

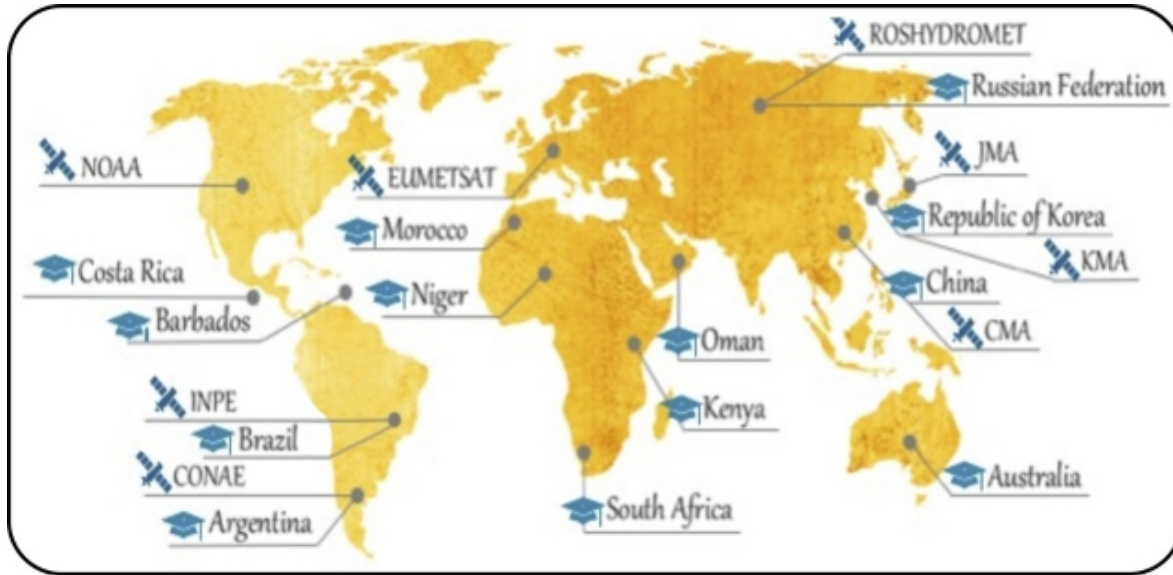


2021 VLab Progress Report

B. Connell, CIRA/NOAA, VLab Co-Chair

Presented to CGMS-50 Working Group IV, agenda item 9

WMO-CGMS VLab – established in 2000



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

New engagement with IRSO
Potential New Centre of Excellence: BMKG Indonesia

Satellite Agencies

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

Centres of Excellence

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

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.

We share knowledge, experience, methods, and tools related to access and usage of satellite data.

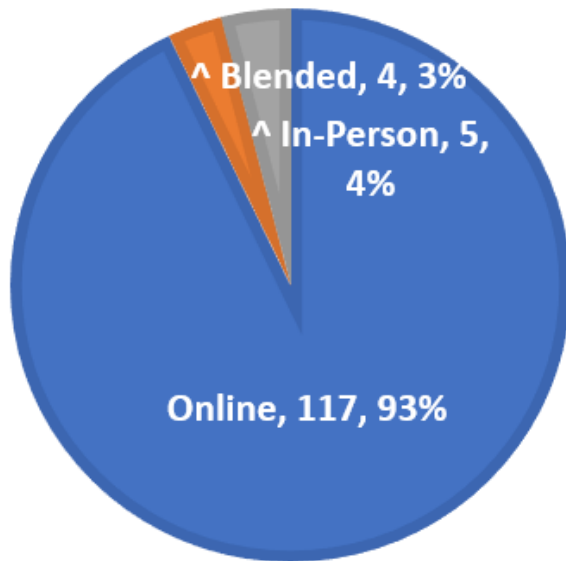
Our audience:

Primarily operational meteorologists

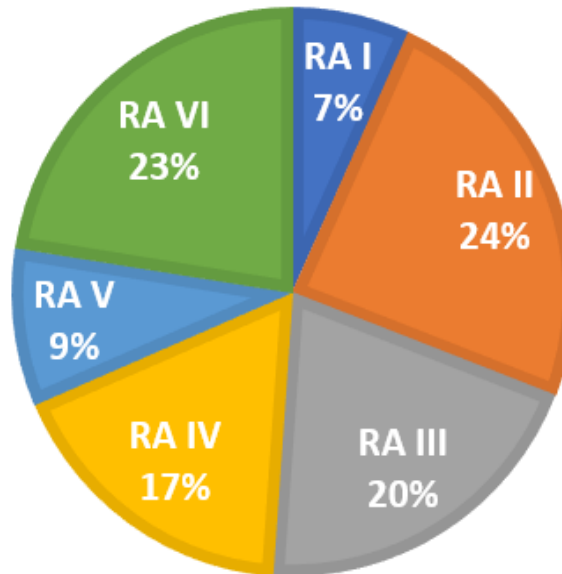
Overview of Training: December 2020 through November 2021

- 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.

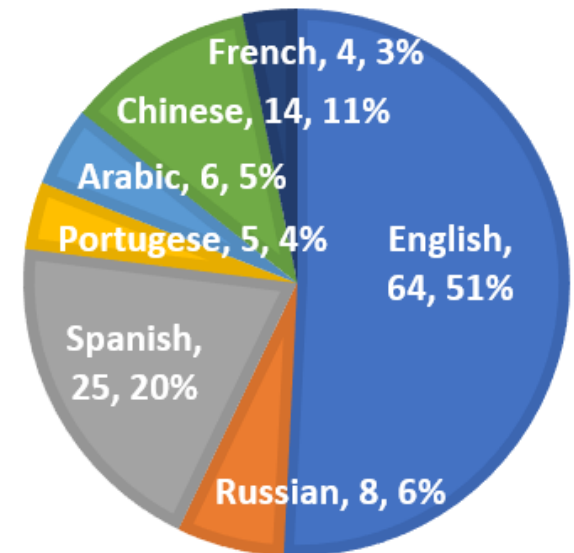
TRAINING DELIVERY MODE



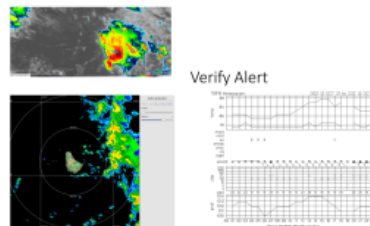
TRAINING DISTRIBUTION



TRAINING LANGUAGES



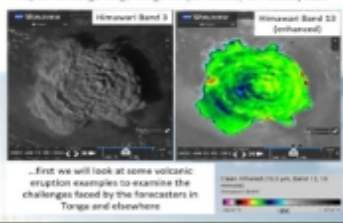
Virtual Trainings and User Conferences on Satellite Applications



Collaborations between:

- Satellite Operators and Centres of Excellence
- WMO Regional Satellite Data Requirements Groups
- Meteorological and Hydrological Services of Countries
- WMO Education and Training Programme
- WMO Regional Training Centers

Best wishes to our Tongan colleagues eruption of Hunga Tonga-Hunga Ha'apai volcano, 5th January 2022



- * CMA Training Center hosted AOMSUC-11
- * African Satellite Meteorology Education and Training (ASMET)
- * CoE Oman Course on Dust Applications
- * Fire Monitoring
- * Severe Weather

Interpreting AAI (3): Example of two cases

- AAI values about the same level, at surface stations very different.
- In India extremely large amounts of biomass burning aerosols at 0-3 km layer.
- Over Norway smaller amounts of aerosols from Canadian fires at about 7-30 km height.

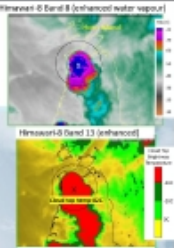
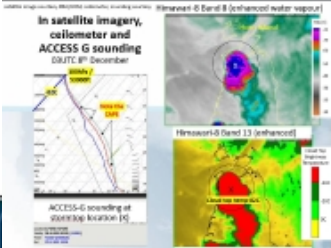
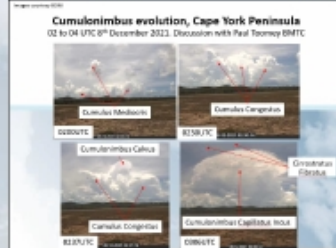


Regional Focus Groups Discussions: Communities of Practice

- Australian Vlab CoE: October 2013 – 2021 >>> **8 years**

- Americas and the Caribbean: March 2004- 2022 >>> **18 years**

3: Case studies of cloud types classified using surface as well as satellite images and image animations

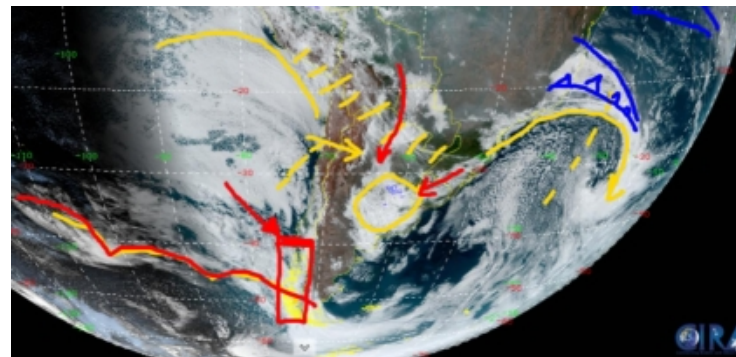
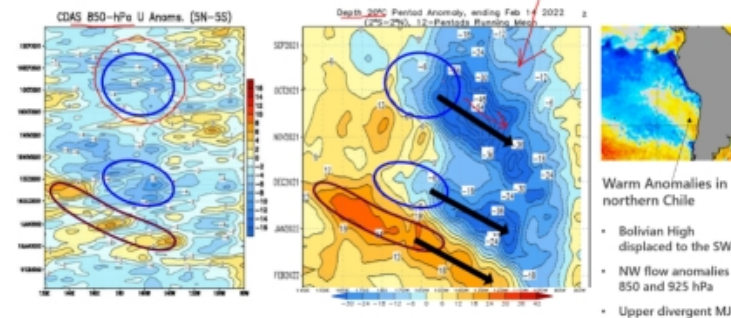


BMKG REGIONAL TRAINING CENTRE FOR RA V, INDONESIA

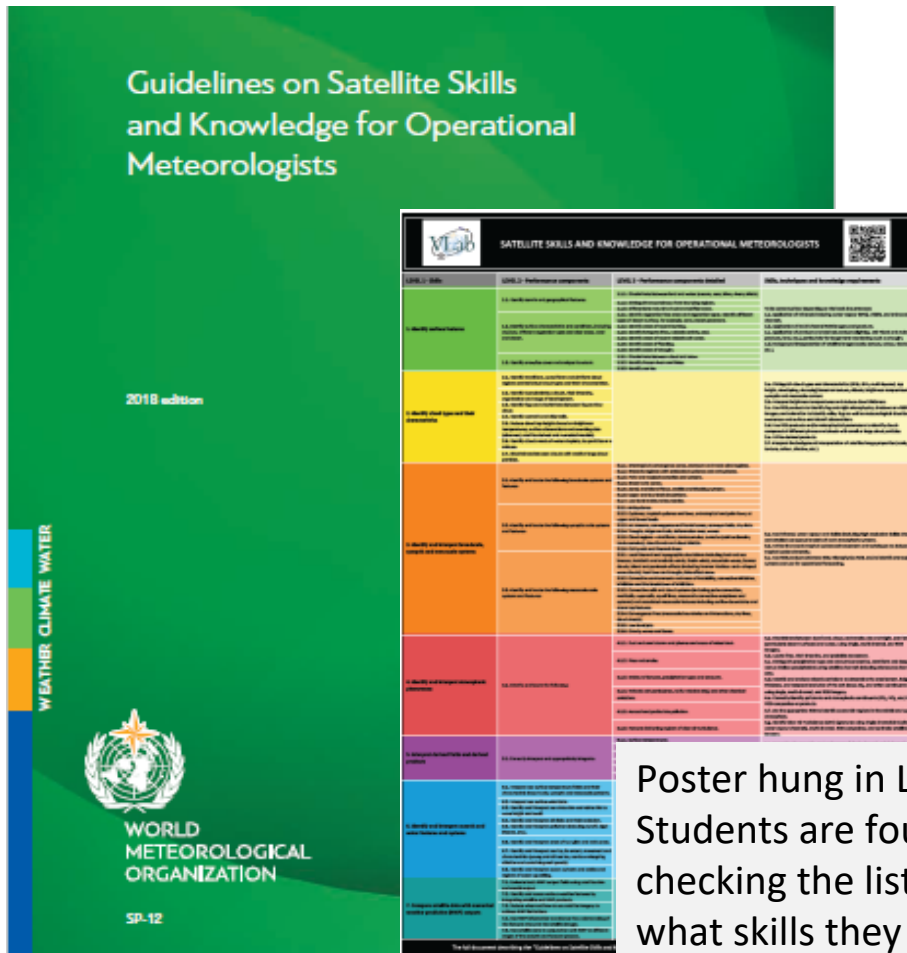
Designing the Indelible Moment of OGD#100: a celebration of the 100th Online Group Discussion

Australian VLab Centre of Excellence Regional Focus Group (RFG), August 13th 2020

What to monitor for warmings along the west coast of South America



Satellite Skills Update in 2022



- 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

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

Collaborations for enhancing training

Community for the Advancement of Learning in Meteorology and related disciplines

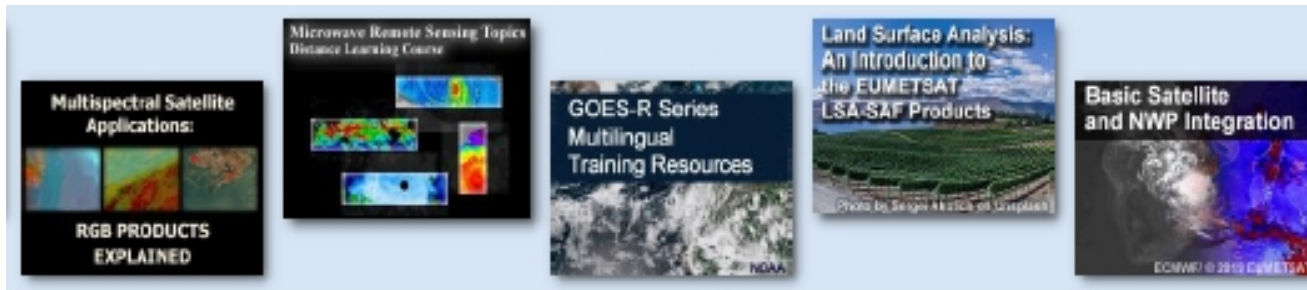
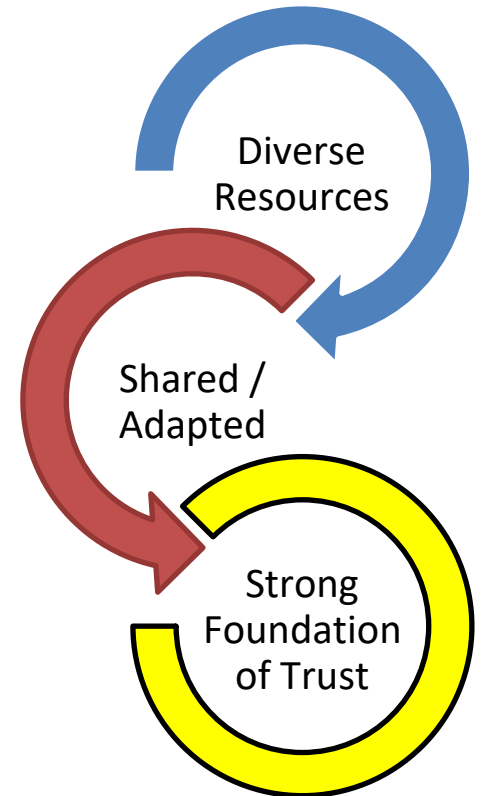
- The CALMet XIV Conference: “Bringing Together the Best of Online to Learning”
- Host: Servicio Meteorológico Nacional, Argentina (VLab CoE) **VIRTUAL!**
- 56 contributors from all Regional Associations of WMO.
- 260 educators, trainers and managers from universities, research institutions, and National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



WMO ETR and the Global Campus Initiative

We already do this, we will continue to improve

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



2022

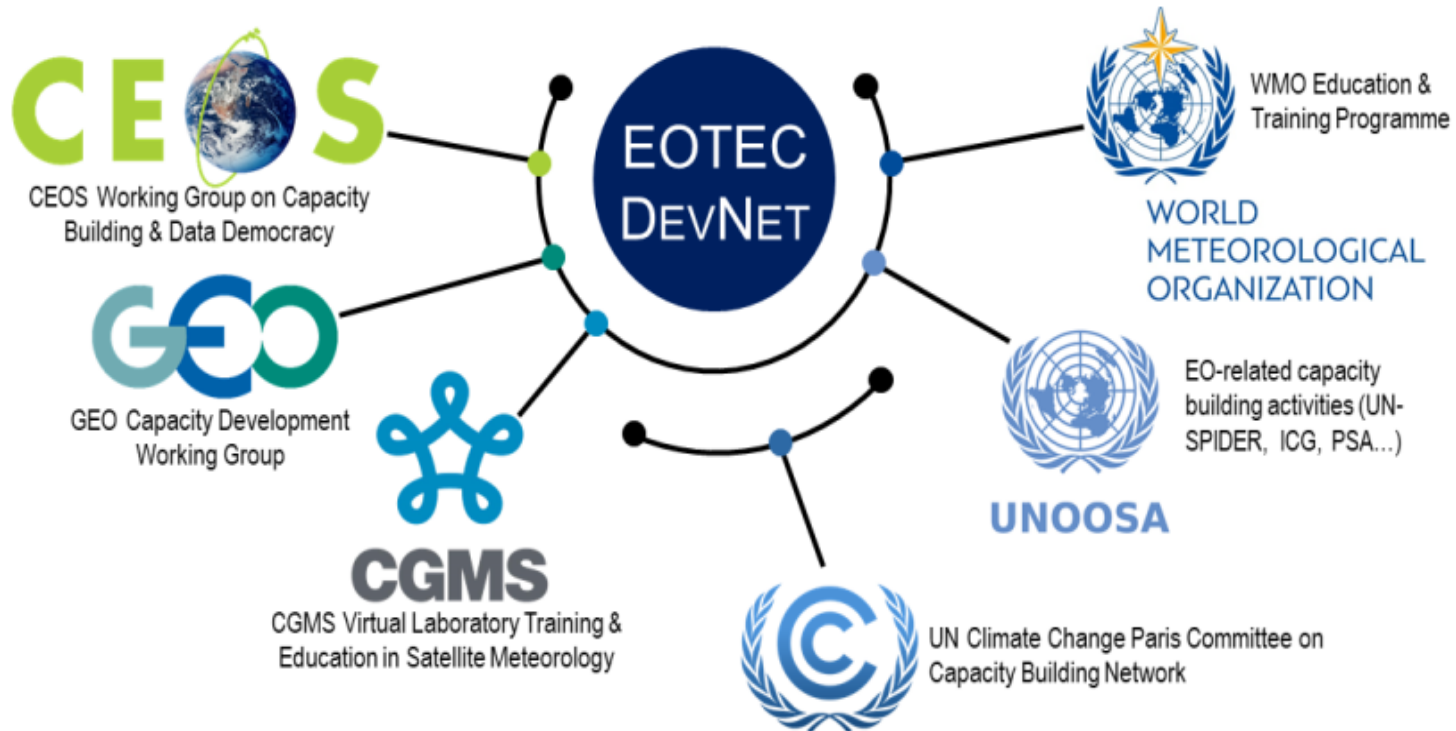


Jan	Feb	Mar	Apr
May	Jun	Jul	Aug
Sep	Oct	Nov	Dec



We are finding our place among other Global Efforts, we will improve on this

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



Actions to be considered by CGMS:

- CGMS members are invited to contact WMO to provide contributions to the WMO VLab Trust Fund to ensure the continuation of technical support to the VLab through the VLab Technical Support Officer as well as to the implementation of VLab projects.
- CGMS members active in VLab to send representatives to participate in the Tenth VLab Management Group Meeting (VLMG-10) to be held in Darmstadt, Germany, 26-30 September 2022.