



WMO-CGMS Virtual Laboratory
for Education and Training in Satellite Meteorology

VIRTUAL LABORATORY MANAGEMENT GROUP
Seventh session - VLMG-7
Saint Petersburg, Russian Federation
22 – 25 July 2014

FINAL REPORT



Front row, from left: Kathy-Ann Caesar, Yao Xiuping, Bernie Connell, Yuliana Purwanti, Marina Trubina, Zheng Youfei.

Second row, from left: Aileen Semple, Luciane Veeck, Bodo Zeschke, Stella Aura, Nouredine Filali, Winifred Jordaan, Vesa Nietosvaara, Jeff Wilson.

Third row, from left: Eduard Podgaiski, Volker Gärtner, Maria Mamaeva, Mark Higgins, Stephan Bojinski, Hamidou Hama, Grigory Chichasov.

Forth row, from left: Vilma Castro, Artur Mozer, Graciela Rolon, Oleg Pokrovsky, Mahmood AlKhyari, Lev Karlin, Alessandro Chiariello, Bruce Muller.

1. OPENING

During the opening session of VLMG-7 the participants were addressed by Dr. Anatoly Bogush (RHSU), Dr. Vladimir Bogdanov (Roshydromet), Dr. Stephan Bojinski (WMO Space Programme), Ms Kathy-Ann Caesar (CIMH, VLab co-chair), Dr. Volker Gärtner (EUMETSAT, VLab co-chair) and Dr. Grigory Chichasov (Roshydromet, VLab co-chair). Dr. Anatoly Bogush welcomed the Group on behalf of RSHU Rector, Dr. Lev Karlin, who could not attend the opening session.

The co-chair Kathy-Ann Caesar acknowledged all delegates attending VLMG-7, stressing that their participation in the meeting show the good motivation and spirit of VLab partners. She also emphasised that the participation of the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) demonstrated the growing interest and strength of this international training network. It was noted that delegates from KMA, JMA, CONAE and the Centre of Excellence (CoE) in Brazil were unable to attend the meeting. A list of VLMG-7 participants is shown in Appendix I.

Dr. Volker Gärtner, who's long-term contribution to VLab is highly commended by all partners, passed the co-chairmanship of VLab to Prof. Grigory Chichasov. Dr. Gärtner informed the Group that the final endorsement of the proposal by Roshydromet to designate Prof. Grigory Chichasov as new VLab co-chair was given by CGMS at its 42nd session in May 2014.

Prof. Chichasov expressed his appreciation for having been nominated as a new co-chair and commented on the exceptional job done by Volker Gärtner during the years of his VLab co-chairmanship. He concluded by wishing all participants a successful meeting and a pleasant stay in Saint Petersburg.

After some logistical announcements by Eduard Podgaiskiy, the participants agreed the proposed agenda. The VLMG-7 Agenda is shown in Appendix II.

2. PRESENTATIONS BY CENTRES OF EXCELLENCE

CoEs were asked to give short presentations about their VLab activities. Presentations given by CoEs, as well as all other presentations in the agenda of the VLMG-7 meeting, are available to download in the meeting website at <http://training.eumetsat.int/course/view.php?id=216>

Prior to VLMG-7 meeting CoEs submitted their activity reports regarding the period from September 2012 to December 2013. Full reports are available to download in the meeting site (as above) and the VLab central website at <http://www.wmo-sat.info/vlab/coe-reports/>

Issue of concern: During presentations, many CoEs repeatedly mentioned the difficulty in convincing managers of the need to invest in resources and personnel dedicated to offering online training. VLMG would like to highlight this fact as the lack of support for online training is hindering the effectiveness and success of the VLab activities in several areas of the world. VLMG considers supporting online training as paramount to attending the increased needs of training in all regions.

The following actions and recommendations resulted from the presentations given by CoEs and respective discussions initiated by them:

Action VLMG7.01: Share experiences with the preparations for the Himawari 8/9 with the group, as an example of preparation for the next generation of satellites. CALMet Commons suggested as the means for sharing.

Actionee(s): Bodo Zeschke

Due:

Action VLMG7.02: IMTR and EUMETSAT to undertake evaluation on training impact in East Africa, including classroom courses, online courses and ASMET materials. Action to be done in coordination with WMO ETR and COMET. Reporting back to VLMG-8.

Actionee(s): Mark Higgins and Stella Aura to coordinate action.

Due: VLMG-8 - 2016

Action VLMG7.03: TSO to contact Jeff Wilson to ask for more information regarding the exercise done by WMO-ETR on linking competencies to training.

Actionee(s): VLab TSO

Due: September 2014

Action VLMG7.04: CoE Morocco to contact Vesa Nietosvaara to discuss and investigate the possibility to add the recorded training sessions from Morocco to the EUMETCast Training Channel.

Actionee(s): Nouredine Filali and Vesa Nietosvaara

Due: October 2014

Action VLMG7.05: TSO to create a YouTube Channel for the VLab and start organising the video collection by adding all VLab RFG sessions.

Actionee(s): VLab TSO

Due: December 2014

3. REVIEW OF ACTIONS

The Group briefly reviewed the List of Actions since the last meeting of the VLMG. Most actions had been closed, however, there are still some open actions from former meetings. Those were addressed during the VLMG-7 at related sessions. Volker Gärtner suggested to transform action VLMG6.13 into a recommendation as follows:

Recommendation 7.01 - VLab partners to design regional projects with specific objectives that have clear benefits, and WMO (through Resource Mobilization Office and otherwise) and others to assist in funding suitable resourcing partners to support such projects.

4. VLab VIRTUAL LIBRARY

During VLMG-5 (Beijing, 2010), it was agreed that the searchable, database-driven capabilities of the Environmental Satellite Resource Center (ESRC – COMET) suit the VLab well as a portal to its training resources. At that time, VLMG members agreed that all new training resources developed by their CoEs would be submitted to ESRC and that this information would be clearly stated in the VLab central website.

With only a few training resources submitted to ESRC by VLab partners since 2010, a discussion was led in order to identify the reasons for it. Main reasons mentioned by VLMG were the large amount of metadata needed in the submission (which was time consuming), and the lack of physical repository to keep the training resources (as some CoEs do not have a dedicated website to keep training material that can be shared).

Also discussed was the need to have a clearer idea of what sort of metadata would be most helpful to collect about these training resources and if they should clearly state the competencies the resources are linked to.

Jeff Wilson briefly presented the possibility of using WIS (WMO Information System) - branch of the Observing and Information Systems Department, as a possible way forward. WIS is a system developed for sharing weather data, products and information across all WMO members. WIS could, with little or no modification, provide a metadata system and a set of search engines already in use by met services around the world.

The Group recognised this is a topic that needs to be further investigated and discussed. For the moment, it was agreed that the information in the VLab central website (about the shared VLab training resources) should be modified in order to give a clearer idea of where the resources are available from.

Action VLMG7.06: information in the VLab central website (about the shared VLab training resources) should be modified in order to give a clearer idea of where the resources are available from.

Actionee(s): VLab TSO

Due: December 2014

5. PRESENTATION BY COMET

Bruce Muller presented an overview of COMET's activities and training resources available. The presentation of "Content Development Trends" and "Strategic Considerations" were received with great interest from the Group. An extended list of current projects (2014) and anticipated projects (2015) organised by subject area (e.g. aviation, climate, dynamics, etc) is included in the extended set of slides that is available for reference at the meeting website (Tuesday, Session 5 – COMET).

A "guided tour" of the resources available in the COMET website was also presented, giving VLMG a good overview of training resources available.

6. WMO SPACE PROGRAMME UPDATE

An update of the activities developed by the WMO Space Programme was presented by Stephan Bojinski, who started by highlighting the five WMO Strategic Priorities for the next financial period 2015-2019 (as discussed in the EC-66, 2014):

- Global Framework for Climate Services (GFCS);
- Integration of observation/information systems (WIGOS/WIS);
- Disaster risk reduction;
- Support to Aviation;
- Capacity building.

The case for WMO Members to prepare for the next generation of satellites was explored in this presentation and agreed by VLMG as one common need of VLab CoEs. Stephan Bojinski presented the Satellite User Readiness Navigator (SATURN) to the Group. SATURN, which is an online portal containing information about satellite systems and instruments, products, datasets, distribution methods, test and proxy data, tools and training material, was developed in collaboration with satellite operators/CGMS. Currently, it includes only geostationary satellites and collaborators regularly update it. The demo can be accessed at <http://www.wmo-sat.info/satellite-user-readiness/> VLMG is invited to review the information available and provide feedback.

An initial discussion about the content and format of the VLab Strategy Document 2015-2019, which is to be drafted by VLMG in the upcoming months, also took place during this session. Questions about drivers and consolidation were raised and the need for more specific milestones and implementation plan to be included.

The online Product Access Guide, which was developed by WMO in partnership with satellite operators and other providers, was presented to VLMG. This is a guide on how to access EO satellite product collections online. The guide can be accessed at <http://www.wmo-sat.info/product-access-guide> and VLMG was asked to provide feedback regarding the inclusion of training material in this reference material.

Action VLMG7.07: All VLMG members to review the information on the websites mentioned by Stephan Bojinski (Session 6)

<http://www.wmo-sat.info/product-access-guide/> and <http://www.wmo-sat.info/satellite-user-readiness/> , and to send feedback to the Forum named "Forum - Session 6" in the VLMG-7 website at <http://training.eumetsat.int/course/view.php?id=216>

Actionee(s): All VLMG members to send feedback. TSO to help VLMG members needing assistance accessing the VLab Moodle site.

Due: 2014

7. CONCEPTUAL MODELS FOR THE SOUTHERN HEMISPHERE – CM4SH

A review of the achievements of CM4SH Project, which was completed in March 2014, was presented by Vesa Nietosvaara, with additional comments from participant CoEs. This project was requested by VLMG-6 (October 2012) and endorsed by CGMS (November 2012). With funds provided by WMO-ETR and EUMETSAT, the project involved four VLab CoEs: Argentina, Australia, Brazil and South Africa; and was coordinated totally online. The deliverables of the project can be accessed via VLab website at <http://www.wmo-sat.info/vlab/conceptual-models-southern-hemisphere/>

The selection of Conceptual Models (CMs) produced by this project presents relevant weather systems in different regions of the Southern Hemisphere, which are of great importance not only for widening the knowledge of forecasters but also to be directly used in their forecasts. Adding to the training and development value of the project, an unforeseen achievement was the increase of communication between different institutes within one country as well as within neighbouring countries of the participating VLab CoEs.

The success of this project resulted in all partners wishing to give continuation to CM4SH, with phase II planned to start in 2015. Topics already in consideration are:

- To continue exploring tropical CMs especially for Brazil;
- To continue with important synoptic scale CMs for South Africa;
- To develop CMs for Indo-Australian Region in respect to Island Weather;
- To develop so-called “short versions” comparable to SatManu, but going also beyond this way of presentation and develop more graphical schematics for quick forecaster guidance, as proposed by Australia.

Additional suggestions are welcome and should be communicated directly to Vesa Nietosvaara.

Recommendation 7.01 - VLab partners to design regional projects with specific objectives that have clear benefits, and WMO (through Resource Mobilization Office and otherwise) and others to assist in funding suitable resourcing partners to support such projects.

8. ASMET

The work of the African Satellite Meteorology Education and Training (ASMET) project was presented by Hamidou Hama. With funds provided by EUMETSAT, the project involves four VLab CoEs: Niger, Kenya, Morocco and South Africa; and is managed by EUMETSAT and COMET. The aim of the project is to produce training materials to guide/teach African forecasters how to best use satellite images and products to improve their forecasts.

ASMET has seen seven “editions” already, with each presenting a selection of lessons. Earlier ASMET lessons are available on CD only (requests can be made by email directly to ops@eumetsat.int), while the most recent ASMET lessons are available online at <https://www.meted.ucar.edu/communities/asmnet/index.htm>

Hamidou Hama pointed out that the success of this ongoing project lies on a clearly defined and well established lesson development process (for details, please see <https://www.meted.ucar.edu/communities/asmnet/production.htm>), which is carefully managed and supported by training officers from EUMETSAT and an instructional designer from COMET. Bruce Muller highlighted that this model of lesson production is the most efficient in terms of return on investment, as most of the work is done by the CoEs involved in the production.

Volker Gärtner added on the benefits of working with COMET to produce training resources and commented particularly on the advantages of having the lessons hosted by COMET, as this greatly increases the visibility and accessibility of the training materials.

Finally, the Group was informed that ASMET 8 is already in planning and may include topics such as marine forecasting, assessment of landslide potential and cloud climatology. Suggestions are welcome.

9. VLab VIRTUAL ROUND TABLE - CLIMATE

Kathy-Ann Caesar presented an overview of the plans for the Virtual Round Table on Climate. A training development plan was written in order to get a clearer idea of the targeted audience and content scope for the event, and was shared with VLMG (see meeting website – Session 9).

A thorough discussion about the needs for such event took place, with the Group agreeing that the event should concentrate on “Climate Services”. Also discussed was the need for a clarification of the term “climate service” (and possibly other climate related terms), as different groups of professionals (e.g. climate researchers, meteorologists, forecasters, academics) frequently refer to these terms having different meanings in mind.

The original plan was to host the first session of the Climate Virtual Round Table in November 2014, but considering the large scale of this project and the limited resources available, the schedule might be changed.

10. TRAINING CHANNELS GEONETCast AND EUMETCast

The training activities related to GEONETCast Americas (GNC-A) were presented by Bernie Connell, who showed the Group a training timeline starting July 2012 and culminating December 2013, with the organising of the WMO VLab Virtual Training GEONETCast-Americas. This event was hosted by CIRA, NOAA, and four VLab CoEs: Costa Rica, Barbados, Brazil and Argentina. More than one hundred participants from 29 countries attended the event, which had sessions presented in English and Spanish. Future plans of GNC-A include training on the use of available software (McIDAS-V, Sigma and others), the addition of more RFG and seminar recordings to the VLab training channel and a GNC-A Train the Trainer event associated with NOAA Satellite Conference 2015.

An overview of EUMETCast Africa was presented by Volker Gärtner, who showed some key features and facts about the training channel for Africa. The approach for gathering regional requirements in WMO-RA-I was explained and some regional data reception issues mentioned.

Recommendation 7.02 - To have a channel dedicated to training established in every “CAST system”.

11. CALMet ONLINE 2014

The programme of CALMet Online was presented to VLMG by Yuliana Purwanti and Vesa Nietosvaara. The theme for this event in 2014 is “Diverse in Culture – United in Learning”. The goal of CALMet Online 2014 is to demonstrate a variety of learning approaches, suitable for application and adaptation across various institutions and practices.

Seven sessions make up the programme of CALMet Online 2014 with great representation of VLab, as trainers from CoEs (Argentina, Australia, Kenya), CIRA, and training support officers from EUMETSAT and VLab are offering sessions.

The Group suggested that the attendance of CALMet Online by VLab CoEs should be monitored.

Action VLMG7.08: TSO to trace VLab CoEs participation in the CALMet Online (including presenters and participants).

Actionee(s): VLab TSO

Due: December 2014

12. CERTIFICATES OF PARTICIPATION IN VLab TRAINING ACTIVITIES

Luciane Veeck briefly explained that the driver to start issuing certificates of participation in VLab training events was the intention to help attendees to collect evidence of their initiative to pursue continuous professional development. The first VLab events to have certificates of participation issued were the Aviation Virtual Round Table in 2012. Since then, CoEs Morocco and Australia also started issuing certificates of participation in particular events.

Bodo Zeschke showed the Group examples of the certificates that CoE Australia gives to the presenters of the RFG sessions. He mentioned the intention of issuing certificates of participation for the “Science Week” and “Advanced Satellite Meteorology course”. The challenge of determining who participated in online sessions was explained, as this is a particular problem when multiple attendees use the same Internet connection (one login identity) to the event. One possible solution for this challenge is to request participants to submit reports after the event. This procedure is already in place in BMKG. Yuliana Purwanti explained that BMKG personnel attending the RFG sessions organised by CoE Australia are required to submit a report to BMKG. The reports are verified and only then BMKG provides a certificate of participation, which is signed by representatives of both institutions (BMKG and the Bureau of Meteorology). Bodo highlighted that a consequence of issuing certificates has been higher participation in the event.

The good practices followed in this collaboration between CoE Australia and BMKG were acknowledged by the group. Volker Gärtner and Jeff Wilson highlighted the importance of the procedure followed for verification of reports in order to issue certificates. Jeff Wilson suggested producing RFG certificates only once a year or every six months, including record of all sessions they participated. On a similar note, Noureddine Filali proposed that certificates for the participation in “Event Weeks” should be issued for the whole event, when participation in a minimum mandatory amount of sessions is verified.

After some discussion about the information that should be included in VLab certificates, the Group decided that more time should be devoted to this topic and that an opportunity for further discussion should be created.

Action VLMG7.09: TSO to organise an online session to discuss certificate standards.

Actionee(s): VLab TSO to book session. VLMG members to participate in the session.

Due: December 2014

Also part of the discussions in this session was the suggestion by Volker Gärtner that BMKG follows the procedure to become a VLab CoE. Jeff Wilson asked the Group to consider other possibilities too, such as including BMKG as part of the Centre of Excellence in Australia, and/or organising “Regional Centres of Excellence” that would be formed by institutes in the same region.

13. WMO ETR

The outcomes from the 2014 Executive Council for the Education and Training Programme (ETR) were briefly presented by Jeff Wilson, who also provided additional reference documentation (please see documents available at meeting website – Session 13).

An insight into WMO Member staffing profiles and capabilities was also presented by Jeff Wilson. The information presented, which was recently collected by ETR from a variety of sources, was received with great interest. VLMG acknowledged the importance of the data presented and the fact that, without data about Members education and training needs and an idea of the NMHS workforce, it would be very difficult to make an assessment of any training approach as being successful on regional or global scale. The paper “Identification of Members training capabilities and requirements”, which contains more detailed information, was shared with VLMG and is also available in the meeting website.

Aileen Semple, who is seconded to assist with a feasibility study of the WMO Global Campus, started a conversation with VLMG about the meaning and expectations perceived by different parts regarding the adoption of this framework. Some foreseen benefits and challenges were discussed. Aileen also highlighted some issues that will be addressed by the “Feasibility Study”, such as

governance, quality assurance mechanisms, sustainability, priority focus areas and the creation of a road map for Global Campus (issues raised by the EC Panel). The Group was invited to express their ideas and concerns about the Global Campus and bring all VLMG Members into the discussion. A Working Group was formed to continue the conversation during VLMG-7 and the group notes is presented in Appendix III of this document (Group 2).

14. PRESENTATIONS BY SUPPORTING SATELLITE OPERATORS AND AGENCIES

The eight Satellite Operators and Agencies supporting VLab CoEs were asked to give short presentations about their current and future activities, satellites, products and VLab training activities. KMA/Republic of Korea, JMA/Japan, INPE/Brazil and CONAE/Argentina did not have a representative at the meeting in Brazil. Dohyeong Kim prepared a presentation about KMA's activities, which was presented to the Group by Volker Gärtner. Yasushi Izumikawa conducted a remote presentation about JMA recent activities. All presentations given by supporting Satellite Operators and Agencies are available to download in the meeting website.

Prior to VLMG-6 meeting, Satellite Operators and Agencies also submitted their activity reports regarding the period from September 2012 to December 2013. Full reports are available to download in the meeting website and the VLab central website at <http://vlab.wmo.int>

ROSHYDROMET/Russian Federation did not submit their activities' report for the period above mentioned, but a thorough presentation about the Russian Earth Observation Satellite System for hydrometeorology and environmental monitoring was done by Arthur Mozer.

After all presentations a question was posed by Jeff Wilson: how many CoEs we want to have as part of VLab and what actions should be taken when CoEs and Satellite Operators do not perform in the programme? This question had been discussed by VLMG in many different occasions, but no final decisions reached to this date. In order to collect suggested actions and thoughts, a Working Group was formed and the result of their work is presented in Appendix III of this document (Group 3).

Action VLMG7.10: TSO to contact Yao Xiuping to organise two online lectures about FY2/FY3, as a contribution of CoE Beijing to the Direct Readout series. TSO should also inform the VLab community when the FY2/FY3 Toolkits (English version) are made available in the CoE Beijing website.

Actionee(s): VLab TSO and Yao Xiuping

Deadline: December 2014

14.a. SATELLITE COMPETENCIES

A presentation of the "Satellite Skills & Knowledge for Meteorological Forecasters" document was delivered by Roger Deslandes (remote presentation). The document, which was circulated within VLMG at the start of the meeting, was written in collaboration by Bodo Zeschke (BMTc), Ian Bell (Australia), Ian Mills (EUMETSAT), Mark Higgins (EUMETSAT) and Roger Deslandes (BMTc). It was explained that besides the document specifies the satellite interpretation skills required of a meteorological forecaster, it does not specify how satellite meteorology should be taught. VLMG was asked to provide feedback on the completeness of the document and also ways of enhancing its usefulness.

Action VLMG7.11: VLMG members to send feedback on the Satellite Enabling Skills document to Bodo Zeschke at b.zeschke@bom.gov.au

Actionees: All VLMG members

Due: 30 September 2014

15. RESULTS FROM VLab MEMBERS SELF-ASSESSMENT

VLab Centres of Excellence and Satellite Operators were asked to complete a self-assessment form in advance of VLMG-7. All 14 CoEs and five of the eight Satellite Operators submitted the self-assessment forms, which were then anonymously grouped into two categories (CoEs and Satellite Operators) and analysed.

The resulting analysis provided an indicative of the elements that are better achieved and the ones that need more attention and improvement. The results of this exercise were shared with VLMG and are available in the meeting website (Session 15). The Group discussed the results, with major comments as follows:

- It was noted that responses from three Satellite Operators were missing. It was suggested that Satellite Operators should be reminded of their supporting role in the VLab (recalling the Expectations document). Also, using the user readiness to upcoming new generation of satellites as a lever to invest more in training was thought as a way to increase the interest for Satellite Operators in supporting VLab CoEs.
- CoEs need an effective counterpart in the operators' organization. This focal point should help address the CoE resource needs (these could include data, computer facilities, lecturers and other technical personnel). International desks hosted by operators could assist in this.

Action VLMG7.12: WMO and CGMS to write a letter to all satellite operators in VLab to (i) recall the urgency for more training giving increasing service reliance on satellites, and the upcoming generation of new satellite technology, (ii) recall expectations from operators, (iii) mention results of the evaluation indicating that some expectations are better met than others and that there are urgent needs for ramping up support, (iv) suggesting that effective technical focal point be nominated / confirmed that will help CoEs address issues, (v) recall the need for sustained financial support to the VLab Trust Fund.

Actionees: WMO and CGMS

Due: August 2015

Action VLMG7.13: CoEs to provide a copy of their VLab annual report, to respective supporting satellite operators, in order to keep a continuous dialogue about CoEs successes and needs. TSO to remind CoEs of main points of contact to send reports.

Actionees: All CoEs and VLab TSO

Due: next reporting period

Recommendation 7.03 – All CoEs to undertake evaluation of the impact of its training activities.

16. RFG - PRESENTATION AND DISCUSSION

As the organising of Regional Focus Group (RFG) continues to be a success story in the VLab Community, two presenters were invited to expose their experience to the Group.

Bodo Zeschke coordinates the Australian RFG. He presented some challenges and successes achieved since October 2013, when their monthly sessions started. The importance of having access to a reliable web conferencing system was highlighted. Building up audience and finding presenters were some of the initial challenges. The issuing of certificates to participants and presenters has helped to increase audience and interest in presenting in the sessions. Establishing an advertising routine (online calendar, website, Facebook, Tweeter) and communication strategy with the audience (pre and post event messages sent to mailing list) were also explained as key elements in maintaining and increasing the audience. Bodo mentioned the importance of participating in other RFGs as to gather more experience and observe good practices.

Larissa Nikitina presented the Group her experience in organising the first RFG of the CoE Russian Federation. She explained that the main driver for organising the RFG was the positive feedback received from participants of the Aviation VRT (Russian language). The first RFG session had 100 participants (60 connections) from three countries (Russia, Ukraine and Belarus). The post-event survey revealed that the RFG participants would be interested in participating in future sessions on topics such as: training materials in Russian language, NWP, satellite information, and weather briefings. A second RFG session in Russian language took place during the IX EUMETCAL Workshop and counted on 35 participants (in-situ and online) from nine countries. The main challenges mentioned by Larissa were poor Internet connections and other technical problems, dealing with the many different time zones, and finding time to participate (specially those working in shifts). The major benefit foreseen is the increase in communication and collaboration between the more than 2000 Russian forecasters.

Recommendation 7.04 – CoEs are encouraged to participate in and contribute to each other RFG sessions and training events. Also encouraged is the sharing of constructive feedback regarding each other training activities.

17. PRESENTATIONS BY PARTNER PROJECTS AND INVITED GUESTS

Three partner projects and one invited guest presented their work on the last day of VLMG-7. These are all partners that had been already collaboration with VLab in recent years. They are:

- BMKG – presented by Yuliana Purwanti;
- CEOS WGCapD – presented by Jane Olwoch (SANSA – remote presentation);
- EUMETCAL – presented by Alessandro Chiariello;
- COSPAR – presented by Stephan Bojinski;

All presentations are available in the meeting website (Session 17).

A discussion about ways to improve collaboration followed the presentations. The main areas identified for collaboration were:

- Possible themes of future COSPAR-WMO workshops:

2015: Soil moisture in Africa (considering SMOS, GPM, SMAP, ASCAT, AMSR-2); Include Asia/Middle East participants? Hosted by Morocco?

2015: Space weather (UKMO taking the lead?)

2016: Ocean dynamics (considering SMOS, Jason, Sentinel-3, Aquarius)

2017: Atmospheric chemistry (considering SAGE III, OCO-2, GOSAT-2, Sentinel 5P)

For each event, it is necessary to identify a champion and a host country (a developing country, as a general COSPAR rule). A one-year effort is required for the organization. Also consider new-gen GEOs.

- ET-SUP-8 (2014) Recommendation 8.35: VLab to support recording and archiving of workshop material from COSPAR/VLab events.
- Keep collaboration with EUMETCAL TSO, as to keep exchange of information between the programmes (newsletter collaboration, sharing of needs assessment and procedures to evaluate the impact of training).
- Collaboration with EUMETCAL on providing training for trainers.
- Keep collaboration with CEOS WGCapD for the dissemination of information about training available.

Recommendation 7.05 – VLab to recognise the great work of the Training Department of BMKG.

18. REVIEW OF VLab FIVE YEARS STRATEGY AND ITS ALIGNMENT WITH WMO

During the working group session (Thursday, 24 July) Group 1 wrote the first draft of the “VLab Strategy 2015-2019”. This draft was then briefly presented to all VLMG members during Session 18. The Group was asked to provide comments and suggestions (after VLMG-7) in order to complete the writing of the final version collaboratively.

Action VLMG7.14: All VLMG members to comment and make suggestions on the draft “VLab Strategy” document. Comments and suggestions should be made directly in the ‘GoogleDoc’ at <https://docs.google.com/document/d/1PNynpltxqvSn9Um794IDC-t8PbDOjppVWEw3dNDQtE/edit?usp=sharing> or sent via email to the TSO. Document to be discussed in the next VLMG online meetings (25 and 26 November). Final version of the document to be ready by December 2014.

Actionees: All VLMG members

Final deadline: December 2014

Action VLMG7.15: VLab Co-chairs to request comments from COCOM regarding the VLab Strategy document. Comments from COCOM to be added to all comments received and to be discussed in the next VLMG online meetings.

Actionees: VLab Co-chairs

Due: Send it to COCOM co-chair after online meetings (Nov/2014), receive comments until Jan/2015.

Action VLMG7.16: To finalize the VLab Strategy 2015-2019 based on comments by the VLab partners and COCOM, and report on the Strategy to Seventeenth World Meteorological Congress (Cg-XVII, 2015) through a WMO Space Programme document.

Actionees: VLab co-chairs and Stephan Bojinski

Due / Milestones: December 2014 (first draft); WMO CBS IPET-SUP approval (March 2015); CGMS approval (May 2015); 25 May 2015 (report to Congress)

19. VLab ONLINE CALENDAR OF EVENTS AND REPORTING TOOL

An overview of the second version of the online calendar of events was given by Luciane Veeck. Version two, which should be operational by October 2014, includes a reporting tool that allows users to enter details after events taking place. These details include information about the participants (such as name, contact email, institute, country) as well as instructors, organisers, training materials and comments about the event. All users (with creator and administrator permissions) can access the reporting tool. The use of this tool is foreseen as a great help with the VLab reporting process, but it was highlighted that this will only be true if CoEs and Satellite Operators submit their events to the calendar and update the details after the events take place.

The second version of the calendar was also designed by Jose Barba in collaboration with Joaquin Rodriguez Guerra (both from EUMETSAT).

VLMG members were told that their calendar access (login and password) remain the same for the second version. Short video guides will be created when version two is available, showing the new features related to the reporting tool.

Action VLMG7.17: Establish a VLab Dropbox to keep training material that cannot be hosted and shared by CoEs. Evaluate options for long-term archiving of recorded lectures.

Actionees: VLab TSO

Due: March 2014

20. CONCLUSIONS AND OUTLOOK

The VLMG co-chairs and WMO thanked RSHU for hosting the meeting, ROSHYDROMET for the full support, and also the local organising team and VLab TSO for the excellent organisation of VLMG-7 meeting. The meeting was closed with the wish for a continued good cooperation within all VLab partners in the years to come.

Action VLMG7-18: VLab TSO to publish the all the documents and material related to the VLMG-7 meeting in the meeting website.

Actionee(s): VLab TSO

Due date: August 2014

APPENDIX I

VLMG-7 LIST OF PARTICIPANTS

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APPENDIX I

VLMG-7 LIST OF REMOTE PARTICIPANTS

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APPENDIX II

AGENDA Tuesday, 22 July 2014

Time	Sessions	Presenters ¹
09:30-10:00	Registration and information	
10:00-10:30	1. Opening Welcome	RSHU/ROSHYDROMET: TBC WMO: S. Bojinski VLab co-chairs: V. Gärtner and K-A. Caesar
10:30-10:45	News/Announcements	E. Podgaisky / L. Veeck
10:45-11:05	2. Presentations by CoEs (15 min presentation each)	Russian Federation
11:05-11:30	Coffee break	
11:30-13:00	2. Presentations by CoEs (continuing)	Argentina Australia Barbados China/Beijing
13:00-14:00	Lunch break	
14:00-15:30	2. Presentations by CoE (continuing)	China/Nanjing Costa Rica Kenya Brazil
15:30-16:00	Coffee break	
16:00-16:20	3. Review of actions (from VLMG-6, CGMS-41/42, ETSUP-7/8 and web-meetings)	V. Gärtner & K-A. Caesar
16:20-17:00	4. VLab Virtual Library – the use of ESRC and other options	L. Veeck
17:00-17:30	5. COMET	B. Muller
17:30 -18:00	Summary of the day	Wrap-up and review of recommendations and actions
18:00-19:30	ICE BREAKER	

¹ Sessions highlighted in yellow will be presented online.

APPENDIX II

AGENDA Wednesday, 23 July 2014

Time	Sessions	Presenters
09:30-09:40	News/Announcements	E. Podgaisky / L. Veeck
09:40-11:00	2. Presentations by CoE (continuing)	Morocco Niger Oman South Africa
11:00-11:30	Coffee break	
11:30-11:50	6. WMO Space Programme Update	S. Bojinski
11:50-12:30	7. Conceptual Models for the Southern Hemisphere – CM4SH	V. Nietosvaara and CM4SH participants
12:30-13:00	8. ASMET	H. Hama and V. Nietosvaara
13:00-14:00	Lunch break	
14:00-14:30	9. VLab Virtual Round Table – Climate 2014	K-A Caesar and presenters of Aviation VRT 2013
14:30-15:00	10. Training channels GEONETCast & EUMETCast	B. Connell and EUMETSAT
15:00-15:30	11. CALMet Online	V. Nietosvaara and Y. Purwanti
15:30-16:00	Coffee break	
16:00-16:40	12. Certification of VLab training activities	CoE Australia and BMKG, CoE Morocco and VLab Office
16:40-17:40	13. WMO ETR	A. Semple and J. Wilson
17:40-18:00	Summary of the day	Wrap-up and review of actions and recommendations

APPENDIX II

AGENDA Thursday, 24 July 2014

Time	Sessions	Presenters ²
09:30-09:40	News/Announcements	E. Podgaisky / L. Veeck
09:40-11:00	14. Presentations by Supporting Satellite Operators and Agencies (15 min each)	ROSHYDROMET JMA KMA CMA
11:00-11:30	Coffee break	
11:30-12:10	14. Presentations by Supporting Satellite Operators and Agencies (continuing)	EUMETSAT NOAA/NESDIS
12:10-13:00	Presentations by Invited Guests	Planeta – A. Mozer Satellite Competencies – R. Deslandes
13:00-14:00	15. How do we know if we are doing a good job? – Results from VLab Members self-assessment	M. Higgins and Lu Veeck.
14:00-15:00	Lunch break	
15:00- 18:00	Sightseeing trip	
	CONFERENCE DINNER	

² Sessions highlighted in yellow will be presented online.

APPENDIX II

AGENDA Friday, 25 July 2014

Time	Sessions	Presenters ³
09:30-09:40	News/Announcements	E. Podgaisky / L. Veeck
09:40-10:20	16. RFG Presentation and discussion	B. Zeschke and Larissa Nikitina
10:20-11:00	17. Presentations by Partner Projects and Invited Guests	BMKG – Y. Purwanti IMD – A. K. Sharma
11:00-11:30	Coffee break	
11:30-12:30	17. Presentations by Partner Projects and Invited Guests	CEOS WGCapD – J. Olwoch (SANSA) EUMETCAL – A. Chiariello COSPAR – S. Bojinski
12:30-13:00	18. Review of VLab Five Years Strategy and its alignment with WMO	K-A. Caesar & V. Gärtner
13:00-14:00	Lunch break	
14:00-14:20	19. VLab online Calendar of Events and Reporting Tool	L. Veeck
14:20-15:00	20. Conclusions and Outlook	K-A. Caesar & E. Podgaiskii
15:00-15:30	Coffee break	
15:30-16:30	21. Review of actions and recommendations	K-A. Caesar, E. Podgaiskii & L. Veeck
16:30-17:00	Organization of future VLMG meetings	K-A. Caesar & E. Podgaiskii
17:00-17:15	Closure of the Meeting	K-A. Caesar & E. Podgaiskii

³ Sessions highlighted in yellow will be presented online.

APPENDIX III

WORKING GROUPS

Group 1 –VLab Strategy Document 2015-2019

Group members: Nouredine Filali, Jeff Wilson, Stephan Bojinski, Kathy-Ann Caesar, Volker Gärtner, Eduard Podgaiskiy

Mission of VLab:

To improve weather, water, climate and related environmental services by enabling NMHS staff and other personnel utilize satellite data.

Objectives of VLab:

- To achieve better exploitation of data from the Space Based global observing system for services that are increasingly reliant on satellite data.
- To globally share knowledge, experience, methods and tools relate to satellite meteorology, especially in support of services with limited resources.

Strategic Drivers:

- Maintaining current services levels in resources constrained environment
- New generation of satellites, with new data types, products, and scientific challenges
- New and emerging service demands, such as in support of marine, land, and GFCS applications.
- More competence requirements, demands for quality control and professionalism with NMS staff.

In its 15 years of existence, the VLab has demonstrated its capability to deliver global – scale events on training and education in satellite meteorology. The years 2010-2014 have seen more than 50 online events annually organized in all WMO regions and in all WMO languages. These included regular monthly weather briefings, events weeks, regional training events.

[More achievements...]

Strategy for the period 2015-2019

In the years 2015-2019, the VLab will (in all WMO regions and languages):

- Deliver monthly regional focus group online events
- Organize events weeks on topics of particular interest (such as new satellites)
- Provide online capability to face-to-face events
- Maintain the highest quality of training using state-of-the-art educational tools and methods.

Through the experience collected in the coordinating and delivering online training, the VLab strives to meet the increasing demand by WMO members in the period 2015-1019. These will be in line with

- WMO key expected results
- WMO applications
- GFCS initial priority areas
- GEO SBAs [any selection?]

It is imperative that the VLab adopt a more cohesive approach in developing and delivering training, with particular emphasis on national and Region specific demands and requirements. The VLab can reach every country in the world. To ensure quality of services, the VLab will place focus on continuous internal quality evaluations and controls. This includes both the expectations on the CoEs and on the the Satellite Operators in CGMS.

[Stress multiple roles of VLab: training and capacity building; support to operations; presentations of research and new findings/methods]

While providing training for weather forecasting, the VLab will engage strongly in the areas of:

- Climate monitoring and prediction
- Marine, Ocean and coastal monitoring
- Dust, ash and smoke monitoring
- Space weather

VLab will exploit partnerships such as with COSPAR and CEOS WGCapD in areas of common or complementary interest.

As a global virtual infrastructure, the VLab can provide education and training in other areas of relevance to WMO Members. The virtual roundtable on upcoming aeronautical meteorological competencies was highly successful, with x participants from y countries. The VLab is an infrastructure sustained by contributing CoEs and Sat Operators, and a technical support function critical for the organization of online events and VLab coordination. The VLab is operational and requires continuing instructional and funding support through a dedicated WMO trust fund.

Delivery of training will rely on:

- Online techniques
- Investments in bandwidth
- Offline delivery of training where appropriate (DVDs etc)
- Collaboration among CoEs

Additional comments sent by Bruce Muller, that may fit into a 5-yr strategic plan for training:

- Increase your capacity to translate material
- Increase trainers' skills in conducting facilitated, asynchronous training
- Provide links to related training for RFG sessions
- Create a central library/repository for recorded RFG sessions
- Conduct more frequent round tables more tightly focused on VLab strategic objectives (new instruments, new products, etc.)

APPENDIX III

WORKING GROUPS

Group 2 – Global Campus

Group members: Aileen Semple, Stella Aura, Winifred Jordaan and Luciane Veeck

The Group acknowledged that building up on the work of existing training programmes would be a good way to start the collaborative work in the Global Campus. One mechanism suggested was to identify “priority focus areas” for the Global Campus and look into collaborating with the training programmes that are already working on these areas.

The challenge of establishing “quality assurance” of training and education offered by the different contributors was discussed. There was also a concern regarding the expectations that training and education promoted by Global Campus contributors should be formally accepted and recognised by all Members as part of the training of new professionals (and compliancy professional development), independent of the institute where the training was undertaken. This would mean all Members accepting course certificates (from courses offered by Global Campus contributors) as proof of knowledge (or competence) aquired elsewhere.

A suggestion to organise a Virtual Round Table about the Global Campus was made, as this could be a useful mechanism to help with a clearer understanding of the framework and management of expectations.

APPENDIX III

WORKING GROUPS

Group 3 – Actions and Recommendations for underperforming CoEs and Satellite Operators

Group members: Mark Higgins, Hamidou Hama, Bodo Zeschke, Bernie Connell and Vilma Castro

We are a partnership - the Expectations document is all we have, so we can only assess against that. CoEs and Satellite Operators should be invited to disassociate when they no longer have a clear intention to meet the expectations.

A re-commitment process would help right now. Framed in the importance of user preparation and exploitation. In some way the satellite operators fail in their mission if users are not able to exploit the data for protection of life and property.

Sponsoring is the wrong word - The CoEs accept a role to use their competence and connections to undertake user readiness and development (outside of the country/ies of the Satellite Operators). Support of the TSO is an essential element of this. User preparation is the responsibility of the Satellite Operator (discuss) and so the CoEs provide a great service in supporting this responsibility, supporting the TSO is essential.

A regional (geo regions) planning capturing the big goals will help, say a 4 year cycle. This then provides a benchmark for assessing performance and commitment. The shared plan would capture shared objectives that meets the shape of VLab as a partnership.

APPENDIX III

WORKING GROUPS

Group 4 – VLab Future

Group members: Vesa Nietosvaara, Mahmood Al Kyari, Alessandro Chiariello, Bruce Muller, Yuliana Purwanti, Graciella Rolon, Prof. Zheng Youfei and Yao Xiuping

1. The objective of this working group is to propose future Vlab training activities, including the training needs, training material and delivery, existing/ future activities and the challenge/ background condition. The output will be a list of training needs (covering possible topics of training) and training delivery proposal
2. Notes taken from the meeting :
 - A need to conduct the Training the Trainer. This is proposed as the solution based on a condition that nowadays, sharing the experience, information, knowledge and skill after attended meeting/seminar/workshop/traning is not a mandatory. To foster the dissemination of information within personnels in each CoE this kind of sharing method should be implemented. There is a limitation in knowledge transfer, the personnel should be equipped by the Training the Trainer
 - A need of Practical Guideline about “a know-how to deliver a training material”, that provided as a part and together with the training material itself. So personnel who get the material will know what will be the best way to deliver each and every material for the most benefit in term of sharing experience activities
 - A need of “level-based” Vlab course. It is proposed Vlab to define the metarial in a framework of this level-based course, so Vlab in the future could define that a course will be conduct as a basic course/ intermediate course or advance course.
 - A need of further review of existing VLAB training material in term of its relevancy with the use technology in NMHSs. By categorized the material and divide them into some groups based on the level, it will be easier in using the material. This need is based on condition that in some CoEs the knowledge gained from a training could not be implemented since it is too advance compare with the existing operational technology used in NMHSs covers by that CoE.
 - A need of mapping the existing material/resources that available in Vlab library, for the better and the most effective way in using the resources. The afore-mentioned map will be a guidance to plan the learning path of each user, so they could learn in a more structured way. The components of the map: the level of material, the suggested path (what first, what should be taken next). By using this map, one personnel could gain the most benefit of the training in the most fast and the most structured way.
 - A need of financial budget to support CoEs in providing training material (i.e. e-book), and training facilities (i.e simulator).
 - An initiative to link the document of “Satellite Skills and Knowledge for Meteorologist Forecasters” with the related link and material available in VLAB library and other resources that needed to be studied in order to meet each of competencies.
 - Idea in using Regional Focus Group Discussion (RFG) as a more potential forum to foster satellite related knowledge and information dissemination and promotion within the CoE and amongst CoEs. In order to meet the purpose in the best mode, a RFG presenter should : Announce the topic as earliear as possible, posting and making related resources information (i.e. link of books, modules) available before-hand.
 - A need to strengthen communication, cooperation and collaboration among CoEs in order to be able to share experts and information. This need could drive Vlab to further mapping experts and resources

- A proposed topics for Vlab training/Round Table Discussion: Existing basic topics, RGB, preparation for the new satellite.

Additional comments sent by Bruce Muller:

There may be a few things to consider that didn't come up at our talk in the park that may fit into a 5-yr strategic plan for training:

- Increase your capacity to translate material
- Increase trainers' skills in conducting facilitated, asynchronous training
- Provide links to related training for RFG sessions
- Create a central library/repository for recorded RFG sessions
- Conduct more frequent round tables more tightly focused on VLab strategic objectives (new instruments, new products, etc.)

APPENDIX IV

VLMG-7 ACTIONS AND RECOMMENDATIONS

Action VLMG7.01: Share experiences with the preparations for the Himawari 8/9 with the group, as an example of preparation for the next generation of satellites. CALMet Commons suggested as the means for sharing.

Actionee(s): Bodo Zeschke

Due: October 2014

Action VLMG7.02: IMTR and EUMETSAT to undertake evaluation on training impact in East Africa, including classroom courses, online courses and ASMET materials. Action to be done in coordination with WMO ETR and COMET. Reporting back to VLMG-8.

Actionee(s): Mark Higgins and Stella Aura to coordinate action.

Due: VLMG-8 - 2016

Action VLMG7.03: TSO to contact Jeff Wilson to ask for more information regarding the exercise done by WMO-ETR on linking competencies to training.

Actionee(s): VLab TSO

Due: September 2014

Action VLMG7.04: CoE Morocco to contact Vesa Nietosvaara to discuss and investigate the possibility to add the recorded training sessions from Morocco to the EUMETCast Training Channel.

Actionee(s): Nouredine Filali and Vesa Nietosvaara

Due: October 2014

Action VLMG7.05: TSO to create a YouTube Channel for the VLab and start organising the video collection by adding all VLab RFG sessions.

Actionee(s): VLab TSO

Due: December 2014

Action VLMG7.06: information in the VLab central website (about the shared VLab training resources) should be modified in order to give a clearer idea of where the resources are available from.

Actionee(s): VLab TSO

Due: December 2014

Action VLMG7.07: All VLMG members to review the information on the websites mentioned by Stephan Bojinski (Session 6)

<http://www.wmo-sat.info/product-access-guide/> and <http://www.wmo-sat.info/satellite-user-readiness/> and send feedback to the Forum named "Forum - Session 6" in the VLMG-7 website at <http://training.eumetsat.int/course/view.php?id=216>

Actionee(s): All VLMG members to send feedback. TSO to help VLMG members needing assistance accessing the VLab Moodle site.

Due: 2014

Action VLMG7.08: TSO to trace VLab CoEs participation in the CALMet Online (including presenters and participants).

Actionee(s): VLab TSO

Due: December 2014

Action VLMG7.09: TSO to organise an online session to discuss certificate standards.

Actionee(s): VLab TSO to book session. VLMG members to participate in the session.

Due: December 2014

Action VLMG7.10: TSO to contact Yao Xiuping to organise two online lectures about FY2/FY3, as a contribution of CoE Beijing to the Direct Readout series. TSO should also inform the VLab community when the FY2/FY3 Toolkits (English version) are made available in the CoE Beijing website.

Actionee(s): VLab TSO and Yao Xiuping

Deadline: December 2014

Action VLMG7.11: VLMG members to send feedback on the Satellite Enabling Skills document to Bodo Zeschke at b.zeschke@bom.gov.au

Actionees: All VLMG members

Due: 30 September 2014

Action VLMG7.12: WMO and CGMS to write a letter to all satellite operators in VLab to (i) recall the urgency for more training giving increasing service reliance on satellites, and the upcoming generation of new satellite technology, (ii) recall expectations from operators, (iii) mention results of a VLab internal evaluation indicating that some expectations are better met than others and that there are urgent needs for ramping up support, (iv) suggesting that effective technical focal point be nominated / confirmed that will help CoEs address issues, (v) recall the need for sustained financial support to the VLab Trust Fund.

Actionees: WMO and CGMS

Due: August 2015

Action VLMG7.13: CoEs to provide a copy of their VLab annual report, to respective supporting satellite operators, in order to keep a continuous dialogue about CoEs successes and needs. TSO to remind CoEs of main points of contact to send reports.

Actionees: All CoEs and VLab TSO

Due: next reporting period

Action VLMG7.14: All VLMG members to comment and make suggestions on the draft "VLab Strategy" document. Comments and suggestions should be made directly in the 'GoogleDoc' at <https://docs.google.com/document/d/1PNynpltxqvSn9Um794IDC-t8PbDOjppVWEw3dNDQtE/edit?usp=sharing> or sent via email to the TSO. Document to be discussed in the next VLMG online meetings (25 and 26 November). Final version of the document to be ready by December 2014.

Actionees: All VLMG members

Final deadline: December 2014

Action VLMG7.15: VLab Co-chairs to request comments from COCOM regarding the VLab Strategy document. Comments from COCOM to be added to all comments received and to be discussed in the next VLMG online meetings.

Actionees: VLab Co-chairs

Due: Send it to COCOM co-chair after online meetings (Nov/2014), receive comments until Jan/2015.

Action VLMG7-16: To finalize the VLab Strategy 2015-2019 based on comments by the VLab partners and COCOM, and report on the Strategy to Seventeenth World Meteorological Congress (Cg-XVII, 2015) through a WMO Space Programme document.

Actionees: VLab co-chairs and Stephan Bojinski

Due / Milestones: December 2014 (first draft); WMO CBS IPET-SUP approval (March 2015); CGMS approval (May 2015); 25 May 2015 (report to Congress)

Action VLMG7.17: Establish a VLab Dropbox to keep training material that cannot be hosted and shared by CoEs. Evaluate options for long-term archiving of recorded lectures.

Actionees: VLab TSO

Due: March 2014

Action VLMG7-18: VLab TSO to publish the all the documents and material related to the VLMG-7 meeting in the meeting website.

Actionee(s): VLab TSO

Due date: August 2014

Recommendation 7.01 - VLab partners to design regional projects with specific objectives that have clear benefits, and WMO (through Resource Mobilization Office and otherwise) and others to assist in funding suitable resourcing partners to support such projects.

Recommendation 7.02 - To have a channel dedicated to training established in every "CAST system".

Recommendation 7.03 – All CoEs to undertake evaluation of the impact of its training activities.

Recommendation 7.04 – CoEs are encouraged to participate in and contribute to each other RFG sessions and training events. Also encouraged is the sharing of constructive feedback regarding each other training activities.

Recommendation 7.05 - To recognise the great work of the Training Department of BMKG.