

Update on COMET's Satellite Training Activities

Wendy Schreiber-Abshire & Patrick Dills
May 2016

MetEd Website

The screenshot shows the COMET MetEd website homepage. At the top, there's a dark blue header with the COMET MetEd logo on the left, and 'English' and 'Español' language options on the right. Below the logo are buttons for 'Sign Up', 'Have an account?', and 'Sign In'. A navigation bar contains links for HOME, EDUCATION & TRAINING, COMMUNITIES, RESOURCES, ABOUT, and MY METED. Below this is a search bar and a 'Search' button. The main content area is divided into several sections: 'What Is MetEd?' with a description and a video thumbnail; 'Recent Publications' featuring 'Introduction to Climatology for the Tropical Pacific Islands' with a thumbnail and a 'More Information' link; 'Find What's Right for You' with a filter interface for 'All topics', 'Modules', and 'Courses'; and 'Enroll in Courses' with a description and an 'Enroll' button. On the right side, there's a 'News and Updates' section with a post titled 'Geospatial: A new topic area on MetEd' and a thumbnail for 'An Introduction to Geodetic Datums'. At the bottom, there's a 'Quick Links' section with links to 'The COMET® Program', 'COMET Virtual Classroom', 'Facebook', and 'YouTube'.

English Español

Sign Up Have an account? Sign In

HOME EDUCATION & TRAINING COMMUNITIES RESOURCES ABOUT MY METED

Teaching and Training Resources for the Geoscience Community

Search

What Is MetEd?

MetEd is a free collection of **hundreds of training resources** intended for the **geoscience community**. Whether you're an experienced meteorologist honing existing skills or a student looking for new geoscience topics of interest, we have something for you. Learn more about MetEd in this short video.

Recent Publications

Introduction to Climatology for the Tropical Pacific Islands

This lesson provides information on climatology—what it is, the factors that create an area's climate, and the sources and uses of climate information. Focused specifically on tropical Pacific islands, the content covers the key features influencing climate...

[More Information »](#)

1 2 3 4 5 6 7 8 9 10 [See All](#)

Find What's Right for You

We offer many ways to locate training that's relevant to you. Browse by topic area, skill level, or use our search tool. Additionally, we have an extensive image library — a great resource for educators and trainers — accessible by using the search feature.

Enroll in Courses

Courses are collections of lessons pertaining to a specific topic area. Enroll in a course and track your progress. When you've finished, you can send the results to your professor or supervisor.

News and Updates

Geospatial: A new topic area on MetEd

Posted on: 2015-10-29

An Introduction to Geodetic Datums

Data with a geographic component, geospatial data, is integral to hydrology, meteorology, and many other scientific fields. COMET has been addressing geospatial related topics for several years through our publications on hydrography (see our distance learning course, Elements of Hydrography), navigation (see the lesson, Principles of Celestial Navigation), and...

[read more](#)

Quick Links

[COMET® The COMET® Program](#)

[COMET Virtual Classroom](#)
Support site for classes

[Facebook](#)
Join our group

[YouTube](#)
Visit our YouTube Channel

All of our content is **completely free**, but we do require an account.

[Learn more](#) [Sign Up](#)

Online Lessons: *(as of 19 April 2016)*

- 395 English, 134 Spanish, 54 French, and others
- 81 of the lessons are on Satellite Meteorology

Registered Users:

- > 429,000, growing ~5,000/month
- ~52,000 return users each year complete ~5.7 hours of instruction annually

Sponsors:

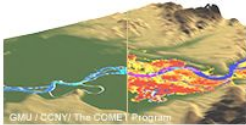
- NESDIS GOES-R and JPSS fund satellite training at COMET and attract additional funding and in kind support from both EUMETSAT and the Meteorological Service of Canada

JPSS Specific Lessons:

[HOME](#) [EDUCATION & TRAINING](#) [COMMUNITIES](#) [RESOURCES](#) [ABOUT](#) [MY METED](#)

Lesson/Resource Listing » Description

JPSS River Ice and Flood Products



JPSS River Ice and Flood Products

Languages: English
Publish Date: 2016-03-16
Skill Level: 2
Completion Time: .75 – 1.00 h
Includes Audio: no
Required Plugins: none
Topics: Hydrology/Flooding, Satellite Meteorology







BEGIN LESSON

[Add to Queue](#) [Your Queue»](#)

[Take the quiz?](#)

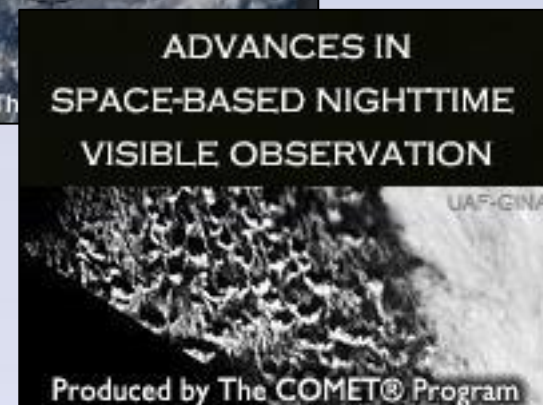
[Begin Quiz](#)

Reviews: ★★★★★ (1 review)
[Read or add reviews](#)

Share this resource:       20

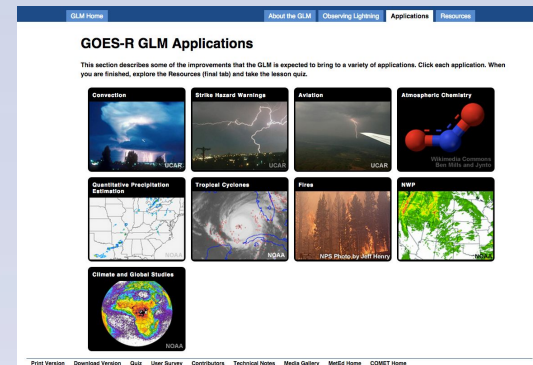
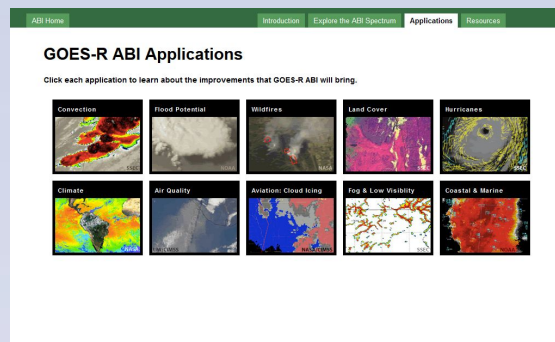
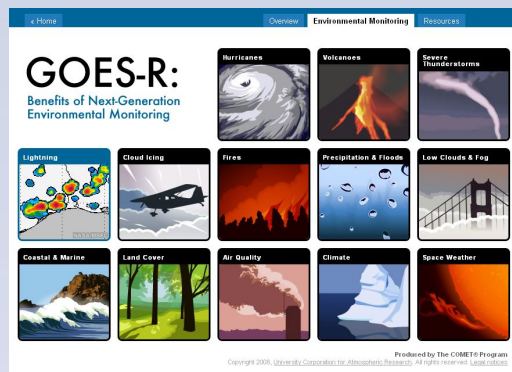
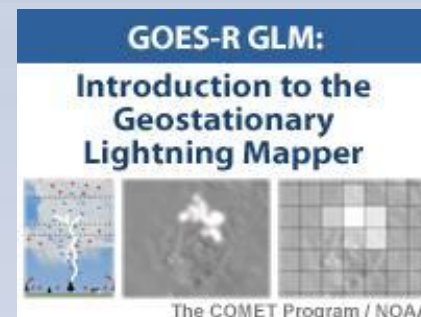
[Description](#) [Objectives](#) [Keywords](#) [Media Gallery](#) [Reviews](#)

This lesson introduces hydrologists, meteorologists, and the education community to two new JPSS (Joint Polar Satellite System) satellite capabilities for monitoring river ice and flooding. It begins by describing the need for information on river ice and flooding, the capabilities of the Suomi NPP and future JPSS VIIRS imagers to provide products for monitoring river conditions, and the new river ice and flood products. This is followed by several cases, notably the May 2013 Galena, AK flood event, that demonstrate the use and value of the products in monitoring river ice and related flooding. The cases also show additional applications in flooding and ice cover scenarios that are not related to ice jam events. Finally, they highlight the products' role in supplementing other types of observations commonly relied on for monitoring river conditions.



- Newest lesson: JPSS River Ice and Flood Products
- Next project: Resources on MetEd in support of DB and CSPP Products
- Anticipating "SatFC-P"

Existing GOES-R Specific Lessons:



- The short movies from the first introductory lesson are also available on our YouTube Channel <https://www.youtube.com/user/cometmeted>
- These 3 lessons, and others are nearly done being reprogrammed to fully remove Flash and replace with COMET's HTML 5 responsive design that is platform independent

In Progress: Lessons in Support of NWS GOES-R Training


GOES-R INTRODUCTION AND SATMET BACKGROUND

SatFC-G:
Basic Principles of Radiation
Produced by The COMET® Program

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GLM: GEOSTATIONARY LIGHTNING MAPPER

SatFC-G:
Introduction to the GLM
Produced by The COMET® Program

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Synoptic Features

SatFC-G:
Tropical to Extratropical Transition
Produced by The COMET® Program

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NWP and Satellite Data Assimilation

SatFC-G:
Impact of Satellite Observations on NWP
Produced by The COMET® Program

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NWP and Satellite Data Assimilation

SatFC-G:
GOES-R Impacts on Satellite Data Assimilation
Produced by The COMET® Program

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- COMET is responsible for 8 of the 40 lessons in the Satellite Foundation GOES-R Course
- 6 are in progress, 5 on development site, Remaining 2 lessons will begin later this spring
- All 8 will be complete and in NOAA LMS before GOES-R launch

Advanced Himawari Imager (AHI)

- Brief overview of the Himawari-8 AHI
- Highlights differences from GOES-R ABI
- Spectral bands and scan strategies
- Benefits of data and products for users over the Pacific and Americas

Advanced Himawari Imager (AHI): What's Different from the GOES-R Advanced Baseline Imager (ABI)

Navigation Menu

TABLE OF CONTENTS

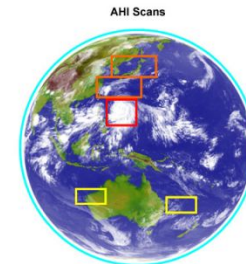
Overview of AHI and the Lesson
AHI Channels
Himawari-8 Coverage
AHI Data and Products
Comparing ABI and AHI Channels
AHI Channels and Applications
AHI Benefits to Trans-Pacific Weather Forecasting
References
Contributors

LESSON

PRINTABLE VERSION
DOWNLOAD
QUIZ
USER SURVEY
MEDIA GALLERY

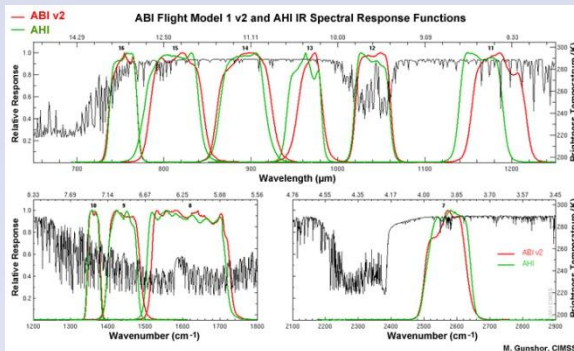
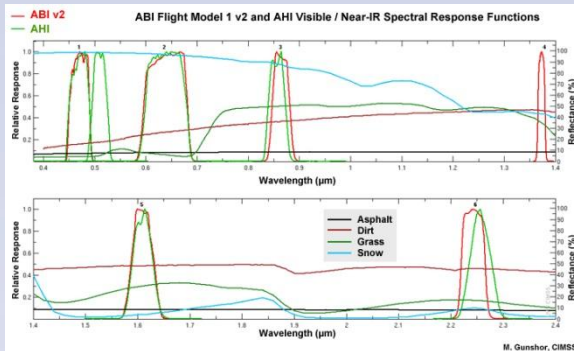
Himawari-8 Coverage

Himawari-8 is located at the equator and 140° E longitude. The imager provides full disk data and imagery every 10 minutes, two sectors over Japan every 2.5 minutes, and one moveable typhoon targeted area every 2.5 minutes.

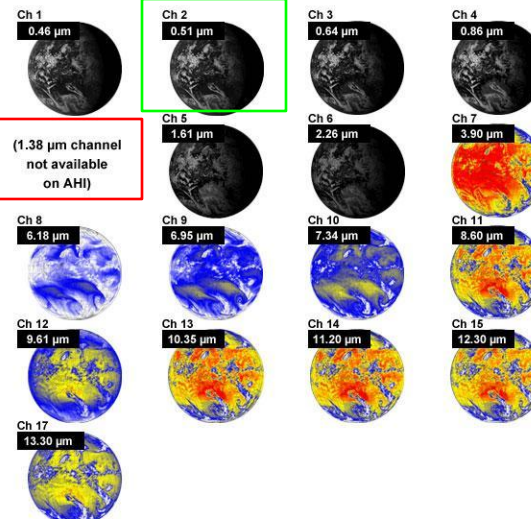


Full Disk
Japan Area (Regions 1 and 2)
Moveable Target Area (Region 3)
Landmark Areas (Regions 4 and 5)

Meteorological Satellite Center of Japan Meteorological Agency

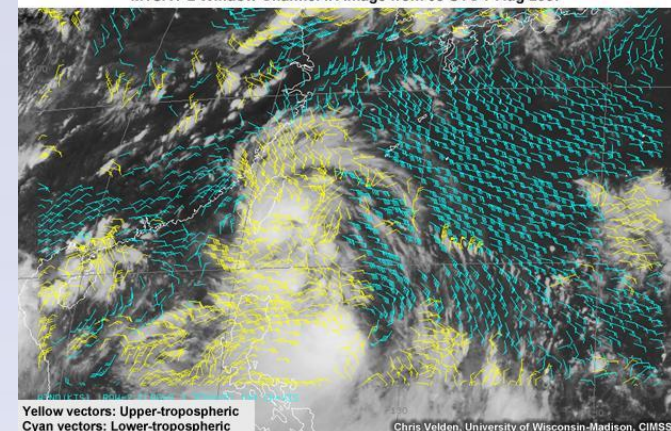


AHI Channels



The COMET Program / Meteorological Satellite Center of the Japan Meteorological Agency

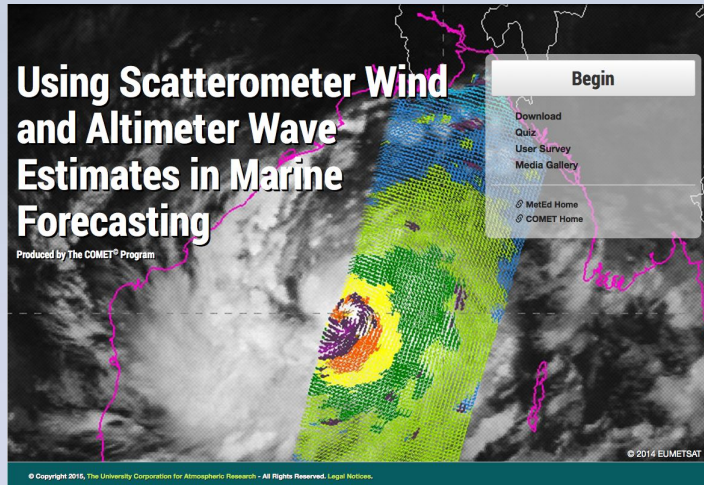
Atmospheric Motion Vectors Derived from Special Processing (Using 4-min Interval Rapid Scan Imagery) Superimposed over MTSAT-2 Window Channel IR Image from 08 UTC 7 Aug 2007



Yellow vectors: Upper-tropospheric
Cyan vectors: Lower-tropospheric

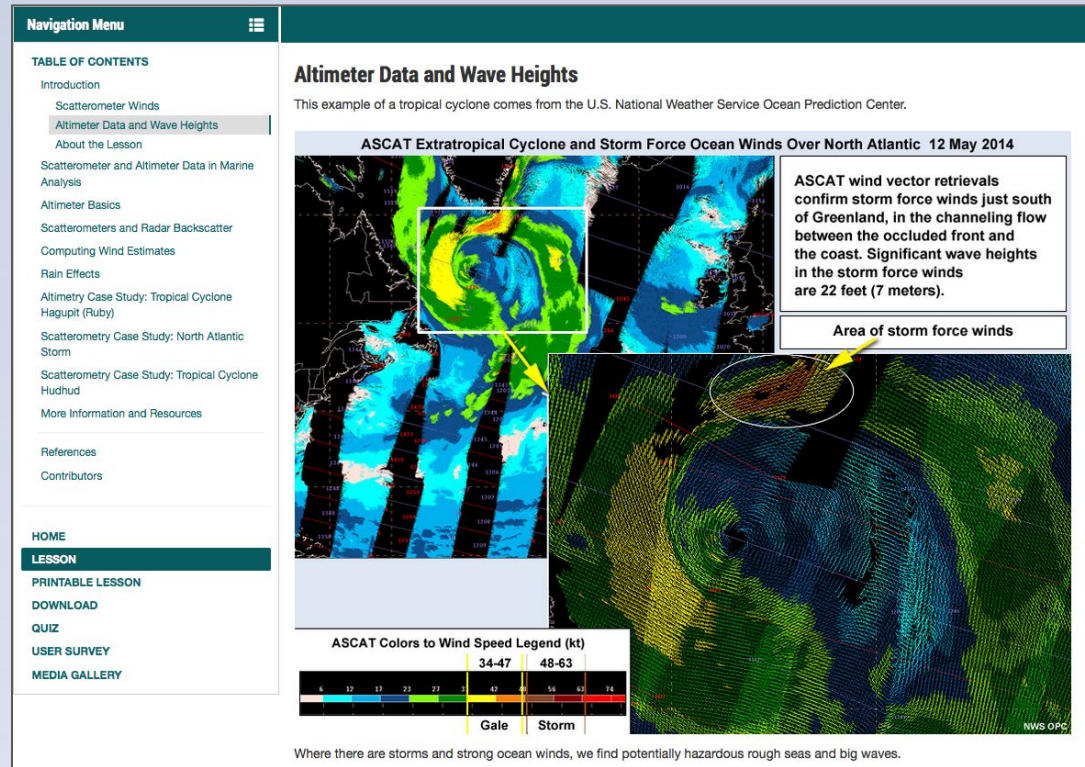
Chris Velden, University of Wisconsin-Madison, CIMSS

Using Scatterometer Wind and Altimeter Wave Estimates in Marine Forecasting *(sponsored by EUMETSAT & NESDIS)*



Advanced level lesson. Just over 1-hr long. Includes:

- Scatterometer & Altimeter Basics
- Computing Wind Estimates
- Rain Effects
- Key Applications
- Case Studies



Water Vapour Interpretation Training: MSC

Forecasting Sensible Weather from Water Vapour Imagery

Forecasting Sensible Weather from Water Vapour Imagery



Languages: English
Publish Date: 2016-03-29
Skill Level: 3
Completion Time: 1.00 – 1.25 h
Includes Audio: no
Required Plugins: none
Topics:
Mesoscale Meteorology, Other, Satellite Meteorology

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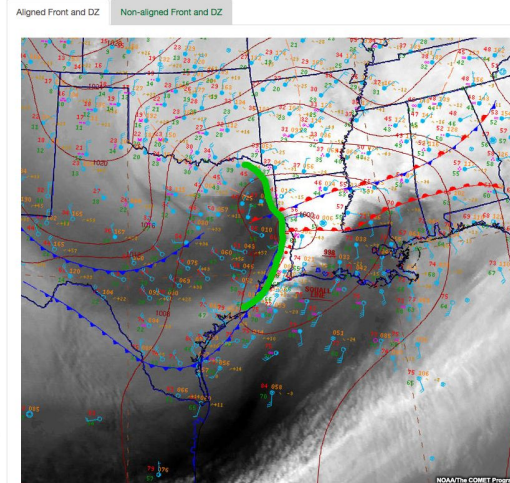
Reviews:
☆☆☆☆ (0 reviews)

[Read or add reviews](#)

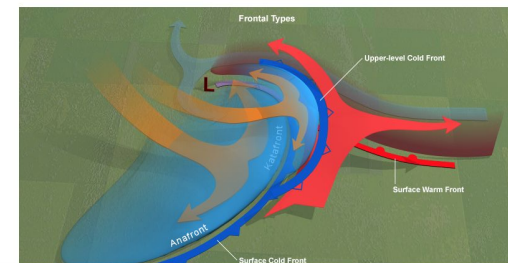
Share this resource:

[Description](#)[Objectives](#)[Keywords](#)[Media Gallery](#)[Reviews](#)

Forecaster nowcasting at the synoptic scale is rapidly being replaced by the numerical weather prediction models. However, there are plenty of opportunities for you as a forecaster to improve on those forecasts with simple comparisons of water vapour hand analyses and surface hand analyses. The goal of this lesson is to improve your skills in water vapour and surface analyses to evaluate the three-dimensionality of the atmosphere and thus forecast the sensible weather better. This is the capstone for the entire Satellite Interpretation distance learning course.



The example above with the deformation zone crossover is shown conceptually in three dimensions below.



Coming Soon to MetEd:

- All 8 SatFC-G lessons
- New Lesson on COSMIC-2
- Portuguese versions of elements from the GOES-R lessons

Other Satellite Training Activities:

- Support for upcoming pre-conference Short Courses
- Contributing to GOES-R Launch workshops designed for broadcasters and K-12 STEM Teachers



For more information:

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And visit:

<http://meted.ucar.edu>

<http://meted.ucar.edu/topics/satellite>

<https://www.youtube.com/user/cometmeted>