



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

ACTIVITY REPORT

Period: September 2011 to August 2012

Centre of Excellence: **BRAZIL**

GENERAL INFORMATION ABOUT THE CENTRE OF EXCELLENCE (CoE) AND THE DEVELOPMENT OF VLAB TRAINING ACTIVITIES

What were the major achievements of your CoE during this reporting period?

- Increase the number of participants, total and per course.
- Increase the number of courses offered, serving both modalities: online and classroom training.
- Strengthen the links between VLab and other organizations (Universities and other federal Institutions).

What were the main difficulties of your CoE during this reporting period?

- The major difficulty is our CoE does not have a fixed quotation, so our budget depends on the goodwill of teachers or managers. So, we need to discuss different ways to add funding to our CoE.
- Gain greater visibility of Virtual Laboratory to get genuine resources for supporting training activities.
- Instructors have competing activities: research vs. outreach activities.
- Lack of knowledge on IT tools to complement our courses with practical activities and evaluation.

Who provides support in the production of your training materials (e.g. produced by own trainers, support from Satellite Operators, IT staff, University researchers and lecturers, etc)?

Basically the training material is made by our own trainers, which belong to the Satellite Division and Environmental Systems, universities and other institutions.

Is any kind of Learning Management System (e.g. Moodle, Blackboard, etc) used by your CoE to conduce training activities?

Online courses: the transmission is done using the National Education and Research Network tool, called RNP for its abbreviation in Portuguese.

Classroom courses: we have a computer laboratory with capacity for 30 people, 15 personal computers and 2 more computers as backup, data-show; and wireless internet connection.

In both modalities, we use **MOODLE (version 2.1)** to organize the training material, for enrolling process and to facilitate the exchange of ideas, information and material between students through the forums.

Is any kind of Online Conferencing System (e.g. Saba Centra, Blackboard Collaborate, GoToWebinar, etc) used by your CoE to conduce training activities?

Yes, like it was explained before we use the National Education and Research Network to conduce training activities. We have enough bandwidth to serve up to 100 participants per class. RNP uses Adobe Connect as webinar software.

What kind of training is provided to the trainers of your CoE and at what frequency?

At the moment we do not offer training courses to our trainers for improving the use of MOODLE/RNP functionalities. We identify this kind of training like an essential need because is one of our goals to create courses in the “capacity building format”, with better and more educative activities like tests, quiz or practical exercises.

Can you suggest ways for the VLab (including CoEs, Supporting Satellite Agencies, Partner Programmes, WMO Space Programme, VLab Co-chairs and TSO) to provide better support to your CoE?

- Provide advanced course on MOODLE and other e-learning software.
- Provide courses for training our trainers.

Please use the table below to list any training materials you may have developed over this reporting period:

Title of training material	Type of resource	Availability of resource	Submitted to ESRC
Satellite Agrometeorology	PDF	MOODLE DSA	No
NDVI and TSC	PDF	MOODLE DSA	NO
Precipitation and Number of Days without Rain	PDF	MOODLE DSA	NO
SIGMACast Presentation: Agrometeorology Applications	PDF	MOODLE DSA	NO
Introduction to Satellite Meteorology	PDF	MOODLE DSA	NO
UV Index: a scientific approach	PDF	MOODLE DSA	NO
UV Radiation and Health	PDF	MOODLE DSA	NO
UV Radiation and Education	PDF	MOODLE DSA	NO

Introduction to GEONETCast	PDF	MOODLE DSA	NO
Fundamentals of Satellite Meteorology	PDF	MOODLE DSA	NO
Monitoring of Convection and Nowcasting	PDF	MOODLE DSA	NO
Solar and Terrestrial Radiation and Cloud Classification	PDF	MOODLE DSA	NO
UV Radiation and Soudings	PDF	MOODLE DSA	NO
Weather Radar	PDF	MOODLE DSA	NO
Radar: Basic concepts	PDF	MOODLE DSA	NO
Clouds Microphysics Applied to the Use of Weather Radar	PDF	MOODLE DSA	NO
Dual Polarization Radar: Basic Concepts	PDF	MOODLE DSA	NO
Rainbow: Use and development	PDF	MOODLE DSA	NO
Concepts and Use of Weather Radar for Nowcasting	PDF	MOODLE DSA	NO
Visual interpretation of satellite images: application to case studies	PPT	MOODLE DSA	NO
FORTRACC/ Hydroestimator	PDF	MOODLE DSA	NO
Cloud Classification: application to fog and volcanic ash	PDF	MOODLE DSA	NO
Introduction to Hydrology	PDF	MOODLE DSA	NO
Brief description of satellite information: Radiation	PDF	MOODLE DSA	NO
Description of land surface models (LSMs) and its application in data assimilation	PDF	MOODLE DSA	NO



Applications of estimation of precipitation in hydrological modeling	PDF	MOODLE DSA	NO
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Is your CoE working closely together with the CoE's sponsoring Satellite Operator/Agency in VLab training activities? Can you suggest ways to improve this collaboration?

Yes, we are working closely with NOAA and INPE in the GEONETCast Americas Program, for example. One way to improve this collaboration could be providing resources to translate material (i.e. GOES-R) into Spanish and Portuguese to get our users prepared for the new satellite generation.

Please use this space for additional remarks you may wish to make relating to the delivery of training by your CoE.

After analyzing our strengths and weaknesses, Brazil CoE members consider the opportunity to expand their activities leading to the creation of RFG for Portuguese-speaking countries, focusing discussion on the characteristics of tropical meteorology.

We would also like to propose some kind of Event Week.

We are aware of our threats, for example, the fact of not having genuine resources to continue with the activities of the Virtual Lab, but we are willing to find solutions that do not involve the disruption on our activities. For example:

- Interact with INPE management for funding VLab Activities.
- Submit proposals for external funding.
- Cut the number of courses/activities to explore new tool functionalities.

Please complete the table in the next page with information about the training events organised by your CoE, as part of VLab activities, during this reporting period.

Alternatively, you may export the information you have entered in the Online Calendar of Events to Excel and just add the post-event information needed (i.e. number of participants and Country of origin of participants). You can then copy and paste your own table to the last page of this report.

Date	Title	Location	WMO region	Host	Type	Language	Number of trainees	Country of origin of trainees
12/09-13/09	Satellite Meteorology applied to Agriculture	online	III South America	CPTEC/INPE	online	Portuguese	36	Mozambique-Argentine-Brazil
24/10-25/10	Meteorology and Health	online	III South America	CPTEC/INPE	online	Portuguese	19	Argentine-Green Cape- Brazil
24/02	GEONETCast Presentation	online	III South America	CPTEC/INPE	online	Portuguese	10	Brazil
05/03-07/03	Satellite Meteorology	online	III South America	CPTEC/INPE	online	Portuguese	90	Argentine-Paraguay--Green Cape
16/04-18/04	Radar Course	Cachoeira Paulista (SP)	III South America	CPTEC/INPE	classroom	Portuguese	30	Brazil
07/05-09/05	Aviation Satellite Meteorology (Second edition)	online	III South America	CPTEC/INPE	online	Portuguese	21	Green Cape- Brazil
14/05-19/05	Marine Forecast Training Workshop	Cachoeira Paulista (SP)	III South America	CPTEC/INPE	classroom	English	30	Argentine-Brazil-Uruguay-Chile-Peru-Ecuador-Colombia

24/05-25/05	I Scientific Workshop CHUVA Project	São José dos Campos (SP)	III South America	CPTEC/INPE	classroom	English	65	Brazil -France
19/06-21/06	Satellite Meteorology applied to Agriculture (Second edition)	online	III South America	CPTEC/INPE	online	Portuguese	39	Portugal-Venezuela-Argentine-Green Cape- Brazil
30/07-01/08	Hydrology Applications of Meteorological Satellite Products	online	III South America	CPTEC/INPE	online	Portuguese	75	Paraguay-Argentine-Brazil