

## **VLAB REPORT OF ACTIVITIES 2013-2014**

HLPP reference: 4.2  
Related to Action 41.10

This document reports on activities within the WMO-CGMS Virtual Laboratory for Education and Training in Satellite Meteorology (VLab) along with future plans and directions. Since CGMS-41, VLab members have offered a variety of training opportunities, attracting significant interest with up to 600 online participants in a single event; the paper highlights the Virtual Round Table on Competence Requirements for Aeronautical Meteorological Personnel, the Science Week 2013, Aviation Week, and the two GEONETCast Event Weeks which were presented in English and Spanish.

Furthermore, the project on “Conceptual Models for the Southern Hemisphere” was completed, involving trainers and experts from VLab Centres of Excellence.

Future plans include a series of satellite direct readout training events including on NPP and Metop, and lectures on the product suites from FY-3 and Meteor-M, and continuing collaboration with COSPAR on satellite capacity building events.

An update on the WMO VLab Trust Fund shows that although contributions to the WMO VLab Trust Fund are matching expenses through mid-2014, no progress has been made in the level and spread of funding by CGMS Members following the call for contributions sent by CGMS and WMO Secretariats in August 2013 (Action 41.10).

In a letter to WMO, the Russian Federation has proposed as new VLab co-chair Prof. Grigory Chichasov, Director of the WMO Regional Training Centre in the Russian Federation, assisted by Mr Eduard Podgaiskiy from the Russian State Hydrometeorological University.

### Actions proposed:

- CGMS to endorse the proposal by ROSHYDROMET to designate Prof. Grigory Chichasov as new VLab co-chair to replace Dr Volker Gaertner.
- CGMS members to respond to the CGMS/WMO call for contributions letter sent in August 2013 regarding their support to the VLab Trust Fund.

### Recommendation proposed:

CGMS members that are sponsors of VLab Centres of Excellence to review and where possible augment their support to these Centres, as per the “Procedure for establishing Virtual Laboratory Centres of Excellence for Training in Satellite Meteorology” (section 2.2, [http://www.wmo-sat.info/vlab/wp-content/uploads/2012/02/Procedures-for-New-CoEs\\_LV2012.pdf](http://www.wmo-sat.info/vlab/wp-content/uploads/2012/02/Procedures-for-New-CoEs_LV2012.pdf))

## VLAB REPORT OF ACTIVITIES 2013-2014

### 1 INTRODUCTION

This document reports on the activities and plans of the WMO-CGMS Virtual Laboratory (VLab). Since CGMS-41, the VLab management group (VLMG) has met twice in virtual meetings (October 2013, and March 2014). Two issues of the VLab Newsletter were also published within this period, giving a good overview of the breadth of VLab training opportunities. The VLab Newsletter is available online at <http://www.wmo-sat.info/vlab/vlab-newsletter/>. Regarding the most recent activities of VLab (since July 2013), a short review of major achievements and plans is given below.

### 2 MAJOR ACTIVITIES OF THE VIRTUAL LABORATORY SINCE CGMS-41

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 10 months can be summarised as follows:

#### 2.1 Virtual Round Table on Competence Requirements for Aeronautical Meteorological Personnel

The Virtual Round Table (VRT) was a series of events that resulted from an action established during the VLMG-6 (2012). Coordination for the 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.

With assistance from WMO and the VLab Centres of Excellence (CoEs) in Barbados, Costa Rica, Niger, Brazil and Russian Federation, all the material used in the event (slides, messages, post-event survey and certificates) was translated to Spanish, French, Portuguese and Russian. Presenters for the VRT events in these languages were identified in VLab CoEs. Presentations in English and French had a second session organized as a result of participants request.

All together, the event had 551 participants registered to attend the seven sessions offered between March and October 2013. Resources and links to the recorded sessions are available from the VLab central website at <http://www.wmo-sat.info/vlab/virtual-table/>

The success of the event inspired VLab members to take the challenge again and organise a VRT on the topic of climate. Coordination to organise the Climate VRT has already started.

#### 2.2 Science Week 2013

The VLab CoE in Australia hosted the "Science Week" from the 22nd to the 26th July 2013. Nineteen online sessions were presented to a classroom and also open to the online audience. Most of the 29 participants were from Australia, Indonesia, China and New Zealand. Other countries represented within the audience included the Solomon Islands, South Africa, Argentina and Oman.

The content of the presentations consisted of topics relating to the latest developments in meteorological science with respect to operational forecasting. All sessions were recorded and are available in the website of the VLab CoE Australia at <http://www.virtuallab.bom.gov.au/archive/science-week/science-week-presentations>

### **2.3 Aviation Week**

From 11 to 15 November 2013, the VLab CoE in Morocco organised a week of online training sessions dedicated to the topic of aeronautical meteorology. VLab and EUMETSAT supported the organisation of the Event. The need for this event was observed in the results of an online survey conducted by CoE Morocco in 2013. The survey, which investigated training needs, showed aeronautical meteorology as one of the highest priorities for urgent training in WMO RA I.

This training event comprised 9 sessions and covered three aspects of aeronautical meteorological activities: i) organizational and regulatory aspects, ii) operational aspect and iii) development and modelling aspect. All sessions were recorded and are available at <http://training.eumetsat.int/course/view.php?id=213>

Experts from VLab CoEs Morocco, Barbados and Australia provided the training in this event, to the benefit of more than **65** meteorologists and scientists from 14 countries, such as Algeria, Australia, Barbados, Brazil, Canada, Cape Verde, Costa Rica, Mauritania, Morocco, Niger, Philippines, Senegal and Switzerland.

### **2.4 GEONETCast Event Weeks**

As a follow-up to the WMO NOAA Train the Trainer Workshop on GEONETCast in April 2013 and in response to WMO users' survey, CIRA, NOAA, WMO, and the VLab Centers of Excellence in Costa Rica, Barbados, Brazil, and Argentina hosted a virtual training on GEONETCast. The training consisted of 3 sessions on the 3rd, 4th, and 5<sup>th</sup> of December 2013. As WMO RA III and IV have a large percentage of Spanish speaking countries, the sessions were presented in both languages English and Spanish (for a total of 6 sessions).

The goals of the training were: to make countries more aware of what is available; to expand the use of GEONETCast-Americas; and to start thinking about GOES-R. The topics included an introduction to the capabilities of GEONETCast, disaster mitigation products, and software to view products. The sessions drew a lot of interest as people from 29 countries participated. There were 111 individuals, which included speakers, organizers, and participants.

All sessions were recorded and can be accessed at

[http://rammb.cira.colostate.edu/training/rmtc/geonetcast\\_event\\_en.asp](http://rammb.cira.colostate.edu/training/rmtc/geonetcast_event_en.asp) - for English  
[http://rammb.cira.colostate.edu/training/rmtc/geonetcast\\_event\\_sp.asp](http://rammb.cira.colostate.edu/training/rmtc/geonetcast_event_sp.asp) - for Spanish

### **2.5 Conceptual Models for the Southern Hemisphere Project**

Conceptual Models for Southern Hemisphere (CM4SH) was a joint project between four southern hemispheric VLab Centres of Excellence: Argentina, Australia, Brazil and South Africa. The project was co-funded by WMO and EUMETSAT and has just concluded its activities.

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.

Participants in the project were very positive about the outcomes and commented that the CM4SH connected different areas of the meteorological services, such as research and development, training, forecast, data processing and systems. The project was deemed

successful and inspirational.

CM4SH was under the coordination of Vesa Nietosvaara (EUMETSAT) with support from Veronika Zwatz-Meise. The progress of the work can be seen in a dedicated page in the VLab central website at <http://www.wmo-sat.info/vlab/conceptual-models-southern-hemisphere/>

## **2.6 Satellite Direct Readout**

In 2013 VLab started organising a series of online events about the direct readout capabilities of polar orbiting systems. 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. Resources and links to these recorded sessions are available in the VLab central website at <http://www.wmo-sat.info/vlab/satellite-direct-readout/>

The last two sessions were about Suomi-NPP on the 8<sup>th</sup> and 9<sup>th</sup> of April 2014:

- 1) 8<sup>th</sup> April: Suomi NPP - presented by Mitch Goldberg (NOAA);
- 2) 9<sup>th</sup> April: CSPP software supporting Suomi-NPP –presented by Liam Gumley (University of Wisconsin, Madison, USA).

Other related events are planned, and additional contributions by CGMS operators are encouraged.

## **3 COORDINATION WITH PARTNER PROGRAMMES**

### **3.1 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.

### **3.2 WMO Train the Trainer Online Seminar for WMO RA I**

WMO Education and Training is offering a Train the Trainer Online Seminar for trainers from WMO RA I in 2014. The seminar, which started in March and is taking place during 10 weeks, has participants from all VLab CoEs in RA I (South Africa, Kenya, Niger and Morocco) and also from CoE Oman.

VLab is collaborating in this event with course facilitators from CoEs Niger, Kenya and Morocco, and also from EUMETSAT and VLab office (TSO).

## **4 FUTURE ACTIVITIES PLANNED**

Besides the follow-on of some activities mentioned in Section 2, such as a Climate Virtual Round Table, or further Direct Readout events, the following activities are planned.

#### **4.1 Joint workshop with COSPAR<sup>1</sup>**

Giving continuation to the collaboration started in 2012 (on the occasion of the COSPAR Training and Capacity Building Workshop in Beijing, China, September 2012) VLab is supporting the “Joint COSPAR and WMO Capacity Building Workshop on Satellite remote sensing, water cycle and climates change” by offering a set of training sessions organised by trainers from EUMETSAT, ESA, other satellite agencies, and CoE Russian Federation.

This event will take place over two weeks, from 20 July to 1 August 2014, at Tver State University, Tver, Russian Federation. About 30 students from about 15 mostly developing countries are expected.

#### **4.2 VLMG-7 Meeting in 2014**

The next face-to-face meeting of the VLab management group (VLMG-7) will take place in the Russian Federation, from 22 to 25 July 2014. ROSHYDROMET is supporting the event and the Russian State Hydrometeorological University (RSHU) will be hosting the meeting in its main campus, in Saint Petersburg.

The VLMG-7 meeting will offer a critical opportunity for all VLab partners to assess achievements, exchange experiences, address challenges, and take decisions that will shape the VLab 's future. VLab CoEs and supporting Satellite Operators and Agencies are working on reports and self-assessments that will be discussed in the meeting, as VLab partners are aiming to identify the strengths and weaknesses of VLab training in order to further enhance achievements.

### **5 SUSTAINABILITY OF THE VLAB**

#### **5.1 Concerns regarding support to VLab CoEs**

Some VLab CoEs, while keeping up an impressive array of activities, face challenges both internally through reduction of staff and available capacity, and externally through reductions in support by the agreed sponsoring satellite operators. CGMS members that are sponsoring VLab CoE (as described here: <http://www.wmo-sat.info/vlab/centres-excellence/>) can alleviate some of these concerns, and are strongly encouraged to augment their level of support to these Centres.

##### Recommendation proposed:

CGMS members that are sponsors of VLab Centres of Excellence to review and where possible augment their support to these Centres, as per the “Procedure for establishing Virtual Laboratory Centres of Excellence for Training in Satellite Meteorology” (section 2.2, [http://www.wmo-sat.info/vlab/wp-content/uploads/2012/02/Procedures-for-New-CoEs\\_LV2012.pdf](http://www.wmo-sat.info/vlab/wp-content/uploads/2012/02/Procedures-for-New-CoEs_LV2012.pdf))

#### **5.2 Status of the VLab Trust Fund**

An update on the WMO VLab Trust Fund shows that although over the period 1 Sep 2013 to 28 Feb 2014 contributions by KMA, EUMETSAT and NOAA to the WMO VLab Trust Fund (45096 USD eq) are exceeding expenses (25000 USD eq), levels of support by NOAA and KMA have been stable in 2013 and 2014, whereas EUMETSAT contributed less in 2014 compared to 2013. No progress has been made in the total level and the diversity of funding by CGMS members, in spite of the request from CGMS and WMO Secretariats per Action

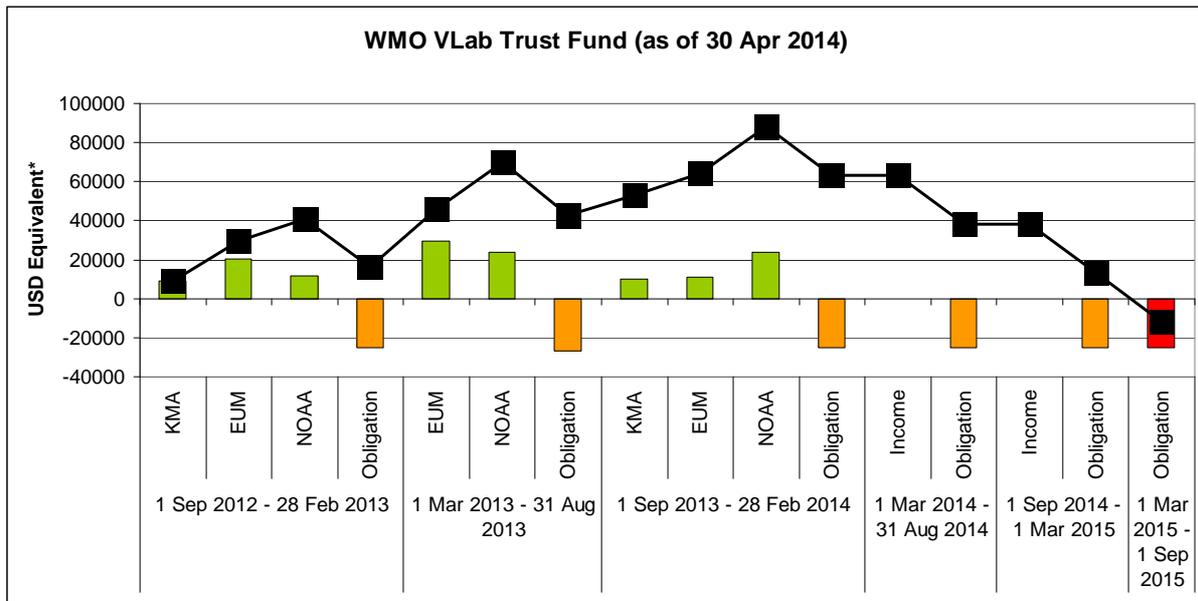
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<sup>1</sup> Committee on Space Research of the International Council for Science (ICSU).

41.10 (CGMS/WMO letter sent in August 2013 with a call for contributions). Currently, if no additional financial contributions are received, the Technical Support Officer cannot be supported out of the VLab Trust Fund beyond 1 March 2015.

Action proposed:

CGMS members to respond to the CGMS/WMO call for contributions letter sent in August 2013 regarding their support to the VLab Trust Fund.



**Fig. 1:** Overview of the WMO VLab Trust Fund: income by CGMS members is shown in green; obligations related to funding the VLab Technical Support Officer (TSO) are shown in orange, these are charged to the Fund at the beginning of each half-year (e.g., on 1 Sep 2013 to pay TSO services for the period 1 Sep 2013 to 28 Feb 2014). The Fund balance is depicted in black and shows that obligations could no longer be met on 1 Mar 2015, extrapolating current expenses and assuming no additional income.

## 6 HANDING OVER VLAB CO-CHAIRMANSHIP

It is recalled that the VLab Management Group has two co-chairs, one is nominated by CGMS among representatives of sponsoring satellite operators, the other is nominated by WMO through ET-SUP among the representatives of Centres of Excellence.

Volker Gärtner (EUMETSAT), who has been co-chairing the VLab together with Kathy-Ann Caesar (CIMH), announced his retirement from this function in 2014.

In a letter to WMO (31 Jan 2014), ROSHYDROMET proposed as new co-chair Prof. Grigory Chichasov, Director of the WMO Regional Training Centre in the Russian Federation, and Mr Eduard Podgaiskiy from the Russian State Hydrometeorological University as his assistant. Prof. Chichasov and Mr Podgaiskiy are the nominated main points of contact for the VLab Centre of Excellence in the Russian Federation, and hosts of the upcoming 7<sup>th</sup> meeting of the VLab Management Group. The ET-SUP expressed its appreciation to ROSHYDROMET for proposing Prof. Chichasov.

Action proposed:

CGMS is invited to designate Prof. Chichasov, proposed by ROSHYDROMET, as the new VLab co-chair replacing Dr Gaertner.