

WORLD METEOROLOGICAL ORGANIZATION
=====

**VIRTUAL LABORATORY MANAGEMENT GROUP
FIFTH SESSION (VLMG-5)**

BEIJING, CHINA

12 - 14 JULY 2010

REPORT





Front row, from left: Fan Hong, Grigory Chichasov, Xuehao Gao, Kathy-Ann Caesar, Maryam Uz, Volker Gärtner, Barbara Ryan, Li Mingmei

Second row, from left: Simone Sievert Costa, Adamou Garba, Zhang Junxia, Bernadette Connell, Winifred Jordaan, Humaid Albadi, Caifang Wang, Liu Jian, Zenhui Wang, Yong Wang

Third row, from left: Alessandro Chiariello, Eduard Podgayskiy, Luciane Veeck, Akihiro Shimizu, Jae-Gwang Won

1. OPENING

The Co-Chair Volker Gärtner opened and welcomed the participants to the meeting and thanked CMATC for kindly hosting the meeting. Li Mingmei, Deputy Director of CMATC International Affairs Department warmly welcomed the Group at CMATC and gave a short overview about CMA's satellite applications area. The Director of the WMO Space Programme Barbara Ryan also thanked CMATC for their hospitality. The previous Co-Chair Luiz Machado couldn't attend personally, however, he joined remotely and gave a short online talk outlining the importance of the VLab. The recently appointed Co-Chair Kathy-Ann Caesar introduced herself to the Group and expressed her appreciation for having been nominated as a new Co-Chair. Xuehao Gao, Director of CMATC welcomed the Group on behalf of CMA. The Group noted that the representatives from the Centres of Excellence (CoEs) in Argentina, Costa Rica and Kenya, as well as a representative from CONAE were unable to attend the meeting. A list of participants is shown in Appendix I.

2. ADOPTION OF THE AGENDA

Volker Gärtner and Kathy-Ann Caesar chaired the sessions. The agenda, which was discussed and approved by participants in a previous Web-meeting, is shown as Appendix II.

3. 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-5 meeting, are available for download on the VLab Moodle site at <http://training.eumetsat.int>

Vilma Castro from the CoE in Costa Rica could not participate at the meeting and gave a remote presentation about the activities in Costa Rica, using the web-conference system of CMATC.

Prior to the VLMG-5 meeting CoEs submitted their activity reports regarding the period from January to June 2010. Full reports are available for download on the VLab central website at <http://www.wmo.int/pages/prog/sat/vlab/VLab-home.html>

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

Action VLMG5.01: To prepare a position paper about the benefits of the VLab and especially of Distance Learning in order to demonstrate the way forward.

Actionee(s): Winifred Jordaan, Kathy-Ann Caesar and Lu Veeck

Deadline: Abstract mid August (submit to WMO SYMET), Full paper by October 2010 (to be presented at the WMO SYMET)

Action VLMG5.02: EUMETSAT to report on the dissemination of documents and training material on EUMETCast.

Actionee: Volker Gaertner

Deadline: end 2010

Action VLMG5.03: Investigate appropriate tools to collect the required information for Web statistics (see Rec 5.03).

Actionee(s): Eduard Podgayskiy and Lu Veeck

Deadline: October 2010

Action VLMG5.04: Create a forum for discussion about Rec 5.04 on the VLab Moodle site.

Actionee(s): Lu Veeck

Deadline: end July 2010

Action VLMG-5.05: Satellite course delivered in Mozambique in November 2009 should be delivered for French speaking countries in West Africa.

Actionee(s): EUMETSAT and CoEs

Deadline: end 2011

Recommendation 5.01: Disseminate documents and training material via Geonetcast. This recommendation aligns with ET-SUP action 5.18.

Recommendation 5.02: Offer more case studies on the use of satellite products.

Recommendation 5.03: Include VLab website access information (statistics) in the CoE report.

Recommendation 5.04: Encourage the exchange of ideas on new ways of presenting and teaching basic principles.

Recommendation 5.05: Provide CoEs support with the creation of course materials and also to make course materials available.

4. KMA TRAINING ACTIVITIES

Jae-Gwang Won gave a presentation about the training activities and the history of satellite data utilisation at KMA. The Group was informed about the successful launch of the COMS satellite on 27 June 2010 and the plans to increase the number of products to be provided with the help of COMS.

5. SPACE PROGRAMME UPDATE

A short presentation was given by Barbara Ryan, who talked about the evolution of the WMO Global Observing System (GOS). Barbara initiated a discussion about increasing coordination and cooperation, and also the need of recognising complementary roles and responsibilities among research and development and operational agencies.

The following actions arose from this discussion:

Action VLMG5.06: To upload all presentations and relevant meeting documents to the VLab Moodle site.

Actionee(s): Lu Veeck

Deadline: daily during the meeting and final documents after the meeting.

Action VLMG5.07: WMO Space Programme to send the updated list of expectations from CoEs, Satellite Operators and WMO-CGMS as well as the Terms of Reference, after the review by the Group and its subsequent presentation to CGMS-38.

Actionee(s): WMO

Deadline: end of 2010

6. OUTCOME OF ET-SUP-5

Volker Gärtner informed the Group about the outcome of the ET-SUP-5 meeting in Geneva in March 2010. Main highlight was that Luiz Machado is the new ET-SUP chair since March 2010. As a result, a new co-chair needed to be nominated for the VLab. Kathy-Ann Caesar from CIMH was proposed as a very suitable candidate. Kathy-Ann accepted to take this new responsibility and will help with her expertise to strengthen the activities of the VLab.

Volker also showed the list of actions, which resulted from the ET-SUP-5 in Geneva, that are related to the VLab. The list can be viewed on the VLab Moodle site.

Action VLMG5.08: Keep the status of the ET-SUP actions list up to date and actionees reminded of deadlines.

Actionee(s): Lu Veeck

Deadline: continually, until ET-SUP-6

7. REVIEW OF ACTIONS (VLMG-4, CGMS-37 and web meetings)

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-5 at related sessions. Volker Gärtner suggested to replace the old action numbers by new numbers, if they are still ongoing. Renumbered actions are presented within this report, at appropriate sections.

8. RFG PRESENTATION AND DISCUSSION

Bernadette Connell (CIRA) gave an overview of the RFG of the Americas and Caribbean activities, including a brief history outline. She highlighted the use of native language as one of the keys to the success of this RFG. Some discussion on the VoIP tools available nowadays followed. New successful experiences, such as the new RFG in Australia, was mentioned as well as the Brazilian attempts to set up a RFG for the Portuguese speaking countries. The Group recommended the following:

Recommendation 5.06: Improve Internet access and the usage of VoIP tools in order to encourage participation in weather briefings and RFG discussions.

Recommendation 5.07: Strengthen the creation of RFG in all CoEs in their native language.

9. SOUTH AFRICAN SATREP ONLINE

Winifred Jordaan gave a presentation on the South African Satrep Online which was offered to SAWS in 2009. Winifred explained that because of network instability, the system is actually hosted by the European Satrep Online and maintained by EUMeTrain. Challenges ahead are the introduction of more satellite fields and NWP products, the final decision about the hosting of the system and the training of an “administrator” from SAWS.

A demonstration of the Satrep Online was given by Alessandro Chiariello in order to show the Group the full functionality of the system.

10. EVENTS WEEK PRESENTATIONS - DUST AND SNOW WEEK

Volker Gärtner presented some facts from the Dust Events Week, which was organised by EUMETSAT and took place from 1 to 5 March 2010. Alessandro talked accordingly about the organisation of the Snow Events Week by EUMeTrain and Eumetcal, taking place from 2 to 4 February 2010.

The idea behind the events week is the bundled presentation of topical lectures via the Internet and the recording of these lectures so that they can be viewed at any time (sessions are recorded and made available via organiser’s websites). It is intended to repeat the lectures in different geographical areas (time zones) in order to facilitate attendance of interested participants in their specific time zone. Therefore the events week are called ‘Regional Events Week’.

Recommendation 5.08: Conduct more *Regional Events Week* in different time zones in different languages.

11. PRESENTATIONS BY SATELLITE OPERATING AGENCIES

All the satellite operating agencies gave short presentations about their current and future activities, satellites and products. CONAE/Argentina did not have a representative at the meeting in Beijing, but took the opportunity to deliver its presentation remotely, using CMATC's web-conference system.

EUMETSAT and JMA also submitted reports of their activities prior to the meeting. Reports can be seen on the VLab central website at <http://www.wmo.int/pages/prog/sat/vlab/VLab-home.html>

12. EUMETCAL

Alessandro Chiariello, Training Support Officer for the Eumetcal Programme which is as a EUMETNET project hosted at the Finnish Meteorological Institute (FMI), gave a presentation about the Program. Alessandro spoke about how Eumetcal helps members with their training needs and explained what sort of activities make the core of the Program. He informed the Group that up to now Eumetcal has 28 member states and 4 partner institutes - EUMETSAT, COMET, BoM and the Canadian Met Service. Eumetcal activities are primarily developed within Europe (RA VI), but also cooperation with partners outside of Europe is ongoing.

13. USER PREPAREDNESS PLAN FOR THE TRANSITION TO NEW SATELLITE GENERATIONS

Volker Gärtner presented a short outline about action 5.2 raised at ET-SUP-5, for VLMG to define necessary steps for user preparedness. He proposed the Group a few questions that may help to identify the first steps needed to be included in the *general guidelines for a transition plan*. Bernadette Connell talked about NOAA's GOES-R Proving Ground, which is a project in which simulated GOES-R products can be tested and evaluated before the GOES-R series of satellites are launched into space. A task team was created with the objective to write the "guidelines" as mentioned above.

Action VLMG5.09: Write general guidelines for a transition plan to support user readiness for new satellite generations. Action aligned with ET-SUP action 5.2.

Actionee(s): task team consisting of: Bernadette Connell, Winifred Jordaan, Adamou Garba and a representative from EUMETSAT.

Deadline: ET-SUP-6

14. RA II PILOT PROJECT

Akihiro Shimizu gave a presentation about the RA II Pilot Project. He presented the mission of the Project, including a brief description of the Terms of Reference of the Pilot Project Coordinating Group. He also informed the Group about the first-phase action plan, which includes a bi-monthly newsletter, mailing lists and web pages.

Action VLMG5.10: Initiate closer contact with the RAll Pilot Project. Lu Veeck to send the list of contact names and emails of the Pilot Project Coordinating Group Members to Barbara Ryan. Barbara to write to the RA II Pilot Project Coordinating Group, thanking them for their efforts, and also copying the Met Agencies in the Region in order to gain additional support for the Project and increase communication and coordination within the Region.

Actionee(s): Lu Veeck, Barbara Ryan

Deadline: end July 2010

15. WMO EDUCATION AND TRAINING INCLUDING STATUS OF WMO DOCUMENT 258

Jeff Wilson, the WMO Director of Education and Training, could not participate remotely as previously planned, so Roger Deslandes of BoM presented the session he had already prepared. The presentation focused on the upcoming replacement of the 4th edition of the WMO Document 258 by a new series of Training Publications. The Group was informed that basically, the document will be split into three categories: Classifications and qualifications, Trainer competencies and Domain specific competencies; the latter being divided into the varied competencies (such as aviation, marine, and so forth). The Group was also informed about the revision of the term "Meteorologist" and some new definitions were presented and discussed.

16. WMO DOCUMENT 258, CHAPTER 7.9

The VLab was tasked to review chapter 7.9 of document 258. All VLab members were encouraged to review the current version of the document and provide comments and/or proposals for updates to the task team (action VLMG03.05). Roger summarised the outcome of the review done by the Satellite Competence Task Team (Roger Deslandes, Fan Hong, Winifred Jordaan, Tony Mostek and Bodo Zechke). He gave competency examples as regards the structure of the document e.g. core competencies (supporting knowledge and supporting skills). Roger also highlighted that the competence Standards will be included in WMO-No. 49 Volume II, Technical Regulations in November 2010 with a mandatory enforcement date of November 2013. The TT-CAT (Competence Assessment Tool-kit) has submitted an ambitious work plan that looks to deliver on the compliance tool-kit by the end of December 2011.

Action VLMG5.11: Include information about the outcome of the review of Doc 258, chapter 7.9 on the VLab website and submit to WMO ETR. This action is aligned with ET-SUP action 5.21.

Actionee(s): Roger Deslandes, Lu Veeck

Deadline: end July 2011

17. WMO QUESTIONNAIRE

Barbara Ryan gave a short presentation about the WMO questionnaire which is being sent every two years to all WMO Members. The purpose of this questionnaire is to monitor the availability and use of existing satellite data and products and to identify associated difficulties or limiting factors. Another important goal is to identify members' needs for new or improved satellite data and products. This year's questionnaire included several questions related to the VLab. Preliminary results of the questionnaire can be viewed at the VLab Moodle site.

Action VLMG5.12: CoEs to stimulate replies from WMO Members who have not yet responded to the questionnaire, in order to be included in the results to be published by the end of 2010.

Questionnaire can be downloaded from:

http://www.wmo.int/pages/prog/sat/Questionnaire/Questionnaire_2010.html

Actionee(s): All CoEs

Deadline: end August 2010

18. COMET RESOURCES AND THE ESRC

Another remote presentation was made by Pat Parrish and Bryan Guarente, from COMET. Pat presented an overview of the COMET Program and its contributions to satellite meteorology training. The Group was informed that COMET has over 600 hours of computer-based distance learning resources and a variety of satellite-specific module titles. Bryan gave continuation to COMET's presentation by introducing the Environmental Satellite Resource Center (ESRC), its origin, role and responsibilities. An overview of ESRC functionalities was given and raised a few questions from the Group. One of the questions raised regarded the possibility of the VLab logo

being shown on the ESRC website. Pat Parrish confirmed that possibility and informed the Group that the logo could most probably be added to the “about ESRC” page (this topic aligns with ET-SUP action 5.15). On an additional note, COMET’s use of the VLab logo will require permission to be granted by WMO. He also commented that this and many other questions related to the VLab use of ESRC were previously raised by Jerome Lafeuille and discussed with the TSO in a recent visit to COMET. This discussion generated an official response by the COMET Team, which was sent to Jerome Lafeuille, Barbara Ryan and the VLab-co-chairs. A copy of this message is available to all VLMG members at the VLMG-5 Moodle site (under the topic *working documents*).

The discussion about the VLab use of ESRC continued after COMET’s presentation. The Group agreed that the searchable, database-driven capabilities of ESRC suit the VLab well as a portal to its training resources. It was also agreed that, for consistency and easy recognition, VLab submissions to ESRC should indicate “VLab” in the *publisher* field. The name of the institute responsible for the resource should follow - for example: VLab/EUMETSAT. This discussion was well aligned with ET-SUP actions 5.13 and 5.14.

Guidelines for submissions to ESRC were explained in more detail during the hands-on-session given by Bryan Guarente (remotely), assisted *in situ* by the TSO.

Action VLMG5.13: Write guidelines on submitting VLab resources to ESRC; including general instructions, using a standard publisher name, and tips on submitting resources in languages other than English.

Actionee(s): Lu Veeck

Deadline: end 2010

Action VLMG5.14: E-mail the COMET’s Team regarding the permission needed to include the VLab logo in the ESRC website.

Actionee(s): Barbara Ryan

Deadline: August 2010

Recommendation 5.09: CoEs to collect and organise information on training materials and make them available via ESRC.

19. OUTCOME OF WORKING GROUP MEETINGS

Participants were split in two working groups for the discussion of: VLab websites (WG I) and the new training events calendar and reporting templates (WG II). Appendix III lists the participants in each working group.

19.1 WG I: Websites

WG I evaluated the available VLab websites and discussed the positive and negative aspects. Starting with the central VLab website, hosted by WMO, the Group agreed it needs to be renovated to get a more appealing and modern look, and interactivity. A number of elements were identified as being necessary for enhancing the usefulness of the central website. These elements are listed in the *document* which can be found under the Tuesday presentations at the VLMG-5 Moodle site.

Similarly, CoE websites were also evaluated and a number of common elements noted. The group decided that the CoE working websites should all adapt to contain the “common elements” listed as essential (see document *WG I – Recommendations on VLab websites*, which can be found under the Tuesday presentations at the VLMG-5 Moodle site). In addition, the Group also agreed that a template for CoE websites should be designed and offered to be used by CoEs that do not have working websites yet.

Barbara Ryan suggested that the web designers of all VLab members could contribute to the design of the VLab central website and template.

A brief discussion regarding hosting of the central VLab website took place. The fact that the TSO has no permission to maintain/modify the central website, which is actually hosted by WMO, was mentioned. The possibility of the central VLab website being hosted by a server other than WMO's was considered.

Action VLMG5.15: Investigate the possibility of giving the TSO permission to maintain the central VLab website hosted by WMO.

Actionee(s): Barbara Ryan

Deadline: August 2010

Action VLMG5.16: Design a new central VLab website and a template for CoE websites. Replacing action VLMG-4.11. Barbara to investigate the possibility of getting help from the Satellite Programme's web designer. Volker to investigate the same at EUMETSAT and Lu to check with CoEs that may have a web designer to help on that matter.

Actionee(s): Barbara Ryan, Volker Gärtner and Lu Veeck

Deadline: end of 2010

Action VLMG5.17: Write guidelines containing all the essential common elements to be included in VLab websites

Actionee(s): Lu Veeck

Deadline: September 2010

19.2 WG II: Training events calendar and Reporting Templates

WG II discussed the idea of having a web-based training events calendar which would list all training events, upcoming or past. The calendar could be shared between different programmes such as VLab, Eumetcal, WMO ET, and others and could also serve as a means to advertise training events. Important remarks mentioned by the Group regarding the calendar are as follows:

- Should be possible to filter and search the calendar by topics such as place of the course, subject, organizer, etc;
- Each partner should have its own calendar interface in its web-portal, with its own logo and setup (e.g. showing only the topics of interest to the particular programme, for example: only its own events, instruction language). Each calendar would point to the same database and search in it: not local but REMOTE;
- Each partner should have its own course creators and above all creators one administrator, who could check, confirm and publish the events submitted;
- The calendar should be complemented with a filter with all the entries (WMO Region, language, country, etc);
- As an addition to the calendar functionality, there should be a way to include links to training materials and data on attendance numbers, in order to help generating simple reports of past events;
- Common guidelines on how to realise the organising of VLab training events, e.g. announcements, addition to the calendar – pre and pos event, needs to be established.

The database of the calendar could be hosted in the EUMETSAT server. A prototype is already running on a local server.

Regarding the reporting templates, it was suggested that reports should be submitted every 12 months (instead of the actual periodicity of 6 months). The idea of using a web interface to report VLab activities in the future was also mentioned. Some of the information in the training events calendar could be used for reporting purposes, e.g. the number of participants, countries of origin, course language, etc. These topics are not yet included in the prototype and for this reason, for the time being, the reporting template will remain in use as this is the only way the TSO is kept informed of past and future VLab events run by CoEs.

Action VLMG5.18: Write guidelines to help the organising of VLab training events, respect to announcing and entering pre and pos event's data in the web-based calendar of events.

Actionee(s): Lu Veeck

Deadline: end of 2010

Action VLMG5.19: Further develop the web-based calendar prototype to allow its use for reporting purposes.

Actionee(s): Lu Veeck and calendar developer (EUMETSAT)

Deadline: end of 2010

20. DEVELOPING THE TRAINING PLAN

Certification of the training courses offered was a topic raised for discussion and the Group came to the conclusion that it is important to issue certificates to participants after a successful attendance of courses. Course materials could be created in cooperation with universities and that may help with the accreditation of courses in the field of distance learning.

The organising of an aviation related events week was suggested. Some existing teaching materials could be incorporated into training courses. Courses should be built with a set of generic case studies, as it would make it easier to share the training and that would be a good way to help each other. The idea would be to repeat the events week in other geographical areas. CoEs in Australia and South Africa could be the first organisers to offer the events week on aviation. Existing materials could be used and modified accordingly, depending on the specific region to build new case studies. "New" case studies should be linked to ESRC, so to contribute to the sharing of training materials. This would serve as a good example of how the VLab is helping with the "route to prepare" for the WMO new approach - helping countries to be ready by 2013.

Action VLMG5.20: Roger Deslandes to liaise with New Zealand Met. Service and collaborate with Winifred Jordaan to organise an events week on the aviation theme. Kathy-Ann Caesar to co-operate with Bernadette Connell to organise a similar event and offer it in a different time zone.

Actionee(s): Roger Deslandes, Winifred Jordaan, Kathy-Ann Caesar and Bernadette Connell

Deadline: July 2011

Fan Hong made various topic suggestions for potential training events. She also made the Group aware of the difficulties in sharing resources as most training materials are in Chinese. A suggestion was made that available conceptual models could be translated from Chinese into English. Fan's suggested topics for events week and/or blended learning courses are: draught monitoring, fires, severe weather, heavy rain and flooding, fog, snow monitoring, typhoon and vegetation monitoring.

Regarding RFG activities, it was suggested that RFGs should take the opportunity to convene and discuss "unexpected events" as soon as possible, during or just after the event occurrence, to discuss the event and may agree on building up a case of study. This would provide more information to university students or equivalent interested communities on the occurrence of unexpected events, which are usually under-documented.

Eduard Podgayskiy informed the Group about a week-long training event that EUMETSAT is going to organise at RSHU in 2011. He is considering the possibility of recording the event to make it widely available and even translating it to Russian.

Funding and resources problems were mentioned by Volker Gärtner, Fan Hong and Eduard Podgayskiy.

21. DEVELOPING A ROADMAP FOR WIDENING THE SCOPE OF THE VLAB

Volker Gärtner gave a presentation about the action given to VLab by CGMS (action CGMS-37.16) and highlighted those areas that should be part of the VLab training application.

The Group was informed that during last year some of the VLab partners have started to develop a training course for 'Marine Forecasters'. This was initiated by Stan Wilson (NOAA) and supported by EUMETSAT. A first training event took place in Oostende (Belgium) in December 2009 at the premises of the "International Oceanographic Data and Information Exchange" (IODE) of the "Intergovernmental Oceanographic Commission" (IOC) of UNESCO.

Following this event another one is in the planning stage for March 2011. This time NOAA, EUMETSAT and CPTEC/INPE are the partners. Again IODE will participate, either in the event in Brazil or as a backup host. This activity shows that partners of the VLab frame network have joined to embark on training another related community. This can serve as a model to open the VLab for additional training activities using the same approach and methodology as for the core training.

Volker also told the Group that in 2009 and 2010 some discussions have taken place between EUMETSAT and the Spanish Met. Service AEMET to investigate how EUMETSAT can help in the training activities for the WMO dust Monitoring project SDS-WAS (www.wmo.int/sdswas) where they are the host for the "NODE for Northern Africa, Middle East and Europe". The Asian node for SDS-WAS is hosted by CMA in Beijing. JMA is also a contributor. In the meantime the Met. Service of Oman has expressed an interest to support the SDS-WAS project as a training entity as well. Oman being already a Centre of Excellence in the VLab can play a strong support role for SDS-WAS.

The co-operation in support of SDS-WAS is also offering a good opportunity to get the research community close to the VLab training approach. On the WMO side three directorates are involved with this (Space Programme, Research and Development and Training).

Also in 2009, a joint training activity on Land Surface Applications had been jointly held between CPTEC/INPT and EUMETSAT in Brazil with involvement of experts from the EUMETSAT Land Surface Application Facility (SAF). The same course was re-delivered later in the same year (November 2009) in Mozambique for Portuguese speaking countries in Africa.

A discussion on ways to make the VLab activities more visible took place. Eduard Podgayskiy brought the WMO Symposium in Education and Training (WMO SYMET) to the attention of the Group. A VLab presentation, regarding the alignment of VLab activities with the WMO competencies' concepts and the widening of VLab training activities, at the WMO SYMET was suggested.

Action VLMG5.21: Write a roadmap for widening the scope of the VLab as a part of the WMO status report to CGMS-38. Action aligned with actions CGMS-37.16 and ET-SUP-5.17.

Actionee(s): Volker Gärtner, Kathy-Ann Caesar and Lu Veeck

Deadline: September 2010

Action VLMG5.22: Submit a paper to the WMO SYMET, regarding the alignment of VLab activities with the WMO competencies' concepts and the widening of VLab training activities.

Actionee(s): Eduard Podgayskiy, Lu Veeck (Winifred Jordaan and Roger Deslandes too?)

Deadline: mid August 2010

22. REVIEW OF VLAB REQUIREMENTS AND VLMG TERMS OF REFERENCE

The group reviewed the role of the CoEs and satellite operators as originally defined at VLMG-2 and reviewed and updated at VLMG-3.

They concluded that a revised set of expectations for all VLab partners were now appropriate. The revised expectations are given in Appendix IV.

The group recognised that some thought needs to be given to a mechanism to give CoEs and satellite operators the opportunity to re-affirm their commitment based on the revised expectations.

The group also reviewed the Terms of Reference (ToR) that were defined at VLMG-2. Through open discussion the ToR were amended and a modified version agreed. The revised Terms of Reference are attached as Appendix V.

23. ORGANIZATION OF FUTURE VLMG MEETINGS

The Group decided that the VLMG meeting's strategy actually in use is working well and should be kept. That means having four web meetings every year and one face-to-face meeting every two years.

With this framework in mind, the next web meetings were already booked: Group I will meet online on the 19th of October, at 13 UTC; and Group II will meet on the 20th of October, at 8 UTC.

The next face-to-face meeting was suggested to take place in July 2012. Simone Sievert Costa, with previous agreement with Luiz Machado, communicated to the Group that INPE/CPTEC would host the next VLMG meeting to take place in Brazil.

APPENDIX I

LIST OF PARTICIPANTS

No	COEs	Working Organization/address	Tel/Fax	Emails	Remote
1	DESLANDES Roger	Bureau of Meteorology Training Centre 1010 La Trobe St. MELBOURNE 3008 Australia	Tel: +61 (3) 9669 4470 Fax: +61 (3) 9609 4366 Mob: +61 (417) 603 309	R.Deslandes@bom.gov.au	Australia
2	CAESAR Kathy-Ann	Caribbean Institute for Meteorology and Hydrology (CIMH) HUSBANDS St Michael, BB23006 Barbados	Tel: +1 (246) 425 1362/63/65 Fax: (245) 424 4733 Mob: +1 (246) 823 0434	kacaesar@cimh.edu.bb	Barbados
3	SIEVERT COSTA Simone	Instituto Nacional de Pesquisas Espaciais Centro de Previsão de Tempo e Estudos Climáticos (CPTEC) Rodovia Presidente Dutra, Km 40 CACHOEIRA PAULISTA/SP - 12630-000 Brazil	Tel: +55 (12) 3186 8400 Fax: +55 (12) 3186 9291 Mob: +55 (12) 8141 4577	Simone.sievert@cptec.inpe.br	Brazil
4	GAO Xuehao	China Meteorological Administration Training Centre (CMATC) 46 Zhongguancun Nandajie BEIJING 100081 China	Tel: +86 (10) 6840 6638 Fax: +86 (10) 6840 9225 Mob: +86 (10) 1352 1217 012	Gaoxueh@cma.gov.cn	China/Beijing
5	FAN Hong	China Meteorological Administration Training Centre (CMATC) 46 Zhongguancun Nandajie Haidian District BEIJING 100081 China	Tel: +86 (10) 6840 9536 Fax: +86 (10) 6840 9225 Mob: +86 (10) 1352 1217 012	fanh@cma.gov.cn	China/Beijing
6	WANG Zhenhui	School of Atmospheric Physics Nanjing University of Information Science and Technology (NUIST) Ningliu Road 219 NANJING China	Tel: +86 (25) 5873 1195 Mob: +86 (159) 5166 0956	eiap@nuist.edu.cn	China/Nanjing

7	WANG Caifang	WMO Regional Training Centre Nanjing University of Information Science and Technology Ningliu Road 219 NANJING China	Tel: +86 (25) 5869 9917 Fax: +86 (25) 5701 0085 Mob: +86 (133) 3781 3121	Caifang3@hotmail.com	China/Nanjing
8	WANG Yong	WMO Regional Training Centre Nanjing University of Information Science and Technology Ningliu Road 219 NANJING China	Tel: +86 (25) 5873 1404 Fax: +86 (25) 5701 0085 Mob: +86 (132) 6070 1880	bestwangyoung@yahoo.com.cm	China/Nanjing
9	WON Jae- Gwang	National Meteorological Satellite Center (NMSC) Korea Meteorological Administration (KMA) 636-10, Gwanghyeon JINCHEON, Chungcheonbuk- do Republic of Korea	Tel: +82 (43) 717 0221 Fax: +82 (43) 717 0210 Mob: +82 (10) 7153 8397	wonjg@kma.go.kr	Korea (proposed CoE)
10	GARBA Adamou	African School of Meteorology and Civil Aviation EAMAC P.O.Box 746 NIAMEY Niger	Mob: +227 9393 5433	garbadamou@yahoo.fr	Niger
11	ALBADI Humaid	Remote Sensing and Studies Section Forecasting and Observing Practices Department P.O. Box 1 PC III SEEB Oman	Tel: +968 9949 8574 Fax: +968 2452 1326 Mob: +968 9949 4842	h.albadi@gmail.com	Oman
12	PODGAYSKIY Eduard	Russian State Hydrometeorology University Malookhtinsky Avenue, 98 ST PETERSBURG 195196 Russian Federation	Tel: +7 (812) 224 16 59 Fax: +7 (812) 444 60 90 Mob: +7 (905) 274 18 56	podgaisky@rshu.ru	Russian Federation
13	CHICHASOV, Grigory	ROSHYDROMET Advanced Training Institute Str. Hydrogorodok, 3A Moscow Area ZHELEZNODOROZHNY 143982 Russian Federation	Tel: +7 (495) 522 0211 Fax: +7 (495) 522 0614 Mob: +7 (917) 584 2917	ipkrector@mecom.ru	Russian Federation
14	JORDAAN Winifred	Meteorological Training South African Weather Services 442 Rigel Avenue Private Bag X097 PRETORIA 0001 South Africa	Tel: +27 (12) 367 6016 Fax: +27 (12) 367 6189 Mob: +27 (082) 265 8539	winifred.jordaan@weathersa.co.za	South-Africa

Sponsoring Agencies						
15	LIU Jian	National Satellite Meteorological Center China Meteorological Administration 10 Zhongguancun Street BEIJING 100081 China	Tel: +86 (10) 6840 6046 Fax: +86 (10) 6217 2724	JianL@nsmc.cma.gov.cn	CMA	
16	GAERTNER Volker, Co-Chair	EUMETSAT Eumetsat-Allee 1 D-64295 DARMSTADT Germany	Tel: +49 (6151) 807 369 Fax: +49 (6151) 807 304 Mob: +49 (171) 207 9097	Volker.gaertner@eumetsat.int	EUMETSAT	
17	UZ Maryam	EUMETSAT Eumetsat-Allee 1 D-64295 DARMSTADT Germany	Tel: +49 (6151) 807 874 Fax: +49 (6151) 807 304 Mob: +49 (151) 592 424 90	Maryam.uz@eumetsat.int	EUMETSAT	
18	SHIMIZU Akihiro	Satellite Program Division Japan Meteorological Agency (JMA) 1-3-4 Otemachi, Chiyoda-ku TOKYO 100-8122 Japan	Tel: +81 (3) 3201 8677 Fax: +81 (3) 3217 1036 Mob: +81 (90) 1763 9838	aki-shimizu@met.kishou.go.jp	JMA	
19	CONNELL Bernadette	Cooperative Institute for Research in the Atmosphere Colorado State University 1375 Campus Delivery FORT COLLINS, Colorado 80523-1375 United States of America	Tel: +1 (970) 491 8446 Fax: +1 (970) 491 8241	Connell@cira.colostate.edu	NOAA/CIRA	
20	MACHADO Luiz	Instituto Nacional de Pesquisas Espaciais Centro de Previsão de Tempo e Estudos Climáticos (CPTEC) Rodovia Presidente Dutra, Km 40 CACHOEIRA PAULISTA/SP - 12630-000 Brazil	Tel: +55 (12) 3945 6655	luiz.machado@cptec.inpe.br mailto:Anthony.mostek@noaa.gov	CPTEC/INPE	x
21	VEECK Luciane	The Open University Foxcombe Hall, Boars Hill OXFORD OX1 5HR United Kingdom	Tel: +44 (2380) 735 433 Mob: +44 (7773) 226 090	luveeck@googlemail.com	VLAB TSO/CIRA	
22	WILSON Jeffrey	Education and Training Office World Meteorological Organization 7 bis, Avenue de la Paix Case Postale 2300 CH-1211 GENEVE 2 Switzerland	Tel: +41 (22) 730 82 94 Fax: +41 (22) 730 81 81	JWilson@wmo.int	WMO/ETR	x

23	RYAN Barbara	WMO Space Programme Office World Meteorological Organization 7 bis, Avenue de la Paix Case Postale 2300 CH-1211 GENEVE 2 Switzerland	Tel: +41 (22) 730 82 85 Fax: +41 (22) 730 80 21 Mob: +41 (79) 757 24 96	BRyan@wmo.int	WMO/SAT	
24	SAKAMOTO Azusa	WMO Space Programme Office World Meteorological Organization 7 bis, Avenue de la Paix Case Postale 2300 CH-1211 GENEVE 2 Switzerland	Tel: +41 (22) 730 87 56 Fax: +41 (22) 730 80 21	asakamoto@wmo.int	WMO/SAT	
25	MEDICO Ana	CONAE		amedico@conae.gov.ar	CONAE	*
<i>Partners</i>						
26	PARRISH, Pat	University Corporation for Atmospheric Research (UCAR) P.O. Box 3000 BOULDER, CO 80307-3000 United States of America	Tel: +1 (303) 497 8368 Fax: +1 (303) 497 8491	pparrish@comet.ucar.edu	COMET	*
27	GUARENTE, Bryan	University Corporation for Atmospheric Research (UCAR) P.O. Box 3000 BOULDER, CO 80307-3000 United States of America	Tel: +1 (303) 497 8368 Fax: +1 (303) 497 8491	guarente@ucar.edu	COMET	*
28	CHIARIELLO, Alessandro	Finnish Meteorological Institute P.O. Box 503 FI-00101 HELSINKI Finland	Tel: +358 (9) 19291 Mob: +358 (50) 3528226	Alessandro.Chiariello@fmi.fi	EUMETCAL	

APPENDIX II

AGENDA Monday, 12 July: VLMG-5 (Day 1)

Time	Sessions	Presenters
08:30-09:00	Registration and information	CMA H. Fan
09:00-09:30	1. Opening Welcome	CMA: Li Mingmei and Gao Xuehao WMO: B. Ryan VLab co-chairs: V. Gaertner, L. Machado (remote participation) K-A. Caesar (new co-chair)
09:30-09:40	2. News/Announcements	L. Veeck
09:40-10:00	Group Photo	
10:00-10:30	3. Presentations by CoE (15 min presentation each)	Costa Rica (remote participation) Barbados
10:30-11:00	Coffee break	
11:00-12:00	Presentations by CoE (15 min each)	Brazil China/Beijing China/Nanjing Niger
12:00-13:00	Lunch break	
13:00-14:00	Presentations by CoE (15 min each)	Oman Russian Federation South Africa
14:00-14:30	4. KMA training activities	J. Won (KMA proposed new CoE)
14:30-14:45	5. Space Programme Update	B. Ryan
14:45-15:00	6. Outcome of ET-SUP	V. Gaertner
15:00-15:15	7. Review of actions (from VLMG- 4, CGMS-37 and web-meetings)	V. Gaertner
15:15-15:45	Coffee break	
15:45-16:15	8. RFG presentation and discussion	B. Connell
16:15 -16:45	9. South African Satrep Online Presentation and discussion	W. Jordaan / A. Chiariello
16:45-17:15	10. Events Week Presentations dust & snow + discussion	V. Gaertner / A. Chiariello
17:15-18:15	Summary of the day	Wrap-up and first recommendations /actions
18:15-19:15	ICE BREAKER	

AGENDA
Tuesday, 13 July: VLMG-5 (Day 2)

Time	Sessions	Presenters
08:30-08:40	News/Announcements	L. Veeck
08:40-09:50	11. Presentations by Supporting Satellite Operators (10 min each)	CMA CONAE (remote participation) EUMETSAT INPE JMA NOAA/NESDIS ROSHYDROMET
09:50-10:05	Presentations by CoE (15 min each)	Australia
10:05-10:35	12. Eumetcal	A. Chiariello
10:35-11:00	Coffee break	
11:00-12:00	13. User preparedness plan for the transition to new satellite generations	V. Gaertner and B. Connell
12:00-13:00	Lunch break	
13:00-13:30	14. RA II Pilot Project	A. Shimizu / J. Won
13:30-14:00	15. WMO Education and Training including status of doc 258 (remote presentation)	J. Wilson (by R. Deslandes)
14:00-14:30	16. Doc 258, chapter 7.9	Roger Deslandes
14:30-15:00	17. WMO Questionnaire	B. Ryan
15:00-15:20	Summary of the day	Wrap-up and first recommendations/actions
15:20-15:30	Organizing the Working Groups	L. Veeck
15:30-16:00	Coffee break	
16:00-18:00	Concurrent Working Group Meetings	(1) VLab Websites (2) Training calendar, reporting template, assessment sheet
19:00-21:00	DINNER	

AGENDA
Wednesday, 14 July: VLMG-5 (Day 3)

Time	Sessions	Presenters
08:30-08:40	News/Announcements	L. Veeck
08:40-09:10	18. COMET	P. Parrish / B. Guarente (remote presentation)
09:10-09:50	Using ESRC as the VLab Resource Library (Roles, procedures, logos, etc)	Group discussion
09:50-10:10	19.1. Outcome of Working Group Meetings: recommendations/actions	WG I
10:10-10:40	Coffee break	
10:40-11:00	19.2. Outcome of Working Group Meetings: recommendations/actions	WG II
11:00-12:00	20. Developing the training plan (Training event weeks, blended courses, etc.)	
12:00-13:00	Lunch break	
13:00-14:00	20. Developing the training plan (Training event weeks, blended courses, etc.) continued	
14:00-15:00	21. Developing a roadmap for widening the scope of the VLab (e.g. oceanography, dust monitoring)	V. Gaertner
15:00-15:30	Coffee break	
15:30-16:30	Review of actions and recommendations	L. Veeck and M. Uz
16:30-17:00	22. Short review of VLab requirements and VLMG Terms of reference	
17:00-17:30	23. Organization of future VLMG meetings	
17:30-17:45	Closure of the Meeting	

**Seminar on Training Matters
15 - 16 July 2010**

**AGENDA
Thursday, 15 July: Seminar on Training Matters (Day 1)**

Time	Sessions	Presenters
08:30-8:45	News/ Announcements	L. Veeck
08:45--12:00	Demonstration of CMATC distance learning environment & Visit to CMA facilities	Channel Weather TV National Met Centre National Met Sat Centre
12:00-13:00	Lunch	
13:00-14:30	Visit to CMA facilities continued	Conference Centre Special Hall of CMA
14:30-15:00	Coffee break	
15:00-16:00	Session on distance-collaborative tools - using Elluminate	A. Chiariello
16:00-17:30	Hands on sessions – Using the VLab Moodle site	L. Veeck / M. Uz

**Seminar on Training Matters
15 - 16 July 2010**

**AGENDA
Friday, 16 July: Seminar on Training Matters (Day 2)**

Time	Sessions	Presenters
08:30-08-40	News/Announcements	L. Veeck
08:40-09:40	Using COMET's ESRC - hands on session	L. Veeck / B. Guarente (remote presentation)
09:40-10:20	Competency Management for Continuous Professional Development	E. Podgayskiy
10:20-10:50	Coffee break	
10:50-12:00	Distance learning as a Continuing Professional Development tool -In the area of Aeronautical Meteorology, where competency and continuous training for operational meteorologist will be necessary. - Interactive discussion sessions for operational meteorologists. - Discussions on regional weather and significant weather events.	K.-A. Caesar
12:00-13:00	Lunch	
13:00-13:40	Distance learning tools for aviation forecasters	R. Deslandes
13:40-15:00	Disaster Preparedness - The use of web-meetings to demonstrate warning and forecasting tools for flooding; hurricane impacts. - Briefing Disaster managers and other stakeholders on impending weather events.	K.-A. Caesar
15:00-15:30	Coffee break	
15:30-15:45	Closure of the seminar	

APPENDIX III

Working Group 1 – WG I

To propose a format for the centralised WMO VLab website/portal and for a common look and feel website for the CoEs (Action 4.11 - VLMG-4).

VLMG proposed to use the EUMETSAT and JMA VLab websites as a starting point.

Working Group I	
1	Luciane Veeck
2	Kathy-Ann Caesar
3	Zhenhui Wang
4	Bernadette Connell
5	Humaid Albadi
6	Winifred Jordaan
7	Eduard Podgayskiy
8	Wang Yong
9	Roger Deslandes
10	Barbara Ryan
11	Azusa Sakamoto

Working Group 2 – WG II

To review the designed training events calendar, draft reporting template for Satellite Operating Agencies and assessment sheet.

Working Group II	
1	Maryam Uz
2	Volker Gaertner
3	Simone Sievert da Costa
4	Jae-Gwang Won
5	Caifang Wang
6	Alessandro Chiariello
7	Gregory Chichasov
8	Zhang Junxia
9	Adamou Garba
10	Fan Hong
11	Akihiro Shimizu

APPENDIX IV

EXPECTATIONS FROM THE CENTRES OF EXCELLENCE, SATELLITE OPERATORS AND WMO/CGMS

Expectations from the Centres of Excellence

Whilst recognizing that each “centre of excellence” has different administrative and financial structures, relationships with the sponsoring satellite operator and links with neighbouring NMHSs, the VLMG recommended the following:

- Nominate a focal point and an alternate within the CoE as the primary contact for all VLab business. This person should have some authority to make decisions regarding the use of the VL within the CoE;
- Run international training events that conform with the VLab guides for organising and running training events;
- Develop and run regular weather discussions (and also possibly discussions covering other GEO SBA topics) for Regional Focus Groups
- Maintain an up to date list of priority training needs for that region:
 - Links to ET-SUP for coordination;
- Develop and maintain proficiency in providing online training using tools such as VISITView;
- Share training resources by submitting the link to the training material to the Environmental Satellite Resource Center (ESRC), following the guidelines for VLab submissions;
- Maintain regular contact with the other members of the VLab Management Group:
 - Co-chair responsibility to coordinate sessions;
- Provide the Co-Chairs (or designated people) a brief annual report at the end of June each year, relevant to the VLab, outlining the training activities for the past 12 months, anticipated training activities for the next 12 months, priority training needs for the region for the next 12 months and their ability to meet the training needs, and other information they feel is relevant to the VLab:
 - Co-chairs responsibilities to report to constituent bodies after receipt of information.

Expectations from the satellite operators

- Nominate a focal point and alternate for VLab business. This person should have some authority to make decisions about VLab matters within the satellite operator and some delegation to assist the CoEs on a case by case basis;
 - Make near real-time data, products and/or selected case study data available for education and training purposes to CoE's in the correct data formats for use with the agreed VLab tool sets;
 - Assist the CoE with the regular weather discussions (and also possibly discussions covering other GEO SBA topics) with the Regional Focus Group;
 - Maintain regular contact with the CoE(s) that the satellite operator is sponsoring, focusing in particular, but not solely on communications and data access issues. As appropriate, provide an alerting role for the CoE(s) on new training resources and material generated within or for the satellite operator;
 - Maintain regular contact with the other VLab satellite operators on data access and format issues and other matters as appropriate;
 - Provide the Co-Chairs (or designated people) a brief annual report at the end of June each year, relevant to the VLab, outlining the activities that the satellite operator has undertaken in the past 12 months for their sponsored CoE(s) and the VLab in general, and plans relevant to the CoE and the VLab for the next 12 months;
-
- Assist the CoE(s) to overcome resource constraints on VLab related matters through advice, championing with other funding bodies and direct assistance as appropriate;
 - Find funding to maintain the continuity of the VLab Technical Support Officer (TSO) position.

Expectations from WMO and CGMS

- Provide long term guidance and advice, and where appropriate, direction regarding global and regional priorities;
- Represent the VLab partners at appropriate policy and resource fora;
- Assist with resource issues.

APPENDIX V

TERMS OF REFERENCE FOR WMO/CGMS VIRTUAL LABORATORY MANAGEMENT GROUP (VLMG)

The Virtual Laboratory Management Group (VLMG) is responsible for the direction and evolution of the VLab. It reports to the VLab Sponsors through the WMO CBS OPAG/IOS/ET-SUP and the CGMS VLab Rapporteur respectively.

The VLMG shall ensure that the following VLab Strategic Goals are met:

- To provide high quality and up-to-date training resources on current and future meteorological and other environmental satellite systems, data, products and applications;
- To foster the use of satellite data and products by conducting classroom and online training sessions as well as regular weather discussions primarily for NMHS staff on a regional basis;
- To enable the “centres of excellence” to facilitate and foster research and the development on the use of satellite data for societal benefit applications at the local level by NMHSs and other organisations through the provision of effective training, resource materials, including links to relevant CGMS science groups.

The VLMG shall provide an effective Management structure for the VLab and shall be comprised of:

- Two Co-chairs, being one satellite operator and one representative from the “centres of excellence”;
- Secretariat from WMO Space Programme Office;
- Representatives from all remaining sponsoring satellite operators and “centres of excellence”;
- VLab Technical Support Officer

Membership may also include:

- Representatives of CGMS science teams as appropriate;
- Other interested parties as deemed appropriate by the Co-Chairs.

One member of the VLMG shall be appointed as Focus Group Coordinator who shall be responsible for:

- Providing help and advice on the establishment of new Regional Focus Groups;
- Providing help and advice on the activities of established Regional Focus Groups;
- Promoting and facilitating interaction between Regional Focus Groups.

The VLMG shall conduct the following activities:

- Work with the WMO Space Programme and CGMS Satellite Operators to ensure that the VLab Strategic Goals are accomplished;
- Formally review the VLab and update the strategy document when necessary;
- Every year produce an Annual Report related to the Strategic Goals and make recommendations for consideration by the sponsors;
- Meet every two years and at least four times a year virtually;
- Recommend VLMG Co-Chairs to the VLab Sponsors when appropriate ⁽¹⁾;
- Review, modify and up-date the VLab Strategy Plan.

(1) Selection of Co-Chairs. The selection of Co-Chairs is the responsibility of CGMS, for the satellite operators, and by the WMO OPAG/IOS/ET-SUP, for the Centres of Excellence.

These bodies will consider proposals for the position of Co-Chairs at their first meeting following the VLMG meeting. Outgoing Co-Chairs will serve in an ex-officio capacity. The Co-Chairs will not come from the same VLab partnership.