NOAA/NWS Training for User Readiness for GOES-R & JPSS

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NWS – Chief Learning Office

97th AMS Meeting – Seattle, WA
13th Symposium on New Generation Operational Environmental Satellite System
Thursday January 26, 2017
- The STAT – Satellite Training Advisory Team  
What, Who, When, And Where?

- The Satellite Foundational Course (SatFC) GOES-R  
Launched October 7 for NOAA and External Users.

- How To Access & Register for SatFC GOES-R.

- What’s Next for Users?
Satellite Training Timeline

Training Stages

- Prerequisites – overall basics
- Foundation – satellite specifics
- Application – operational setting
- Exercises – simulations, practice
- Making it Stick – multi-situational, sharing
- Continuous Learning – evolve and update
Purpose: Team of SOOs, OCLO staff and Training Partners that:

- Monitors available resources, schedules, deliverables

- Tracks progress in meeting deadlines for GOES-R Satellite Foundational Course (SatFC) delivery.

- Provides comprehensive information on the 39 mini-modules SatFC for GOES-R.
STAT – Who?

SOOs, OCLO Staff, Pacific Region HQ, Satellite Liaisons, & Training Developers at COMET, CIRA, CIMSS, CIMMS and NASA/SPoRT.

(Boulder Sept 2016)
Information Provided for Each Module:

- Material to be covered and training objectives;

- Run time- ranging from 5 to 30 min per module plus two 60 min simulations/cases

- Lead office and POC for module development;
  Offices: COMET, NESDIS, CIMSS, CIMMS, CIRA, OCLO, & SPoRT

- Training ready date before GOES-R Launch was met

  COMPLETED on 7 October 2016!
Satellite Foundational Course

- Course available to NWS, NESDIS & OAR staff and affiliates
Welcome to the NWS Learning Center!

A Getting Started Job Aid is available to help you learn and navigate the system.

Commerce Learning Center (CLC) User Training is available. This video provides an introduction to the system's functionality and is an easy way to get familiar with the learning center.

Ensure your browser popup blocker is DISABLED or TURNED OFF while logged into the CLC site (doc.csod.com).

Update: Migration of Historical Transcripts. Progress is being made on the transfer of historical records from the previous learning system. Historical transcript data will likely be loaded in phases over the next several months, with a target of April 2017 for completing the migration of all historical data. Thank you for your patience and understanding.

Check out the NWS Training Programs Page for additional information and training for the GOES-R Satellite, AWIPS-2, NWS required training, and more.

The Satellite Foundational Course for GOES-R (SatFC-R) curriculum is required to be completed by all NWS Operations Meteorologists at CONUS WFOs, CWOSs, and National Centers by April 30, 2017. The Hydrology Track of this curriculum is required for Hydrologists at RFCs. See the GOES-R Training Page for additional info. (11/22/16)

COMET has published Sea Level Change: Basics. This lesson addresses the basic causes, both natural and human-induced, of sea level change. It explores how changes in the ocean can affect global sea level, and how changes in both the ocean and along lands can affect relative sea level on the regional scale. (11/7/16)

COMET has announced updates to the Operational Models Encyclopedia. An entry has been added describing the Real-Time Mesoscale Analysis/UnRestricted Mesoscale Analysis (RTMA/URMA). The RTMA/URMA is the analysis used to bias correct and weight the elements of the National Blend of Models (NBM) and reflects the August 2016 implementation. Additionally, the RAP/HRRR encyclopedia entry has been revised to reflect updates made to these models during August 2016. The changes overall reduced a warm, dry bias in the RAP and HRRR. (10/20/16)
Welcome to the GOES-R Training page in the Commerce Learning Center. In preparation for the launch of the GOES-R satellite in November 2016, NOAA/NWS funded the development of the Satellite Foundational Course for GOES-R (SatFC-G). The SatFC-G provides training to NWS forecasters on the operational use of new satellite data and products.

The GOES-R satellite will introduce a variety of new and improved capabilities compared to previous GOES satellites. The objective of this course is to address training needs associated with the new GOES-R satellite. Specifically, topics include an introduction to GOES-R highlighting improved spatial and temporal resolution and additional new channels that will be available, followed by products and imagery that address a broad range of applications.

For the first four introductory sections of your SatFC-G curriculum, you are required to complete the lessons and quizzes in the order they are listed. Each short lesson simply requires you to acknowledge that you have viewed it in order to attain "completed" status. The last item within each of your curriculum's main sections is a section quiz. For more on the mechanics of working through your curriculum, please see this tutorial. There are two primary SatFC-G tracks (curricula) available in the learning center.

1. Satellite Foundational Course for GOES-R (SatFC-G)
   Target audience: All Operational Meteorologists at CONUS Region and Pacific Region WFOs, CWSUs, and National Centers.

2. Satellite Foundational Course for GOES-R (SatFC-G) Hydrology
   Target Audience: All Operational Hydrologists at RFCs

To sign up for one of the curricula (if it has not already been assigned to you)...
Satellite Foundational Course

The GOES-R satellite will introduce a variety of new and improved capabilities compared to previous GOES satellites. The objective of this course is to address training needs associated with the new GOES-R satellite. Specifically, topics include an introduction to GOES-R highlighting improved spatial and temporal resolution and additional new channels that will be available, followed by products and imagery that address a broad range of applications.

For the first four (introductory) sections of the curriculum, you are required to complete the lessons and quizzes in the order they are listed. Each short lesson simply requires you to acknowledge that you have viewed it in order to attain "completed" status. The last item within each of the curriculum's seven main sections is a section quiz. For more on the mechanics of working through this curriculum, please see this tutorial. A separate curriculum will be used to track the WES-2 exercises associated with this course.

- **GOES-R Introduction and SatMet Background**
  - 100%
  - Completed: 4  Min Required: 4  Total Items: 4

- **ABI (Advanced Baseline Imager)**
  - 34%
  - Completed: 2  Min Required: 6  Total Items: 6

- **Baseline Products**
  - 0%
  - Completed: 0  Min Required: 8  Total Items: 8

- **GLM (Geostationary Lightning Mapper)**
  - 0%
  - Completed: 0  Min Required: 3  Total Items: 3
Satellite Foundational Course

For External Users:
http://rammb.cira.colostate.edu/training/shymet/satfc-g_intro.asp

For Non-NOAA, register for course by sending email to:
nws.oaa.clo.shymet@noaa.gov

SHyMet: Satellite Foundational Course for GOES-R (SatFC-G)

In preparation for the launch of the GOES-R satellite in November 2016, the NOAA/NWS has funded the development of the Satellite Foundational Course for GOES-R (SatFC-G). The SatFC-G will provide training to NWS operational forecasters to use new satellite data and products. The course was designed by the satellite training advisory team (STAT) which consists of SOOs from five regions, satellite liaisons and representatives from the NWS Office of the Chief Learning Officer (OCLO). Training developers include VISIT/SHyMet staff from the Cooperative Institutes at CIMSS and CIRA, in addition to COMET, the Cooperative Institute for Mesoscale Meteorological Studies (CIMMS), the Short-term Prediction Research and Transition Center (SPoRT) and OCLO.

The GOES-R satellite will introduce a variety of new and improved capabilities compared to previous GOES satellites. The objective of this course is to address training needs associated with the new GOES-R satellite. Specifically, topics will include an introduction to GOES-R highlighting improved spatial and temporal resolution and additional new channels that will be available followed by products and imagery that address a broad range of applications. The intended audience is forecasters but anyone is welcome to participate.

If you are a NOAA employee, register for this course via the NOAA/NWS Commerce Learn Center and follow directions there to receive credit for taking the SatFC-G course.

Non-NOAA employees may take the SHyMet version of the course, your first step is to register for the course by sending an email containing your name to:
nws.oaa.clo.shymet@noaa.gov
# Satellite Foundational Course

Individual training modules are listed by "Title" and grouped under common topic categories. To sort by column, click the column heading at the top to reorder them. Length is given in minutes.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Title</th>
<th>Length</th>
<th>Contributor</th>
<th>Developed</th>
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<tr>
<td>Introduction</td>
<td>Basic Principles of Radiation</td>
<td>15</td>
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<tr>
<td>Introduction</td>
<td>Basic Operations of ABI on GOES-R</td>
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<td>Lindstrom (CIMSS)</td>
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<tr>
<td>Introduction</td>
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<tr>
<td>Introduction</td>
<td>GOES-R ABI Near-IR Bands</td>
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<tr>
<td>Introduction</td>
<td>GOES-R ABI IR Bands, Excluding Water Vapor</td>
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<tr>
<td>Introduction</td>
<td>GOES-R Multi-channel interpretation approaches</td>
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<td>Introduction</td>
<td>GOES-R Aerosols in AWIPS</td>
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<td>Lindstrom (CIMSS) &amp; Kontragunta</td>
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<tr>
<td>Introduction</td>
<td>GOES-R Cloud and microphysical products, fog and low stratus</td>
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<td>Lindstrom (CIMSS)</td>
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</tr>
<tr>
<td>Introduction</td>
<td>GOES-R Fire characterization, land surface temperature and snow</td>
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<tr>
<td>Introduction</td>
<td>GOES-R Baseline Product: Hurricane Intensity Estimate</td>
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<td>Dagg (CIRA) &amp; Olander</td>
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<td>GOES-R Baseline Product: Rainfall rate</td>
<td>10</td>
<td>Bikos (CIRA) &amp; Kuligowski</td>
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<td>Introduction</td>
<td>GOES-R Baseline Product: Legacy Atmospheric Profiles</td>
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<td>Lindstrom (CIMSS)</td>
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<tr>
<td>Introduction</td>
<td>GOES-R Baseline Product: Derived Motion Winds</td>
<td>10</td>
<td>Lindstrom &amp; Bachmeier (CIMSS)</td>
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<tr>
<td>Introduction</td>
<td>GOES-R Baseline Product: Volcanic Ash</td>
<td>10</td>
<td>Lindstrom (CIMSS) &amp; Pavolonis</td>
<td>2016</td>
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<tr>
<td>GLM</td>
<td>Introduction to the GLM</td>
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<td>2016</td>
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<tr>
<td>GLM</td>
<td>Visualizing the Geostationary Lightning Mapper (GLM) in AWIPS</td>
<td>10</td>
<td>Stano (SPoRT)</td>
<td>2016</td>
</tr>
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Satellite Foundational Course - Orientation

This module is part of the satellite foundational course for GOES-R (SatFC-G). This particular module provides an orientation to the SatFC-G course. The target audience for this module is NOAA employees who will be taking the SatFC-G course via the NOAA Commerce Learn Center (CLC). The video consists of two parts, part 1 (the first 10 minutes) summarizes unique capabilities of GOES-R relative to current/past GOES satellites. Part two (10-28 minutes) consists of the orientation to the SatFC-G course. The default video resolution displayed below is at 1080p, a lower resolution video at 780p is also available.

Prerequisites

This is a basic course. There are no prerequisites.

Training Session Options

NOAA/NWS students - to begin the training, use the web-based video, YouTube video, or audio playback options below (if present for this session). Certificates of completion for NOAA/NWS employees can be obtained by accessing the session via the Commerce Learn Center.

1. Web-based video that can be taken at anytime (streamed, not recommended for low-bandwidth users). Be sure to have your speakers on and the volume loud enough to hear the presentation. Also be sure that you are using a flash enabled browser.

2. YouTube video:
Satellite Foundational Course - Orientation

2. YouTube video:

SatFC-G: An Orientation to the GOES-R Foundational Course
JPSS

- JPSS-1 scheduled for Launch 09/14/17
- IOR* planned for January 2018, FOR* April 2018
- SatFC-J being planned for NWS and external users – led by JPSS funded CIRA Satellite Liaison, NWS NOAT & STAT
- Learning Objectives completed – development underway
  - Introducing JPSS
  - Introducing Microwave remote sensing
  - Basic Forecast Applications
  - Product Applications
What’s Next for Users?

Training Stages

– Prerequisites – overall basics
– Foundation – satellite specifics
– **Application** – operational setting –
  7 Workshops for All SOOs and DOHs
– **Exercises** – simulations, practice on WES*
– Making it Stick – multi-situational, sharing
– Continuous Learning – evolve and update

*Weather Event Simulator
Questions?
For External Non-NOAA Users:
http://rammb.cira.colostate.edu/training/shymet/satfc-g_intro.asp
Register for course by sending email to:
nws.oaa.clo.shymet@noaa.gov