



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

ACTIVITY REPORT

Period: September 2012 to December 2013
Satellite Operator/Agency: NOAA

GENERAL INFORMATION ABOUT THE SUPPORT OFFERED TO VLAB CENTRE(S) OF EXCELLENCE (CoE) AND THE DEVELOPMENT OF VLAB TRAINING ACTIVITIES

NOAA provides training support through many organizations. CIRA, NWS Training Division, and the Weather Prediction Center (WPC)/NCEP International Desks, in collaboration with the CoEs Barbados and Costa Rica conduct the monthly Americas and Caribbean Regional Focus Group discussions. The email distribution list for the RFG is used to announce these as well as other VLab special presentations and to disseminate information about satellite status.

Lectures/presentations and in some cases editing support were provided by the Weather Prediction Center (WPC) International Desks and CIRA for:

- Servicio Nacional de Meteorología e Hidrología de Perú (SENAMHI) sponsored Workshop on Numerical Weather Prediction and Quantitative Precipitation Forecasting Techniques for Tropical South America/Peru – November 2013
- EUMETRAIN World Wide Weather Briefing – Event Week in May 2013 (virtual)
- NOAA/WMO GEONETCast Train the Trainer Event – 2013 April
- Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM) Colombia sponsored Workshop on Numerical Weather Prediction and Quantitative Precipitation Forecasting Techniques for Northern South America and Central America – March 2013
- GEONETCast Forum help during the Group of Earth Observations (GEO-IX) Plenary - November 2012 (virtual)
- Caribbean Aeronautical Continuing Professional Development Course - December 2012 (virtual)

COMET provides the support for the addition of materials and maintenance of the Environmental Satellite Resource Center (ESRC), a sortable catalog with access to a wide range of useful information, education, and training about low-earth orbit and geostationary satellites from trusted sources that is available to the WMO VLab and global user community. The ESRC site (<http://www.meted.ucar.edu/esrc/>) is available in English, Spanish and French.

NOAA hosted a 2-day GEONETCast Train-the-Trainer Event and NOAA Satellite Conference in April 2013 in Maryland. This Workshop was followed by a 3-part virtual GEONETCast Event week in December 2013. CIRA now collaborates closely with NOAA's Direct Readout Service on GEONETCast Americas products and VLab Training.

NOAA through CIRA continues to provide funding and support for the VLab Technical Support Officer.

1) Which VLab CoE(s) is(are) supported by this Satellite Operator/Agency?

We strongly support the Barbados and Costa Rica CoEs and to a lesser extent support the CoEs in Brazil and Argentina.

2) What were the major achievements in supporting VLab CoE(s) during this reporting period?

NOAA with its cooperative institute (CIRA) worked with WMO to ensure that the VLab Technical Support Officer was funded and logistical support was provided to assist with CoE activities.

NOAA, CIRA, and CoEs Costa Rica and Barbados collaborated on monthly VLab Regional Focus Group (RFG) of the Americas and the Caribbean virtual sessions using real-time satellite data and products. These sessions are listed in the table under item 12 below. The RFG sessions assist in building and maintaining capacity in the Regions.

In April 2013, NOAA and WMO conducted a GEONETCast Train-the-Trainer event on the weekend prior to the start of the NOAA Satellite Conference. The CoE Barbados was active in both these events and NOAA supported their attendance (as well as other participant) at these events. A primary focus of the training and conference was user requirements for data access and usage. Prior to the Conference, NOAA also hosted the meeting of the Task Team on Satellite Data Requirements for South and Central America and the Caribbean Islands (RAIII). The team successfully established a set of user requirements for satellite data and products and a new Regional Coordination Group on Satellite Data Requirements was formed to begin gathering user requirements.

One success of the newly formed Regional Coordination Group on Satellite Data Requirements was a suggestion to NOAA to examine GOES scanning strategies over Central and South America during both regular and rapid scanning schedules. This review led to implementation of a larger Continental US (CONUS) sector, which includes all of Central America and the Caribbean, during a regular scanning strategy and hourly scanning of designated South American regions during Rapid scanning strategies when coverage of South America was reduced to every 3 hours during the full disk scan

As a follow-up to the April conference, a virtual GEONETCast event week was held 3-5 December to make users more aware of what was currently available through GEONETCast and what were future opportunities.

COMET is active in producing new satellite training modules (many translated into Spanish) and in supporting the ESRC. The Virtual Institute for Satellite Integrated Training (VISIT) continues to produce new satellite training modules and conducts several live teletraining sessions every month. The VISIT program produces satellite related Blogs on a regular basis through both CIRA and CIMSS.

3) What were the main difficulties in supporting VLab CoE(s) during this reporting period?

NOAA experienced significant internal budget cuts in Fiscal Years 2012 and 2013 and had limited resources to assist the VISIT and COMET programs and the CoEs. Other difficulties we continue to address include inexpensive access to imagery and products and relatively inexpensive software to display imagery, products, model output, and surface observations. Various packages are being assessed: McIDAS-V, UNIDATA options (IDV, NAWIPS/GEMPAK).

4) Is any kind of Learning Management System (e.g. Moodle, Blackboard, etc) used by this Satellite Operator/Agency to conduct training activities? If so, can it be shared with the CoEs you support?

NOAA uses a Learning Management System that is not available to persons outside the Federal Government. COMET tracks user activity through their MetEd site.

5) Is any kind of Online Conferencing System (e.g. Saba Centra, Blackboard Collaborate, GoToWebinar, etc) used by this Satellite Operator/Agency to conduct training activities? If so, can it be shared with the CoEs you support?

NOAA via CIRA uses GoToWebinar and VISITview to conduct training activities. Both these software packages are already being used to support VLab training activities such as the regional focus group sessions. The VISITview software is free for use. NOAA via CIRA pays for the GoToWebinar license and coordinates and schedules this service for the CoEs for the monthly focus group sessions. However, NOAA cannot offer free access for others to use GoToWebinar on their own at this time.

6) 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 the training activities of this Satellite Operator/Agency?

Continue networking with other groups in WMO and under GEO to spread the word that VLab has a strong structure in place for training activities. Encourage “open ears” – if there is an opportunity one hears about that will benefit others, spread the word about it. In addition to WMO Trust Fund support for the TSO, encourage countries to contribute to it to allow WMO partial support for travel opportunities (is this possibly on the WMO end?). Organizations look upon activities favourably when they see that there is partial external support as well. Need to have planning meetings between WMO Space Programme and the Education and Training Programme to look for opportunities to share best practices. The Space Programme can benefit from new plans to establish the WMO Global Campus.

7) Does this Satellite Operator/Agency have a website dedicated to explain its involvement and support to VLab (as indicated in the document “Expectations from Satellite Operators)? If so, please provide URL.

<http://rammb.cira.colostate.edu/training/rmtc/>

8) Do you maintain regular contact with the other VLab Supporting Satellite Operators/Agencies to discuss data access and format issues as well as training needs to improve the use of satellite data and products? Can you suggest ways of improving this contact?

For us, this means communication within NOAA as well as external to NOAA.

Yes, NOAA’s Office of Satellite and Product Operations (OSPO) Satellite Products and Services Division (SPSD) maintains regular contact with other VLab Supporting Satellite Operators and Agencies and CIRA maintains regular contact with OSPO/SPSD. In addition, the NWS Training Division and NCEP /International Desks are in close contact with the Virtual Laboratory and Space Programme. During this reporting period, a new Regional Coordination Group on Satellite Data Requirement was formed to begin addressing user requirements in Regions III and IV. NOAA is an active member in this group.

From the CIRA perspective, the communication between and within groups is more open and positive than it has been in years and we are progressing on identifying and working with issues.

Ways to improve this contact:

Encourage participation at relevant workshops and conferences to be able to meet and have dedicated time to identify and work on issues. Ideally this would be once per year and if not, every other year (similar to VLMG meetings)

9) 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 (e.g. text book, video, recorded presentation, Moodle course, webcast, PowerPoint slides)	Availability of resource (e.g. open educational resource¹, institutional use only)	Submitted to ESRC (Yes/No)
Regional Focus Group of the Americas and the Caribbean	Recorded discussion sessions http://rammb.cira.colostate.edu/training/rmtc/fg_recording.asp	Open educational resource	Yes
VISIT Satellite Chat	Recorded discussion sessions http://rammb.cira.colostate.edu/training/visit/satellite_chat/	Open educational resource	Yes
AWIPS Blended Rain Rate Product	Recorded presentation http://rammb.cira.colostate.edu/training/visit/training_sessions/awips_blended_rain_rate_product/	Open educational resource	Yes
VIIRS Satellite Imagery in AWIPS	Recorded presentation http://rammb.cira.colostate.edu/training/visit/training_sessions/viirs_satellite_imagery_in_awips/	Open educational resource	
Identifying Snow with Daytime RGB Satellite Products	Recorded presentation http://rammb.cira.colostate.edu/training/visit/training_sessions/identifying_snow_with_daytime_rgb_satellite_products/	Open educational resource	Yes
Remote Sensing Using Satellites, 2nd Edition	Online Lesson https://www.meted.ucar.edu/training_module.php?id=940	Open Educational Resource	Yes
Satellite Monitoring of Atmospheric Composition	Online Lesson https://www.meted.ucar.edu/training_module.php?id=985	Open Educational Resource	Yes
GOES-R ABI: Next Generation Satellite Imaging	Online Lesson https://www.meted.ucar.edu/training_module.php?id=987	Open Educational Resource	Yes
Advances in Space-Based Nighttime Visible Observation	Online Lesson https://www.meted.ucar.edu/training_module.php?id=990	Open Educational Resource	Yes
Multispectral	Online Lesson	Open	Yes

¹ Please also indicate if the Creative Commons License was applied to the resource.

Satellite Applications: Monitoring the Wildland Fire Cycle, 2nd Edition	https://www.meted.ucar.edu/training_module.php?id=1064	Educational Resource	
Satellite Feature Identification: Inferring Three Dimensions from Water Vapour Imagery	Online Lesson https://www.meted.ucar.edu/training_module.php?id=1005	Open Educational Resource	Yes
Multispectral Satellite Applications: RGB Products Explained, Online Lesson	Online Lesson https://www.meted.ucar.edu/training_module.php?id=568	Open Educational Resource	Yes
Advanced Satellite Sounding: The Benefits of Hyperspectral Observation - 2nd Edition	Online Lesson https://www.meted.ucar.edu/training_module.php?id=1071	Open Educational Resource	Yes
Introduction to VIIRS Imaging and Applications, Online Lesson	Online Lesson https://www.meted.ucar.edu/training_module.php?id=1075	Open Educational Resource	Yes

10) Is this Satellite Operator/Agency working closely together with the supported CoE(s) in VLab training activities? Can you suggest ways to improve this collaboration?

NOAA works closely with CoEs that they have supported the longest: Barbados and Costa Rica. Brazil has many internal resources to draw on and they are doing very well supporting their training and data distribution activities. NOAA has and continues to work closely with them on data distribution and satellite issues. NOAA will work on strengthening collaboration with the Argentina CoE.

Ways to improve the collaboration:

Continue to promote the flow of information within the various CGMS /WMO communities and from larger countries down to the users. This is done in various ways already with the VLab web pages and calendar, WMO Train the Trainers events, the NOAA Satellite Conference, the Regional Focus group activities which now include regular monthly weather briefing sessions as well as special seminars and through education conferences such as CALMET.

NOAA is also sending representatives from both the GOES-R and JPSS satellite programs to many WMO and CoE sponsored meetings and workshops.

Want to announce the next NOAA Satellite Conference scheduled for late April 2015 in Greenbelt, Maryland.



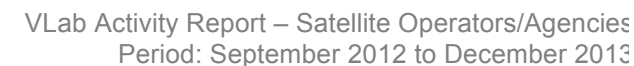
11) Please use this space for additional remarks you may wish to make relating to the delivery of training by the Satellite Operator/Agency and the sponsored CoE(s).

Every little bit contributes to the whole and many individuals with limited resources can work together to accomplish quite a bit!

12) The next page presents a table containing all training events entered by this Satellite Operator/Agency in the VLab Online Calendar of Events during this reporting period. Please complete the table with information about the number of trainees and Country of origin of trainees that attended the events. If additional events had been conducted as part of your VLab activities, that for some reason were not submitted to the Online Calendar of Events, please add them to the table.

Date	Title	Location	WMO region	Host	Type	Language	Number of trainees	Country of origin of trainees
2012/09/19 - 2012/09/19	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	38	Barbados, Brazil, Chile, Colombia, Costa Rica, Guyana, Honduras, Mexico, Panama, Peru, Suriname, US
2012/10/17 - 2012/10/17	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	60	Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, El Salvador, Guyana, Haiti, Panama, US
2012/11/07 - 2012/11/07	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	79	Argentina, Barbados, Brazil, Chile, Colombia, Costa Rica, El Salvador, Guyana, Haiti, Honduras, Mexico, Netherland Antilles, Panama, Suriname, Uruguay, US
2012/12/19 - 2012/12/19	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	17	Barbados, Chile, Colombia, Costa Rica, El Salvador, Lithuania, Mexico, Panama, Suriname, Switzerland, US
2013/01/15 - 2013/01/15	RFG of the Americas and the Caribbean	Online	III South America and IV Central America	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	15	Argentina, Barbados, Brazil, Colombia, Costa Rica, Guyana, Mexico, Panama, Suriname, US

			/ Caribbean					
2013/02/14 - 2013/02/14	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	33	Barbados, Brazil, Colombia, Costa Rica, Haiti, Mexico, Panama, Peru, Suriname, Switzerland, US
2013/03/13 - 2013/03/13	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	28	Argentina, Bahamas, Barbados, Brazil, Colombia, Costa Rica, Croatia, Mexico, Suriname, US
2013/04/18 - 2013/04/18	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	37	Bahamas, Barbados, Colombia, Costa Rica, Haiti, Honduras, Mexico, Panama, Suriname, Uruguay, Venezuela, US
2013/05/23 - 2013/05/23	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	48	Barbados, Belize, Colombia, Costa Rica, Haiti, Mexico, Panama, Peru, St. Kitts and Nevis, US
2013/06/13 - 2013/06/13	RFG of the Americas and the Caribbean	Online	III South America and IV Central America / Caribbean	USA/Costa Rica/Barbados	RFG discussion	English/Spanish	51	Bahamas, Barbados, Chile, Colombia, Costa Rica, El

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2013/11/20 - 2013/11/20	RFG of the Americas and the Caribbean	Online	an III South America and IV Central America / Caribbe an	USA/Costa Rica/Barbados	RFG discussion	English/Span ish	16	Barbados, Belize, Chile, Colombia, Costa Rica, Haiti, Honduras, Panama, Peru, US
2013/12/06 - 2013/12/06	RFG of the Americas and the Caribbean - 16:00 UTC	Online	an III South America and IV Central America / Caribbe an	USA/Costa Rica/Barbados	RFG discussion	English/Span ish	20	Bahamas, Barbados, Belize, Brazil, Canada, Colombia, Costa Rica, El Salvador, Ghana, Haiti, Honduras, Suriname, Uruguay, US
2013/12/03 - 2013/12/05	GEONETCast Semana del evento	Online	III South America and IV Central America / Caribbe an	CIRA	Event week	Spanish	48, 54, 53	(1) Argentina, Brazil, Cape Verde, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Mexico, Nicaragua, Panama, Peru, Uruguay, US (2) Argentina, Barbados, Belize, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Germany, Honduras, Mexico, Nicaragua, Peru, Uruguay, US (3) Argentina, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras,

2013/12/03 - 2013/12/05	GEONETCast Event Week	Online	III South America and IV North America	CIRA	Event week	English	32,31,25	Mexico, Nicaragua, Panama, Peru, Uruguay, US (1) Barbados, Belize, Brazil, Canada, Costa Rica, El Salvador, Germany, Ghana, Guyana, St. Kitts and Nevis, Suriname, US (2) Barbados, Belize, Brazil, Canada, Cayman, Ecuador, El Salvador, Germany, Ghana, Guyana, St. Kitts and Nevis, Suriname, US (3) Bahamas, Barbados, Belize, Brazil, Canada, Cayman, El Salvador, Ghana, Great Britain, Guyana, Suriname, US
2013/03/18 – 2013/03/22	Workshop on Numerical Weather Prediction and Quantitative Precipitation Forecasting Techniques for Northern South America and Central America	Bogota, Colombia	III South America and IV Central America / Caribbe an	Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM), Colombia	Workshop	Spanish	29	Colombia, Cuba, the Dominican Republic, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama and Venezuela
2013/11/11 - 2013/11/15	Workshop on Numerical Weather Prediction and Quantitative Precipitation Forecasting Techniques for Tropical South	Lima, Peru	III South America	Servicio Nacional de Meteorología e Hidrología de Perú (SENAMHI)	Workshop	Spanish	27	Peru



America/Peru							
2012/09/01 – 2013/12/31	Weather Prediction Center Tropical and South American Desk Visitors	College Park, Maryland, USA	III South America and IV Central America / Caribbe an	NOAA/WPC	Visiting Instructor Program	English/Span ish	20 (3) Argentina, Bahamas, Barbados, Bolivia, (2) Brazil, Cayman Islands, Colombia, Costa Rica, Dominican Republic, El Salvador, (2) Jamaica, Mexico, Paraguay, (2) Peru, Uruguay