

The Caribbean Institute for Meteorology and Hydrology (CIMH) was established in 1967.

For over 50 years it has been the primary training and education facility in the Caribbean in meteorology and related sciences;

The Institute is designated by WMO as a:

- **WMO Regional Training Centre (RTC);**
- **WMO Regional Calibration Centre (RCC);**
- **WMO Centre of Excellence (CoE) for Satellite meteorology;**
- **WMO Regional Climate Centre (RCC);**
- **WMO Centre for Sand and Dust Storm Warning Alerting and Assessment System (SDS-WAS) .**

CoE Barbados at the NOAA Satellite Conference



VLab Train the Trainer Workshop on Satellite Data Usage; conducted by NOAA, CIRA, CIMH, and CPTEC organised and conducted the “Access through GEONETCast Americas, Display, Interpretation, and usage in Training” . The 1.5-day workshop preceded the meeting of the Coordination Group on Satellite data Requirements for Regions III and IV and the 2017 NOAA Satellite Conference (NSC), 17-20 July, and was hosted by NOAA CREST at the City College of New York (CCNY).

At the 2017 NOAA Satellite Conference, Ms. Kathy-Ann Caesar, CoE Barbados’s Chief Meteorologist and VLab co-chair (fig. 1), presented on:

The Data Distribution and Access Session: A New Era for NOAA Environmental Satellites, and

The panel on GOES 16 User Testimonials: – The International User Prospective

WMO Coordination Group on Satellite Data Requirements (SDR) for RA III and RA IV; Third Session, 16 and 19 July 2017

Member of the RA III/RA IV SDR Training Task Team (SDR-TTT)

Verification – Flood Impacts

The CIMH was provided with access to archived RADARSAT-2 imagery hosted by the Canadian Space Agency through the CEOS Working Group on Disasters pilot project arrangement. Matching pre- and post event imagery (MF21W) was obtained for the More Tomorrow village which is located along the Belize River in the Cayo district. Landsat 8 Operational Land Imager (OLI) and Thermal Infrared Sensor (TIRS) image was also obtained to support verification. Damage and Needs Assessment reports obtained from the NEMO indicated that villages within the Belize River valley were severely impacted by flooding with major agricultural losses in the Cayo district.

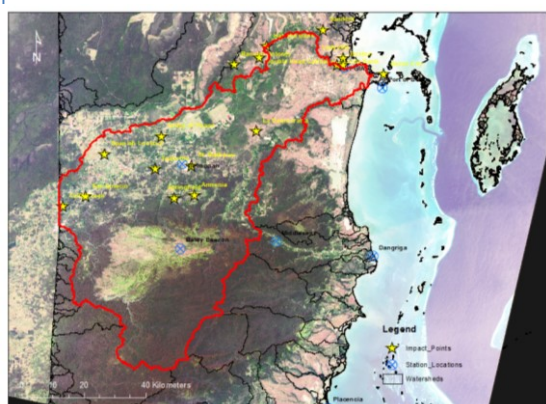


Fig. 3: Belize River watershed with impacted locations. Study area: More Tomorrow village

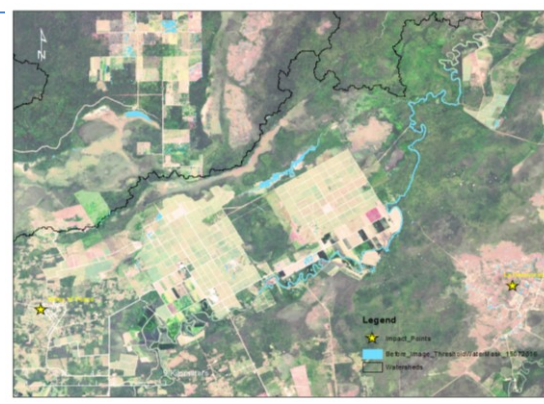


Fig. 4: More tomorrow agricultural community. Before event water mask: 2016/07/15

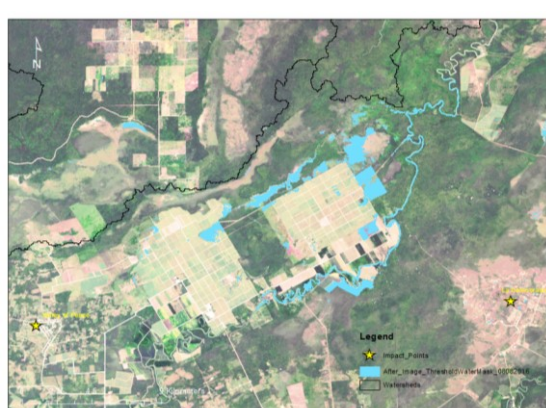


Fig. 5: More tomorrow agricultural community. After event water mask: 2016/08/08

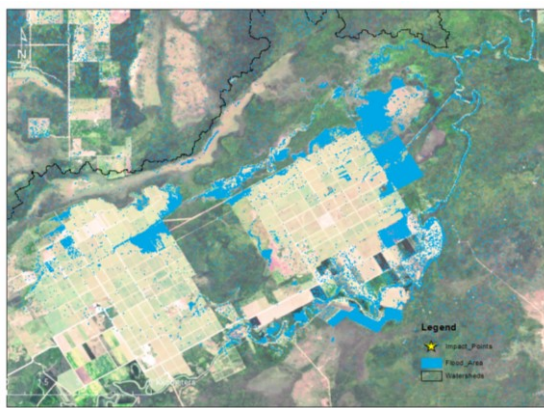


Fig. 6: Flooded agricultural fields close to the More Tomorrow village

Training in the operational use of GOES -16 imagery

Even before GOES -16 became totally operational, training in to the use of the new imagery had started at CoE Barbados.

Satellite training was part of the CIMH Operational Aeronautical Forecasters’ (OAF-7) course in May 2017. A two-month intense course for degree meteorologists, focused on aeronautical forecasting competency skills. As part of the training the participants had to complete the US NWS Satellite Foundational Course for GOES-R (SatFC-G).



Figure 2 – Forecaster in training, Shem Willie using the CIRA Slider to prepare a weather briefing.

In November, the Aeronautical Continuing Professional Development (Aero-CPD) Online Course offered to operational forecasters as part of their continuing professional development, had a Unit dedicated to Satellite training and specifically on the operational use of GOES-16 imagery applications. Future classes will add JPSS products.

The Saharan Air Layer (SAL) Evaluation for GOES-R and JPSS products

CoE Barbados has been invited to take part in “the Saharan Air Layer (SAL) Evaluation for GOES-R and JPSS products “ during Summer 2018. Lead by NOAA, in collaboration with NHC and USA NWS, the project seeks to evaluate the geostationary and polar RGBs, single channels, and derived products during the most active time of the year for SAL outbreaks. At CoE Barbados derived imagery from CIRA Figure 7 and Figure 8, Natural Colour and the Dust channel, respectively. CIMH will also provide observations and ground truth pictures of the dust haze.

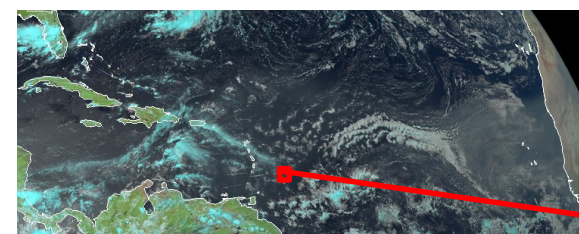


Fig. 7 CIRA Ramsdis Slider – Natural Colour - simulating a green channel using the formula $(R=0.64\mu\text{m}, G=0.86\mu\text{m} \text{ (simulated)}, \text{ and } B=0.47\mu\text{m})$.

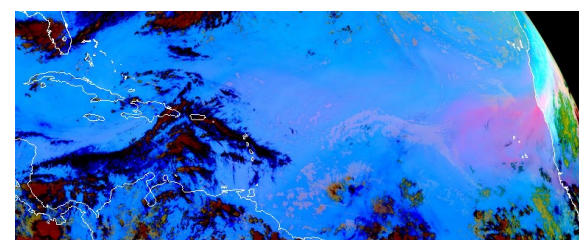


Fig. 8 Dust - a moisture difference ($12.3 \mu\text{m} - 10.3 \mu\text{m}$)



Fig. 9 – Dust haze observed over Barbados at CIMH (CoE Barbados)

Challenges and the future

The CoEs has significantly improved classrooms and conference facilities which are equipped with Smart Boards and the conference facilities have been enhanced through the acquisition of software and hardware. However, staffing continues to be a most significant challenge to the expansion of VLab activities. The Online Caribbean Weather Discussion has been the only casualty, but plans are in place to have this situation rectified.

Future plans remain the expansion of online courses in satellite meteorology and the proposed NOAA GOES -16 training event schedule for Barbados in May 2019.