

LEVERAGING SATELLITE ASSETS THROUGH A GLOBAL TRAINING NETWORK: UPDATE ON THE VLAB

Submitted by WMO Secretariat

The paper reports on the major activities within the Virtual Laboratory for Education and Training in Satellite Meteorology (VLab) along with future plans and directions. Since October 2012, VLab Training Centres of Excellence continued offering an array of regional training opportunities and, most importantly, strengthening the global network of trainers by coordinating training delivery in various languages.

The major activities of the VLab for this period includes the Event Week on Precipitation, the WMO/NOAA Train the Trainer Workshop for WMO RAIII/IV, the Virtual Round Table on Competence Requirements for Aeronautical Meteorological Personnel, the Satellite Direct Readout Events and the advances on the Conceptual Models for the Southern Hemisphere Project.

Furthermore, VLab members took notice of the results of the WMO 2012 Survey on the Use of Satellite Data. VLab members have established an action to discuss the “Challenges to Training” that were identified in the survey and to have a structured response planned by the end of 2013.

CGMS is invited to note the important achievements of the VLab, to provide comments and to consider the actions and recommendations below.

Action/Recommendation proposed:

- CGMS members to provide regular, annual contributions into the WMO VLab Trust Fund to ensure the continuation of the post of the VLab TSO;
- Satellite operators and WMO to provide necessary resources for the translation of relevant training materials (websites, modules and related) into other WMO languages;
- CGMS members to take note of the results of the WMO 2012 Survey and to support relevant actions by the VLab to further enhance the use of satellite data.

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1 INTRODUCTION

This report briefly describes the latest activities and achievements of the Virtual Laboratory for Education and Training in Satellite Meteorology (VLab) since October 2012. Besides the various activities which took place in the VLab Centres of Excellence (CoEs) the major achievements are the Event Week on Precipitation, the WMO/NOAA Train the Trainer Workshop for WMO RA III/IV, the Virtual Round Table on Competence Requirements for Aeronautical Meteorological Personnel, the Satellite Direct Readout Events and the advances on the Conceptual Models for the Southern Hemisphere Project.

Section two of this report provides a summary of the major activities of the Virtual Laboratory since CGMS-40 and Section three outlines the proposed actions and recommendations.

2 MAJOR ACTIVITIES OF THE VIRTUAL LABORATORY SINCE CGMS-40

Besides the various regional activities that took place in the VLab Centres of Excellence (CoEs), the major activities conducted by the VLab within the last 8 months can be summarised as follows:

2.1 Event Week on Precipitation

In the context of VLab, EUMETSAT organised an Event Week to highlight the importance of satellite data for monitoring precipitation. This training week consisted of eight online sessions dealing with the monitoring of precipitation from space. Three main topics were considered: VIS/IR Precipitation Estimates, Microwave Precipitation Estimates and Multi-sensor Precipitation Estimates.

Around 300-400 people, from 150 different locations, attended the live sessions. Altogether 33 countries were involved in this training event. This has been the largest live online training event organised by EUMETSAT.

The live sessions were recorded and will be converted into webcasts that will be added to the EUMETSAT Training Library.

2.2 WMO/NOAA Train the Trainer Workshop for WMO RA III/IV

The VLab and the WMO Space Programme organised, supported by NOAA as hosts, the WMO/NOAA Train the Trainer (TtT) Workshop for WMO RA III/IV members. The 1.5-day workshop preceded the 2013 NOAA Satellite Conference (8-12 April) in the same venue and had 22 participants. Main topics covered were as follows:

- a) Introduction, operations and capabilities of the GEONETCast (GNC);
- b) Disaster mitigation products and the importance of GNC as a risk-reducing global data access system;
- c) Training Channel and Transfer of training material via GNC, e.g. clips of near-real-time Focus Group recordings and COMET materials;
- d) Supporting systems, EUMETCast, HRIT/EMWIN/LRIT; GEONETCast-Americas, and GOES Data Collection System;
- e) Reviewing regional requirements documentation and the need for better integration of regional dissemination systems;
- f) System demonstrations.

The participants of the WMO/NOAA TtT Workshop raised some key concerns that are presented below:

- In Central and South America and the Caribbean, operational users of satellite data from GOES and other systems require a low-cost, operational and sustained data dissemination system building on GNC-A and EUMETCast. Arrangements for cost-sharing, e.g. of bandwidth fees, should be developed with urgency.
- Training on the use of satellite data and associated visualization, processing and analysis tools should be made available, taking into account the different needs and skills of satellite data users. Training should in particular involve preparing users from the region for GOES-R.
- The proposed standing coordination group for satellite data requirements in RA III and IV should establish user needs for data, products, training, and associated issues (e.g., data formats). The group should ensure linkage to and follow-up by satellite providers at the appropriate level, and represent the needs of a wide variety of users in the region.

2.3 Virtual Round Table on Competence Requirements for Aeronautical Meteorological Personnel

This is a series of events that resulted from a current action from VLMG-6 (2012):

Action VLMG-6.12: VLab to host an Online Event called “Aviation Virtual Round Table”. The event, similar to an event week, will be a lecture/discussion forum covering the information on the new WMO regulations on Aviation Meteorology Competency and related matters, but in different languages and by the different RTCs. The event can be spaced over a week, at various time zones and using the RTCs/CoEs as hosts and invite some the experts to answer questions. Forum will be open to aviation personnel to be informed and learn of the new regulations, timelines and implications. Suggest date mid January 2013.

Coordination for the Virtual Round Table (VRT) on Competence Requirements for Aeronautical Meteorological Personnel started in October 2012, just after the VLMG-6. Kathy-Ann Caesar and Adanna Robertson-Quimby (CIHM, VLab Barbados), in collaboration with the WMO Commission for Aeronautical Meteorology Expert Team on Education, Training and Competences (CAeM ET/ETC) and the International Civil Aviation Organization (ICAO), prepared a set of standard slides for presentation. The first of the Virtual Round Table events was presented in English (27 March 2013) by Kathy-Ann Caesar and Adanna Robertson-Quimby. The session was composed of a 45 minutes presentation plus time for discussion and questions. More than one hundred participants registered for this event, some participating in the live online event, others watching the recorded session.

With assistance from WMO, all the material used in the event (slides, messages, post-event survey and certificates) was translated to Spanish, French and Russian. Presenters for the VRT events in these languages were identified in VLab Centres of Excellence in Costa Rica, Niger and Russian Federation. The VRT – Spanish version was presented by Vilma Castro (8 May 2013) and also had more than 100 participants registered. Hamidou Hama (ASECNA) presented the event in French, on the 15th of May. The French version had more than 40 participants in the live online session, joining from 23 different Countries. The latest Virtual Round Table event was presented in Russian (5 June 2013) by Kate Chumak (Roshydromet - Aviamettelecom). Individuals and groups of participants from the Russian Federation and neighbouring countries attended the live event from about 40 different locations.

Valuable data has been collected in post-event surveys after each event and will be part of a final report to be shared with WMO, ICAO and the Virtual Laboratory Management Group (VLMG). VRT events in Arabic, Chinese and Portuguese are still under consideration. Another presentation of the VRT in English is planned and the date will be announced soon.

Resources and links to the recorded sessions already presented are available from the VLab central website at <http://www.wmo-sat.info/vlab/virtual-table/>

2.4 Satellite Direct Readout Events

During 2013, the VLab is organising a series of online events about the direct readout capabilities of polar orbiting systems. The idea is that each satellite operator that operates polar orbiting systems with a direct readout capability could present two online sessions in consecutive days to present: (1) the main scientific aspects of the satellite instruments and (2) the direct readout system and particularly the local processing software.

EUMETSAT started this series of events by presenting two sessions about the EPS/Metop (7 and 8 May 2013). The sessions had 53 registered participants. The participants who submitted the post-event survey revealed interest in attending similar sessions about NPP, Aqua, Terra, JPSS and any other polar orbiting system that would give coverage to the Tropical North Atlantic.

The next couple of sessions will be presented by NOAA, which has already agreed to collaborate in this event (dates are still to be announced). The VLab is confident that other Satellite Operators will also be interested in taking part in this initiative.

Additionally, the Seventh Session of the Expert Team on Satellite Utilization and Products (ET-SUP-7, 27-30 May 2013) proposed an action to VLab CoE China in conjunction with CMA, to arrange an online lecture on the FY-3 product suite for the benefit of all Regions (Action ET-SUP 7.19). Similar action was also proposed to VLab CoE Russian Federation, to arrange an online lecture on the Meteor-M product suite (Action ET-SUP 7.20).

Resources and links to the recorded sessions already presented in the Satellite Direct Readout Events are available from the VLab central website at <http://www.wmo-sat.info/vlab/satellite-direct-readout/>

2.5 Conceptual Models for the Southern Hemisphere Project

This results from actions ET-SUP-6.27, VLMG-6.07, VLMG-6.08 and CGMS-40.9:

Action ET-SUP-6.27: VLMG co-chair to ask the VLMG for its opinion to extend the SatManu concept to areas outside Europe, especially to the Southern Hemisphere. This should include a discussion on providing the necessary resources to proceed with this activity.

Action VLMG6-07: The CoEs Brazil, Argentina, Australia and South Africa to send the TSO an email to express their interest to contribute with conceptual models for the Southern Hemisphere.

Action VLMG6-08: Contact Michel Davison (NOAA International Desk), to request his contribution.

Action CGMS-40.9: CGMS to investigate the possibility to provide funding to the VLab CoEs in Argentina, Australia, Brazil and South Africa, to establish a project for generation of conceptual models for the Southern Hemisphere.

Conceptual Models for Southern Hemisphere is a joint project between four southern hemispheric VLab Centres of Excellence: Argentina, Australia, Brazil and South Africa. The project is co-funded by WMO and EUMETSAT.

The purpose of the project is to improve warnings and awareness of weather risks through the use of conceptual models. The objectives of the project are to produce and make available resources about Conceptual Models for the CoE areas of interest. Additionally, these resources will be also made available for other training institutions within the Southern regions. It is foreseen that products of this project will help to increase the operational forecasters' understanding of the weather systems. Additionally, it is noticed that the full potential use of these resources for training can only be achieved if the resources are available in the native language of the users. It is recommended that the products of this project are then translated to Spanish and Portuguese.

The project is under the coordination of Vesa Nietosvaara (EUMETSAT) and Veronika Zwatz-Meise. The progress of the work will be communicated via a dedicated page in the VLab central website at <http://www.wmo-sat.info/vlab/conceptual-models-southern-hemisphere/>

2.6 World Wide Weather Briefing

From 20th to 24th May 2013, EUMeTrain organised an event week called "World Wide Weather Briefing". This event comprised nine sessions of weather analysis from different parts of the world, all focusing on challenges that forecasters have to face around the globe.

VLab fully supported the organising of this event with presenters from Centres of Excellence in Australia, Brazil, Oman, South Africa and Republic of Korea. The weather briefing from North America was also presented by a member of the VLab community, Dan Bikos (NOAA International Desk), who runs the Americas and Caribbean Regional Focus Group on a monthly basis in collaboration with CIRA.

3 VLMG ONLINE MEETINGS

The Virtual Laboratory Management Group (VLMG) continues meeting online every four months, providing CoEs the opportunity to present achievements and discuss actions and future plans. The latest VLMG online meeting took place in June, when one of the Agenda items was a short presentation of the results of the WMO 2012 Survey on the Use of Satellite Data. VLMG have established an action to discuss the "Challenges to Training" that were identified in the survey and to have a structured response planned by the end of 2013.

The VLMG also noted with great concern the difficult situation that COMET is in at the moment. COMET has been a very vital training resource organisation and it is hoped that it can maintain its contribution to the global training community for the future.

4 CONCLUSION: SUGGESTED ACTIONS/RECOMMENDATIONS

This paper reports a growing participation in VLab training activities worldwide, highlighting the strengthening of the collaboration between VLab Centres of Excellence and the increased visibility of the training activities organized by VLab.

It also shows how crucial the continuity of the employment of a Support Officer is, to keep the progress of the on going and planned activities of the VLab.

CGMS is invited to note the important achievements of the VLab, to provide comments, and to consider the following recommendations:

- CGMS members to provide regular, annual contributions into the WMO VLab Trust Fund to ensure the continuation of the post of the VLab TSO;
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