



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

SUMMARY ACTIVITY REPORT

Period: January 2015 to December 2015
VLab Centres of Excellence

SUMMARY OF REPORTS FROM VLab CENTRES OF EXCELLENCE TRAINING ACTIVITIES 2015

1. OUTLINE OF TRAINING EVENTS ORGANISED BY THE VLab IN 2015

The VLab Centres of Excellence (CoEs) and supporting Satellite Operators have recently reported on their training activities for the period January to December 2015. A general outline of regional training activities organized by CoEs is presented below. Full reports can be downloaded from the VLab central website at <http://www.wmo-sat.info/vlab/coe-reports/>

CoEs, using both online and classroom training, offered a total of 111 training events and 37 Regional Focus Group (RFG) sessions during this reporting period. Training was offered in all 6 WMO official languages plus Portuguese and had participants from all WMO Regional Associations. A full list of events organised in 2015 can be seen in **Appendix A**.

Regarding the total number of participants attending VLab training events, the numbers exceeded the 3500 figure. This number excludes the number of participants using the online resources that are accessible via VLab partner websites, such as the recorded lectures available from some VLab CoEs and Satellite Operator websites (e.g. Russian Federation, Brazil, Australia, EUMETSAT, JMA, and CIRA). Additionally, whilst great effort was made to report on the number of people trained in 2015, figures were not available for every event organised.

During 2015, 85 classroom courses were offered, compared to only 26 online. Nevertheless, the average number of participants in online courses is generally higher, making a substantial contribution to the total number of people trained (1056 out of 3653 trained online – not including RFG sessions). This highlights the importance of online training activities as a way to reach larger numbers of personnel to be trained.

Three CoEs continue to offer RFG sessions on a monthly basis (RFG Americas and Caribbean, Australia and South Africa) and one additional group offers sessions on demand (Caribbean Weather discussion). Consistent participation in RFG sessions continued in 2015, reaching around 1000 participants. Besides RFG sessions have been only offered in English and Spanish, participants on these sessions are from all WMO RA.

2. MAIN CHALLENGES

Main challenges and difficulties mentioned by CoEs were:

- Low number of personnel dedicated to training and VLab activities;
- Low budget for training;
- Online learning not fully embraced;
- The evolution of the training calendar has been sporadic;

- Internet issues and technology challenges (tools & firewalls);
- Language - limited number of events organised in languages other than English.
- Time for training has to compete with other staff priorities;
- Geographical location;
- VLab main point of contact assuming more responsibilities, so less time for VLab;
- Training trainers.

3. MAIN SUGGESTIONS

Main suggestions included in the reports were:

- Technical support for development of tutorials and training to use freeware (McIDAS-V, ILWIS, GDAL);
- Clones of the TSO :)
- Sharing of course designs and user readiness programmes;
- Resources for face-to-face proving-ground training events for the next generation of satellites (i.e., GOES-R);
- Sharing training resources such as analysing skills, new technology, and online training system;
- Support or run the international training course to make professional trainers;
- Timely information on next generation satellites.
- Support to CoEs to training events focused on GOES-R and JPSS-1
- Sharing our materials and course designs.
- We can offer trainers in different languages (i.e., English, Spanish and Portuguese);
- Share our COMS observation Level 1 data and event cases if there's request;
- Exchange of trainers or inviting trainers to run the international education and training course;
- Jointly hosting the RFG meetings;
- Expert support to CoE activities.

From CoEs:

- There is a need for training by experts in the use of new satellites to ensure a more efficient use of available resources;
- Financial support for training courses and collaboration of other researchers for the lectures;
- To find out what other CoEs are doing, how they are doing it and mainly the needs that exist in the region;
- Support for evaluation of training impacts;
- Sharing of training resources;
- Run joint events with other CoEs.
- Promote activities of Vlab at the regional level to share events, such as discussions of special situations and climate watch;
- Support RFGs;
- Run joint events with other CoEs;
- Sharing teaching materials;



- Online training expertise;
- Sharing of training resources;
- Collaboration in developing training modules;
- Exchange of trainers.

Appendix A

Training Activities organized by VLab from January to December 2015

Name of training event	Type	Language	CoE involved	Participants	
				Number	WMO RA
Surface Weather Observer	Blended	Spanish	Argentina	82	III
Geomagnetism and Space Climatology	Classroom	Spanish	Argentina	11	III
Radiosone Observer	Blended	Spanish	Argentina	36	III
Surface Weather Observer Self-managed	Online	Spanish	Argentina	242	III
LiDAR Data Interpretation	Classroom	Spanish	Argentina	21	III
Introduction to Environmental Remote Sensing	Classroom	Spanish	Argentina	16	III
Antartic Meteorology	Classroom	Spanish	Argentina	16	III
Volcanic Ash	Online	Spanish	Argentina	80	III and IV
METAR – SPECI	Online	Spanish	Argentina	25	III
Evaluation of Solar Radiation	Classroom	Spanish	Argentina	25	III
Magnetic mapping survey and observation	Classroom	Spanish	Argentina	6	III
Meteorologia Workshop	Classroom	Spanish	Argentina	20	III and IV
Science Week 2015	Event Week	English	Australia	252*	I, II, IV and V
National Himawari-8 Training Campaign Tutorial Sessions	Online	English	Australia	160†	II, III, IV and V
Basic Satellite Meteorology	Classroom	English	Australia	26	V
Advanced Satellite Meteorology	Classroom	English	Australia	26	V
Introduction of regional use of the MM5 and WRF products	Online	English	Barbados	6	IV
CIMH – Continuing Professional Development Course - SIGMETs	Online	English	Barbados	7	IV
CIMH – Continuing Professional Development Course - TAF writing	Online	English	Barbados	7	IV
Preparing for the next generation of satellites	Online	English	EUMETSAT, NOAA, CMA, JMA, KMA, INPE, IMD	234	I, II, III, IV and VI
The 8th International Training Course on the Application of Meteorological Satellite Products	Classroom	Chinese	Beijing	58	II
The application of satellite image in weather forecast	Classroom	Chinese	Beijing	48	II
The Training Course on Basics of Atmospheric Sciences I	Classroom	Chinese	Beijing	40	II
The Training Course on Basics of Atmospheric Sciences II	Classroom	Chinese	Beijing	50	II
The 30th Pre-post training class for initial forecaster	Classroom	Chinese	Beijing	42	II
The 35th Pre-post training class for initial forecaster	Classroom	Chinese	Beijing	38	II
The Training Course for popularization of Meteorological knowledge	Classroom	Chinese	Beijing	34	II
Meteorological Satellite: Image, Products and Applications	Classroom	Portuguese	Brazil	34	I and III
First Training in installing and using meteorological software Gempak, IDV, and McIDAS-V	Classroom	Spanish	Costa Rica	25	III
Second Training in installing and using meteorological software Gempak, IDV, and McIDAS-V	Classroom	Spanish	Costa Rica	25	III
Distance Training in automation and product generation	Online	Spanish	Costa Rica	3	III
Course for the El Salvador International Airport and other personal	Online	Spanish	Costa Rica	8	III and IV
CMAO Curso de Meteorología Aeronáutica para Observadores	Online	Spanish	Costa Rica	10	IV
Aeronautical meteorology for engineers	Classroom	Spanish	Costa Rica	6	IV
MIMOC	Classroom	English	Kenya	7	I
AMTC16	Classroom	English	Kenya	9	I

Name of training event	Type	Language	CoE involved	Participants	
				Number	WMO RA
ADCON AWS-01	Classroom	English	Kenya	4	I
EISAC-XIII-E	Online	English	Kenya	22	I
EISAC-XIII-E	Classroom	English	Kenya	22	I
Instruments Maintenance and Calibration Course (IMCC)	Classroom	English	Kenya	23	I
UK Met. Office/WMO Aviation Seminar	Classroom	English	Kenya	13	I
Climatology and the use of Data base Information system	Classroom	French	Morocco	15	I
QMS for monitoring the aeronautical meteorology production	Online	French	Morocco	15	I
Meteorological briefing	Online	French	Morocco	15	I
Production of a training module within asmet8 project on the "Extreme High Swell Events on the Moroccan Atlantic Coast"	Online	English and French	Morocco	‡	I
Now casting techniques	Online	French	Morocco	15	I
Management training course as part of project for establishment of Communications, Ocean & Meteorological Satellite Data Analysis System in the Philippines	Classroom	English	Republic of Korea	8	V
Satellite data analysis course as part of project for establishment of Communications, Ocean & Meteorological Satellite Data Analysis System in the Philippines (management course)	Classroom	English	Republic of Korea	10	V
International training course on weather forecasting for operational meteorologists	Classroom	English	Republic of Korea	12	I and II
Understanding of Himawari-8/9 data and its effective usage	Classroom	Korean	Republic of Korea	71	II
Understanding of Himawari-8/9 data	Online	Korean	Republic of Korea	132	II
Training Course for Aeronautical Meteorological Observers from Macao, China	Classroom	Chinese	Nanjing	3	II
Training Course on Radar Meteorology for Developing Countries	Classroom	Chinese	Nanjing	26	II
International Training Course on Numerical Weather Prediction	Classroom	Chinese	Nanjing	11	II
Seminar on Climate Change and Climate Information Service for Developing Countries	Classroom	Chinese	Nanjing	34	II
Seminar on Management for Meteorological Officials from the Asia-Pacific Countries	Classroom	Chinese	Nanjing	28	II
International Training Course on Use of Meteorological Instruments	Classroom	English	Nanjing	11	II
Seminar on Meteorological Disaster Management and Weather Information Service for Developing Countries	Classroom	Chinese	Nanjing	27	II
International Training Course on Agrometeorology	Classroom	English	Nanjing	15	II
Applied Meteorology Course for Forecasters from Macao, China	Classroom	Chinese	Nanjing	6	II
Seminar on Meteorological and Earthquake Forecast, Mitigation and Relief for Developing Countries	Classroom	Chinese	Nanjing	27	II
International Training Course on Instrument Maintenance and Calibration	Classroom	English	Nanjing	10	II
Seminar on Disaster Prevention Experiences and Policy for Afghanistan	Classroom	Chinese	Nanjing	29	II
International Training Workshop on Tropical Cyclone Forecasting and Warnings	Classroom	English	Nanjing	34	II
ESAC-XIIIF	Online	French	Niger	14	I

Name of training event	Type	Language	CoE involved	Participants	
				Number	WMO RA
ESAC-XIIIF	Classroom	French	Niger	13	I
Satellite Meteorology course for forecasters	Classroom	French	Niger	20	I
Satellite Application course (online phase)	Online	English Arabic	Oman	20	II
Weather Briefing	Classroom	English Arabic	Oman	25	II
Satellite Application course (classroom phase)	Classroom	English Arabic	Oman	20	II
Advance Marine Meteorology	Classroom	English Arabic	Oman	10	II
Marine Meteorology	Classroom	English Arabic	Oman	14	II
Marine Meteorology	Classroom	English Arabic	Oman	10	II
Marine Meteorology	Classroom	English Arabic	Oman	10	II
Train trainers in McIDAS-V	Classroom	English	Oman	8	II
Marine Meteorology	Classroom	English Arabic	Oman	10	II
EUMETSAT MSG satellite online workshop	Online	English	South Africa	26	I
EUMETSAT MSG satellite workshop	Classroom	English	South Africa	8	I
Satellite Met for BSc Honours (UP)	Classroom	English	South Africa	12	I
Satellite application for SADC Classroom Phase	Classroom	English	EUMETSAT	17	I
Baltic+ Practical use of EUMETSAT data	Classroom	English	EUMETSAT	23	VI
Land SAF Satellite Products on Applications in Agro Meteorology	Classroom	English	EUMETSAT	44	I
Planning training sessions, what information do you need?	Online	English	EUMETSAT	52	All RAs
How do you make training sessions more active?	Online	English	EUMETSAT	53	All RAs
NOMEK 2015	Classroom	English	EUMETSAT	26	VI
International Summer School on Applications with the Newest Multi-spectral Environmental Satellites	Classroom	English	EUMETSAT	21	VI
EUMETSAT- ESSL-Testbed	Classroom	English	EUMETSAT	4	VI
Use of Gridded Satellite Data for Climate Services in Africa	Classroom	English	EUMETSAT	21	I
Satellite data application for hydrometeorology and environmental monitoring	Classroom	English	EUMETSAT	‡	VI
Eumetcal Radar Course	Classroom	English	EUMETSAT	5	VI
Advancing training and education in weather prediction	Classroom	English	EUMETSAT	‡	VI
4th SALGEE: 'MSG Land Surface Applications: Drought and Environmental Response'	Classroom	English	EUMETSAT	7	VI
Forecasting extreme hydrometeorological events	Classroom	English	EUMETSAT	‡	VI
12th Ibero-American workshop on Satellite Meteorology	Classroom	Spanish	EUMETSAT	19	III
NMS's training needs in SE Europe mtng	Classroom	English	EUMETSAT	21	VI
8th European Conference on Severe Storms (ECSS 2015)	Classroom	English	EUMETSAT	5	VI
Webinar on access to RapidScat data	Online	English	EUMETSAT	38	IV
Autumn School on nowcasting based on satellite data	Classroom	English	EUMETSAT	22	VI
MENA health impact of airborne dust	Classroom	English	EUMETSAT	43	I and VI
Use of rapid scan data for monitoring and nowcasting of high impact weather	Classroom	English	EUMETSAT	23	VI
Training Development Workshop for Regional Training Institutions in WMO RA VI	Classroom	English	EUMETSAT	25	VI

Name of training event	Type	Language	CoE involved	Participants	
				Number	WMO RA
Event Week on Precipitation	Online	English	EUMETSAT	‡	VI
WMO/NOAA Train the Trainer (TtT) Workshop on Satellite Data Access, Application, and GEONETCast Americas for WMO RA III/IV members	Classroom	English and Spanish	NOAA	37	III and IV
McIDAS-V training workshop	Classroom	English and Spanish	NOAA	13	IV
Regional Technical Training Workshop on the Emergency Managers Weather Information Network (EMWIN) system (English session)	Classroom	English	NOAA	22	IV
Regional Technical Training Workshop on the Emergency Managers Weather Information Network (EMWIN) system (Spanish session)	Classroom	Spanish	NOAA	10	IV
WMO RA-I Basic Hydrologic Sciences for the African Region	Online	English	NOAA	32	I
KMA-COMET Olympic Forecaster Training Course	Classroom	English	NOAA	12	II
KMA Wx Analysis Course	Classroom	English	NOAA	12	II
'Tropical Desk' Training Workshop on forecasting techniques with emphasis on tropical cyclones and other types of severe weather in Mexico	Classroom	Spanish	NOAA	31	IV
CALMet XI	Classroom	English	NOAA	36	All RAs
Australian Regional Focus Group (12 sessions)	RFG	English	Australia	291	II, IV, V and VI
Caribbean Weather Discussion (2 sessions)	RFG	English	Barbados	13	IV
South African Regional Focus Group (8 sessions)	RFG	English	South Africa	115 [§]	I and VI
Americas and Caribbean Regional Focus Group (12 sessions)	RFG	English and Spanish	Costa Rica and Barbados**	379	III and IV

* Approximate figure calculated with basis on the average participation in the 14 online sessions.

† Approximate figure calculated with basis on the average participation in the 16 online sessions.

‡ No information available.

§ Approximate figure, as groups may attend using one connection.

** Organised by CIRA/NOAA in collaboration with VLab CoEs.