

# National and International Training: Merging New and Old Frontiers

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## Goals

**Long Term Goals:** Inform, Engage, Evaluate, Collaborate, Disseminate  
**Target Audiences:** Users, Researchers, Trainers, Educators, Managers, Others

- Short Term Goals:**
- Provide GOES-R image and product examples for National and International Audiences
  - Support Focus Group activities:
    - WMO Focus Group of the Americas and the Caribbean
    - VISIT Satellite Chat
  - Disseminate training material through GEONETCast
  - Evaluate training trends and needs
  - Cooperate and Collaborate with others to make training more accessible and visible

Locally Available Tools and Communities for Collaboration:

Virtual Institute for Satellite Integrated Training  
[rammb.cira.colostate.edu/visit/](http://rammb.cira.colostate.edu/visit/)

Satellite Hydrology and Meteorology  
[rammb.cira.colostate.edu/shymet/](http://rammb.cira.colostate.edu/shymet/)

WMO-CGMS Virtual Laboratory for Education and Training in Satellite Meteorology  
[vlab.wmo.int](http://vlab.wmo.int)

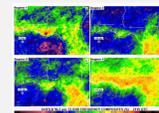
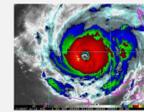
## Lecture and module based

**VISIT Focus:**  
**Single topics:**  
 Satellite Meteorology  
 Severe Weather  
 Winter Weather  
 Tropical  
 Lightning  
 Climate  
 Numerical Weather Prediction  
 Fire Weather  
 Other



## USA: National Weather Service

**SHyMet Focus:**  
**Development Plans:**  
 Tropical SHyMet  
 SHyMet for Forecasters  
 SHyMet for Interns  
 SHyMet Severe

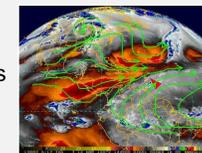
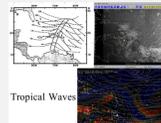


Leverage: Virtual Training for different audiences

**WMO Regional Focus Group of the Americas and the Caribbean**  
 Organizers: CIRA, US NWS Training Branch, International Desk at NCEP, Regional Training Centers in Costa Rica and Barbados  
[rammb.cira.colostate.edu/vlab](http://rammb.cira.colostate.edu/vlab)

## VLab Virtual Event Weeks

Organizers: VLab, WMO Member countries  
 Recent US participation in:  
**Aviation Week** 30 April to 3 May 2012  
**Dust/Ash Week** 24-28 October 2011



International      Lecture and discussion based

## User Feedback

Feedback captured through various mediums: emails, AFDs, phone calls, visits, web input

BOU AFD 1/30/2012  
 SO OVERALL SHOULD SEE WARMER MAXIMUM TEMPERATURES OVER YESTERDAY. HOWEVER UPPER LEVEL MOISTURE WILL BE INCREASING LATER THIS MORNING AND SYNTHETIC SATELLITE IMAGERY SHOWING MORE WAVE CLOUDS FORMING BY EARLY AFTERNOON. DEPENDING ON THE THICKNESS, THIS MAY KEEP HIGHS CLOSE TO YESTERDAY MAINLY ALONG THE URBAN CORRIDOR.

SPE 2/21/2012  
 NN STORM HAS SLOWLY BEEN GETTING DEPRESSED/DWD ALONG THE WEST COAST OVER THE PAST FEW HRS AS SEVERAL VERY FAST MOVING WVS HAVE ROUNDED THE TOP OF THE UPPER LV. RISE AS THEY MOVE ACROSS SW CANADA. BLENDED TPW PRODUCT SHOWS RICH PW HIGHS MOISTURE HAS WEAKENED OFF THE PAC NW COAST TO BETWEEN 0.8-0.9" FOR MAX VALUES NOW. WITH LOW LVL FLOW PER SFC WIND REGIONAL WVP DATA FROM THE SW (NEAR SFC) TO W (850 MB). STRONGEST OROGRAPHIC LIFT IS OCCURRING ACROSS THE OLYMPICS AND ALONG THE CENTRAL CASCADES BUT IS GRADUALLY SHIFTING SWD.

CIRA OROGRAPHIC RAININDEX AT HTTP://PRODUCTS.CIRA.COLOSTATE.EDU/IMG/DEPOTS THIS ENHANCEMENT VERY WELL. 0444Z AMSU PASS HAD INDICATED GENERALLY MOST INSTANTANEOUS/OFFSHORE RAIN RATES W OF WA STATE UNDER 0.1"HR WITH ONLY 1 OR 2 PIXELS SHOWING BETWEEN 0.1-0.3"HR RATES, WHICH HAVE ALREADY MOVED INLAND BY NOW.

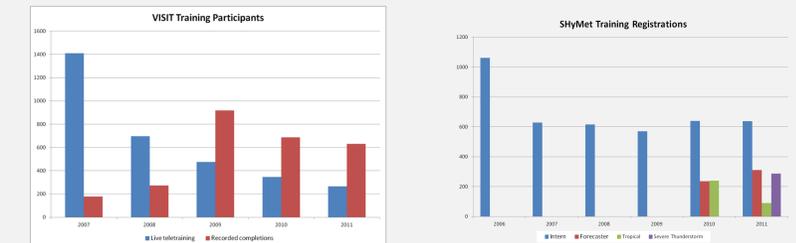
GeoColor CONUS 4 km

Flash Loop, Latest Image, Wx Archive, Product Info, Give Feedback

BOU AFD 4/26/2012  
 DUE TO LIMITED LOW-LEVEL MOISTURE ON THE PLAINS AT THAT TIME CAPE VALUES ARE PRESUMABLY UNDER 1000 J/KG. STILL SUFFICIENT ENOUGH TO GENERATE STORM UPDRAFTS CAPABLE OF SMALL HAIL AND BRIEF MODERATE TO HEAVY RAINFALL. ABI R 10:30U SAT LOOP SHOWS THIS DEVELOPMENT AND PROGRESSION NICELY. THIS FIRST WAVE OF STORMS LIKELY TO REACH THE EASTERN BORDER OF CO BY 06Z TODAY. MODELS AND THE ABI SAT LOOP THEN SHOW A SECOND WAVE OF T-STORMS ASSOCIATED WITH THE UPPER TROUGH MOVING OUT OF THE CNTRL COLORADO MTS AND ONTO THE NERN PLAINS OF CO DURING THE EVENING HOURS.

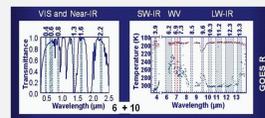
BUF AFD 1/4/2012  
 ALTHOUGH MOST AREAS WILL STAY DRY TODAY...CLOUDS WILL CONTINUE TO HANG AROUND THROUGHOUT THE DAY. CIRA LOW CLOUD PRODUCT INDICATES BROAD AREA OF LOWER CLOUDS EXTENDING FROM WESTERN NEW YORK BACK INTO NORTHERN ONTARIO. THESE CLOUDS WILL ROTATE ACROSS THE REGION TODAY PROVIDING FOR A RATHER GRAY WINTER DAY. TEMPERATURES WILL RUN NEAR SEASONAL AVERAGES TODAY...HOWEVER EXPECT A SIGNIFICANT WARM UP TO BEGIN TONIGHT AS SOUTHERLY FLOW AHEAD OF A CLIPPER LOW OVER MANITOBA LIFTS A WARM FRONT ACROSS THE REGION. ISENTROPIC LIFT WITH THIS FRONT IS DECENT...BUT MOISTURE WILL BE VERY LIMITED AND WILL LEAVE JUST A CHANCE OF SHOWERS AND/OR FLURRIES FOR THIS AFTERNOON AND TONIGHT AS THE FRONT MOVES NORTH. TEMPERATURES WILL REMAIN NEARLY STEADY OR RISE SLIGHTLY OVERNIGHT TONIGHT COURTESY OF THE WARM FRONT WITH THE MERCURY GENERALLY RUNNING FROM RIGHT AROUND FREEZING ACROSS THE NAGARA FRONTIER TO THE LOW 20S ACROSS THE NORTH COUNTRY...WITH MID TO UPPER 20S ELSEWHERE.

## Training Trends



## Existing GOES-R Training

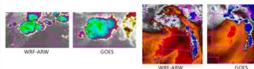
**GOES-R 101**  
 Synthetic Imagery in Forecasting Severe Weather  
 Synthetic Imagery in Forecasting Orographic Cirrus



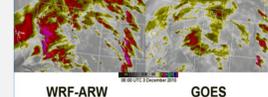
[http://rammb.cira.colostate.edu/research/goes-r/risk\\_reduction/training.asp](http://rammb.cira.colostate.edu/research/goes-r/risk_reduction/training.asp)

Modules with embedded GOES-R content:  
 Water Vapor Imagery Analysis for Severe Weather  
 Volcanoes and Volcanic Ash (Parts 1 and 2)  
 Regional Satellite Cloud Composites from GOES

Utilizing Synthetic Imagery from the NSSL 4-km WRF-ARW model in forecasting Severe Thunderstorms

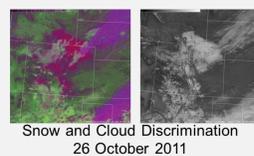


Utilizing Synthetic Imagery to Forecast Orographic Cirrus



**VISIT Meteorological Interpretation Blog**  
<http://rammb.cira.colostate.edu/training/visit/blog/>

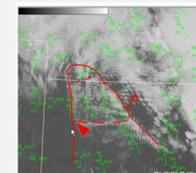
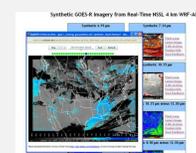
**RAMMB: GOES-R Proving Ground Blog**  
[http://rammb.cira.colostate.edu/research/goes-r/proving\\_ground/blog/](http://rammb.cira.colostate.edu/research/goes-r/proving_ground/blog/)



## Recent Additions

**NEW VISIT Satellite Chat monthly**

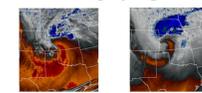
- Organizers: CIRA and CIMSS  
 Initial session: February 2012  
 These interactive discussions are intended to:
- 1) Be brief ~ 30 minutes.
  - 2) Demonstrate satellite products that can be applied to operational forecasting.
  - 3) Exchange ideas: operations ↔ research
  - 4) Identify new training topics based on participant input.
  - 5) Incorporate timely seasonal examples and use real-time data.



Product	Contact	Related Training	Data Display	WFO / Feedback	Product Type	Usage
GOES Sounder RGB Air Mass	John Knall	Product Description: CONET; ELMET SAT Training; NWS Training; FACT SHEET; NWS Training	ANSPS web	WFO/CPC/SAB NHC	New Product	Air mass identification
ISSC-based RGB Air Mass Product	John Knall	Product Description: CONET; ELMET SAT Training; NWS Training; FACT SHEET; NWS Training	ANSPS web	NHC	New Product	Air mass identification
GOES Low Cloud / Fog Imagery	Don Hillger	Product Description: CONET	ANSPS web	WFO	Product Variant	Cloud determination
MODIS Cirrus Detection	Steve Miller	Product Description: CONET	ANSPS web	WFO	New Product	Cloud determination
Marine Stratus Cloud Climatolgy	Steve Miller	Product Description: VISIT Student Guide	ANSPS web	WFO	New Product	Cloud determination
Orographic Rain Index (ORI)	Steve Miller	Product Description: CONET	ANSPS web	HNT	New Product	Rainfall
Synthetic NSSL WRF-ARW Imagery	Dan Lindsey	Product Description: VISIT Student Guide; VISIT Student Guide; VISIT Student Guide	ANSPS web	SFC Spring Experiment; NWS	New Product	Severe Thunderstorm
MODIS Cloud / Snow Discriminator	Steve Miller	Product Description: CONET	ANSPS web	WFO	Product Variant	Snow / Cloud determination
MODIS Cloud Layers & Snow-Cover Discriminator	Steve Miller	Product Description: CONET	ANSPS web	WFO	Product Variant	Snow / Cloud determination
GOES Snow / Cloud Discriminator (S...)	Steve Miller	Product Description: CONET	ANSPS web	WFO	Product Variant	Snow / Cloud determination

**Updated Product List**  
 Added usage category being used as guidance for creation of SHyMet courses

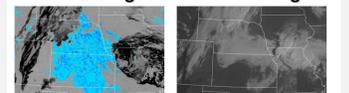
Utilizing Synthetic Imagery from the NSSL 4-km WRF-ARW model in Forecasting Cyclogenesis



Dan Bikos and Dan Lindsey



Utilizing Synthetic Imagery from the NSSL 4-km WRF-ARW model in Forecasting Low Clouds and Fog



Dan Bikos and Dan Lindsey

