

Training in NOAA Satellite Proving Ground

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NOAA/Satellite Information Service

A Changing World

Events of 2010



Deepwater Horizon
Over 100 days'
deployment



"Snowmagedon"
DC – Baltimore Paralyzed
for 7 days



Iceland Volcanic Ash
\$2B Aviation Impacts

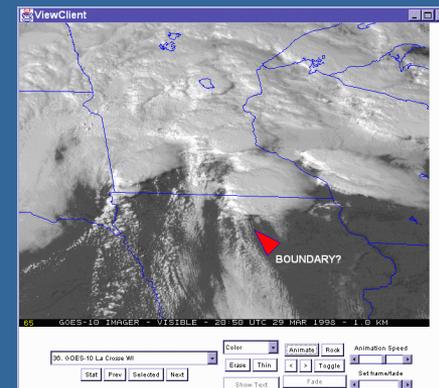
Supporting these events *singularly* stretched NWS resources and capabilities

September 2011



Key Points on Training for Proving Ground

- Satellite Training is a Community
- Training in GOES-R Proving Ground
- Moving to Roadmap 2020 –
Decision Support Services



Training Community

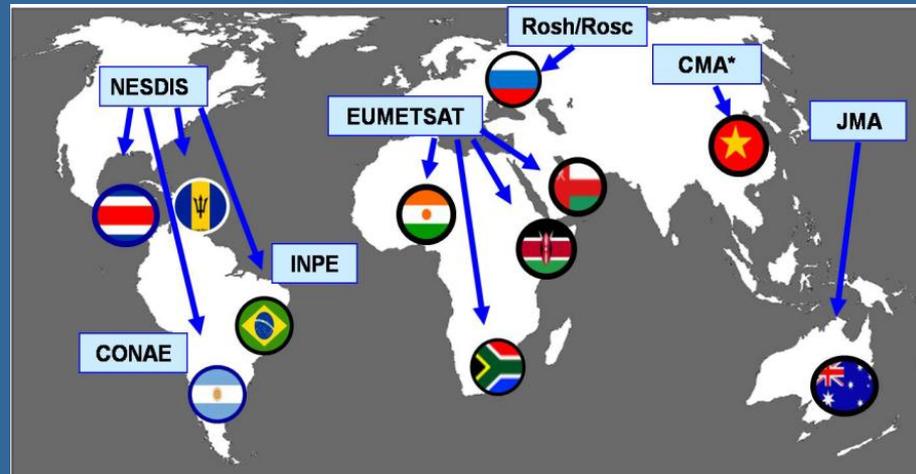
- Dedicated NWS Training Division -
1 Center and 2 Branches
- Many Partners in NOAA
NESDIS, Cooperative Institutes & Programs
(COMET)
- US Agencies (DOD, NASA, DHS, DOT,...)



Training Community

International Collaboration

- WMO Space Programme Virtual Laboratory, Centres of Excellence (Argentina, Barbados, Brazil, Costa Rica), EUMETSAT, Canada, and others...

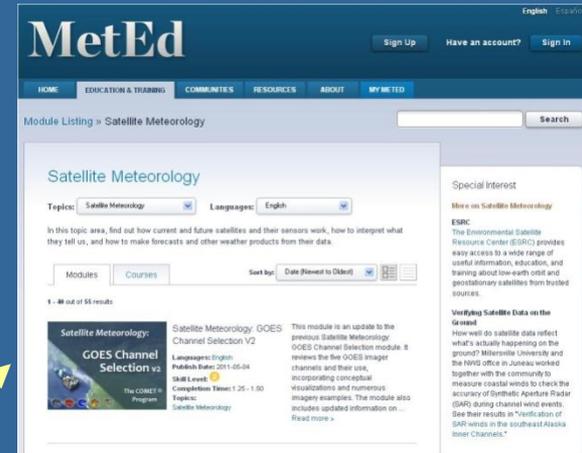


NOAA & Partners

Working Together for Satellite Training



VISIT (CIRA/CIMSS/SPoRT)

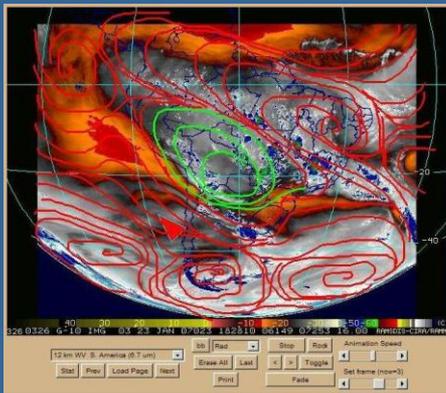


UCAR/COMET

EUMETSAT, DOD,
NASA, DOT, ...

Satellite
Proving Ground

Users, Developers &
Managers



WMO (Virtual Lab)

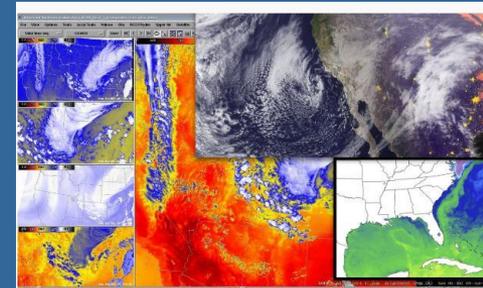


NWS Training Division

Training in GOES-R Proving Ground

Prepare NOAA Users & **Developers**

- Rapidly Evolving Technology & Operations
- Human Performance → Support Services
- Evolving Societal Needs & Impacts



Examples of GOES-R Proving Ground images and products

GOES-R Satellite Proving Ground Mission Statement

The Geostationary Operational Environmental Satellite (**GOES-R**) Satellite Proving Ground project engages the National Weather Service (NWS) forecast and warning community in pre-operational demonstrations of selected capabilities anticipated from the next generation of National Oceanic and Atmospheric Administration (NOAA) geostationary earth observing systems...



Proving Ground Mission Statement

GOES-R Proving Ground engages NWS in pre-operational demonstrations of selected capabilities of next generation GOES

- The Proving Ground accomplishes its mission through:
Sustained interaction between developers and end users for **training**, product evaluation, and solicitation of user feedback.



GOES-R Proving Ground

>> Home >> GOES-R Proving Ground

Resources

Proving Ground Products
List (Table)

[CIMSS NOAA Testbed
Support Products](#)
[CIRA Products](#)
[SPoRT Products](#)
[CIMSS "MODIS Imagery
in D-2D"](#)

[Meetings and
Presentations](#)
[Teleconferences](#)

[NWS Collaborative Site
Visits](#)
[Proving Ground Timeline](#)

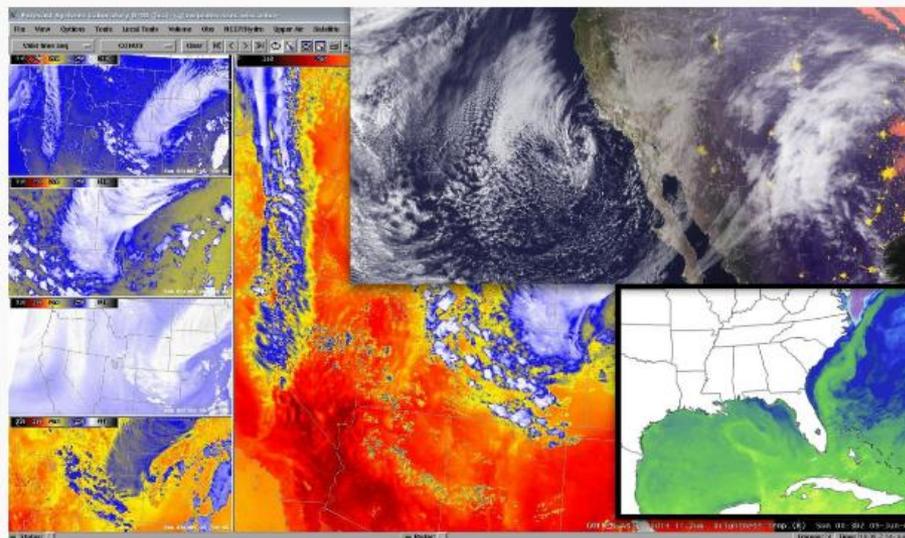
Proving Ground Partners

[Two-Page PPF](#)
[Two-Page PDF](#)
[Page 1 PNG](#)
[Page 2 PNG](#)

[GOES-R Advanced
Baseline Imager \(ABI\)
Bands](#)
[GOES-R ABI Sample
Product Table](#)
[GOES-R ABI Weighting
Function Examples](#)

Related Links

[Proving Ground Overview](#)
[GOES-R "101" VISITview
lesson](#)
[COMET GOES-R:
Benefits of Next
Generation Environmental](#)



Examples of GOES-R Proving Ground images and products

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[>> Read more](#)

Proving Ground Initial Training

UW/CIMSS NOAA Proving Ground Testbed Decision Support Products

Description	Contact	Training	Quicklooks	Validation	Satellite Platform	Testbed	Forecaster Comments	Product Type	AWIPS Setup
Convective Initiation (UWCI)	Wayne Feltz	UWCI (Visit) UWCI (ppt)			GOES Imager	HWT, AWC, PR	Link	Product Variant	
Overshooting Top (OTTC) and Enhanced-V	Wayne Feltz Kris Bedka	OTTC (PPT) OTTC and Enhanced-V (Visit)	Convective Decision Support	Convective Initiation Products	GOES Imager, MODIS/AVHRR	HWT, HLT	Link	AWG Proxy	Instructions
WRF Simulated Radiances (ABI Simulated Radiances)	Justin Sieglaff	WRF (PDF)	WRF			HWT		Risk Reduction	
WildFire ABBA (WFABBA)	Chris Schmidt				GOES Imager	HWT		AWG Proxy	
NearCast	Ralph Petersen	UW NearCasting (VISIT)	NearCast		GOES Imager, GOES Sounder	HWT	Link	Risk Reduction	Instructions
Volcanic Ash	Mike Pavlonis	Ash(PPT) Volcanic Ash(VISIT)			MODIS, SEVIRI	AAWU, AWC, HLT, PR		AWG Proxy	Instructions
Low Clouds/Fog	Mike Pavlonis	Fog(Training) Quick Facts			MODIS-Alaska, GOES-CONUS	AAWU, AWC, HLT		AWG Proxy	
Cloud Type	Mike Pavlonis	TBD			MODIS-Alaska, GOES-CONUS	AAWU, HLT, OPC		AWG Proxy	See Contact
SO ₂	Mike Pavlonis	TBD			MODIS	AAWU, AWC		AWG Proxy	See Contact

Testbed Legend

HWT-Hazardous Weather Testbed
AWC-Aviation Weather Center
HPC-Hydrological Prediction Center

AAWU-Alaskan Aviation Weather Unit
HLT-High Latitude Testbed-Alaska
NHC-National Hurricane Center

PR-Pacific Region
OPC-Ocean Prediction Center

UW/CIMSS Tropical Proving Ground Decision Support Products for the National Hurricane Center

Description	Contact	Training	Data Page	Validation	Satellite Platform	Product Type
Tropical Overshooting Tops	Sarah Monette	TOT	Tropical Overshooting Tops		SEVIRI	AWG Proxy
Hurricane Intensity	Tim	HPC	HPC		SEVIRI	AWG Proxy

GOES-R - CIRA Product List

Information

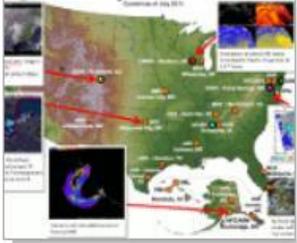
Experimental and operational data are used to demonstrate subsets of what will be available from GOES-R. The real time demonstrations include GOES-R AWG products, product variants, new products and new imagery/visualization techniques. The table below summarizes the products, with a clickable link to more information.

CIRA Product List:

Product & Description	Product Input	Demonstration Type	Demonstration Resolution	GOES-R Resolution	Product Status/Availability	Product Source
GeoColor Imagery	GOES/MODIS/DMSP	New Imagery/Visualization Technique	GOES 4 km/30 min	2 km/5 min	Since Spring 2009	CIRA
True Color Imagery	MODIS	New Product	0.5 - 1 km/3 hour	1 km/5 min	Since Spring 2010	CIRA
Low Cloud / Fog Imagery	GOES	Product Variant	GOES 4 km/15 min	2 km/5 min	Since Fall 2009	CIRA
Cirrus Detection	MODIS	New Product	1 km/3 hour	1 km/5 min	Since Spring 2010	CIRA
Orographic Rain Index (ORI)	GOES/Radar/GFS	New Product	1 km/1 hour	2 km/1 hour	Since Winter 2009	CIRA
Marine Stratus Cloud Climatology	GOES	New Product	GOES 4 km/1 hour	2 km/30 min	Since Summer 2010	CIRA
Blowing Dust Detection (Split-window technique)	GOES	Product Variant	GOES 4 km/30 min	2 km/5 min	Since Fall 2009	CIRA
Blowing Dust (Blue-light absorption technique)	MODIS	Product Variant	1 km/3 hour	2 km/5 min	Since Spring 2010	CIRA
Cloud / Snow Discriminator	MODIS	Product Variant	1 km/3 hour	2 km/5 min	Since Fall 2009	CIRA
Cloud Layers & Snow Cover Discriminator	MODIS	Product Variant	1 km/3 hour	2 km/5 min	Since Fall 2009	CIRA
Snow / Cloud Discriminator (3-color technique)	GOES	Product Variant	GOES 4 km/30 min	2 km /5 min	Since Summer 2010	CIRA

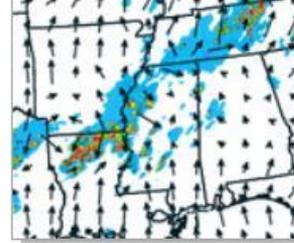
SPoRT PG Products

Click on a topic below for additional information.



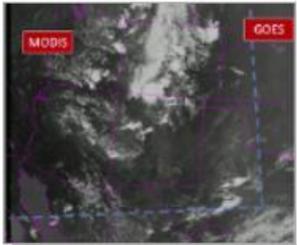
Map of Partners

View a map detailing SPoRT's GOES-R PG partners.



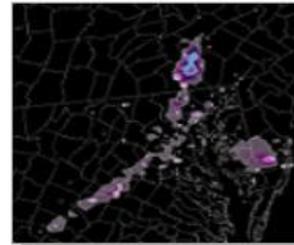
Lightning Forecast Algorithm

The LFA predicts total lightning flash rate densities based on the model-simulated microphysics and convective storm kinematics.



MODIS/GOES Hybrid

Demonstration products to prepare end users for the Advanced Baseline Imager (ABI) using a combination of MODIS and GOES imagery.



Pseudo Geostationary Lightning Mapper

Lightning products that mimic the 8km resolution of the Geostationary Lightning Mapper (GLM).



RGB Products

RGB composite images offer the possibility of compressing multi-spectral information content for optimum visualisation.

VISIT Training

Title	Topic	Developed	Level	Instructor(s)	Recorded	Talking points	Live Training	Length (Min)
Volcanoes and Volcanic Ash Part 2	Aviation / Satellite	2011	Basic	Braun	Y	Y	N	90
Objective Satellite-Based Overshooting Top and Enhanced-V Anvil Thermal Couplet Signature Detection	GOES-R Proving Ground	2011	Basic	Lindstrom	Y	Y	Y	60
Synthetic Imagery in Forecasting Severe Weather	GOES-R Proving Ground	2011	Int	Bikos	Y	Y	Y	60
Synthetic Imagery in Forecasting Orographic Cirrus	GOES-R Proving Ground	2011	Basic	Bikos	Y	Y	Y	30
Morphed TPW Detection (MIMIC)	Satellite	2010	Basic	Lindstrom	Y	Y	Y	45
Regional Satellite Cloud Composites from GOES	Satellite	2010	Basic	Connell	Y	Y	N	50
Aviation Hazards	Aviation / Sat	2009	Basic	Braun	Y	Y	N	180
Volcanoes and Volcanic Ash Part 1	Aviation / Sat	2010	Basic	Braun	Y	Y	N	140
Basic Satellite Imagery Interpretation in the Tropics	Tropical / Sat	2010	Basic	Bikos	Y	Y	Y	60
The UW NearCasting Product	GOES-R Proving Ground	2010	Basic	Lindstrom	Y	Y	Y	45
Water Vapor Imagery Analysis for Severe Weather	Severe / Sat	2010	Int	Bikos	Y	Y	Y	75
The UW Convective Initiation Product	GOES-R Proving Ground	2010	Int	Lindstrom	Y	Y	Y	45

COMET MetEd

Satellite Meteorology

Topics:

Languages:

In this topic area, find out how current and future satellites and their sensors work, how to interpret what they tell us, and how to make forecasts and other weather products from their data.

Modules

Courses

Sort by:



1 - 40 out of 55 results



Satellite Meteorology:
GOES Channel Selection
V2

Languages: [English](#)

Publish Date: 2011-05-04

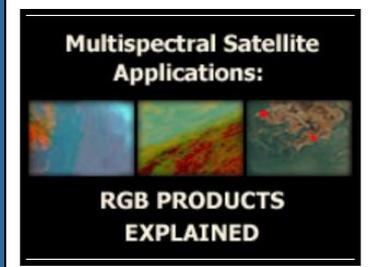
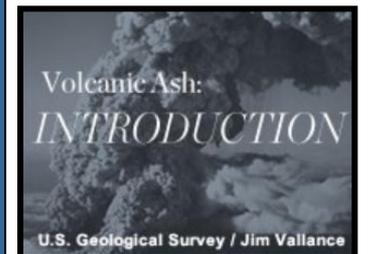
Skill Level: **2**

Completion Time: 1.25 - 1.50

Topics:

[Satellite Meteorology](#)

This module is an update to the previous Satellite Meteorology: GOES Channel Selection module. It reviews the five GOES imager channels and their use, incorporating conceptual visualizations and numerous imagery examples. The module also includes updated information on ... [Read more](#) »



LESSON FROM FLIGHT 1549

“Training is a line item that’s easy to whack when budgets get tight, because it’s not always easy to see its immediate payoff.”

That misses the point, however.



Training is about getting people ready to execute and put their training to the test when the organization needs it the most.”

Leveraging Training for Performance Improvement

Training Summary

- Collaborative International Training Community
- Help NOAA & Partners Meet Their Goals
- Integral to GOES-R PG & New NOAA Services
- Focus on **Human Performance**

VISIT Virtual Institute for Satellite Integration Training

- VISIT Home
- Training Sessions
- Training Calendar
- Blog Sites
- The VISIT Program
- VISIT People
- VISIT FAQ
- Links / Tutorials
- RAMSDIS Online

VISIT Home

Water Vapor Imagery Analysis for Severe Thunderstorm Forecasting

VISIT is a joint effort involving NOAA-NESDIS Cooperative Institutes, the National Environmental Satellite Data and Information Service (NESDIS), and the National Weather Service (NWS). The primary mission of VISIT is to accelerate the transfer of research results based on atmospheric remote sensing data into NWS operations using distance education techniques.

GOES-R Proving Ground

Resources

- Proving Ground Products
- GOES-R NOAA Tutorial
- Support Documents
- CPA Products
- GOES-R Grounding
- GOES-R AOS Imagery
- WVDCP

Meetings and Presentations

- Webinars

NOAA Collaborative Site Visits

Proving Ground Timeline

Proving Ground Partners

- NOAA NESDIS

Related Links

- Proving Ground Overview
- GOES-R 101
- GOES-R
- GOES-R
- GOES-R
- GOES-R

GOES-R Satellite Proving Ground Mission Statement

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[Read more](#)

MetEd

HOME EDUCATION & TRAINING COMMUNITIES RESOURCES ABOUT MY METED

Module Listing » Satellite Meteorology

Search

Satellite Meteorology

Topics: Satellite Meteorology Languages: English

In this topic area, find out how current and future satellites and their sensors work, how to interpret what they tell us, and how to make forecasts and other weather products from their data.

Modules Courses Start by Date Newest to Oldest

1 - 1 out of 55 results

Module Listing	GOES Channel Selection v2
GOES Channel Selection v2	Satellite Meteorology: GOES Channel Selection V2
The COMET Program	This module is an update to the previous Satellite Meteorology GOES Channel Selection module. It reviews the new GOES imager channels and their uses, incorporating conceptual visualizations and numerous imagery examples. The module also includes updated information on ...
Completion Level: 1.25 - 1.50	Completion Level: 1.25 - 1.50
Topic: Satellite Meteorology	Topic: Satellite Meteorology
Read more >	Read more >

Special Interest

More on Satellite Meteorology

ES&C

The Environmental Satellite Resource Center (ES&C) provides easy access to a wide range of useful information, education, and training about low earth orbit and geostationary satellites from trusted sources.

Verifying Satellite Data on the Ground

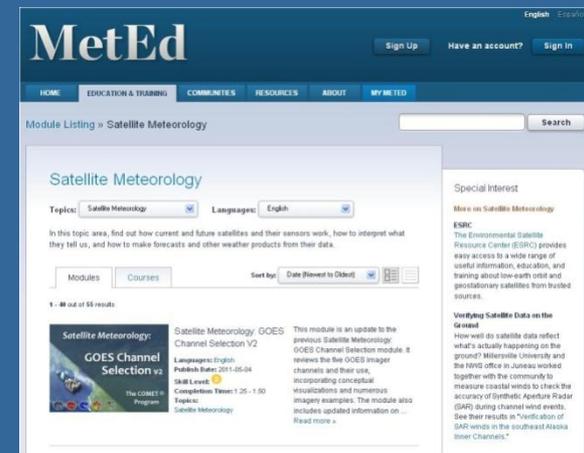
How well do satellite data reflect what's actually happening on the ground? Meteorologists at the National Weather Service and the NWS office in Juneau worked together with the community to measure coastal winds to check the accuracy of Orbital-Aurora Radar (OAR) along channel wind events. See their results in "Verification of SAR winds in the southeast Alaska Inlet Channels."

Web Information

VISIT rammb.cira.colostate.edu/visit/visithome.asp

COMET METED meted.ucar.edu

NOAA LMS doc.learn.com/noaa/nws



Background Slides



VISIT & Satellite (SHyMet) Courses

VISIT - Virtual Institute for Satellite Integration Training - Mozilla Firefox

File Edit View History Bookmarks Tools Help

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

VISIT

Virtual Institute for Satellite Integration Training

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VISIT Home

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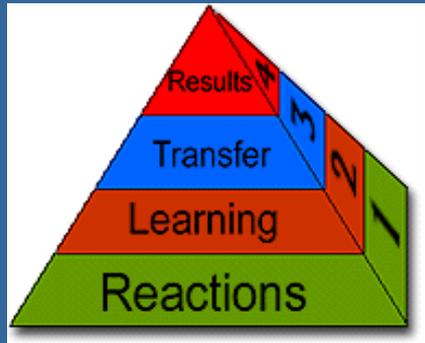
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How Does Training Program Work?

Assess User Needs

Develop Training –
Implementation Plan



Evaluate

Implement