When the data are flowing from GOES-R in 2015+, will we be ready? YES- because we are starting our training efforts now. The training efforts leverage the existing VISIT(clickable icon with link <http://rammb.cira.colostate.edu/training/visit/> ) and SHyMet(clickable icon with link <http://rammb.cira.colostate.edu/training/shymet/> ) structure.

**GOES-R 101** (<http://rammb.cira.colostate.edu/training/shymet/forecaster_GOESR101.asp> ) Presents a brief overview of the sensors that will be on GOES-R and includes those for Space Weather, Auxiliary Services, the Geostationary Lightning Mapper, and the Advanced Baseline Imager.

*More info link*

**Length:** 90 minutes

**Delivery:** online module with audio and downloadable VISIT session with audio and talking points

**Target Audience:** Forecaster - although it is informative for all.

**Addresses:** Why, When, How, and What of GOES-R. The first third of the module discusses improvements to the GOES-R sensors over the current GOES sensors, and the rest of the module presents examples. To give a preview of ABI capabilities, examples are drawn from the European satellite Meteosat Second Generation (MSG) and the polar orbiting sensor Moderate Resolution Imaging Spectroradiameter (MODIS). The module can be viewed alone or taken as part of the SHyMet for Forescaster Series.

(Can we make pictures small and clickable to a new page or only show up in the more info link)

**Synthetic Imagery in Forecasting Severe Weather** <http://rammb.cira.colostate.edu/training/visit/training_sessions/synthetic_imagery_in_forecasting_severe_weather/> This module examines many examples which demonstrate how to effectively use GOES-R synthetic water vapor and infrared imagery in forecasting severe weather.

*More info link*

**Length:** 60 minutes

**Delivery**: teletraining and online module with audio

**Target Audience:** Forecaster

**Addresses:** GOES-R synthetic imagery for 2 water vapor channels at 6.95 um and 7.34 um and the long wave infrared at 10.35 um is produced from cloud output of the NSSL 4-km WRF-ARW model by post-processing the cloud output through a radiance observation operator. In this module, 12 case days have been collected to compare GOES-R synthetic imagery with similar water vapor and infrared channels currently available on the GOES imager as well as other GOES channels, model information and conventional observations. The current GOES water vapor channels used for comparison are at 6.5 um on GOES 13 and at 6.7 um on GOES 11, and the current GOES infrared channel used for comparison is at 10.7 um. The sounder water vapor channel at 7.4 um is also used for feature identification and comparison with the synthetic imagery. The cases highlight identification of jet streaks, ... Dan – more info?

**Synthetic Imagery in Forecasting Orographic Cirrus** <http://rammb.cira.colostate.edu/training/visit/training_sessions/synthetic_imagery_in_forecasting_orographic_cirrus/> This module highlights the advantages of using GOES-R synthetic (WV or IR) imagery analysis to forecast the occurrence of orographic cirrus.

*More info link*

**Length:** 30 minutes

**Delivery:** teletraining and online module with audio

**Target Audience:**  Forecaster

**Addresses:** GOES-R synthetic imagery for the water vapor channel at 6.95 um and the long wave infrared at 10.35 um is produced from cloud output of the NSSL 4-km WRF-ARW model by post-processing the cloud output through a radiance observation operator. Four examples are presented to compare GOES-R synthetic imagery with similar water vapor and infrared channels currently available on the GOES imager, as well as other GOES channels, model information and conventional observations. The current GOES water vapor channels used for comparison are at 6.5 um on GOES 13 and at 6.7 um on GOES 11, and the current GOES infrared channel used for comparison is at 10.7 um. The cases highlights issues that arise in forecasting daytime maximum and nighttime minimum temperatures that are affected by the presence of orographic cirrus. Dan- is this correct? Anything else you want to say?

***These modules include embedded GOES-R content:***

**Volcanoes and Volcanic Ash (Part 1)**

<http://rammb.cira.colostate.edu/training/visit/training_sessions/volcanoes_and_volcanic_ash_part_1/>

This module gives a brief overview of volcano types and associated hazards on the ground and in the air. It discusses remote sensing techniques of ash and aerosol detection as well as modeling and plume dispersion.

*More info link:*

**Length:** 140 minutes

**Delivery:** online module with audio and talking points

**Target Audience:** Forecaster - although it is informative for all.

**Addresses:** Sets the context for discussing volcano hazards (introduction to), starting with a geologic overview of the three main types of volcanoes (Cinder Cones, Composite Volcanoes, and Shield Volcanoes), two general eruption types (effusive and explosive), three primary eruption mechanisms (magmatic, phreatic, and phreatomagmatic), and monitoring methodology used to detect eminent volcanic activity. This then is followed by a discussion of health hazards, aviation hazards, and methods to detect ash and aerosol in real time from satellite, aircraft, and ground-based (lightning, radar, and lidar) sensors. Many examples are shown to highlight detection of ash and aerosol by various satellite platforms and techniques and include comments on strengths and weaknesses of the approaches. The final section is devoted to modeling the movement of ash and aerosol and forecasting its dispersion. To drive home the point that the continental US has potential volcanic ash hazards, dispersion examples are given for 5 volcano regions in the western US. Jeff, does this sound appropriate? – Yes…I just changed/added a word or two here and there. I will send a picture shortly.

**Volcanoes and Volcanic Ash (Part 2)** <http://rammb.cira.colostate.edu/training/visit/training_sessions/volcanoes_and_volcanic_ash_part_2/>

The module first goes through a case example, using Alaska’s Mt. Redoubt 2008 eruption. Next is an overview of the key organizations involved in monitoring, detecting, and tracking volcano activity and volcanic hazards…including the flow of information through these organizations during a volcano event (and the thoughts behind a VAA). It then evaluates the air traffic scientific and technical issues associated with the 2010 eruption of the Islandic volcano Eyjafjallajökull and presents lessons learned. The module ends with a look into future products.

Same here, added/edited a bit. Will send picture here too.

*More info link:*

**Length:** 90 minutes

**Delivery:** online module with audio and talking points

**Target Audience:** Forecaster - although it is informative for all.

**Addresses:** Jeff, more details will go here. If you have any you definitely want highlighted, please include. I have to put this aside to get to a few other things.

..contains an example of synthetically produced RGB imagery of a hypothetical volcanic eruption from the Yellowstone, Wyoming region

**Regional Satellite Cloud Composites from GOES** <http://rammb.cira.colostate.edu/training/visit/training_sessions/regional_satellite_cloud_composites_from_goes/> This module describes what a regional satellite cloud composite is, what types of simple cloud composites can be created from GOES imagery, and how they can be used in the forecast process.

*More info link:*

**Length:** 50 minutes

**Delivery:** online module with audio and downloadable VISIT session with audio and talking points

**Target Audience:** Forecaster

**Addresses:** Simple methods to calculate visible and infrared cloud composites and presents various ways to composite the information: diurnally, monthly, seasonally, annually, by regime, and by event. Examples are presented from a sea breeze study at the Tallahassee, Florida WFO, a strong wind event study at the Cheyenne, Wyoming WFO and a marine stratus study at the Eureka, California WFO.