

VLab at the University of Costa Rica

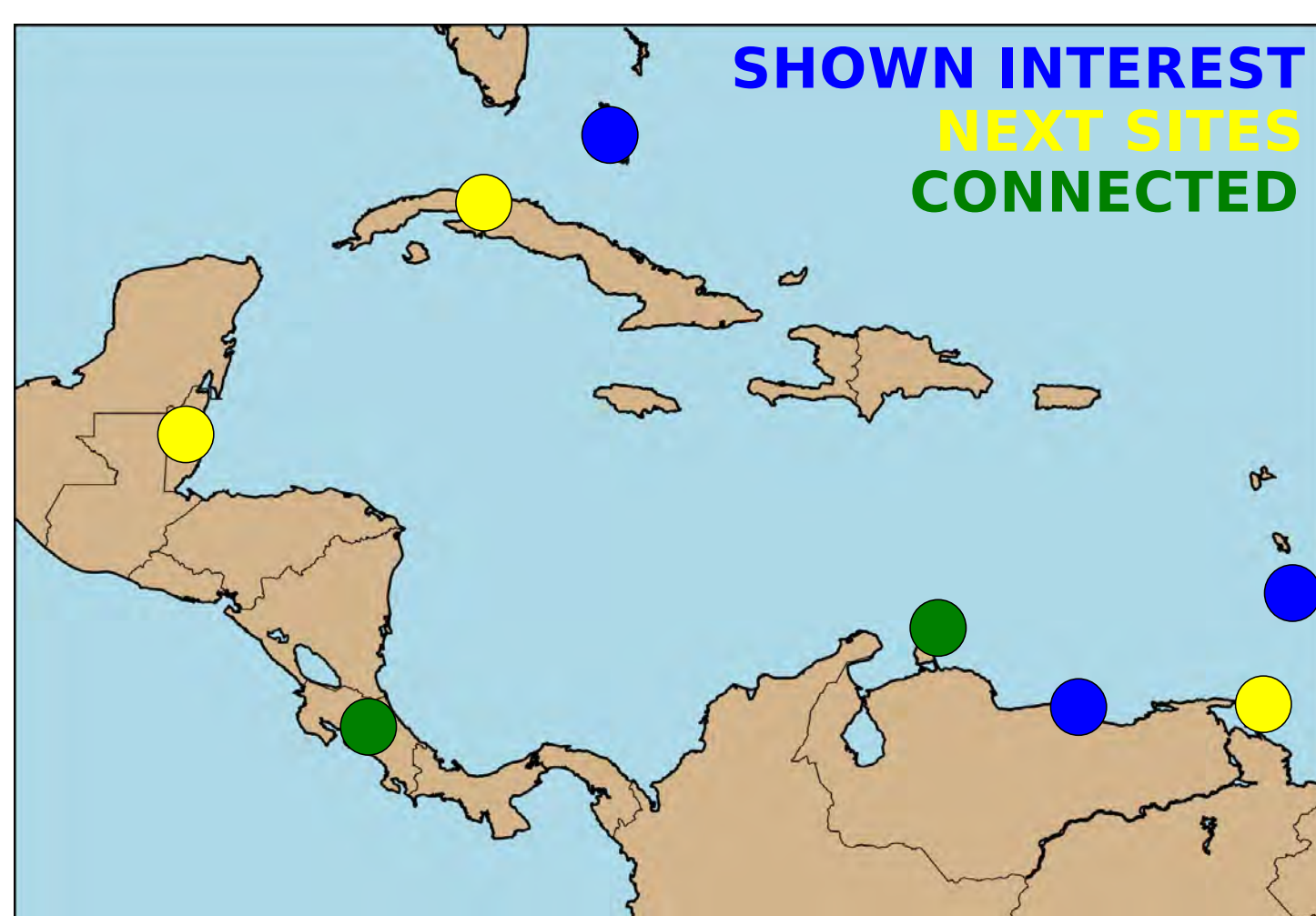
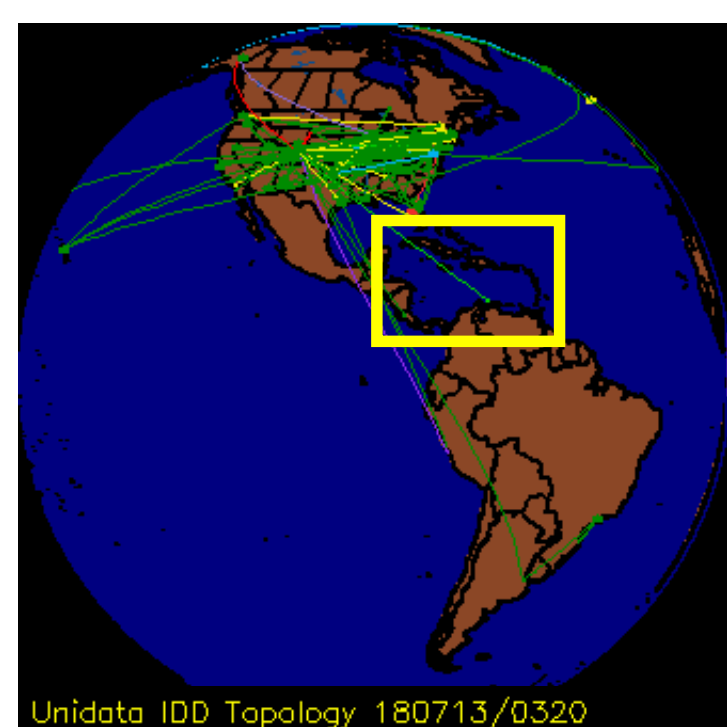


UNIVERSIDAD DE
COSTA RICA

Internet Data Distribution Central America and Caribbean

Unidata hosts the IDD network inside and outside the USA. This network provides (among others) NWP products, satellite imagery (including GOES 16's ABI and GLM), weather station and radiosonde data. The University of Costa Rica has been connected to this network since 2001 thanks to the support of Tom Yoksas (Unidata).

During the SDR Group meetings the need for satellite information in Central America and the Caribbean was clearly identified. The initiative to create a **regional network of data distribution** was born and Costa Rica's RTC sent an invitation to some institutions in the Central America and Caribbean region to join the IDD-CC network. Since then, other institutions have shown interest in participating (e.g Cuba). Costa Rica's CENAT, and Aruba's DMA agreed to serve as redistribution nodes for the region.

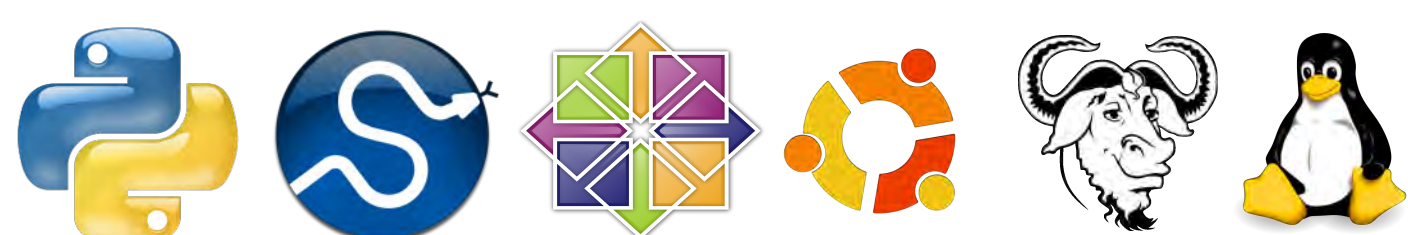


The bandwidth requirements are not too large. Costa Rica's usage is in average 2715 MB per hour, and Aruba uses 1698 MB per hour to obtain both ABI and GLM data. Institutions interested in joining the IDD-CC network can contact the CoE for more information.

WMO Agreement To better serve the region

A WMO Regional Training Center has been operating at the University of Costa Rica for decades. No letter of agreement was signed when UCR was designated as an RTC hence the operation of the RTC, CoE and VLab depended upon the designated director of the Department of Atmospheric, Oceanic and Planetary Physics and academic personnel. Dr. Vilma Castro (retired) was one of the most involved professors with activities related to the RTC, CoE, and VLab.

An agreement involving WMO, the Costa Rican PR and the University is underway in order to better serve the region. With an official agreement the UCR will be able to **effectively survey the regional needs, and assign personnel to carry out related activities and courses** (traditional and distance learning). It is expected that the agreement will be signed during 2018 or early 2019.



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Costa Rica's RTC - Center for Geophysical Research
Laboratory for Atmospheric and Planetary Research

Meteorology programs

Satellite training

The Department of Atmospheric, Oceanic and Planetary Physics at the University of Costa Rica consists of 13 professors with PhD's in physics, meteorology, oceanography or related areas.

The University of Costa Rica has served as a Regional Training Center for many years. We offer an undergraduate program in Meteorology as well as graduate programs in Atmospheric Science and Hydrology. Recently an **online graduate program** in Operational Meteorology leading to a Master's degree was created and the first generation will graduate this year with students from **Mexico, El Salvador and Costa Rica**.

Satellite meteorology is now part of both graduate and undergraduate programs. GOES 16 data is available from the ABI and GLM sensors in order to study and utilize the information. A video tutorial was created at the CoE in order to show students how to request and download data from NOAA CLASS. This video is available in Spanish only at youtu.be/IgoOuFQFvIs.

In this course I learned how to process GOES-16 imagery and visualize it with Python along with how to understand the amount and quality of information that can be obtained. This includes the necessary knowledge to appropriately research in solar resources that is my focus of personal development, associated to solar energy utilization.

- Natalia Alvarado
M.Sc. candidate



Students and professors are encouraged to participate in the monthly RFG sessions.

GLM Products

Operational and academic use

The CoE at UCR created a GLM product for operational and educational use. This product is generated with data flowing in the IDD-CC network. It has been used in undergraduate and graduate courses (e.g. Tropical Meteorology, Meteorological Instruments), and currently it is used at some Costa Rican airports for now-casting.

Feedback from external users is regularly incorporated in the products in order to better suit their needs. It has been reported by users that this product is more stable and reliable than some commercial solutions available in operational environments.



The product is available online: cigefi.ucr.ac.cr/iddcc-ucr

An online tutorial on how to generate this product will be available soon, along with the Python programs and Bash Shell Scripts.