

# VLab Report of Activities

The Questions in this form should be answered based on the VLab activities of your Centre of Excellence for the period from January to December 2015.

## About the Centre of Excellence

1. Please select your Centre of Excellence (CoE) from the list below. \*

Costa Rica ▼

2. What is the profile of the people supporting training activities in the CoE? \*

Please select all options that are relevant.

- Training Manager
- Full time trainer
- Part time trainer
- Researcher
- Forecaster
- Administrative staff
- University lecturers
- Other: .....

Please use the space below to provide any additional comments regarding Question 2

Comments could include number of staff, proportion of support received from different institutions supporting the CoE or anything else regarding the support to plan and offer training in the CoE.

At the University of Costa Rica, 13 professors in the Department of Atmospheric, Oceanic and Planetary Physics (DFAOP) support the activities of the CoE. The Department is part of the School of Physics and there are three main locations for the researchers: (i) Laboratory for Atmospheric and Planetary Research, (ii) Center for Geophysical Research, (iii) Center for Marine Research.

Personal of the National Meteorological Institute (IMN) actively supports the CoE and the personal of the Costa Rican Electricity Institute (ICE; they have a big department in Meteorology) also participates of the activities on a regular basis.

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### 3. Is training (on the subject of training and education) offered to trainers supporting the activities of the CoE? \*

Yes

No

#### Please comment on the answer above \*

If training is offered, please comment on the sort of training provided and frequency. If training is not offered, please comment if there is a need for this sort of training in the CoE and if so, what are the difficulties to provide it.

The University of Costa Rica regularly offer courses for professors that enhance their abilities in training and education. One of this courses is named University Didactics, where the subject is proper teaching and tools. This course is mandatory for all the professors in the DFAOP. Many other courses are offered by the Department of University Teaching, including on-line courses on different areas including how to teach an on-line course. This is a relevant area as many of the courses being offered by the CoE are focused on this methodology.

The personal of IMN and ICE are not required to take the courses of university didactics and their training depends on personal decisions and permits by their respective institutions. This personal should be trained or at least regularly updated in teaching, on-line training and how to improve their role in the CoE.

The difficulties for proper training (in training) the CoE personal of ICE and IMN comes from the lack of coordination between the IMN, ICE and UCR. The CoE (by using the DFAOP personal and UCR support) can offer courses (and one is being designed) to train their trainers. This weakness was identified recently and will be addressed appropriately during this year.

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### 4. What were the major achievements of the CoE during this reporting period? \*

An on-line course for updating aeronautical forecast personal from Central- and South-America. The trainees were updated in different areas that included meteorological satellites, products and interpretation of satellite imagery. Other topics included radar theory and interpretation of radar products. Personal for the DFAOP as well as staff from the IMN and ICE participated of this activity as trainers.

It was not mentioned before, but during previous years (2013-2016) the CoE has supported training activities in SENAMHI (Perú). It is being mentioned now because it should be in the records. This training consisted of how to retrieve, store, generate and manipulate products of satellite images. It is similar in nature to the courses at Unidata for the users of IDV, Idm and McIDAS-V. It was carried out in Spanish and about 25 trainees attended the entire activity in two different sessions: (i) introduction, data gathering and products during 2013, and (ii) programing, automation, and enhanced products during 2014. During 2015 the training involved a smaller group on how to generate products in distributed systems focused on particular interests in the region of Perú. This training was on-line based and involved email, remote computer control sessions, and video conferencing. During the first part of 2016 this training was completed and a manual for the trainees is being developed including all the activities that were carried out.

The DFAOP also offered a course during 2015 on Aeronautical Meteorology for students of Aeronautical Engineering from the Caribbean branch of the University of Costa Rica. This course is available for other students of the CoE.

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## **5. What were the main difficulties of your CoE during this reporting period? \***

Most of the difficulties of the CoE activities come from the lack of time available for the staff to invest in planning and carrying out activities. The entire staff of the DFAOP is active in teaching activities and research.

For a long time the activities depended on Dr. Vilma Castro investing most of her personal time in the CoE, but now she is retired and the activities are being distributed to new personal of the DFAOP.

The DFAOP is making efforts towards getting administrative and teaching personal that can actively contribute towards the activities of the CoE. This will release the scientific personal from the administrative tasks and make more time available in order to generate quality material for the students.

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## About Training

6. Is any kind of Learning Management System used by your CoE to conduct training activities? \*

- Moodle
- Edmond
- ConnectEDU
- Learning Management System is not used
- Other: .....

7. Is any kind of Online Conferencing System used by your CoE to conduct training activities? \*

- Saba Centra
- Blackboard Collaborate
- GoTo (Webinar, Meeting)
- Cisco Webex
- Online Conferencing System is not used
- Other: Mconf .....

8. Please list any training resource you have developed over this reporting period \*

For each Training Resource please include: 1) Title of Training Resource, 2) Type of resource (e.g. text book,

video, Moodle course, PowerPoint slides, recorded lecture, etc) and 3) Availability of resource (can be shared, institutional use only).

1. Course for the El Salvador International Airport. Documents in pdf and presentations (in Spanish). Institutional use only.
  2. Training in installing and using meteorological software Gempak, IDV, and McIDAS-V. Documents in pdf and presentations (in Spanish). Can be shared with some restrictions.
  3. Aeronautical meteorology for engineers. Documents in pdf, presentations and lecture notes (in Spanish). Institutional use only.
  4. CMAO Curso de Meteorología Aeronáutica para Observadores. Documents in pdf, presentations and on-line material (in Spanish). Institutional use only.
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## 9. What sort of training resources would you be interested in borrowing from other CoEs or training programmes, to adapt and reuse in your CoE? \*

If the CoE is not interested in adapting and reusing training resources, please indicate reasons.

Any resource that can provide the CoE with more tools or technical capabilities is welcome. Specially training resources on how to train meteorology personal in satellite imagery and the operating systems that these tools use. Most of the times the problem for the trainees is not the software used for an specific application but the operating system used (e.g. many applications exist for Linux and users are not confident using it and end up not using the software based on fear of the OS and not the application).

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## About VLab collaboration

### 10. Is the CoE working closely together with the CoE's sponsoring Satellite Operator/Agency in VLab training activities? \*

Yes

**Please comment on the answer above and, if applicable, suggest ways to improve collaboration \***

My perception is that there is communication but it can certainly improve. Having a single point of contact can sometimes be counterproductive, it seems like a group is better in order to have multiple possibilities of response and action, as an example, in Costa Rica this group can be created with one participant from the IMN, ICE and UCR, the three main institutions that collaborate with the CoE.

Modern ways of communication are needed, using tools of instant messaging (e.g. Whatsapp, Telegram, Hangout) for efficient message exchange and quick communication can contribute towards improvements in collaboration.

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**11. What sort of support would you like to receive from other CoEs, Supporting Satellite Operators/Agencies, WMO Space Programme, VLab Co-chairs and TSO? \***

Information is key in collaboration and there is no place (digital location) to find out what other CoEs are doing, how they are doing it and mainly the needs that exist in the region.

The support that is needed is mainly logistic, the technical part of the training can be developed efficiently by the CoEs once they are aware of the needs and goals.

Monetary resources are also needed as the Costa Rican CoE does not have a source for financing the activities. There are some initiatives in the CoE to change this but it seems it will not happen soon.

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**12. What sort of support could you offer to other CoEs, Supporting Satellite Operators/Agencies and WMO Space Programme? \***

This could be any kind of support. For example: collaborate in RFG sessions organised by other CoEs, organise joint training events in a particular subject, or any other support/collaboration you think the CoE could offer.

The CoE in Costa Rica is going through changes that are focused on enhancing the function of the center. Any possible information that comes out of this process can be made available for other centers interested in improving their own activities.

The CoE is more than willing to organize joint activities. In previous years Costa Rica hosted many satellite imagery training activities in great locations around the country. The participants had the opportunity of an enjoyable experience of Costa Rica's natural environment while efficiently learning meteorological applications and developing/updating their technical capabilities. The University of Costa Rica has provided partial monetary support for this type of activities before and usually has funds available for such end. The CoE would collaborate with anyone interested in developing an activity in Costa Rica.

Regarding on-line training, the CoE personal can collaborate with initiatives in other CoEs with their experience, materials and, if funds permit, with visits.

## Training Events organised in 2015

Please prepare a table containing all training events organised by the CoE during this reporting period. If you have submitted your events to the VLab Online Calendar, all you need to do is to download your report (CSV/Excel spreadsheet) directly from there. If the CoE had conducted other training events considered as part of their VLab activities, that for some reason were not submitted to the Online Calendar, please add them to the spreadsheet downloaded from the Online Calendar. In the case the CoE has not submitted the training events to the Online Calendar, please prepare a table or spreadsheet (Excel or word) containing the data as indicated in the figure below.

The table/spreadsheet containing the training events organised by the CoE in 2015 should be sent to the VLab TSO by email at [luveeck@gmail.com](mailto:luveeck@gmail.com)

### Example of Table of Events

| Date | Title of Event | Location | WMO Region | Host | Type<br>(online, classroom, blended, RFG) | Language | Number of trainees | Country of origin of trainees |
|------|----------------|----------|------------|------|---|----------|--------------------|-------------------------------|
|      |                |          |            |      |   |          |                    |                               |
|      |                |          |            |      |   |          |                    |                               |
|      |                |          |            |      |   |          |                    |                               |
|      |                |          |            |      |   |          |                    |                               |

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- By selecting this option I confirm that a table/spreadsneet containing the information about training events organised by this CoE (as requested above) will be sent by email to the VLab TSO by the 30th of April 2016 (at the latest).
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Costa Rican CoE.

Related Activities 2015 (including 2 from previous years not mentioned before).

| <b>Date</b>        | <b>Title of Event</b>   | <b>Location</b>        | <b>WMO Region</b> | <b>Host</b>              | <b>Type</b>        | <b>Language</b> | <b>Number of trainees</b> | <b>Country of original of trainees</b> |
|--------------------|---|------------------------|-------------------|--------------------------|--------------------|-----------------|---------------------------|--|
| Dec 2013           | First Training in installing and using meteorological software Gempak, IDV, and McIDAS-V  | Peru                   | III               | SENAMHI                  | Lecture/Lab        | Spanish         | 25                        | Peru                                   |
| Jun 2014           | Second Training in installing and using meteorological software Gempak, IDV, and McIDAS-V | Peru                   | III               | SENAMHI                  | Lecture/Lab        | Spanish         | 25                        | Peru                                   |
| March 2015         | Distance Training in automation and product generation                                    | Peru                   | III               | SENAMHI                  | Distance / on-line | Spanish         | 3                         | Peru                                   |
| April-October 2015 | Course for the El Salvador International Airport and other personal                       | El Salvador/<br>Brazil | IV and III        | Univeristy of Costa Rica | on-line            | Spanish         | 8                         | El Salvador, Brazil                    |
| March 2015         | CMAO Curso de Meteorología Aeronáutica para Observadores                                  | Costa Rica             | IV                | Univeristy of Costa Rica | on-line            | Spanish         | 10                        | Costa Rican                            |
| August 2015        | Aeronautical meteorology for engineers  | Costa Rica             | IV                | Univeristy of Costa Rica | Lectures / on-line | Spanish         | 6                         | Costa Rican                            |