

COMET's Environmental Satellite Education Resources for Anticipating and Monitoring Meteorological Hazards

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MetEd

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Module Listing » All Topic Areas

All Topic Areas

Topics:

All Topic Areas

- All Topic Areas
- Aviation Weather
- Climate
- Coastal Weather
- Convective Weather
- Emergency Management
- Environment and Society
- Fire Weather
- Fog and Low Stratus
- Hydrology/Flooding
- Mesoscale Meteorology
- Mountain Meteorology
- Numerical Modeling (NWP)
- Oceanography/Marine Meteorology
- Other
- QPF/QPE (Precip)
- Radar Meteorology
- Satellite Meteorology
- Space Weather
- Tropical/Hurricanes

Languages:

English

Sort by: Date (Newest to Oldest)



1 - 40 out of



7: Forecasting Fog on: Kenya Case

Language: English
Date: 2013-11-05

Completion Time: .75 - 1.00 h
Topics:

This lesson aims to improve aviation forecasts of fog in the African airspace by teaching forecasters to make more accurate forecasts using satellite imagery, numerical weather prediction, and other available data. A process for diagnosing and forecasting fog is presented ... [Read more »](#)

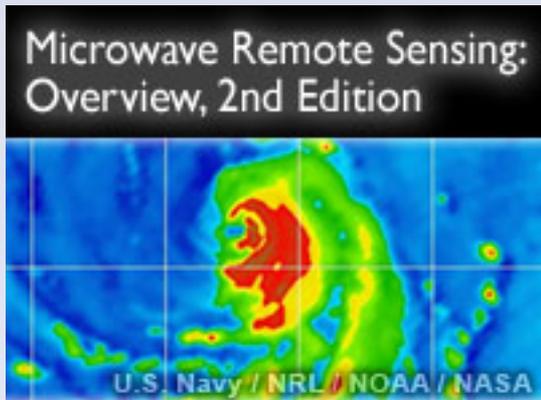
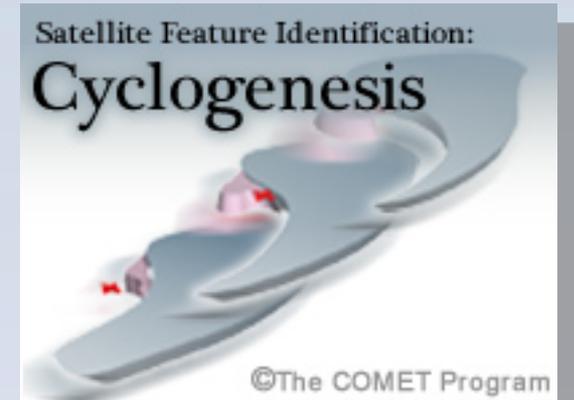
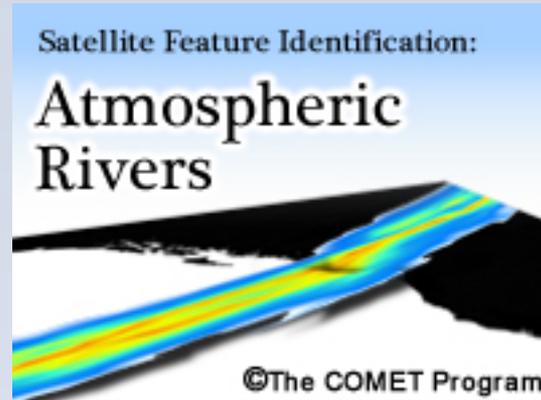
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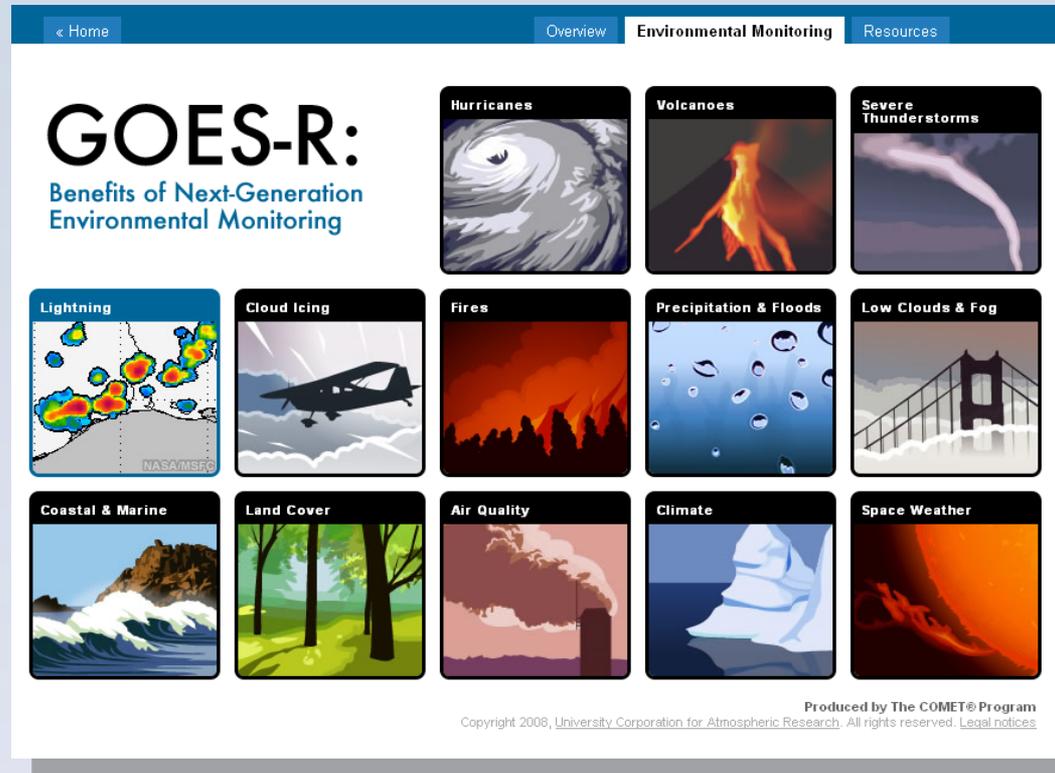
About Our Training

Our training consists of modules and courses. A **module** is targeted toward one focused subject, whereas a **course** is a collection of modules that pertain to a broader subject area. You can receive certificates of completion for both modules and courses. Courses are entirely self-paced and available for open enrollment.

- **Number of Satellite-specific modules on MetEd website = 81**
 - (63 English, 21 Spanish, 15 French, as of Jan. 2014)
- **~27,000+ meaningful English Satellite Module User Sessions FY13**
- **Total number of hours of satellite training available = ~75 hrs, plus the ESRC**
- **Numbers of other COMET modules that satellite data and products are strategically infused into per year = 15**
- **NESDIS satellite training activities with COMET Program attract additional funding and training development specifically in the satellite topic area from both EUMETSAT and the Meteorological Service of Canada**



- Examples of many lessons on topics of interest to the Natural Hazards Community!



- Includes 3 sections: *Overview, Environmental Monitoring, & Resources*
- GOES-R benefits and the ability to monitor 13 unique hazards and phenomena

Each mini-movie includes:

- Background and Needs (general public)
- Capabilities and Benefits (decision makers)
- Technical Improvements (forecasters)
- Published Dec. 2008, 1 hr long (Launch 2015)
- Available in English and Spanish!
- Recently updated to tablet friendly format!

Volcanic Ash: Observation Tools & Dispersion Models

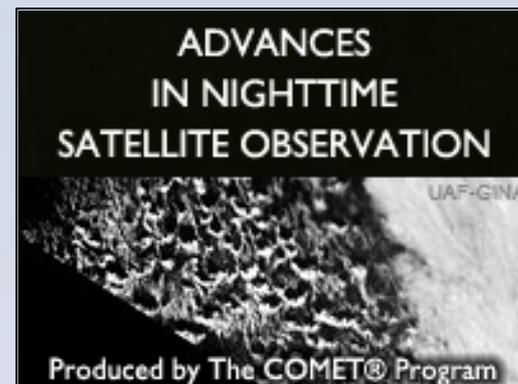
- Example of satellite training *embedded* in other training modules
- Module includes tools and techniques for identifying and forecasting volcanic ash transport
 - Strengths & weaknesses
- Use satellite, radar, observations, and model output to identify and help forecast ash transport, and produce forecast products



- Visible imagery
- Thermal IR imagery
- Shortwave IR imagery
- False-color imagery
- Split-window imagery
- Principal component imagery
- SW IR Reflectance product
- SO₂ product



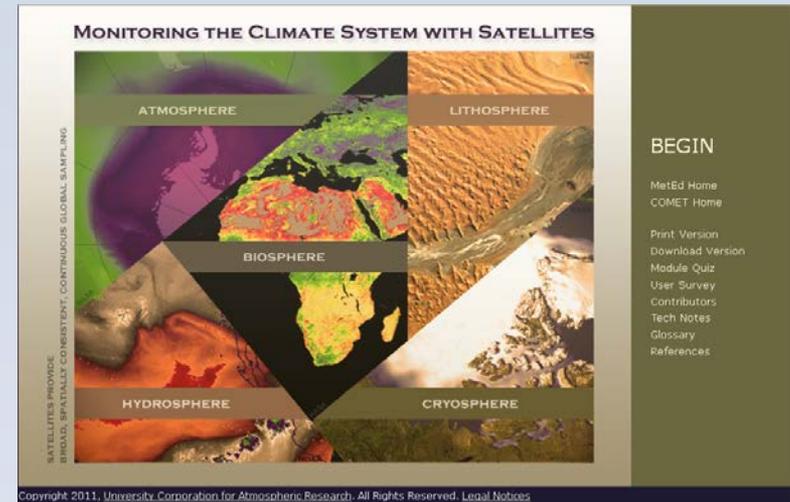
in Spanish too!



- **Suomi NPP: A New Generation of Environmental Monitoring Sat., [pub. May 2012](#)**
- **Imaging with VIIRS, 2nd Edition, [pub. April 2012](#)**
- **GOES-R ABI: Satellite Imaging for the Next Generation, [pub. Feb. 2013](#)**
- **Advances in Nighttime Satellite Observation, (DNB), [pub. April 2013](#)**
- **A lesson, How satellite data impact NWP analyses & forecasts, [FY14](#)**
- **GOES-R GLM module, [FY14](#)**
- **COSMIC-2 [underway](#), and PCW lesson, [hopefully starting soon](#)**

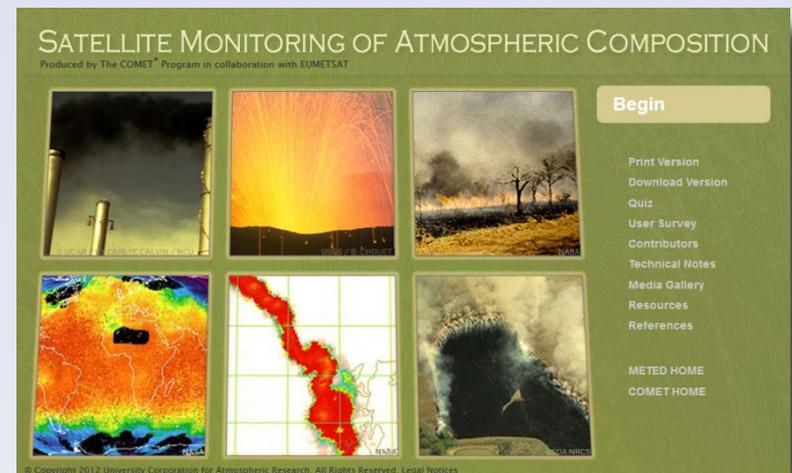
Monitoring the Climate System with Satellites (Jan. 2012)

- Satellite role in observing key atmospheric elements and features
- Monitoring Essential Climate Variables (ESVs)
- Explores events and climate cycles at different scales (seasonal to long-term)
- Satellite contributions to improving understanding, monitoring, and prediction capability



Satellite Monitoring of Atmospheric Composition (Nov. 2012)

- Measurement techniques used and development of operational services
- History of European and U.S. satellite missions
- Future missions planned



Introduction to VIIRS Imaging and Applications



Languages: English
Publish Date: 2013-09-30
Skill Level: 1
Completion Time: .75 - 1.00 h
Includes Audio: no
Required Plugins: AdobeReader
Topics:
 Satellite Meteorology

BEGIN MODULE

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Reviews:
 ★★★★★ (0 reviews)
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- Description
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This lesson introduces the VIIRS imager that operates on the current U.S. Suomi NPP satellite and is planned for future JPSS environmental satellites. VIIRS has many advanced features that improve both spectral and spatial resolution and enable the delivery of consistent, high quality, and high resolution data to users worldwide. The lesson covers the enhanced capabilities of VIIRS and highlights some of its applications. These include single channel and multispectral products used to monitor dust, volcanic ash, convection, fog and low clouds, sea surface temperature, tropical cyclones, contrails, and ocean color. A special feature on VIIRS, the Day Night Band low-light visible channel, is also introduced. For more information on the channel and its capabilities, users are referred to the COMET lesson "Advances in Space-Based Nighttime Visible Observation."



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easy access to a wide range of useful information, education, and training about low-earth orbit and geostationary satellites from trusted sources.

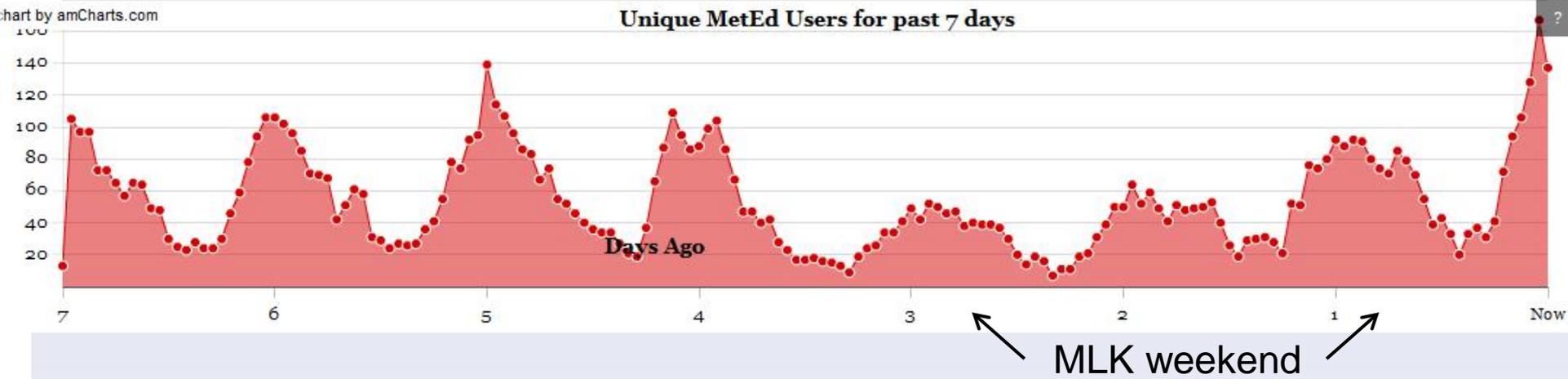
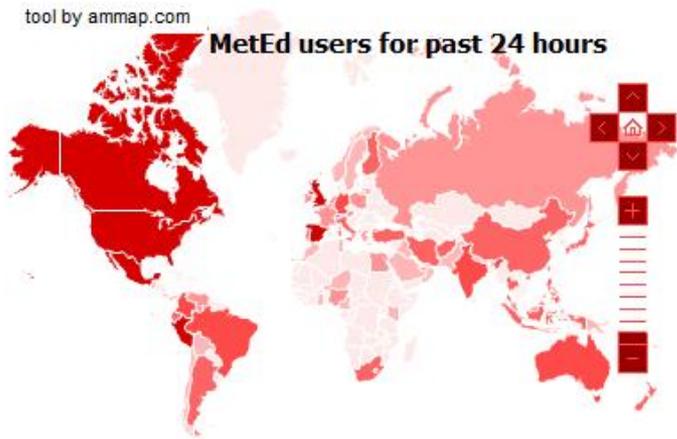
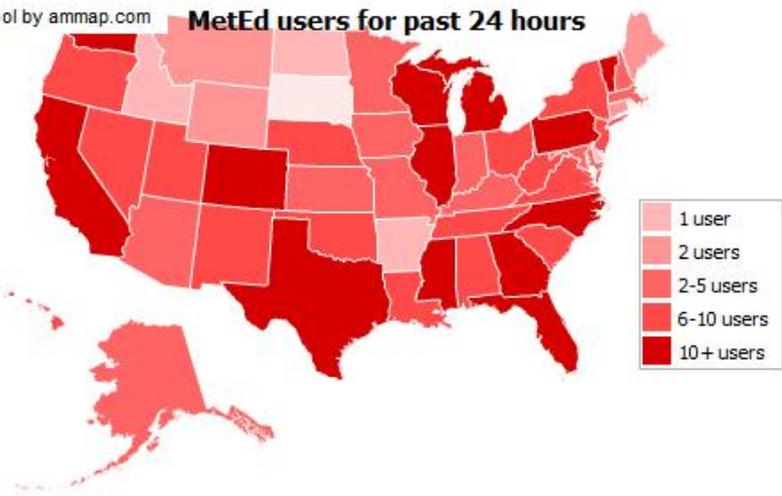
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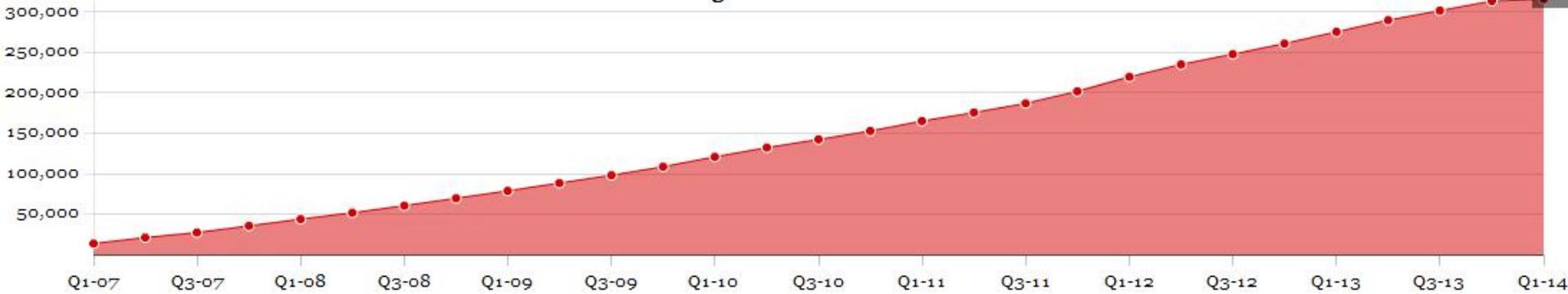
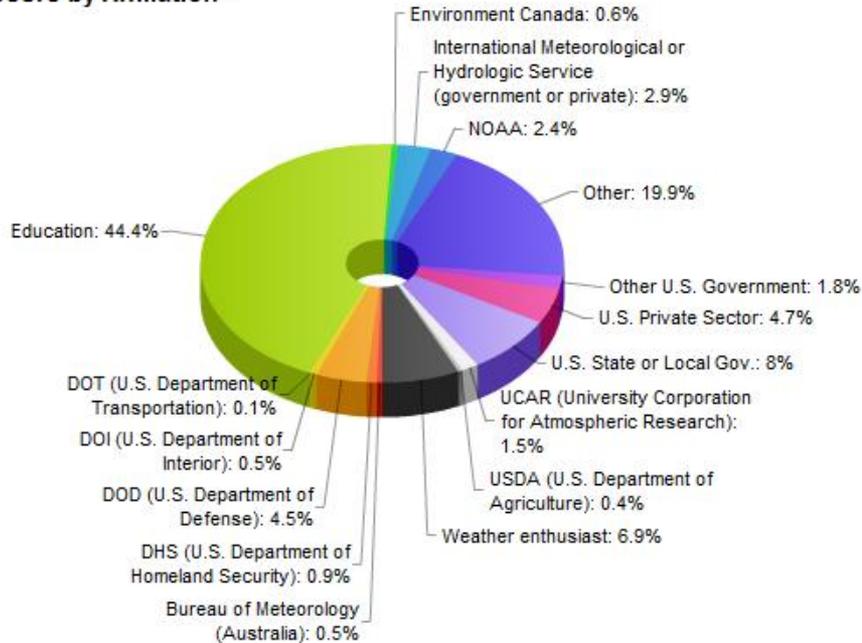


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- MetEd established in 1998! Yet we evolve...
- We know that MetEd mobile/tablet usage is **growing** (from 6 weeks of data in Sept./Oct 2013):
 - 8.5% iPad, followed closely by the iPhone
- COMET YouTube Channel (same period):
 - ~3500 minutes of videos watched
 - ~11% usage is on mobile
 - 6% tablets,
 - 5% phones

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