Strengthening National and International Training Activities by Utilizing Similarities and Differences

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15th Symposium on New Generation Operational Environmental Satellite Systems
Session 9B

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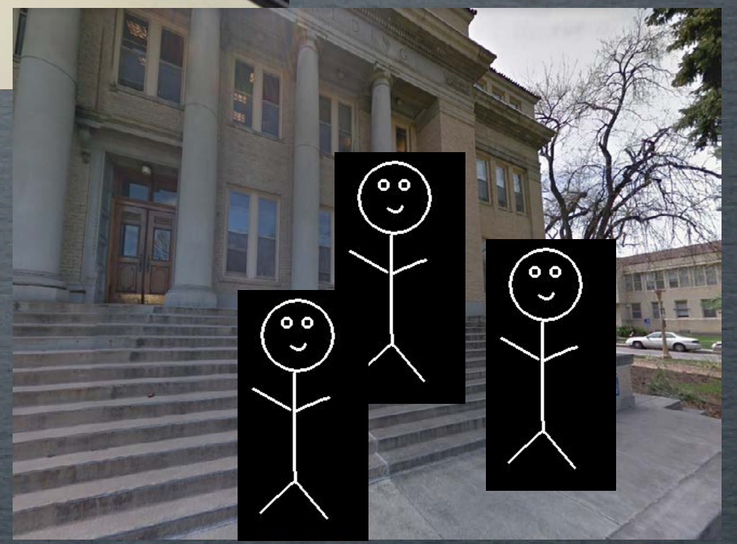
Who are the people we train?

Primary focus:

- National Weather Services

Secondary focus:

- Academia
- Managers – Public and Private



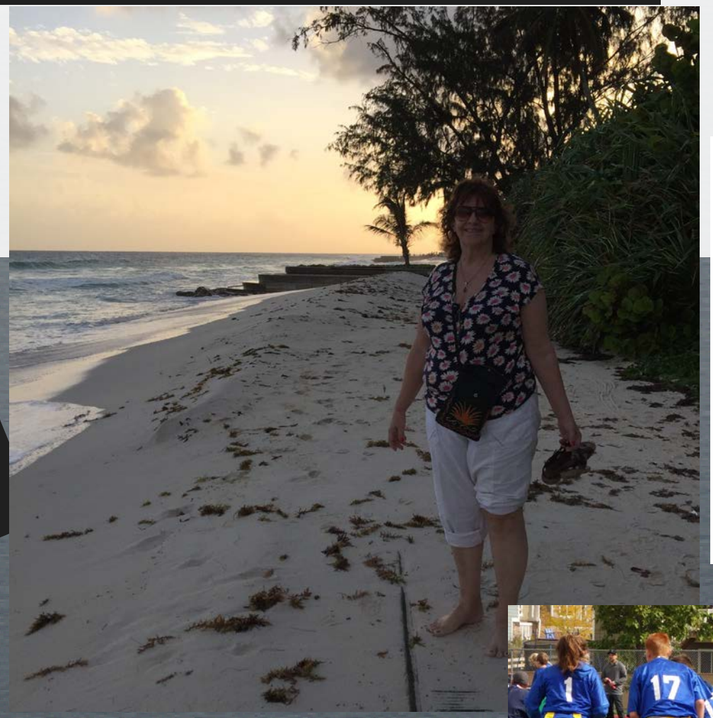
Similarity

In support of societal benefit areas

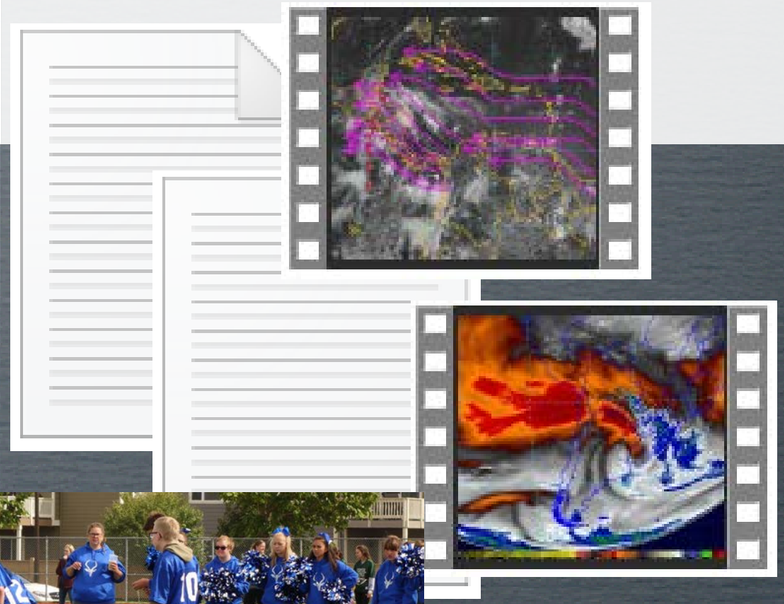
Similarity

Hydrology
Agriculture
Forestry
Utilities
Transportation
Emergency

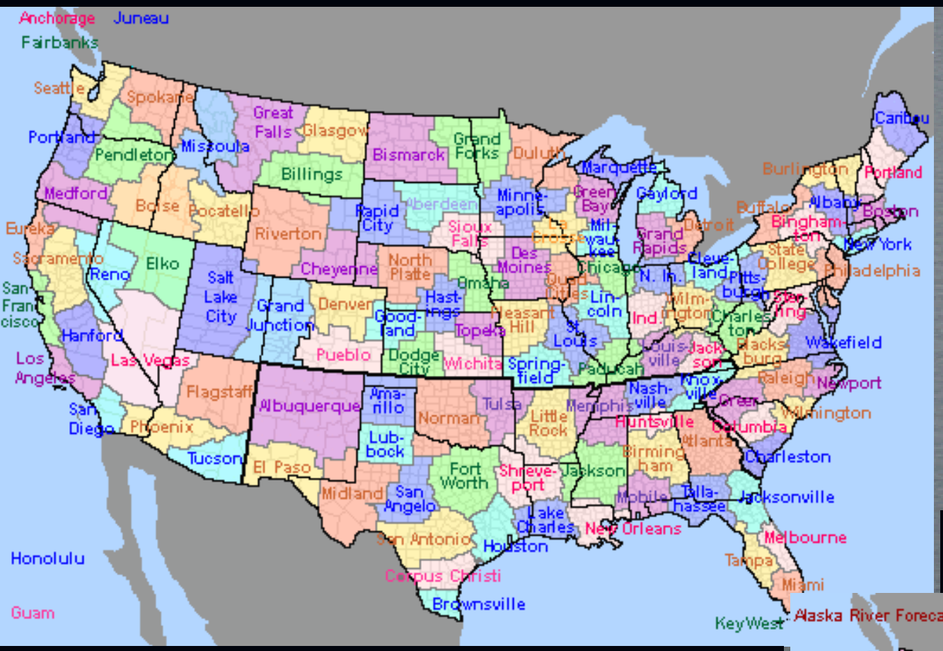
Weather and Outdoor Enthusiasts



Media and General Public

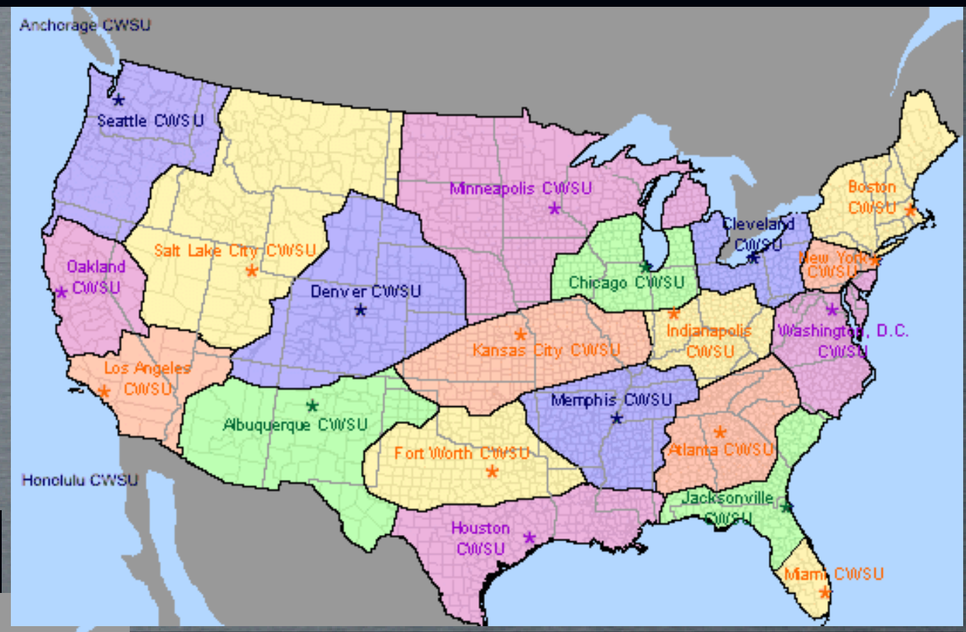


NOAA National Weather Service

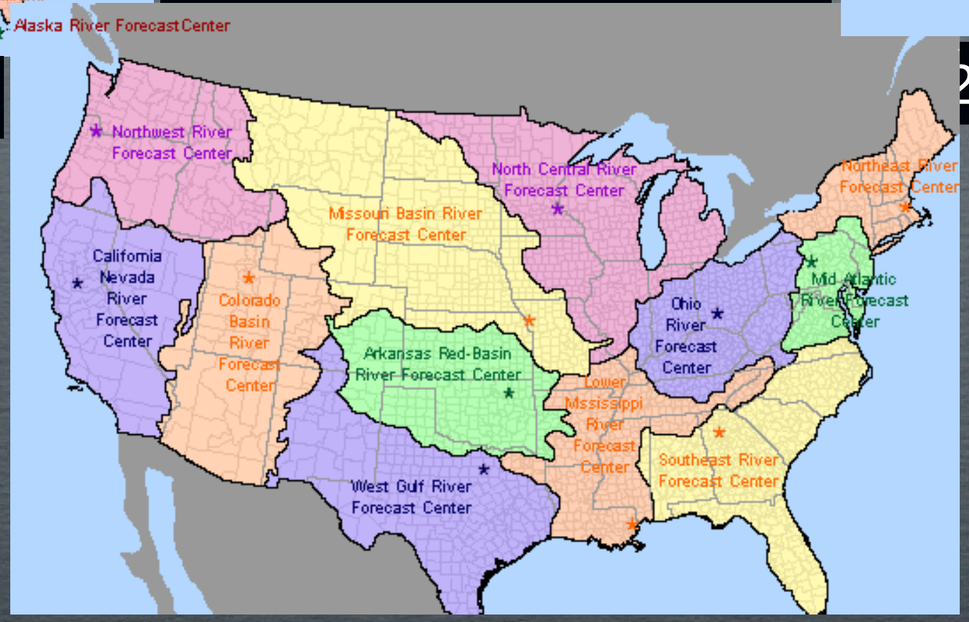


122 Weather Forecast Offices

13 River Forecast Offices

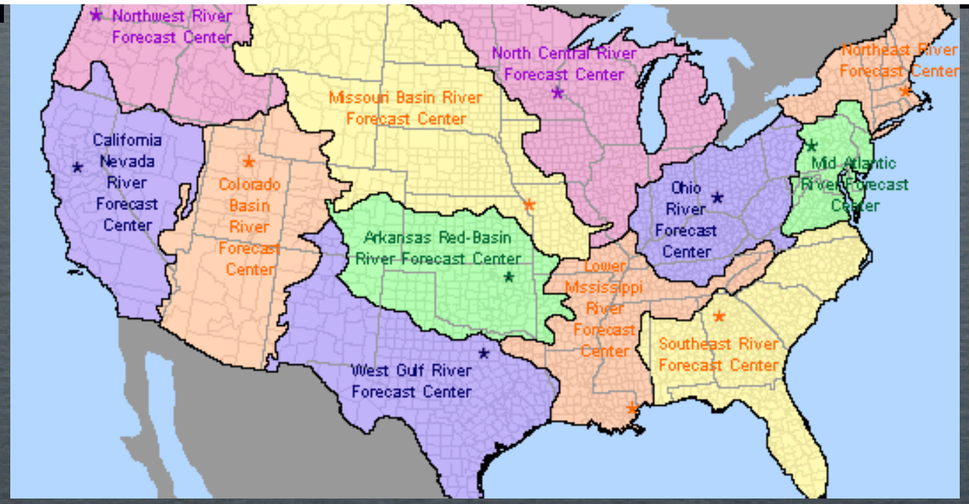


22 Center Weather Service Units



NOAA National Weather Service

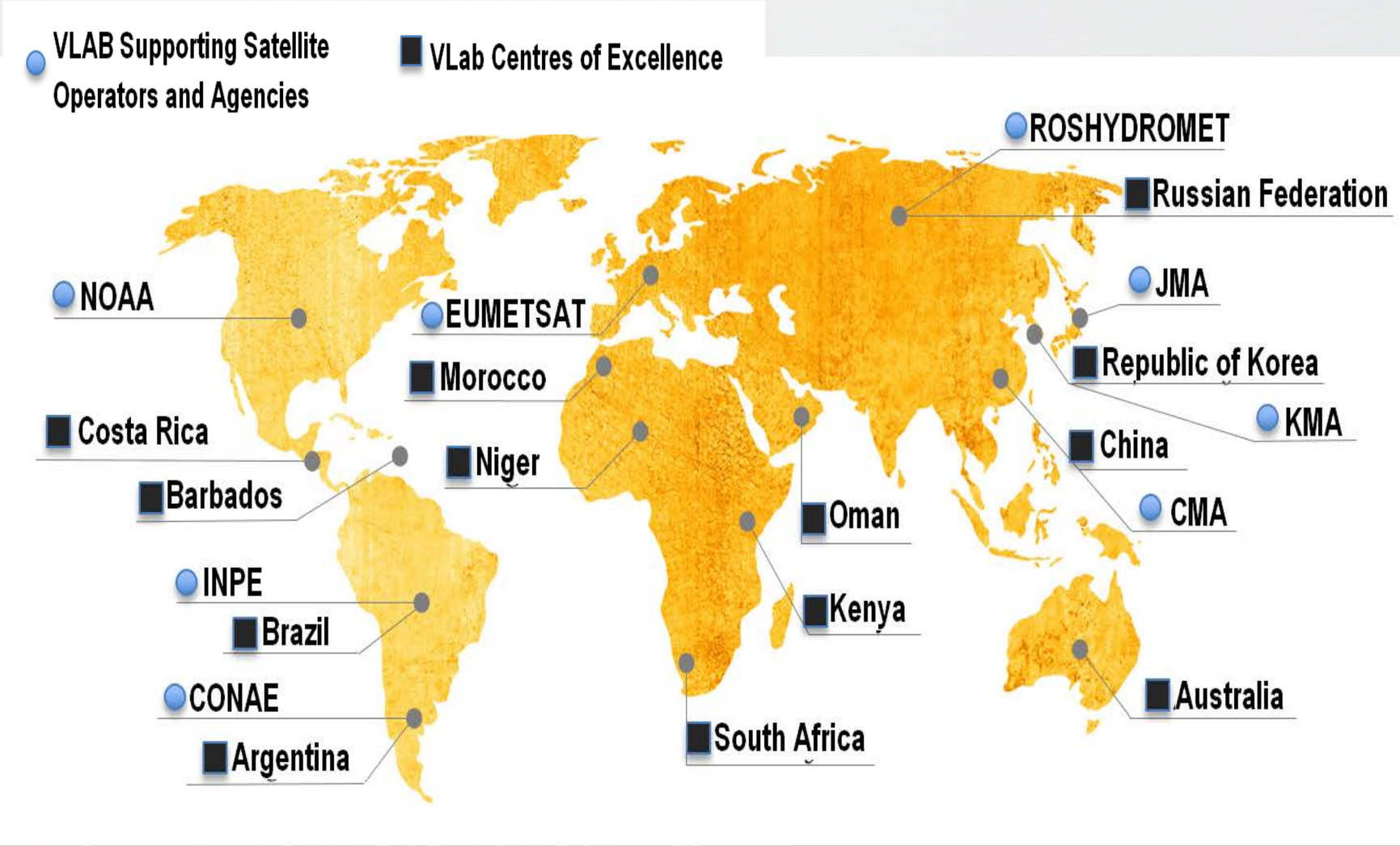
Common spoken language
From one large country



What is the WMO VLab?

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

A worldwide collaborative network connecting Training Centres of Excellence (CoEs)
&
Satellite Operators

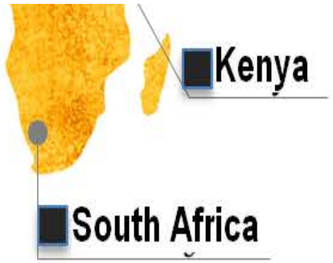


http://www.wmo-sat.info/vlab/

What is the WMO VLab?

Multiple spoken languages
Many countries of varying sizes

network connecting
Training Centres of Excellence (CoEs)
&
Satellite Operators



http://www.wmo-sat.info/vlab/

Training Approaches

- Virtual and in-person
- Seasonal

Training Event Weeks

Regular Webinar Sessions

- Monthly Virtual Regional Focus Group (RFG)
- Application Topics

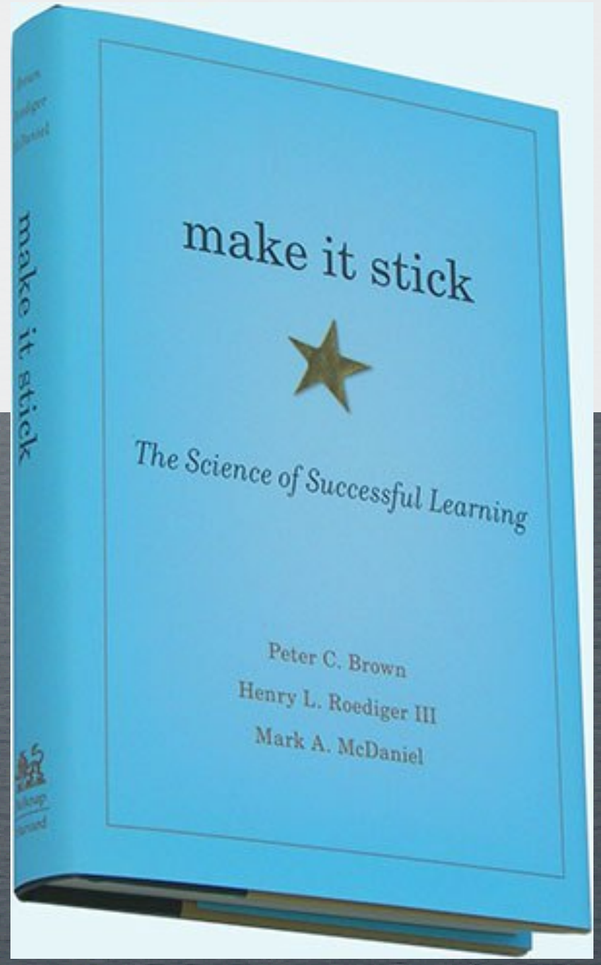
Multi-lingual

- Conceptual Models
- Training Development Plan
- Simulations
- Modules and Courses
- Quick Guides and Briefs
- Satellite Skills and Knowledge Document

Tools and resources

To “Make it Stick”

- Learning requires a foundation of knowledge
- Hands-on applications strengthen knowledge retention.
- Learning is deeper and more durable when it requires effort.
- Recall of information strengthens retention.



National

Satellite Foundation Courses
- for GOES (SatFC-G)
- for soon to be released JPSS (SatFC-J)

Title	Length	Contributor	Developed
Basic Principles of Radiation	15	COMET	2016
Basic Operations of ABI on GOES-R	15	Lindstrom (CIMSS)	2016
GOES-R ABI Visible and Near-IR Bands	15	COMET	2016
GOES-R ABI Near-IR Bands	15	COMET	2016
GOES-R AB			
GOE			
GOES-R Multi			
G			
GOES-R Cloud and n			
GOES-R Fire characte			
GOES-R Baseline			
GOES-R			
GOES-R Baseline			
GOES-R Base			
GOES-R			
I			
Visualizing the Geos			
GOES-R Introduct			
GOES-F			
GOES-R			

Topic	Title	Expected Completion Time	Contributor	Developed
Introduction to Microwave Remote Sensing	Introduction to Microwave Remote Sensing	20	CIRA	2018
Introduction to Microwave Remote Sensing	Oxygen and Water Vapor Absorption Bands	20	CIRA	2018
Introduction to Microwave Remote Sensing	Microwave Surface Emissivity	20	CIRA	2018
Introduction to Microwave Remote Sensing	Influence of Clouds and Precipitation	20	CIRA	2018
Introducing Suomi NPP, JPSS, GCOM and GPM	Orbits and Data Availability	20	Dills (COMET)	2018
Introducing Suomi NPP, JPSS, GCOM and GPM	The VIIRS Imager	30	Lee and Dills (COMET)	2018
Introducing Suomi NPP, JPSS, GCOM and GPM	The CrIS and ATMS Sounders	35	Dills (COMET)	2018
Introducing Suomi NPP, JPSS, GCOM and GPM	The AMSR2 Microwave Imager	25	Lee and Dills (COMET)	2018
Introducing Suomi NPP, JPSS, GCOM and GPM	NASA GPM Overview	20	SPoRT	2018
Beneficial Products and their Applications	Uses of VIIRS Imagery	20	Lindstrom (CIMSS)	2018
Beneficial Products and their Applications	The VIIRS Day / Night Band	20	Lee and Dills (COMET)	2018
Beneficial Products and their Applications	NUCAPS Soundings	15	Lindstrom (CIMSS)	2018
Beneficial Products and their Applications	Impact of Satellite Observations on NWP	20	COMET	2017

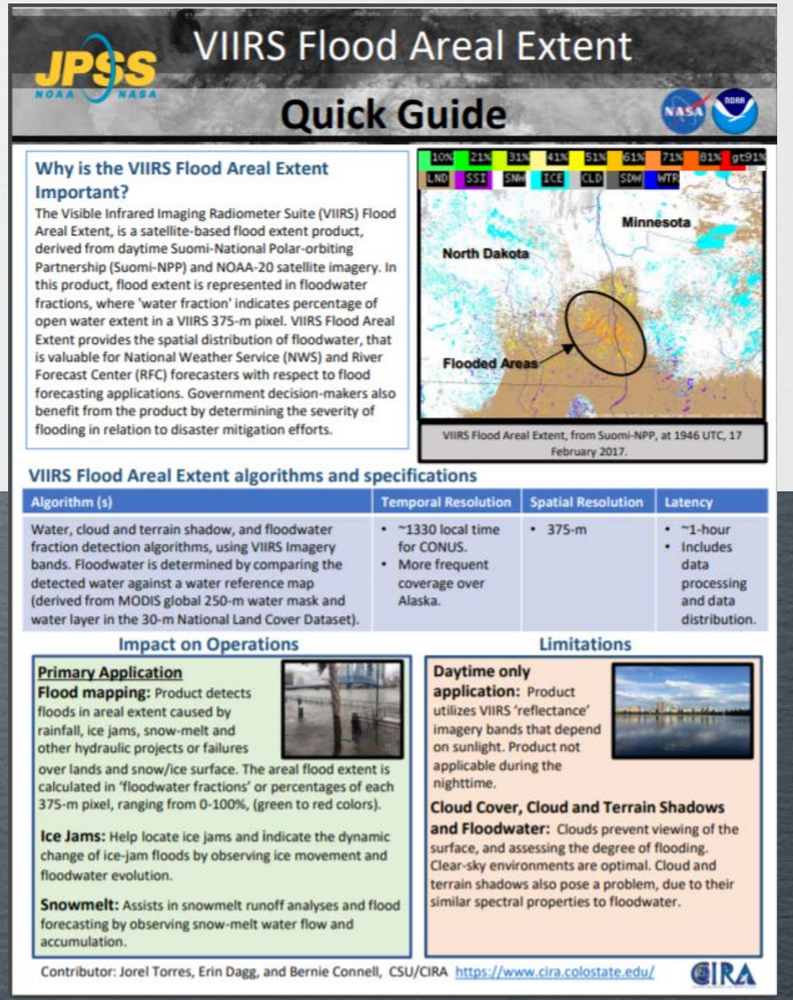
SatFC-G http://rammb.cira.colostate.edu/training/shymet/satfc-g_intro.asp

SatFC-J http://rammb.cira.colostate.edu/training/shymet/training_sessions/satfc-j.asp

Quick Guides and Quick Briefs

National

For GOES-R and JPSS series imagery and products

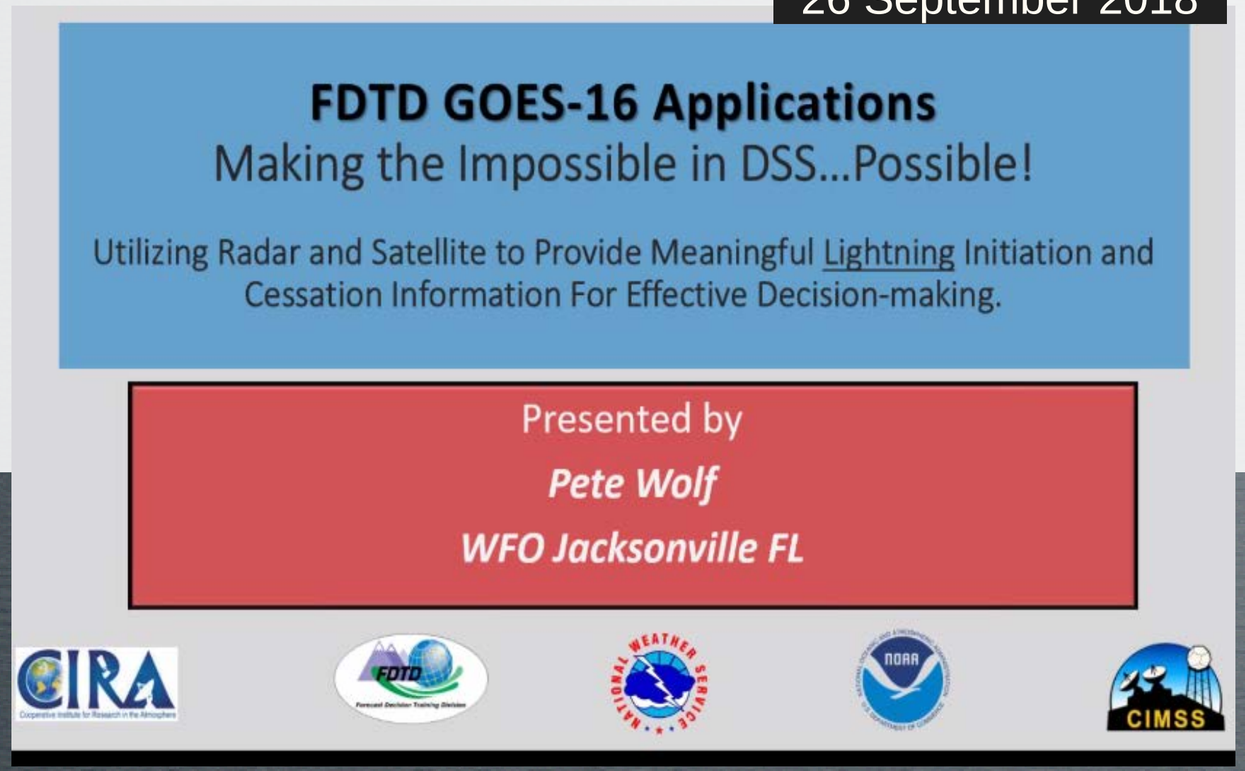


http://rammb.cira.colostate.edu/training/visit/quick_reference.asp

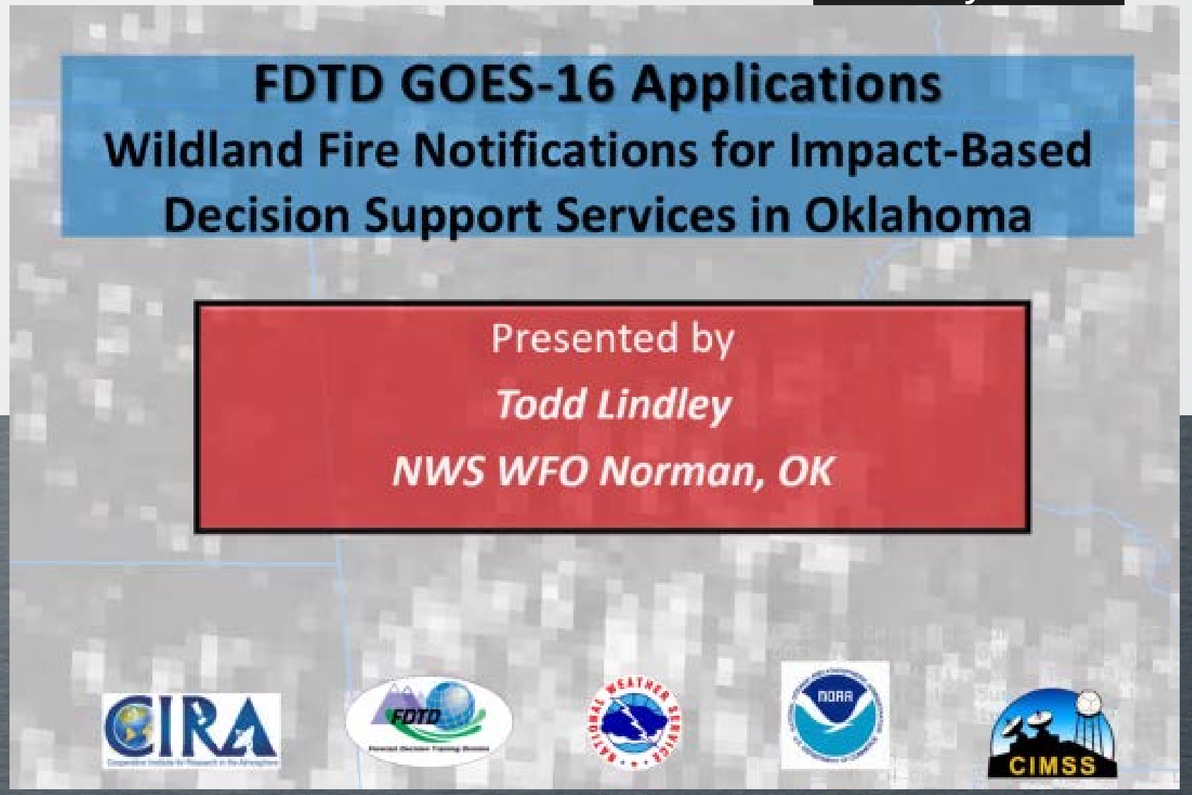
National

FDTD GOES Applications Webinars

26 September 2018



23 May 2018



Facilitated by Dan Bikos and Scott Lindstrom (CIMSS)

http://rammb.cira.colostate.edu/training/visit/satellite_chat/

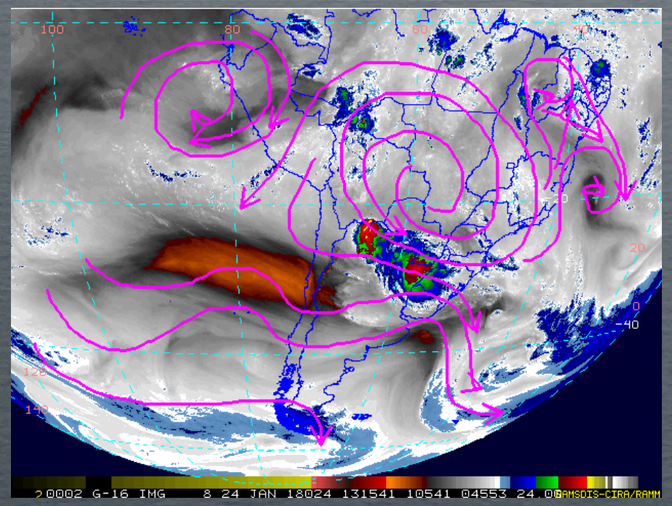
International

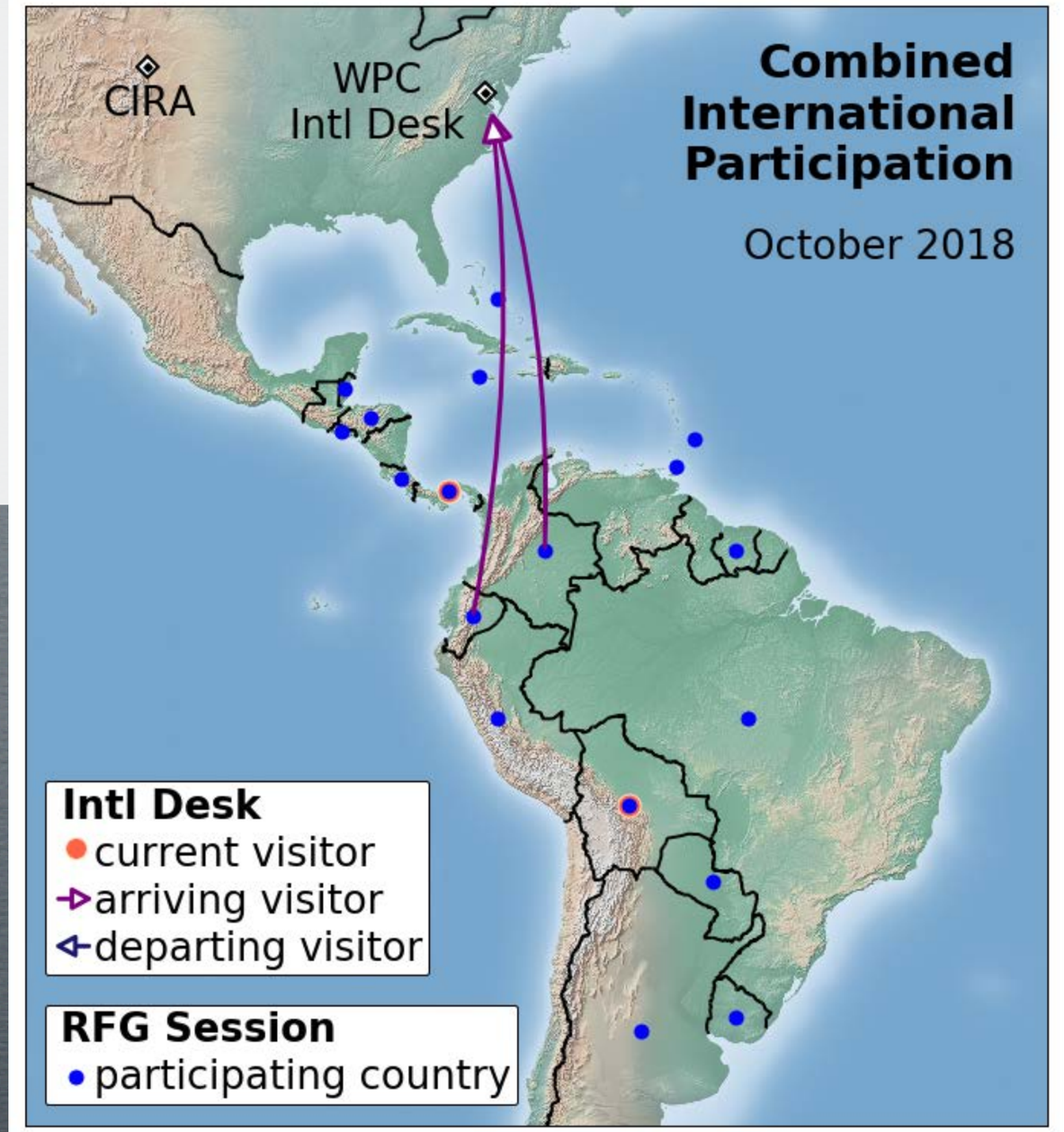
- Visitors to the NWS/NCEP/WPC International Desk (4 months)
- Virtual or in-person training event

Americas and the Caribbean over 14 years!
Bi-lingual

- Virtual Regional Focus Group Climate and Weather Discussions

Monthly

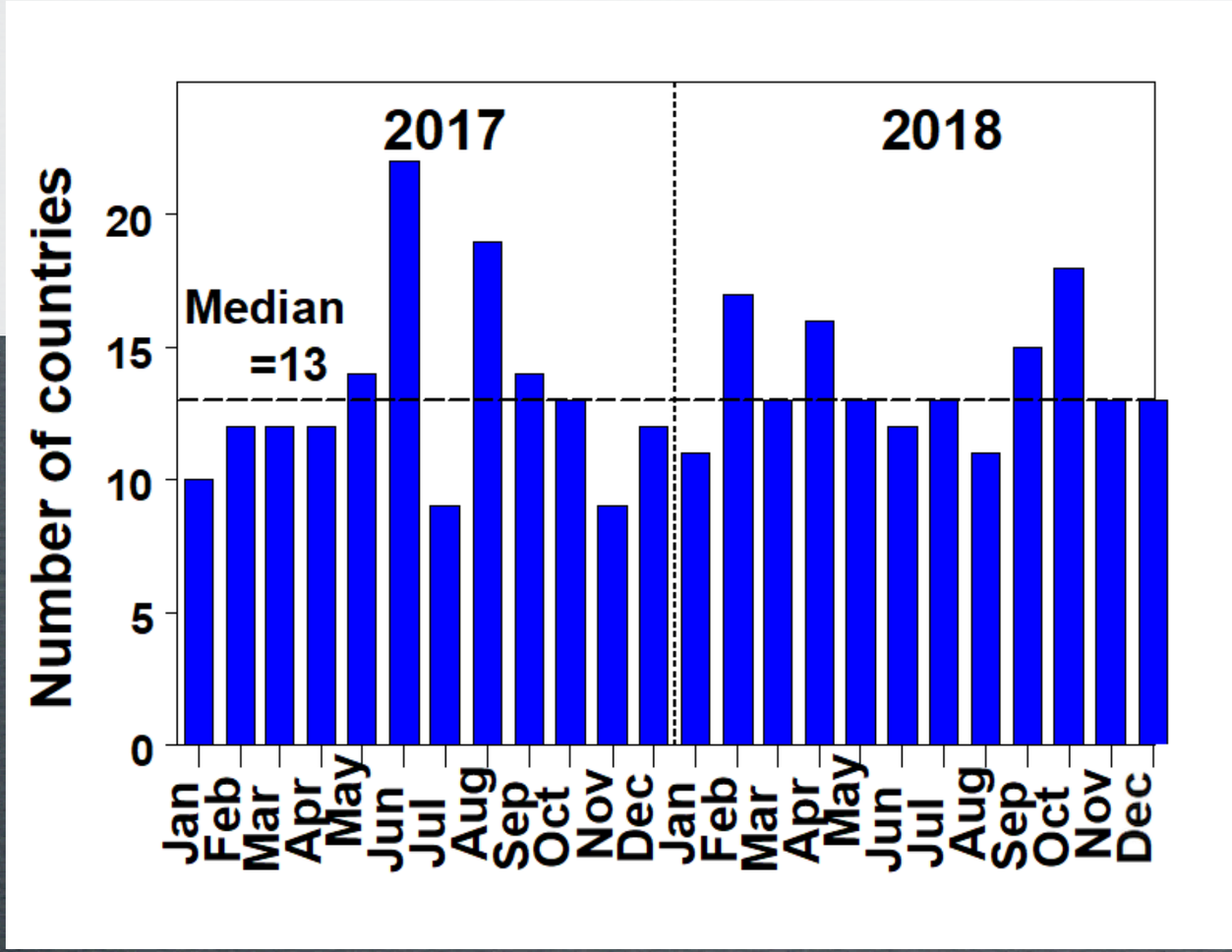


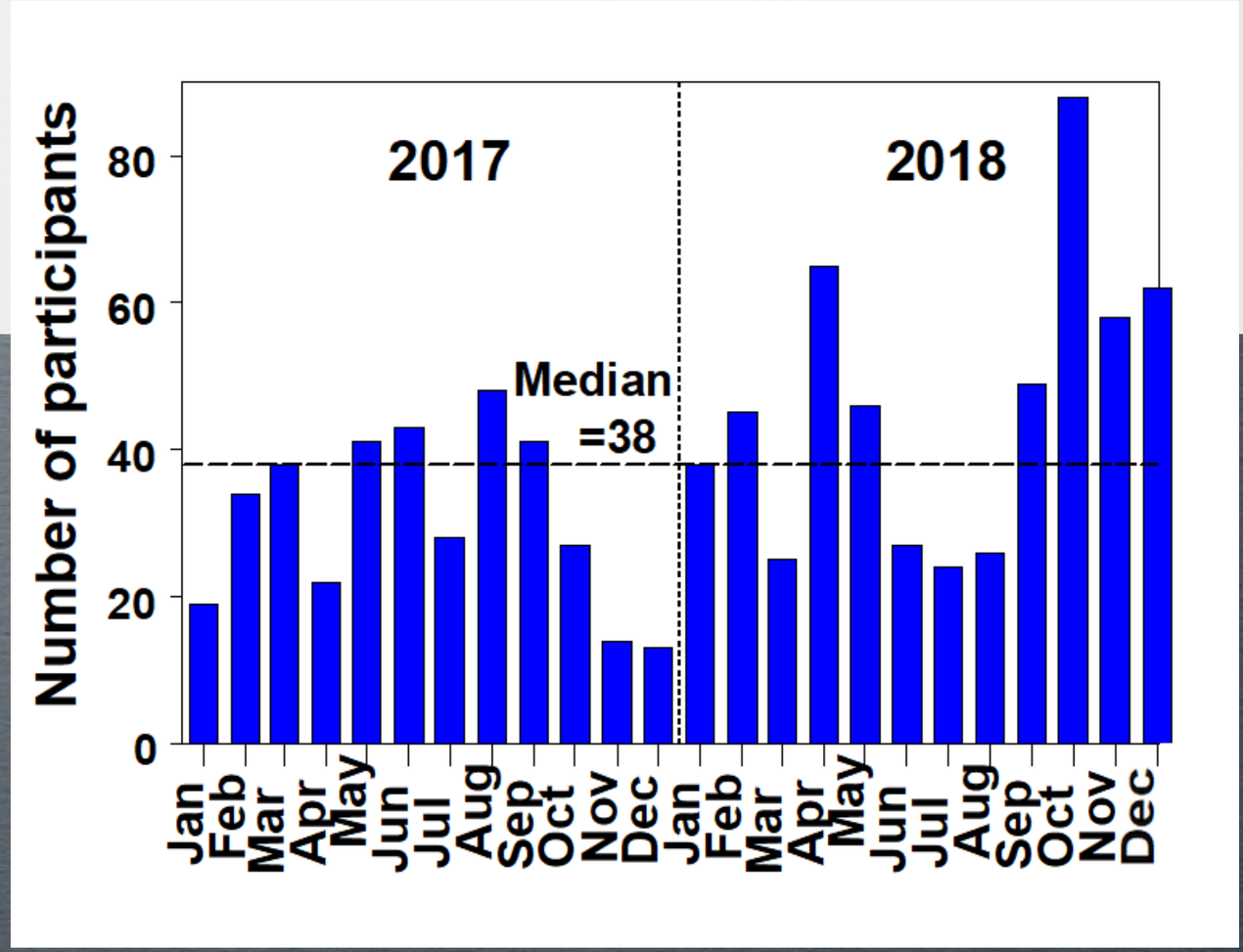


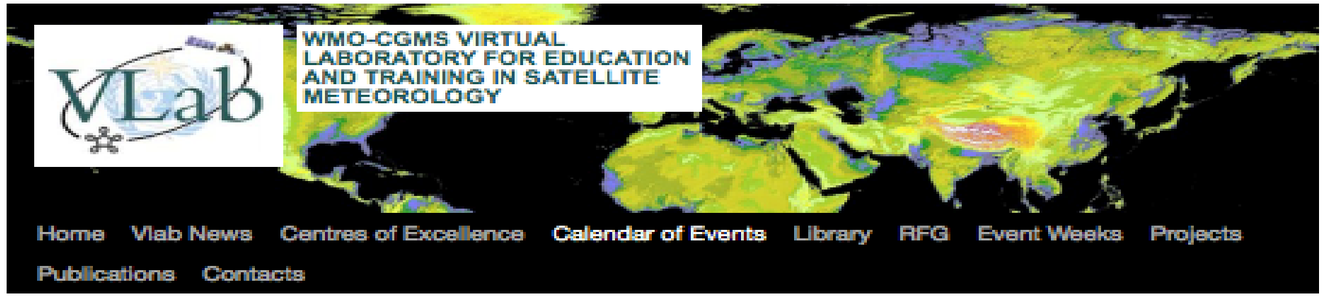
http://rammb.cira.colostate.edu/training/rmtc/fg_recording.asp

International

Participation in the Virtual Regional Focus Group Climate and Weather Discussions







Calendar of Events

This online Calendar of Events shows the upcoming training events, workshops, conferences and online sessions organised by VLab Members and partner Programmes. The Calendar is continuously updated, so make sure to revisit this page frequently.

DATE	TITLE	CITY	CONTACT	INFO	DESCRIPTION
20/08/2018 - 21/09/2018	Identifying African Weather Systems & Features in Satellite Imagery 2018		EUMETSAT Training Team		The objective of the online course is to optimize the use of data from meteorological satellites and to increase the knowledge and skills of meteorological trainers, contributing to improve forecastin...
27/08/2018 10:07 UTC - 07/09/2018 10:08 UTC	XV Ibero American Course	Cartagena	Patricio López		The course will focus on tropical meteorology and the application of Meteosat and GOES satellites to weather phenomena in the Caribbean region and surrounding countries.
28/08/2018 - 30/08/2018	Eumetcal Workshop 2018	Riga			More information will be available later: https://eumetcal.eu/
30/08/2018 15:00 - 16:00 UTC	RFG of Americas and the Caribbean - 15:00 UTC	Online	Bernie Connell		The sessions are bilingual (English and Spanish) and for WMO regions III (South America) and IV (Central America/Caribbean). Session time is 15:00 UTC, but as usual, it will start 15 minutes earlier ...
04/09/2018 16:00 UTC - 25/09/2018 16:30 UTC	High Temporal Resolution Air Quality Observations from Space		Brock Blevins		For certain applications, some satellites take too long to revisit the same spot. Some satellites are capable of consistent monitoring of the same area. This webinar series will cover satellites with ...
05/09/2018 13:00 UTC - 19/09/2018 13:00 UTC	Advanced Webinar: Processing Satellite Imagery for Monitoring Water Quality		Brock Blevins		Polluted water influences all aspects of life, including people, animals, and the environment. NASA satellite observations provide near real-time information about water quality. This freely available...
14/09/2018 09:00 - 10:00 UTC	Live Training on Satellite & NWP integration for Convection & Fog		Training		Operational meteorologists use the Satellite and NWP information for understanding the weather situation better and for preparing weather forecasts for their users and the general public. Integrating ...
17/09/2018 - 21/09/2018	EUMETSAT Meteorological Satellite Conference 2018	Tallinn			EUMETSAT has organised a meteorological satellite conference every year for over thirty years. During that time, the conference has become a key annual event for the meteorological and scientific comm...
24/09/2018 - 28/09/2018	Autumn School on the Use of Satellite Data on Nowcasting High Impact Weather	Thessaloniki	EUMETSAT Training Team		The focus of the Autumn School is nowcasting, which is informing about the state of the atmosphere foreseen for the next hours, and how satellites can help to figure out the atmospheric evolution in t...
26/09/2018 15:00 - 16:00 UTC	RFG of Americas and the Caribbean - 15:00 UTC	Online	Bernie Connell		The sessions are bilingual (English and Spanish) and for WMO regions III (South America) and IV (Central America/Caribbean). Session time is 15:00 UTC, but as usual, it will start 15 minutes earlier ...
27/09/2018 14:00 - 15:00 UTC	CALMet Online Design Workshop		Tsvetomir Ross-Lazarov		A series of online collaboration sessions for trainers in the field of meteorology. Participants submit current training projects that they would like to discuss with other trainers; much of the works...
01/10/2018 - 01/12/2018	Synoptic and Mesoscale Analysis of Satellite Images 2018		EUMeTrain TSO		The course will be offered in a blended format, consisting of an online phase followed by a classroom phase. The location of the classroom phase as well as additional information about the course cont...

Regional and Global Activities

Events advertised in the VLab Online Calendar & WMOLearn Events Calendar

http://www.wmo-sat.info/vlab/

Summary of Successes

- Foundational Training is available for new satellites
- Structure is in place to develop and deliver training for varied audiences: both trainers and users

➔ Capacity Building

Challenges and Opportunities

- Not all countries have adequate access to the internet
- People and other resources are limited…. but they are resourceful ☺
- Training entities will continue to assess and address the next levels of capacity building.

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