

**CGMS VIRTUAL LABORATORY ACTIVITY  
&  
PLANS FOR A HIGH PROFILE TRAINING EVENT**

*(Submitted by WMO)*

---

**Summary and purpose of document**

To inform CGMS Members on the status of activities within the CGMS Virtual Laboratory for Training in Satellite Meteorology and Implementation Planning for a High Profile Training Event to occur in October 2006. Additionally the session will be advised of the growth of the VL through the formation of additional space operator sponsors and new centres of excellence.

---

**ACTION PROPOSED**

- (1) CGMS Members to note the report and make comments, as appropriate.
- (2) CGMS Members to endorse and support specific recommendations for the High Profile Training Event, in particular the requests for assistance in the development and translation of the core lectures, and implementation of the foundation VISITview server software as detailed in paragraph 15.
- (3) CGMS to continue support of the VL and its structure and goals, as was confirmed in CGMS-XXXII.
- (4) Rename the Virtual laboratory Focus Group the Virtual Laboratory Management Group.
- (5) CGMS to confirm new centres of excellence.

- Appendices:**
- A. Survey on the use of the Electronic Notebook by RMTTC Costa Rica and Participation in WMO's Virtual Lab. International Weather Discussions
  - B. Project Development Plan for High Profile Training Event
-

## DISCUSSION

### Background

#### ***CGMS-XXVIII***

1. CGMS-XXVIII placed ACTION 28.14 on WMO and the CGMS Secretariat to initiate the establishment of a focus group on satellite data utilization and training within the Virtual Laboratory Framework that reported back to CGMS-XXIX on its findings and need for future activities in this area.

#### ***CGMS-XXIX***

2. CGMS-XXIX reviewed and confirmed the Terms of Reference, proposed structure and goals for the CGMS Virtual Laboratory Focus Group.

3. The Virtual Laboratory for Satellite Data Utilization was formally adopted by CGMS-XXIX, with continued reporting through the Virtual Laboratory Focus Group.

#### ***CGMS-XXX***

4. CGMS-XXX noted that a number of important activities and milestones that were agreed by the VL Focus Group were being addressed and met.

#### ***WMO Cg-XIV***

5. WMO Cg-XIV expressed its pleasure with the now established Virtual Laboratory for Education and Training in Satellite Meteorology. The Virtual Library had already made a tremendous impact throughout WMO Regions through its six "centres of excellence". Congress was pleased to see the integration of the new R&D constellation into education and training activities.

#### ***CGMS-XXXI***

6. CGMS-XXXI was informed on progress within the VL since CGMS-XXX. Important milestones were being met: all centres were utilizing the VL; servers were in place at all sponsor centres and some centres of excellence; resource libraries were available on-line; and training tools such as VISITView and SATAID were available.

#### ***CGMS-XXXII***

7. CGMS-XXXII noted that the VL was on track with its implementation plan and in several cases had surpassed expectations. CGMS Members endorsed and supported the specific recommendations of the second VL Focus Group Meeting paying particular attention to recommendations within sections that addressed Servers; Tools; Virtual Resource Library; Connectivity; Future Training Event Guidelines; Electronic Workbook; Major Training Event; and endorsed the plans for a third session of the VL Focus Group. CGMS-XXXII noted with particular interest the formation of a Caribbean Focus Group to perpetuate and build a new and stronger dialogue amongst trainers and forecasters in the region, another first for the VL.

8. CGMS-XXXII confirmed and noted the importance of the roles of the VL partners and enthusiastically supported the Three Year VL Goal of staging a Global High-Profile VL Training Event. CGMS-XXXIII requested further information concerning the electronic notebook concept once it had been tested.

**VL Partners at September 2005**

9. The table below summarizes the current VL Partners, the primary training language and the notional WMO regions they serve. At this stage only operational satellite operators are co-sponsoring a Centre of Excellence, the two research operators ESA and NASA assist through the provision of lecturers and resource support.

<b>Satellite Operator</b>	<b>Centre of Excellence</b>	<b>Primary language</b>	<b>WMO Region</b>
EUMETSAT	Niamey (Niger) Nairobi (Kenya)	French English	RA I RA I
EUMETSAT and IMD	Oman	Arabic	RA II
NOAA NESDIS	CIMH (Barbados) UCR (Costa Rica)	English Spanish	RA IV RAIII & RA IV
CMA	Nanjing (China)	Chinese & English	RA II & RA V
JMA	BMTC (Australia)	English	RA V
ESA			
NASA			

**VL Status and activities**

10. The VL is a healthy active community. Since the official launch of the VL in May 2001 the activities can be separated into:

- developing co-operation and understanding between the VL partners;
- exchanging resources and tools between partners via the Virtual Resource Libraries;
- development of new resources and tools;
- developing and maintaining websites and online resource material;
- contributing to training events run by other partners;
- providing face to face training events;
- providing online sessions.

11. The first three items are essentially capacity building of the trainers and the training centres, whilst the latter four are delivering training to staff from WMO Members.

12. There are two activities that are of particular interest to CGMS-XXXIII, the first is the success of the regional focus groups that developed out of the December 2003 Regional Training Seminar in Barbados. Since approximately March 2004 this group of trainers and seminar participants from Central and South America have been meeting online on a notional three weekly basis. The sessions are "attended" by 8 to 18 participants each time and last for 45 minutes to an hour and 15 minutes. The sessions are based around the near real-time VISITview image server at CIRA and are lead by either some one from the US, RMTC Costa Rica or RMTC Barbados. The sessions are usually bilingual (English and Spanish). These sessions have consolidated and extended the training from the Barbados and March 2005 Costa Rica seminars, helped people examine current real-time weather situations and helped build a community of trainers across this large region. The power of the Virtual Laboratory Focus Groups was demonstrated recently when RA IV participants called for several extraordinary sessions to discuss the formation and movement of what became Hurricane Wilma. The aim of the regional focus groups is training, but

it is clear from this example that the WMO Members in the regional focus were able to benefit from the expertise, networking and capabilities of the training infrastructure to assist them in making operational assessments.

13. The second activity was the first trial of the VL Electronic Notebook computers. At the second VLFG meeting the concept of an electronic notebook was discussed. The idea was that the notebook (a laptop computer) with all of the seminar tools, lectures and workshops would be provided to each participant country to allow the participants to take home the 20Gb plus of material and use the platform to consolidate their own knowledge and provide training for their fellow staff members, as well as join in the online VL events. Through a funding grant from NOAA, CIRA was able to provide electronic notebooks and the VRL content for use by participants of the Regional Seminar in Satellite Meteorology in Costa Rica in February 2005. During the course the overall impact was very good. Electronic notebooks were provided to the VL trainees for their use during the training course and for their subsequent use in training, technology transfer and communication within the newly formed Costa Rica Training VL focus group upon their return to their native countries. All training materials, tools and presentations delivered during the training event were placed onto the electronic notebooks, along with a number of stand alone tutorials as well as Internet links to product and digital satellite data. It is envisioned that in the future such electronic notebooks will be the primary tool used during VL training events and will return with the participant to his/her country for further education and training activities. As requested by CGMS XXXII, the WMO Space Programme is pleased to provide CGMS with the outcomes of a recent survey of VL electronic notebook users. The survey (Appendix A) follows the Costa Rica training event and was prepared by Dr Vilma Castro from the University of Costa Rica and revealed the following:

- (1) The electronic notebook has been a strategic tool in the participation of countries in the VL International Weather Discussions by eliminating one of the most important handicaps: the availability of a computer with appropriate software for the sessions. Also, its portability helped overcome other problems such as limited internet access, by moving it to a place with better connectivity, or participant's attendance during travel;
- (2) The portability of the electronic notebook facilitates demonstrations on its capabilities out of the office. Mr Luis García from El Salvador participated in the July VISITview session while attending a meeting in Panama and encouraged them to start participating in the sessions. Mr Oscar Rodríguez in Paraguay used the notebook to train observers in Ciudad del Este, a city 300 km east of Asunción. In Costa Rica, the notebook has been taken to the airports and the Emergency Commission to show forecasters how to use Visit for weather briefings;
- (3) The survey above also shows a widespread use of VISITview, training tutorials, web addresses, Power Point presentations, texts, case studies. Apart from VisitView, there is no evidence that software such as MclDas (except for El Salvador and Costa Rica), Hydra or Sataid (except for Bolivia) had been widely used.

14. During the months following the Costa Rica training event electronic notebooks were provided to the RMTCs at Barbados, Niamey and Nairobi, and the sponsoring agency NSMC. Copies of the electronic notebook contents were also provided to other VL participants: EUMETSAT, the WMO Space Programme and the ABoM Training Centre (BMTc). In addition, the CIRA VL web site now mirrors the electronic notebook contents. It is anticipated that at least some of the participants in the APSATS training course (Melbourne, Australia, October 2006) will also be able to take VL notebooks back to their Member countries, and that for the global High Profile Training Event electronic notebooks, portable hard drives or web access to contents will be made available.

15. EUMETSAT has also been very active with its two formal centres of excellence (Niamey and Nairobi), as well as a lot of training cooperation with the South African Weather Service and recently the decision to co-sponsor the Centre of Excellence in Oman. The material on the

EUMETSAT VRL has recently been updated and the VLFG partners will review the content to ensure all of the metadata is present and correct.

16. In conjunction with the Japan Meteorological Agency (JMA) the Bureau of Meteorology (Australia) has been operating a near real-time data server for SATAID for nearly two years. At the present time it is possible to access near real-time data for MTSAT 1R and FY2C. In conjunction with BMTC and JMA the RMTC at Costa Rica is also investigating whether they can run a SATAID data server there for the GOES E and GOES W satellites.

### ***High Profile Training Event***

17. The VLFG Co-chairs and selected members met 13-14 October 2005 to finalize plans for the global or High Profile Training Event (HPTE) to be held in conjunction with the APSATS workshop in Melbourne and Regional Training Seminar in Nanjing in October 2006. This event was initially proposed at the second VLFG meeting and was approved at CGMS-XXXII. To reduce confusion between the naming of the group managing the long-term direction of the Virtual Laboratory (the VLFG) and the groups formed from each of the training events to participate in the regular online weather discussions (regional focus groups), it is proposed to rename the VLFG to VLMG (the Virtual Laboratory Management Group). The proposed rename better represents the function of the group and removes the ambiguity with the online weather discussion group.

18. Conceptually the HPTE will work on three levels:

- providing a focus for a number of face to face training events around the globe;
- Linking the face to face events for some sessions (global image discussion and key presentation(s));
- providing a mix of face to face and online training with the NMHSs in the area of each Centre of Excellence.

19. The HPTE will require some specific actions by the VL Satellite Operator Sponsors: participation in the development of the core lectures; participation in the translation of the core lectures into the appropriate language(s) for the partnership; explore the options for additional online sessions during the HPTE; and, take a leading role in the implementation of the VISITview server software on an appropriate web server for use by the partnership during and after HPTE. In addition, it is requested that EUMETSAT schedule one or more of its regular African training events during the HPTE period, and coordinate the involvement of EUMETSAT members in the HPTE. R&D satellite operators are requested to provide assistance with special lectures and associated training resources for the classroom events and to present extra lectures during the online component of the HPTE. The full project development plan for the HPTE is presented in Appendix B.

20. The HPTE aims to not only involve the VL partners but also the three science groups (IWWW, ITWG and IPWG) and other interested parties. The IPWG workshop will be running in Melbourne at the same time as the APSATS workshop and it is anticipated that there will be some cooperation events.

### ***Proposal for additional Centres of Excellence***

21. The WMO OPAG-IOS Expert Team on Satellite Utilization and Products (ET-SUP) at its first session, 17-21 October 2005, examined a formal proposal from the Permanent Representative of Argentina to WMO for a WMO/CGMS Virtual Laboratory Centre of Excellence to be created in Argentina, based upon the RMTC in Buenos Aires (University of Buenos Aires and the NMS training institution). This proposal was consistent with one of the outcomes of a High-level RA III Meeting for GOES Data Users on 1 June 2005 in which Permanent Representatives of RA III had agreed to establish such a centre. The proposal outlined the capabilities of the proposed CoE and noted the offer of sponsorship by the Argentine Space Agency (CONAE). ET-SUP-1 meeting was

also advised that the WMO Space Programme had received oral confirmation from the Assistant Administrator of NOAA/NESDIS of their willingness to co-sponsor the proposed centre. ET-SUP warmly welcomed the offer from the Permanent Representative of Argentina noting that the proposal met the selection criteria outlined for the creation of a new Centre of Excellence and, subject to receipt of the partners agreements to the “expectations” of VL partners and requested the WMO Space Programme to advise CGMS of the proposal and its, in principle support, for it.

22. ET-SUP-1 meeting also noted the early development for a proposal for a Centre of Excellence in the Russian Federation. ET-SUP-1 was also very pleased to note the strong interest shown by INPE/CPTEC to lead the formation of a partnership within Brazil, aimed at proposing a VL Centre of Excellence to serve Portuguese-speaking WMO Members. The formation of VL Centres of Excellence in Argentina and the Russian Federation would cover all WMO Regions and all WMO languages. The additional formation of a VL Centre of Excellence in Brazil would cover all WMO Working Languages as well as providing excellent support for training activities across the whole of Central and South America.

**CGMS-XXXIII/WMO WP-17, APPENDIX A**

**Survey on the use of the Electronic Notebook by RMTTC Costa Rica – 12 September 2005**

	<b>Peru (Clara Oria)</b>	<b>Paraguay (Oscar Rodríguez)</b>	<b>Ecuador (Homero Jacome)</b>	<b>Chile (Juan Quintana)</b>
Have you done training or presentations with the Weather Notebook?	Yes, about WMO's Space Programme activities, GOES/ POES, MODIS images, principles of remote sensing, programs and tools, applications of VISITVIEW, HYDRA,	Yes, but I have not used it to its full potential.	Reports by INAMHI on adverse situations: El Niño, volcanic ash (Reventador), climatic conditions over the Río Paute watershed, etc.	Yes, only informative presentations
What material did you use?	MCIDAS, case studies presented by participants, demonstrations on the use of the Weather Notebook	Mainly satellite imagery interpretation and detection of frontal systems.	Web addresses, e.g. for the analysis and publication of climatological conditions of the country, based on satellite imagery and products from NOAA.	Power-point and other presentations from the web, the book on satellite meteorology by Paul Menzel
Who received the training or the presentations?	About 60 people in the Service, some have used material to create presentations and to extend the reach of a training course to 4 offices in remote places using visit.	A colleague going to a training in Colombia, more than 35 in an observer's course in Ciudad del Este. Soon: a demo in a Radar at INAC	General public	Meteorology students at Valparaíso University: information about meteorological satellites
What material have you found more interesting or useful?	All of it. Personally I like the book by Dr Menzel, as well as the tutorials in the Virtual Library	Due to our infrastructure: satellite imagery interpretation using RAMSDIS	To obtain satellite images for the 24 and 48 hour forecast and to observe what is going on over the country and in other regions of the continent	The material provided by Dr. Paul Menzel and Dr. Jim Purdom
Have you required material not included in the Weather Notebook?	No, with the web addresses provided it is possible to get more information than it is possible to read	Yes, due to the requirements of the course in which I acted as instructor		Other web addresses
Without the Notebook, would you have been able to participate in the international weather discussions?	It would have been very difficult, it makes me independent on the availability of a computer, and it can be taken to the audience wherever it is.	It would have been very difficult, it is not always possible to get an appropriate machine		No, the PC in my office is inadequate
Has the responsibility of the Weather Notebook produced any kind of conflict to you?	No, it is always available to anybody who needs it, I only take care of its administration and care.	No, though I've had to face pressure for it to be used for purposes other than intended by the satellite virtual lab.	Yes, I've had to face strong pressure for it to be used for purposes other than intended by the satellite virtual lab.	No, on the contrary, I like the subject of meteorological satellites and I would like to continue working on it.

	<b>El Salvador (Luis García)</b>	<b>Colombia (Ruth Mayorga)</b>	<b>Venezuela (Alex Quintero)</b>	<b>Costa Rica (Evelyn Quirós)</b>
Have you done training or presentations with the Weather Notebook?	Yes, training and presentations	Yes, on 7 occasions, on the Virtual Lab and the Notebook resource, on applications, products and new technology on satellite imagery	No, I have not had the opportunity to do it.	Yes, in the international weather discussions, Visit demos, to explain the forecast process and the resources in the Notebook
What material did you use?	Applications of the software VISITVIEW, demonstrations on the use of the Weather Notebook, satellite imagery interpretation.	Power point presentations, tutorials, texts, internet addresses, case studies (Barbados, El Salvador)	Tutorials, Ppt presentations related to convection and MCCs	Power point presentations, tutorials, texts, internet addresses, case studies, applications of the software VISITVIEW, satellite imagery interpretation.
Who received the training or the presentations?	Colleagues at SNET.	16 people at IDEAM, on the resources of the Notebook, to refresh the use of the tephigram, to develop a synoptic climatology.		Personnel at IMN (headquarters and two airports), Emergency Commission, UCR students, hydrology at ICE, rice and palm oil farms
What material have you found more interesting or useful?	The case studies, COMET's modules, the tutorials, the software VISITview, the web addresses, Mclidas software.	Paul Menzel' s book, the case studies, the tutorials, the software VisitView, the tephigram applications.	Jim Purdom's material on convection, the software VisitView.	Case studies, tutorials, VisitView y Mclidas software, web addresses.
Have you required material not included in the Weather Notebook?				
Without the Notebook, would you have been able to participate in the international weather discussions?	It would have been very difficult, it allows me to participate when I am away from the office and to make demos, e.g. involvement of Panama	It would have been very difficult	Yes.	It would have been very difficult, to participate it has been necessary to move to a location with appropriate internet access
Has the responsibility of the Weather Notebook produced any kind of conflict to you?	No, but I suggest that the letter of commitment indicating my responsibility should be renewed.	No.	No.	No.



	<b>Dominican Rep. (Caridad P.)</b>	<b>Honduras (J.Gomez)</b>	<b>Bolivia (E. Peñarrieta)</b>	<b>Argentina (R. Valenti)</b>
Have you done training or presentations with the Weather Notebook?	Yes, training and presentations	Yes, training and presentations.	Yes, training and presentations on WMO's Space Program, virtual resource library, the software VISITview, Hydra, MclDas & Sataid	Yes, training and presentations
What material did you use?	Definition of meteorological satellites, participant's case studies (Katchan, Guirola), Bernie's presentations.	COMET and EUROMET modules on Forecast Process	Multispectral analysis and hydra, Forecast Process modules, ATOVS, fire detection	Info. on meteorological satellites & soundings, MODIS products, fire detection, training modules
Who received the training or the presentations?	Forecasters in charge of training at the school of meteorology, Climatology Dept. personnel	Training courses for observers & forecasters, 4 conferences at Univ. of Honduras, 1 to UNDP, satellite course Cartagena	Climate and forecast personnel at SENAMHI, satellite course in Cartagena	Students at the RMTC, personnel at CONAE and the Met. Service, self instruction of personnel
What material have you found more interesting or useful?	Case studies including COMET modules, images from different channels, identification of weather situations and clouds.	Forecast process, hurricane topics	Multispectral analysis, fire detection and Sataid, though I couldn't use it operationally	The notebook as a training tool, with an easily available and adaptable material for different course at the RMTC
Have you required material not included in the Weather Notebook?	No	Yes, particularly for the observers training course	Yes	
Without the Notebook, would you have been able to participate in the international weather discussions?	No. I had to go to an internet café with the notebook to be able to participate.	No, we have very few computers available at the met. Service, most of them are very old.	No, all computers at the forecast unit are busy all the time.	
Has the responsibility of the Weather Notebook produced any kind of conflict to you?	No	Did not answer	Yes, at the beginning.	No.

**Participation in WMO's Virtual Lab. International Weather Discussions**

	Apr 21	Apr 28	May-17	May-18	Jun-21	Jun-22	Jul-19	Jul-20	Aug 23	Aug 24
Countries with electronic notebooks										
Argentina	1	1	1	1		1	1	1		1
Barbados RMTTC	3				2		1		3	
Bolivia				1		1				1
Chile		1		1		1		1		1
Colombia	17	1	1		1		1		3	2
Costa Rica	4	3	4	6	6	2	6	3	6	8
Dom. Republic							1		2	1
Ecuador		1	1		1		1		1	
El Salvador	5	3	3		2		2		3	
Honduras	1	1			1	1	1	1	1	1
Neth. Antilles		1				1				
Paraguay		1						1	1	1
Peru	1	1	2		1	1	1		8	1
Venezuela	1	1		1				1		1
Countries without electronic notebooks										
Univ. Buenos Aires							3	3	4	1
Trinidad	1									
Jamaica	1		2				1		2	
Panama									4	2
VL Partners										
CIMSS			1		1		1			
CIRA	1	1	1	1	1	1	1	1	1	1
COMET	1		1		1		1		1	
NESDIS/SAP					1		1		1	
Tropical Desk	2		3		5	1	2	1	2	1
Total	39	16	20	11	23	10	25	13	47	23

VISIT sessions are proving to be a very powerful training tool. People learn how to use new products in real time situations. Appropriate guidance as provided by Mike Davison (Tropical Desk) is of utmost importance, as well as explanations in the use of products as done by Sheldon Kusselsson (NESDIS/SAP) in a couple of occasions. Participant's attitude toward the sessions is changing, in their jobs they know this is an opportunity to discuss intriguing weather situations.

As shown by the survey above, the Weather Notebook has been a strategic tool in the participation of countries in the VL International Weather Discussions by eliminating one of the most important handicaps: the availability of a computer with appropriate software for the sessions. Also, its portability helped overcome other problems such as limited internet access, by moving it to a place with better connectivity, or participant's attendance during travel.

The portability of the Weather Notebook facilitates demonstrations on its capabilities out of the office. Mr Luis García from El Salvador participated in the July Visit session while attending a meeting in Panama and encouraged them to start participating in the sessions. Mr Oscar Rodríguez in Paraguay used the notebook to train observers in Ciudad del Este, a city 300 km east

of Asunción. In Costa Rica, the notebook has been taken to the airports and the Emergency Commission to show forecasters how to use Visit for weather briefings.

The survey above also shows a widespread use of training tutorials, web addresses, Power Point presentations, texts, case studies. Apart from VisitView, there is no evidence that software such as MclDas (except for El Salvador and Costa Rica), Hydra or Sataid has been used.

**PROJECT DEVELOPMENT PLAN FOR HIGH PROFILE TRAINING EVENT**

**WMO / CGMS  
Virtual Laboratory  
High Profile Training Event  
Project Development Plan**

Contents

Executive Summary .....	2
Description .....	3
Review of the original proposal .....	3
Goals of the HPTE .....	3
Objectives of the HPTE .....	4
Pre-event objectives for the HPTE .....	4
Event Objectives for the HPTE.....	4
Anticipated outcomes for the HPTE .....	4
Classroom and Online Presentation Content .....	5
Parties interested in the HPTE .....	5
Management Arrangements .....	6
Key Milestones .....	6
Task analysis.....	6
Risk Evaluation.....	7
Annex A – Proposal paper from second Virtual Laboratory Focus Group Meeting, Barbados, December 2003.....	8
Annex B - Risk management for the HPTE.....	10
Annex C – Key Milestones for the HPTE .....	11

### **Executive Summary**

The High Profile Training Event (HPTE) is a major milestone in the evolution of the WMO / CGMS Virtual Laboratory for Satellite Meteorology. It will provide a unique education and training opportunity to WMO Members through the presentation of a series of interactive, online, presentations in the period 16 to 27 October 2006.

The HPTE will provide training on three different levels in this period:

- Classroom training for at least 50 people in RA II and RA V through the regular WMO Regional Training Seminars in Nanjing, China, and Melbourne, Australia.
- Interactive online lectures to WMO Members in each Region through the local WMO Centre of Excellence (Niger, Oman, Kenya, Barbados, Costa Rica, China and Australia)
- At least one inter regional image and product discussion between WMO Members and the VL Partners in those regions.

Additionally, the HPTE provides the impetus for the formation of regional focus groups of WMO Members (along the lines of the very successful focus groups in RA III and RA IV) to participate in ongoing online training and, near real time image and product discussions, at regular intervals after the event, from each of the Centres of Excellence.

It is anticipated that the successful running of the HPTE will lead to further co-ordinated online VL training events and will point the way forward for the provision of training for other WMO Programmes, and initiatives such as GEOSS and JCOMM.

This document outlines the Project Development Plan developed by the Virtual Laboratory Management Group to guide the successful planning and running of this event. The event is rated as a low risk event provided due care is taken to minimise the risks involved with the complex co-ordination, co-operation and technical issues.

## **DESCRIPTION**

The second meeting of the Virtual Laboratory Management Group (VLMG)<sup>1</sup> in Barbados in December 2003 proposed that the VLMG organise and run a global high profile VL training event in a 2 to 3 year time frame (see Annex A).

Conceptually the HPTE is providing learning opportunities for WMO Members at three different levels

- A class room level;
- A regional level utilising tools such as VISITview and internet audio where the hub is based around a CoE and / or one of the satellite partners;
- An inter regional level whereby at least two or more CoE / Sat Ops collaborate via the internet for either shared lectures or image discussions.

## **Review of the original proposal**

The original proposal for the HPTE was based on the premise that VL notebooks would be provided to each WMO Member prior to the training event. Additionally, the Costa Rica experience (Regional Training Seminar March 2005) with the notebooks indicates that the notebook users benefit strongly from having direct instruction on the applications and use of the machines. Feedback obtained from a recent survey on the use of the notebooks by Dr Vilma Castro from UCR indicates that it is much better to have the notebook directly provided to a person who is committed to using it as it is intended, rather than sent anonymously to the NMHS.

Despite concerted effort by the Co-Chairs and the Space Programme it seems unlikely that we will be able to achieve the goal of providing electronic notebooks for all participants at this time. Rather than using electronic notebooks EUMETSAT plans to provide RA I Members with a portable hard-drive that contains the contents of the notebook. Other Sponsors are considering their options. The provision of electronic notebook functionality to all WMO Members still remains a goal but likely not be fully implemented for this event.

The original proposal outlined a series of benefits associated with running the event. This document further expands on those benefits and outlines the purpose, objectives and the range of anticipated outcomes.

The premise of holding a high profile global training event remains sound and well worth undertaking. It will be open to all WMO Members.

## **Goals of the HPTE**

The purpose of the HPTE is to support the training component of the WMO Strategy to Improve the Utilisation of Satellite Data and Products by WMO Members. The HPTE is consistent with, and a logical extension, of the WMO Space Programme objectives:

- Open to all WMO Members, with maximum participation as technology allows;
- Accommodate for language, culture and technological capacity of the wide range of WMO Members;
- Meet the specific objectives of the HPTE as outlined below;
- Further the effectiveness of the VL as a training tool for use by WMO Members;
- Establish a paradigm for future training activities by GEOSS, JCOMM, CEOS and other entities as applicable.

---

<sup>1</sup> The Virtual Laboratory Focus Group (VLFV) was renamed to VLMG, Virtual Laboratory Management Group, in October 2005 to reduce confusion with the regional Focus Groups

## **Objectives of the HPTE**

### ***Pre-event objectives for the HPTE***

- Well publicized through appropriate media circulars and Press Releases;
- Clearly indicate technical and other requirements in order to allow WMO Members to prepare and organize their staff;
- Testing all aspects of the HPTE, coordinated by the VLMG, and conduct sufficient test events to allow WMO Members the opportunity to test their capacity to participate and organize their staff;
- Starts ongoing online training to complement the continuing regional workshops focused on the trainers.

### ***Event Objectives for the HPTE***

- Utilize the full VL through all Centres of Excellence and their sponsor(s):
  - through testing the ability of the VLMG to plan, implement and deliver a globally co-ordinated series of training events. These events will occur over a period of several days. The successful completion of the initial HPTE will lead to further events that exercise the full resources of the VL, particularly the VL Notebook functionality;
  - by providing a focus for VLMG members to develop new learning resources and review existing ones relevant to their local and regional communities;
  - by providing a focus for VLMG members to engage with their regional communities in the delivery of face to face and online learning opportunities;
- To inform WMO Members of the current status and future plans for the space-based component of the Global Observing System:
  - with all WMO Members having the opportunity to partake in the HPTE and the lead up events.
- To update WMO Members knowledge of the potential applications and use of environmental data from the operational and research and development (R&D) satellites:
  - through the provision of a series of coordinated lectures and discussions covering;
  - Satellite capabilities (R&D and operational) and use of the Virtual Resource Library;
  - Spectral bands and their applications;
  - From digital data to satellite data and products;
  - Severe Convection and rainfall, as well as other topical areas.

### **Anticipated outcomes for the HPTE**

- VL capacity building:
  - Increased awareness and use of the VL;
  - Increased involvement in the VLMG by existing members and further proposals for Centres of Excellence (CoEs) and satellite partnerships;
  - New regional focus groups instigated;
  - Increased activity in the VL from the science groups (IPWG, ITWG, IWWW);
  - Increased Member participation in regional focus groups.
- Improvements in Education and Training options

- Increased demand and use of collaborative online training sessions;
- Provide practical experience in planning, implementing and delivering online training events for WMO Members as well as other groups such as GEOSS, JCOMM and CEOS.
- Improved utilisation of satellite data and products
  - Improvements in the participants use of satellite data and products
  - Improvements in the WMO Members knowledge of the use and application of environmental satellite data and products from R&D and operational satellites

### Classroom and Online Presentation Content

The **classroom portion** of HPTE will build on lessons learnt from previous seminars and incorporate and expand on the VRL material.

The **online component** will consist of four core lectures with the option for additional regional presentations. To assist WMO Members with access to the online material each presentation will be repeated the following day. This allows people who could not participate in the first presentation to partake in the repeat presentation and thus increases the number of people who benefit from the HPTE. Each lecture should run for 60 to 90 minutes depending on how much interaction there is between the online participants and the presenter. The four core lectures to be presented in each region will be developed by teams of experts (translated into English, French, Spanish, Chinese and Arabic), complete with speakers notes and support papers and then converted to VISITview format for distribution to participants and presenters. Trial presentations with the registered participants will allow presenters and participants to practise their VISITview skills and build confidence in interacting in an online world. The four lectures selected for the HPTE are:

- Lecture A: The WMO Space Programme, and satellite capabilities (R&D and operational) and use of the Virtual Resource Library;
- Lecture B: Spectral bands and their applications;
- Lecture C: From digital data to products;
- Lecture D: Severe Convection and rainfall.

**Table 1**  
**HPTE Core lecture timetable (additional material may also be delivered from one or more CoE)**

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>Week 1</b> <b>16 Oct 2006</b>		<b>Lecture A</b>	<b>Lecture A (repeat)</b>	<b>Lecture B</b>	<b>Lecture B (repeat)</b>
<b>Week 2</b> <b>23 Oct 2006</b>	<b>Lecture C</b>	<b>Lecture C (repeat)</b>	<b>Inter regional near real time image and products discussion</b>	<b>Lecture D</b>	<b>Lecture D (repeat)</b>

### Parties interested in the HPTE

The following groups were identified as participants in the HPTE:

#### Participants

Meteorologists and scientists from all NMHSs.



### **Organizers**

VLMG partners (CoE and satellite operators), IPWG, ITWG, IWWW.

### **Sponsors**

CGMS, WMO.

### **Management Arrangements**

The day to day co-ordination for the HPTE will be done through the WMO Space Program. The direction will come from the Co-Chairs of the VLMG with guidance from the rest of the VLMG, via email and adhoc face to face opportunities. The WMO Space Program to report to the VLMG on a monthly basis with summary update on the HPTE Website.

### **Key Milestones**

The HPTE can be separated into several sections:

- Publicize HPTE and register participants;
- Prepare classroom activity;
- Develop online materials;
- Formulate regional focus groups;
- Train online participants in VISITview;
- Conduct the HPTE;
- Assess the HPTE.

Further details on the key milestones are shown in Annex C.

### **Task analysis**

An analysis of the tasks required to implement the HPTE identifies the following minimum tasks:

#### **WMO Space Programme:**

- Serve as the focal point for the planning and coordination of the HPTE and follow-up actions;
- Publicize HPTE in a variety of forums;
- Establish HPTE website including ability for people to register for sessions with notification to be sent to appropriate VL partners. Target date for website 5 December 2005 and development of registration system 27 February 2006;
- Notify WMO Members of HPTE and arrange for registration for both classroom and on line portions;
- As customary, fund the Regional Training Seminars in Melbourne (APSATS) and Nanjing classroom events in October 2006.

#### **Satellite Operators (Sponsors):**

- Participate in the development and quality control of the core lecture material, and work with their sponsored CoE(s) to provide translation into the common language of the region by 5 June 2006;
- Together with the CoE(s) explore the possibility of providing some extra sessions (regional online sessions) for their region as well as participating in the regional weather discussions and the follow-up regional focus groups. 6 March 2006.
- Take lead role in ensuring that regional VISITview servers are set for use by the satellite operator / CoE partnership by 20 March 2006.

#### **EUMETSAT:**

- In addition EUMETSAT will be asked to schedule one or more of its annual satellite training workshops in RA I to occur during the HPTE period (or coordinate with an

already ongoing event including the African Users Forum). Action by WMO SP 5 Dec 2006;

- EUMETSAT will coordinate with EUMETRAIN Members (covering parts of RA VI) to participate in the HPTE.

**Research Satellite Operators:**

- Provide special lectures and associated training material to support the classroom training events.
- Through coordination with the appropriate sponsor present lectures during the regional online sessions.

**Centres of Excellence:**

- Participate in the global discussions and take a leading role in the regional online training sessions during the HPTE;
- Establish and support regional focus groups;
- As appropriate, plan, prepare and present classroom training event.

**CGMS:**

- Review the HPTE planning at the CGMS-XXXIII and place actions on Members as appropriate.

**Risk Evaluation**

Annexe B outlines the risks investigated by the planning group and deems the overall risk status as low. The risks will be managed by contingency planning and ongoing monitoring by the WMO Space Programme against the key milestones outlined in Annex C.

## **Annex A**

### **Proposal paper from second Virtual Laboratory Focus Group Meeting, Barbados, December 2003**

#### **A global high-profile VL training event**

A major high level goal – a global high profile VL training event, 2-3 year timeframe with interim events testing the overall concept and its components. All “centres of excellence” and their regional NMHSs, satellite operators, focussed science groups and a globally distributed set of lecturers linked into a common training event. “Roll around the globe with the trainers” to link two or three of the “centres of excellence” at any one time.

#### **Benefits:**

- “Centres of excellence” would all achieve a comparable skill level;
- Leverages E&T events, not just a WMO event, and extra-budgetary resources to maximize the impact;
- The same set of expert lecturers that make presentations to an event at one “centre of excellence” could make the same presentations to all “centres of excellence”;
- This would add the linking of NMHSs with their regional “centre of excellence” into the global event. Training would reach into the NMHSs at the same time as the global event;
- Preparing for the event and the event itself would exercise the VL addressing all proposed ways to increase VL effectiveness as discussed at the second session of the VL FG.

#### **Action item:**

Appoint a focal point (Mr Wilson as VL FG Co-Chair) to coordinate the global high profile VL training event and it was anticipated that the focal point would convene an *ad hoc* working group to assist.

#### **Action item:**

Focal point to identify financial resources required to implement the event.

#### **Action item:**

CGMS VL Rapporteur to inform and seek agreement from CGMS-XXXII of the event and associated need for financial resources.

#### **Action item:**

WMO Space Programme Office to inform the 2004 Consultative Meeting of the event and associated need for financial resources.

#### ***Important areas requiring further elaboration by the focal point.***

- VRL
  - o Case studies and lectures able to be downloaded, as well as found via the search engine;
  - o Sat operators to provide online access to digital data for the standard VL tools (SATAID, RAMSDIS);
  - o Improve search capabilities on the VRL;
  - o Standardise meta data to allow more effective searching;
  - o Provide a brief description of the material on the VRL that is available only on request;

- o Peer review mechanism.
- Institute routine coordination between “centres of excellence” and sat ops (at least 3 monthly) – Co-Chairs;
- Collaborate on series of training related projects (3 monthly for those who can);
- Common VL interface on the web pages (Mr Wilson to email to group);
- “What’s new and FAQ” to be added to the VL websites;
- Sat Operators to install the RAMSDIS-Online type system and tailor to meet their needs and those of the “centres of excellence” (CIRA to provide code);
- Have EUMETSAT investigate and report back on the feasibility of using EUMETCast to disseminate training material (by end of 2004)

**Annex B**  
**Risk management for the HPTE**

	<b>Risk</b>	<b>Likely</b>	<b>Degree of Impact</b>	<b>Estimated risk</b>	<b>Management Strategy</b>	<b>Final risk</b>
	Technical					
1	Audio server fails on the HPTE day	Possible	Severe	High	Develop other options and have suitable accounts etc established and swap procedures	Low
2	VISITview servers fail on HPTE day	Rare	Severe	Medium	Alternative servers	Low
3	Global internet disruption on HPTE	Rare	Severe	Medium	Repeat presentations on alternate schedule	Low
4	NMS not having capability to participate because of effective internet bandwidth	Known regional problems	Severe for those NMSs	Extreme	Try to get rep from NMS to classroom course. EUMETSAT investigate back link on EUMETCAST	Medium
5	NMS not having capability to participate because of lack of suitable and available equipment	Locally, almost certain	Locally severe	Locally extreme	CoE do assessment of the capabilities in their regions and discuss mitigation possibilities with Sponsor	Low
	Human					
6	One or more key presenters unavailable	Possible	Major	Significant	Develop common lectures and have alternate ? understudy lecturers	Low
7	Core material unavailable	Unlikely	Major	Medium	Closely monitor development, options of VRL material	Low
8	Less than 50% of NMS provide training contact names	Possible	Major	Significant	Directly contact PRs through WMO SP and CoEs	Low
9	No WMO Space Program co-ordinator by 1 January 2006	Possible	Major	Significant	Use consultant to assist until filling of WMO SP positions complete	Negligible
	Procedural					
10	Translation not complete in ALL languages	Possible	Minor	Negligible	Partnership issue, will be monitored	Negligible

**Annex C**  
**Key Milestones for the HPTE**

<b>Milestone</b>	<b>Target date</b>	<b>Nominated group</b>
HPTE start	16 October 06	
HPTE end	27 October 06	
<b>HPTE general</b>		
HPTE Website launched at WMO	5 December 05	WMO Space Programme
Monthly reports to VLMG Co-Chairs commence	9 January 06	WMO Space Programme
Participant registration capability added to website	27 February 06	WMO Space Programme
HPTE Publicity commences	6 march 06	WMO Space Programme
WMO Publicize HPTE	ongoing	WMO Space Programme
Initial HPTE report	4 December 06	VLMG Co-Chairs
Online evaluation capability added to website	2 October 06	WMO Space Programme
Complete HPTE assessment report	5 February 07	VLMG Co-Chairs
<b>HPTE classroom events</b>		
EUMETSAT requested to program at least one African seminar to coincide with HPTE	5 December 06	WMO Space Programme
Formal Seminar agreements signed (WMO - BoM, JMA, CMA)	6 March 06	Various
Nominations for APSATS / Nanjing seminars requested from Members	3 April 06	WMO Space Programme
Seminar Participants selected	3 July 06	WMO Space Programme and ETRD
<b>Development of Online materials</b>		
Core presentation development team formed	19 December 05	VLMG Co-Chairs
VL Partners agree on additional presentations for HPTE	6 March 06	VL Partners
Common training material developed	1 May 06	VLMG Co-Chairs
CIRA ftp site available for lodgement of training material	29 May 06	CIRA
Common training material translated	5 June 06	Sponsors
VRL material reviewed	5 June 06	VLMG Co-Chairs / CIRA
Common training material into VISITview format	3 July 06	Sponsors
Additional (regional) training material completed and incorporated into VRL	3 July 06	VL Partners
HPTE and VRL material despatched to participants	31 July 06	Sponsors
<b>Formation of regional focus groups</b>		
NMS ETR contacts sent to CoEs	30 January 06	WMO Space Programme
CoE publicize HPTE in their region	Ongoing	CoEs
VISITview servers established for each VL partnership	20 March 06	Sponsors
Details of first trial sent to registered participants	27 March 06	
Start of monthly online trials	10 April 06	VL Partners
Certificates sent to registered participants upon completion of online evaluation	20 November 06	CoEs