CICS-MD Proving Ground and Training Center Update

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Background

- Many STAR/CICS-MD scientists develop algorithms that have a variety of operational applications, but these scientists have limited channels for direct interaction with NWS forecasters.
- This project will help bridge this gap by building infrastructure to
 - Promote sustained interaction between JPSS/GOES-R algorithm developers and end users for training, product evaluation, and solicitation of user feedback
 - Utilize current systems (satellite, terrestrial, or model/synthetic) to emulate various aspects of future satellite capabilities including GOES-R, JPSS, and GPM
 - Develop NPP/JPSS/GOES-R data and products that will maximize benefits downstream to operational users and researchers
 - Demonstrate products and decision aids in NOAA Testbeds, NCEP Centers, WFOs, and the NWS PG Training Center
 - Evaluate how the infusion of new products and technology impacts operational forecasting environments

CICS-MD PGTC Infrastructure



AWIPS plays an important role

- The Advanced Weather Interactive Processing System (AWIPS) is the NOAA/NWS weather forecasting data and display toolkit
 - A complex network of systems that ingests and analyzes data, creates useful visualizations and distributes time-sensitive weather statements such as watches and warnings
 - Used by the 122 Weather Forecast Offices (WFOs) and River Forecast Centers (RFCs) nationwide
- Importance to the CICS-MD PGTC
 - Allows CICS-MD scientists to visualize their products in the same operational environment as the NWS forecasters (users)
 - Allows students to learn NWS tools while still in school

Recent Accomplishments

- NOAAPORT has been installed and is providing real-time data
- AWIPS2 System (release currently deployed in fields) is installed on 2 workstations and a server
- Snowfall rate product visualization on AWIPS has been implemented (in collaboration with NASA-Sport)



NESDIS/STAR Snowfall Rate Product (08/10/2016 at 20:32Z



GOES IR image (11/23/2016 at 14:45Z

Recent Article in the CICS-MD Circular

Developing Satellite Proving Ground Capabilities at CICS-MD (Contributed by Dr. Scott Rudlosky)

CICS-MD has established a Proving Ground and Training Center (PGTC), with support from the Joint Polar Satellite System (JPSS) and the Geostationary Operational Environmental Satellite - R Series (GOES-R) programs. The PGTC will promote direct interactions between CICS-MD scientists and National Weather Service (NWS) forecasters, leading to more timely and impactful implementation of operational forecasting products developed by researchers at CICS-MD.

Infrastructure is being built to promote sustained interaction between JPSS/GOES-R algorithm developers and end users for training, product evaluation, and solicitation of user feedback. The initial demonstration products include satellite-derived snowfall rate estimates, aerosol and fire products, and convective weather diagnostics.

These product demonstrations also require the development of satellite education and training materials including e-learning modules, seminars, weather event simulations, and special case studies. The PGTC is broadening the influence of CICS-MD within the satellite proving grounds, and bringing operational meteorology into the classroom. The implementation of operational NWS software at CICS-MD coincides with the development of similar capabilities just 2.5 miles away at the UMD Department of Atmospheric and Oceanic Science (AOSC). Student interns cross-populate these efforts, greatly benefiting both parties and providing valuable educational and training opportunities for UMD students. The result will be graduates with remote sensing experience ready to staff future NESDIS activities as support contractors and civil servants.



Top: Antenna atop the M-Square building that receives National Weather Service (NWS) data feeds via the NOAAPORT Satellite Broadcast Network. Bottom: Two multi-panel workstations that simulate operational NWS environments, providing real-time visualization of weather, water, and environment information.

Upcoming Tasks

- Reconfigure PGTC room
- Visualization of aerosol and smoke products on AWIPS 2
- Determine computing requirements and obtain new hardware
- Conduct limited/targeted demonstration at NCEP National Centers and WFOs
- Coordinate formal product implementation with Mike Johnson (NWS/OBS)



