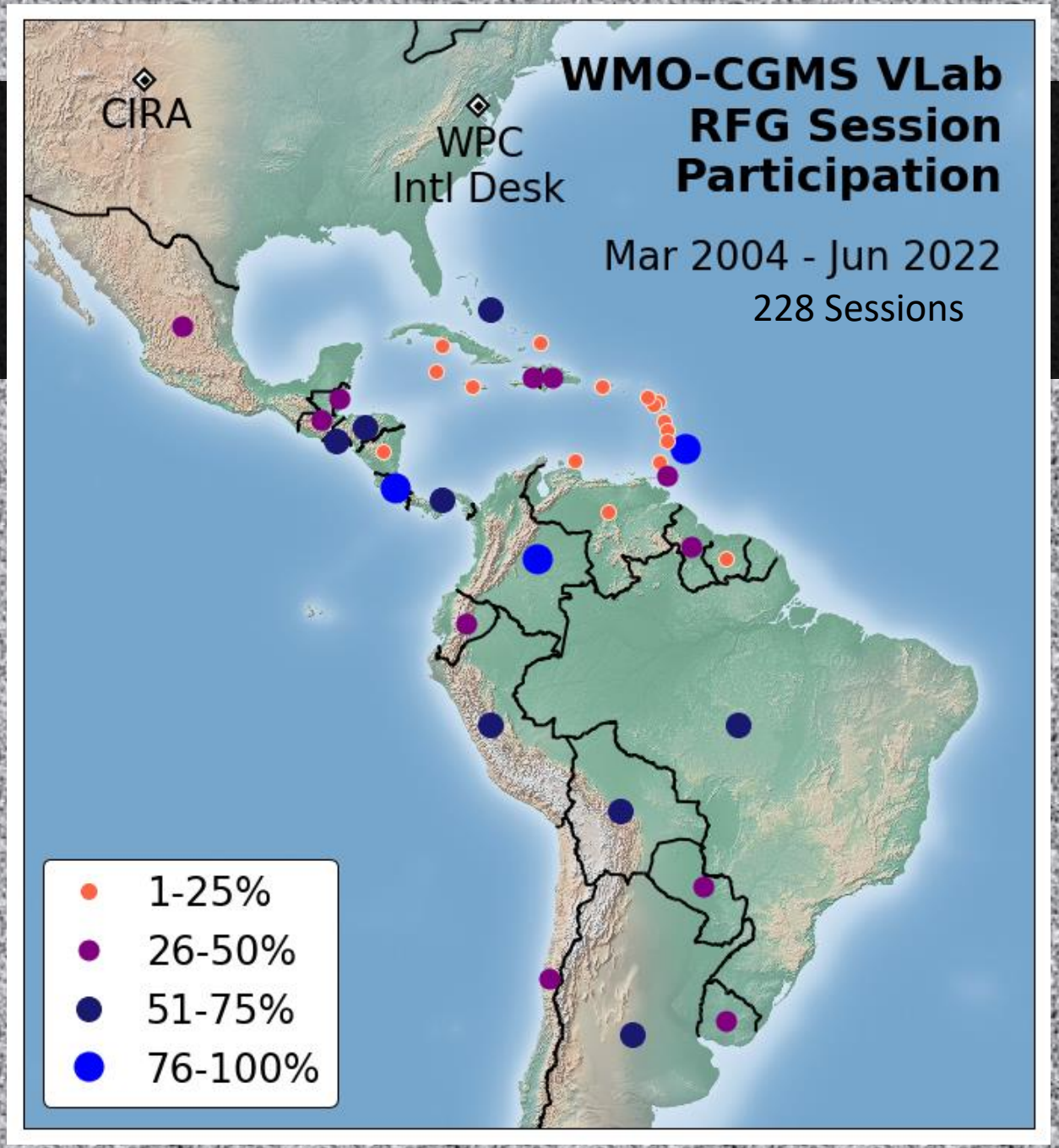




http://rammb.cira.colostate.edu/training/rmtc/focusgroup.asp

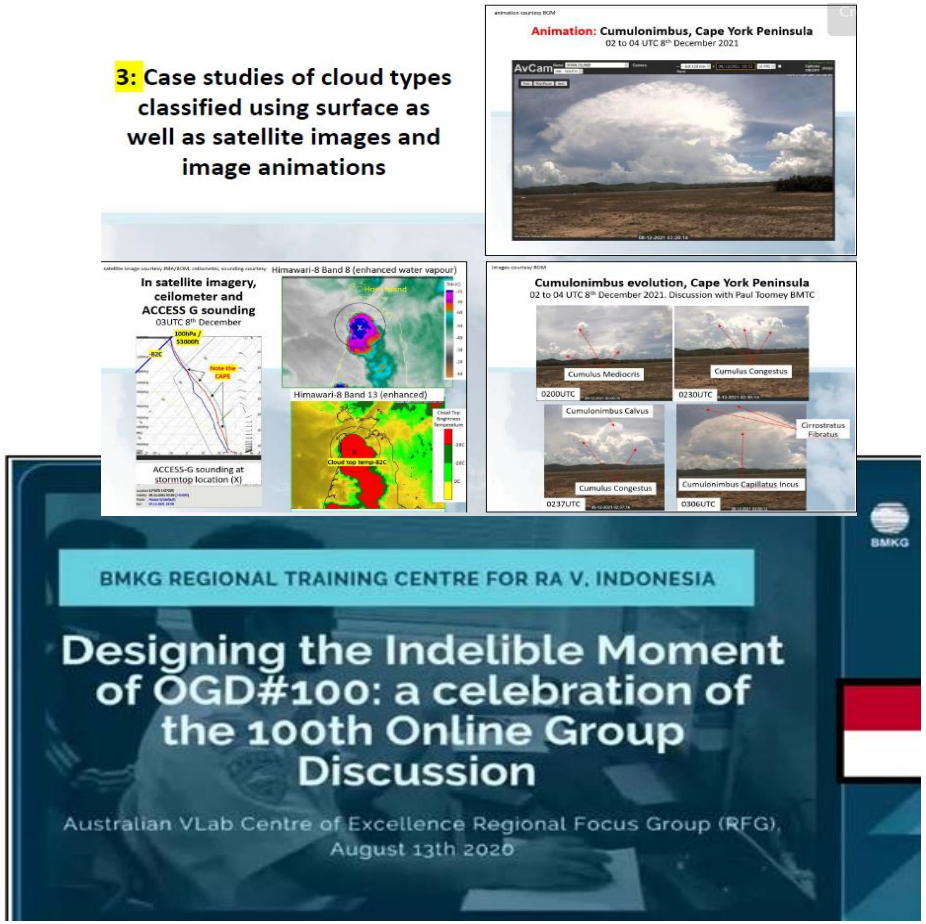
Building Capacity and Community





Other Monthly Regional Focus Groups Discussions

➢Australian VLab CoE: October 2013 – 2022 >>> ***9 years***



➢Africa

➢***Indonesia***

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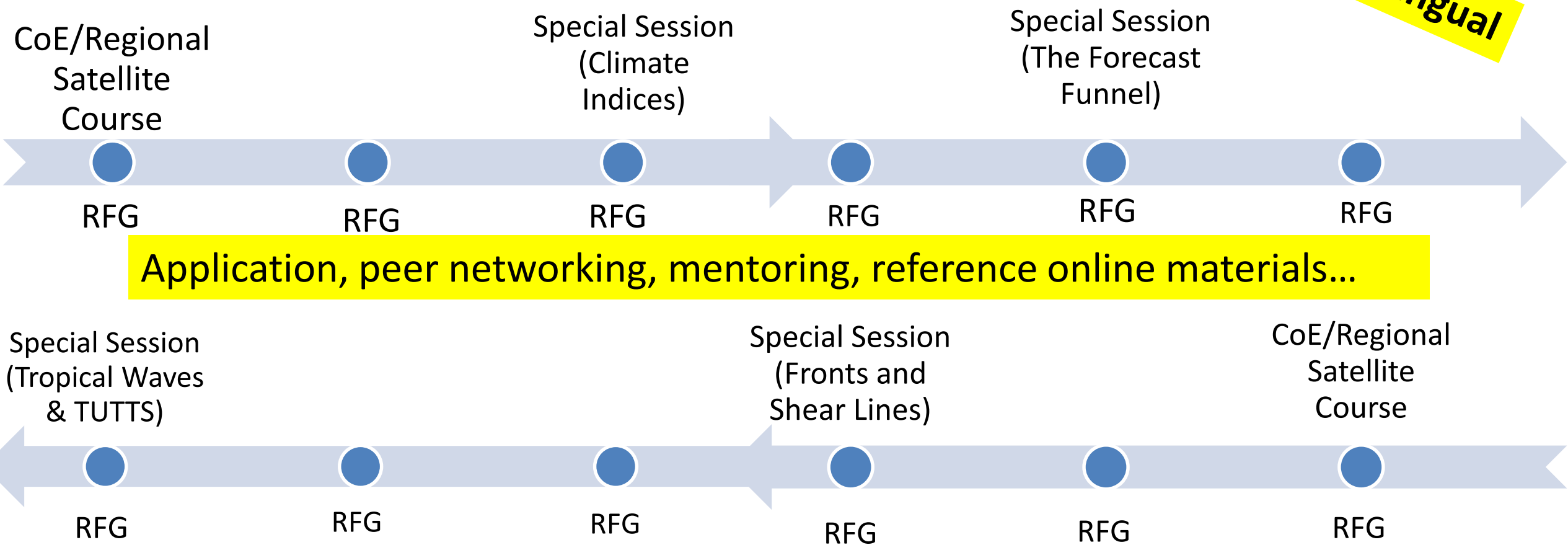
Make the information stick with blended learning approaches

bilingual



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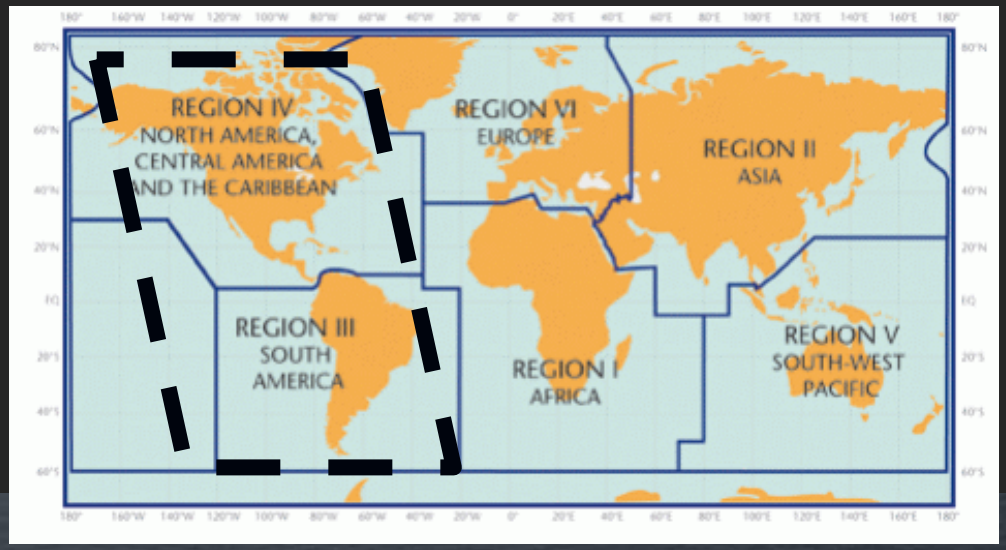
Collaborations = Successes

- Increased Country, Organizations, and Individual Participation = Community of Practice
- Colleagues and Previous Participants as Facilitators and Instructors of sessions.
- Students and early career professionals have moved into forecaster, instructor/trainer, researchers, manager, and senior professional roles.
- Promotion of:
  - Peer to peer interaction
  - Communication across boundaries
  - Continuing Professional Development
  - Interdisciplinary Linkages



Collaborations for enhancing training

Community for the **A**dvancement of **L**earning in **Met**eorology *and* related disciplines

- The CALMet XIV Conference: “Bringing Together the Best of Online to Learning”
- Host: Servicio Meteorológico Nacional, Argentina (VLab CoE) ***VIRTUAL!***
- 56 contributors from all Regional Associations of WMO.
- 260 educators, trainers and managers from universities, research institutions, and National Meteorological and Hydrological Service registered for the event.

http://www.calmet.org/

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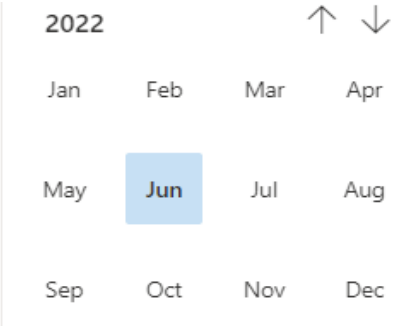
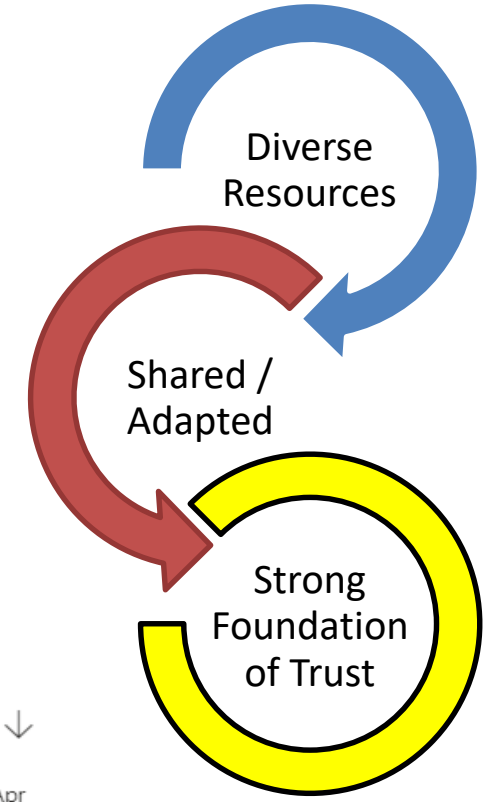
WMO Education & Training Program and the Global Campus Initiative

- WMO Global Campus: Library of resources & Calendar
- WMO Capacity Development Strategy
  - Promote Impact based forecast messaging





https://community.wmo.int/calendars-and-resources

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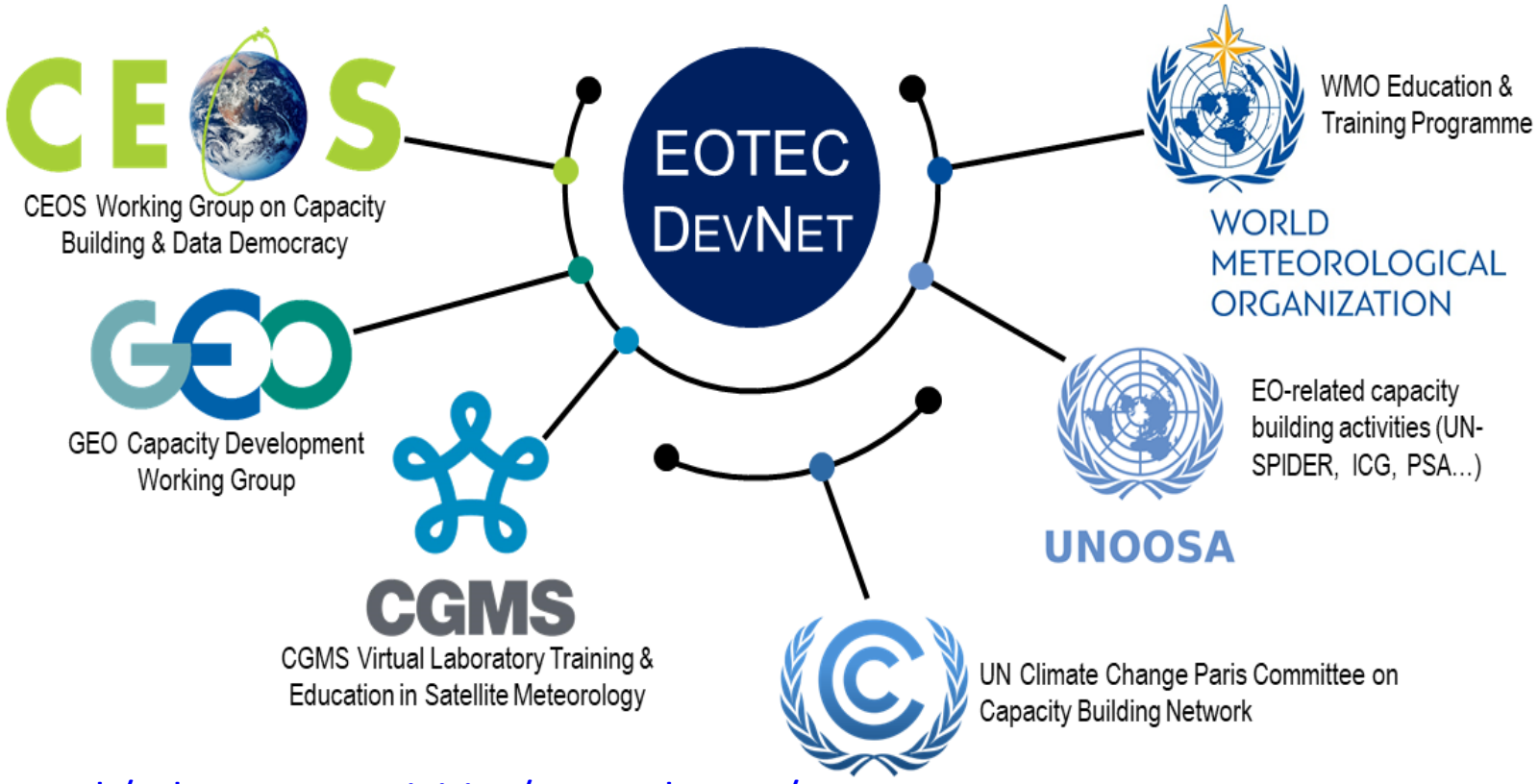
We are finding our place among other Global Efforts

The Committee on Earth Observation Satellites (CEOS)
Earth Observation Training, Education, and Capacity Development Network



https://ceos.org/ourwork/other-ceos-activities/eotec-devnet/

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Thank You!

WMO-CGMS VLab https://www.wmo-sat.info/vlab/

CIRA/NOAA/VLab
https://rammb2.cira.colostate.edu/training/rmtc/

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