



# The NASA Short-term Prediction Research and Transition (SPoRT) Center

GOES-R Proving Ground Update

6 May 2013

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## General Outline - SPoRT Status Report:

### **Total Lightning**

- GOES-R VSP Visit to Colorado LMA (BOU, CYS, CIRA)
- HWT support
- AWC Summer Experiment
- Operations Proving Ground

### **RGB Imagery**

- Snow-Cloud RGB comparison
- GOES-R VSP Visit to NHC for Tropical PG training

### **AWG Support**

- QPE (NESDIS) & Layer PW (CIRA) Transition/Evaluation
- GOES-R CI Support

### **AWIPS II**

- EPDT Workshop summary and plans

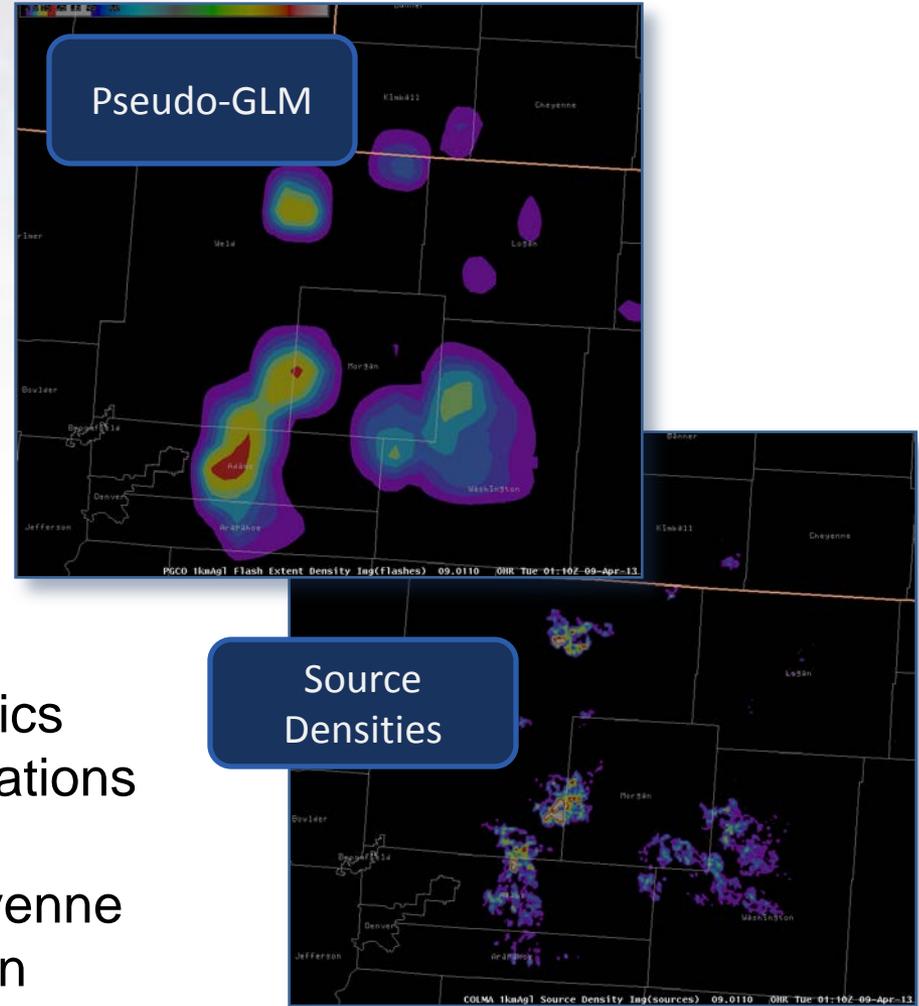
### **JPSS**

- Users submitted examples
- VIIRS night-time imagery evaluation during fire weather season

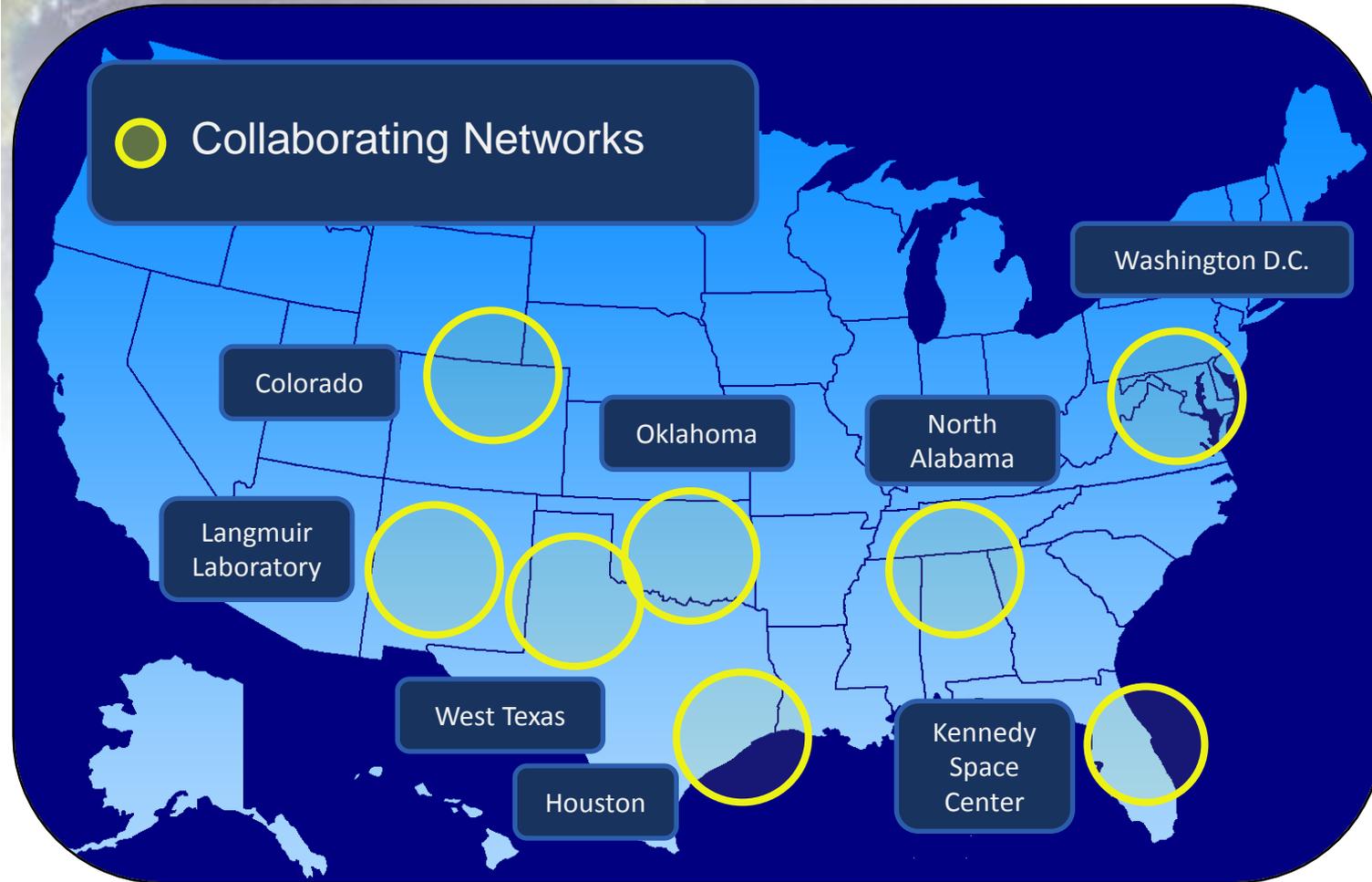


# GOES-R Visiting Scientist Trip

- April 15-19 to WFOs Boulder and Cheyenne
- Also CSU / CIRA
- Objective:
  - Receive real-time Colorado LMA data for GOES-R
  - Coordinate with CIRA / CSU to transition these data to WFOs
- Discussions covered numerous topics
  - Fire and severe weather applications
  - Lightning safety
- Available to both Boulder and Cheyenne
  - Boulder will go to AWIPS II soon



# Total Lightning Activities for HWT

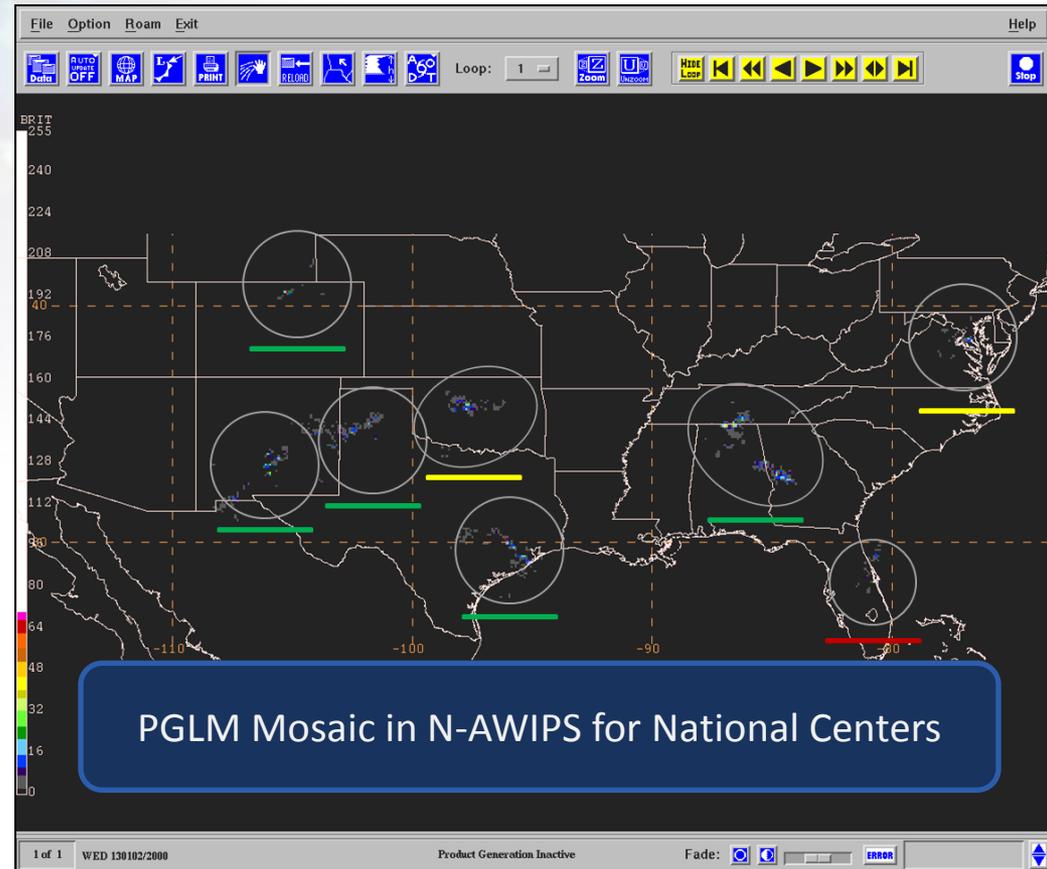


- SPoRT collaborating with 8 LMAs
- Langmuir available this summer
- Provide PGLM suite
- Use SPoRT AWIPS II plug-in
- SPoRT / MDL tracking tool
- Training provided

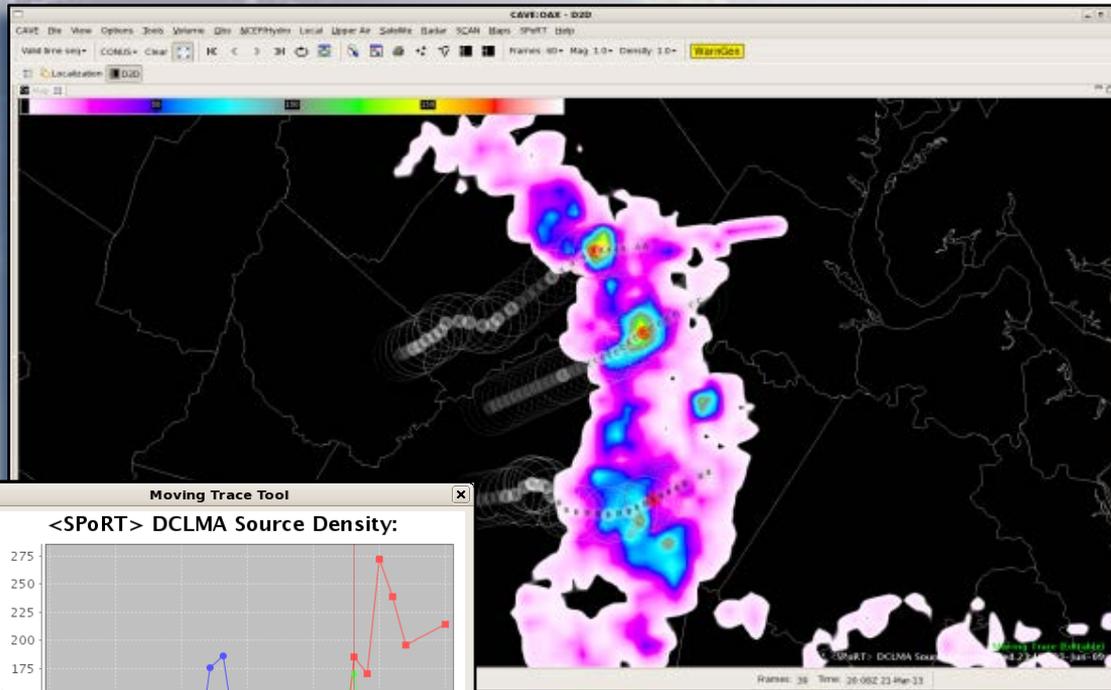


# AWC Summer Experiment

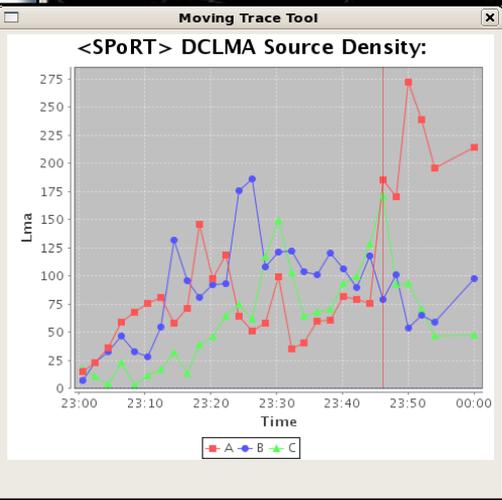
- Expand on last year's Visiting Scientist visit to AWC / SPC
- Providing all collaborating networks in the PGLM Mosaic
- Available in N-AWIPS
- Currently at AWC and SPC
- Coordinating with Michael Folmer for additional use
- Will be part of 2013 AWC Summer Experiment
- Updating display to show network status bars
- Developing national center specific training



# Operations Proving Ground



- SPORT / MDL total lightning tracking tool selected for evaluation
- AWIPS II tool
- Will occur later in summer
- Address #1 forecaster request
  - Time series of total lightning observations
- Evaluate:
  - Manual tracker
  - Time impact
  - Utility



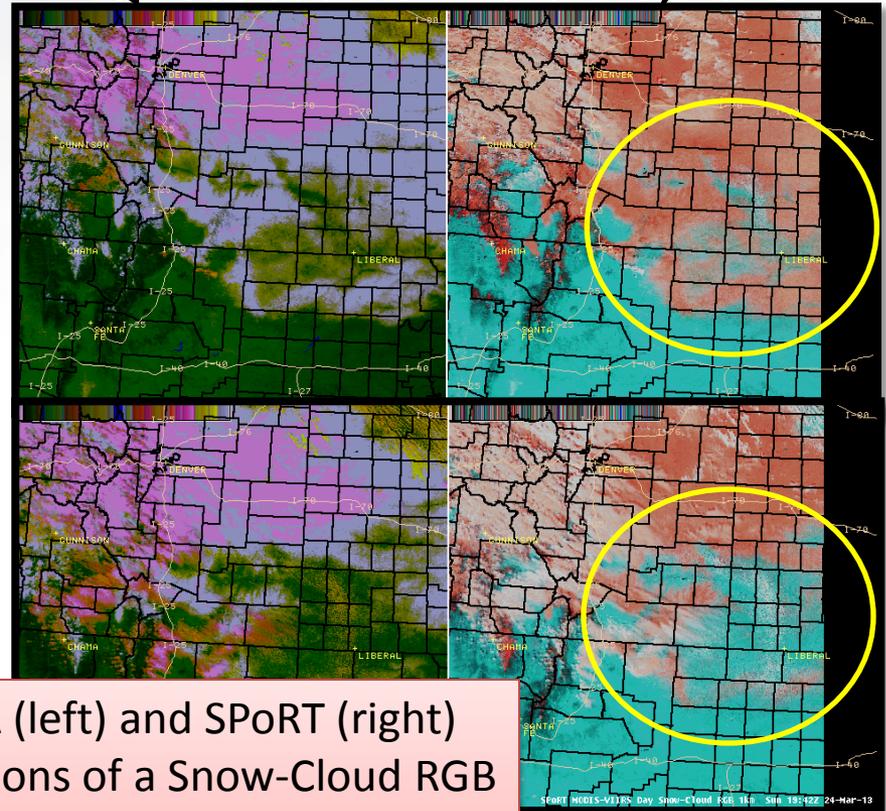
# RGB Imagery

## Snow-Cloud Comparison

### Summary

- Providing CIRA and SPoRT products to Front Range users
- Purpose is to work with users to develop single product
- Brian Guyer of ABQ looked at 3 cases
  - Clouds more easily identified with CIRA's color pallet
  - Snow cover change easier to identify in SPoRT version
  - Snow seen on peaks and between stratocumulus has more contrast w/ SPoRT version (value unclear)
- Rebecca Mazur and Rob Cox of CYS working to ingest/display RGBs
  - Sent them data for 3 cases in April to do comparison
- SPoRT to combine feedback with others and discuss on coordination call

### ABQ Feedback for March 23, 2013



CIRA (left) and SPoRT (right) versions of a Snow-Cloud RGB

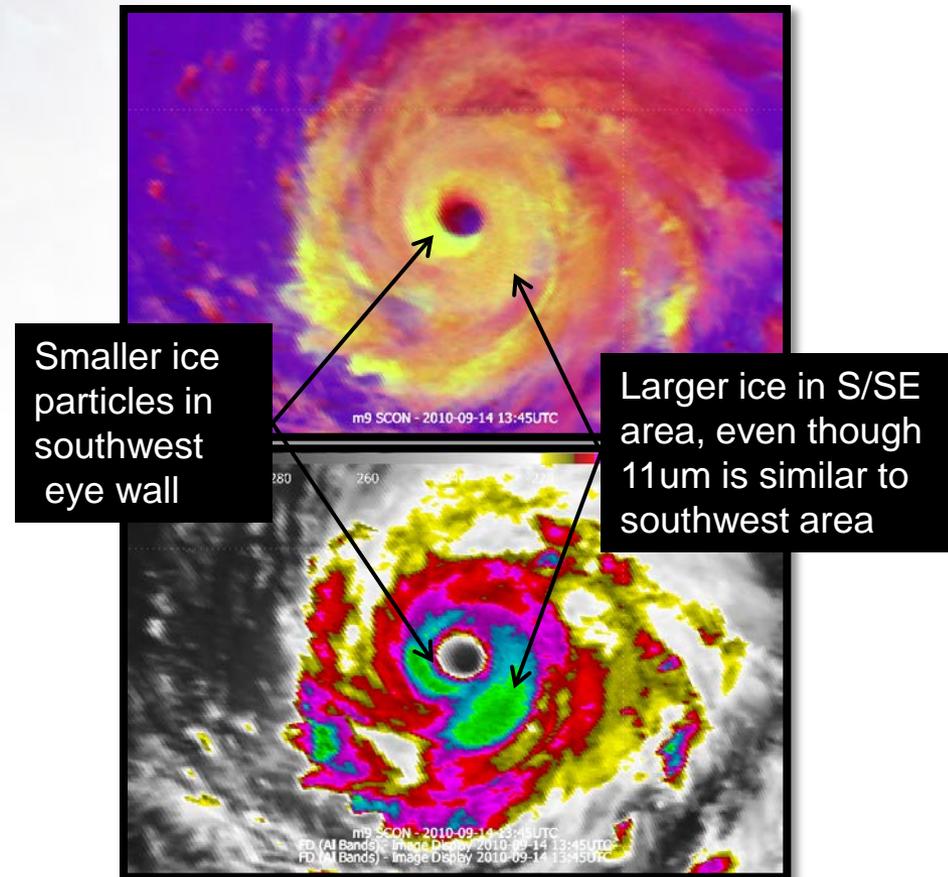
- User Input: Snow melt over TX/OX panhandle easier to see in SPoRT



# RGB Imagery – VSP Visit to NHC

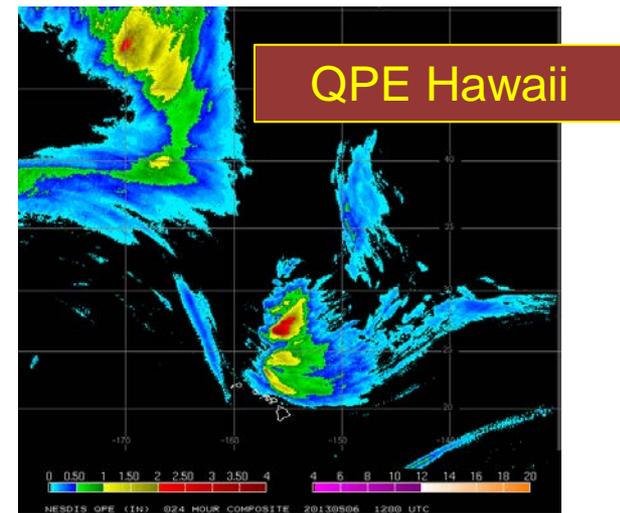
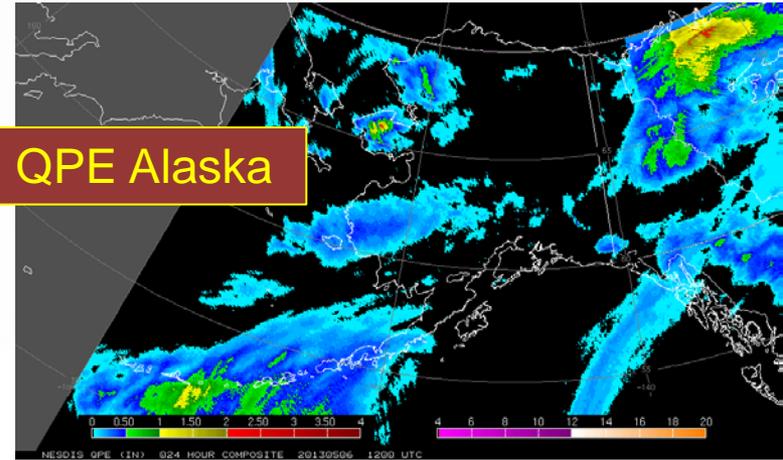
- Thanks to:
  - Chris L. and Jack B. for hosting
  - CIRA for including SPoRT in Tropical PG activities
  - EUMETSAT for visit by Jochen Kerkmann
  - GOES VSP for trips to WMO RGB workshop (2012) and NHC (2013)
- Kerkmann provided ...
  - Insight to Air Mass and Dust RGBs (it's more than just for dust)
  - Introduction to Day-time Microphysics and Convective Storms RGBs
    - Why microphysical information helps diagnose storms along with thermal and physical properties
    - Sun glint issues
    - Focus for use in TCs and testing
- Fuell/Kerkman provided ...
  - Case examples from 2004-11
  - Discussion of 2012 Hurricanes Leslie and Michael with comparisons to single channel imagery via stills and loops (Thanks to M. Folmer for help on this as well)

Hurricane Igor, 14 September 2010



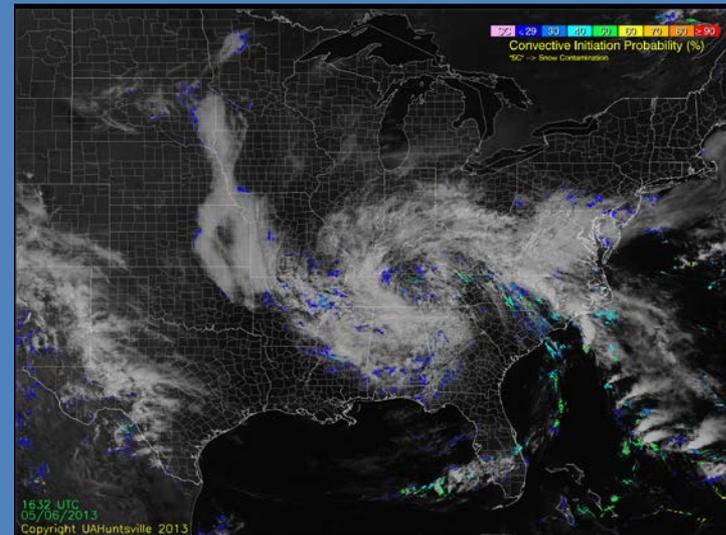
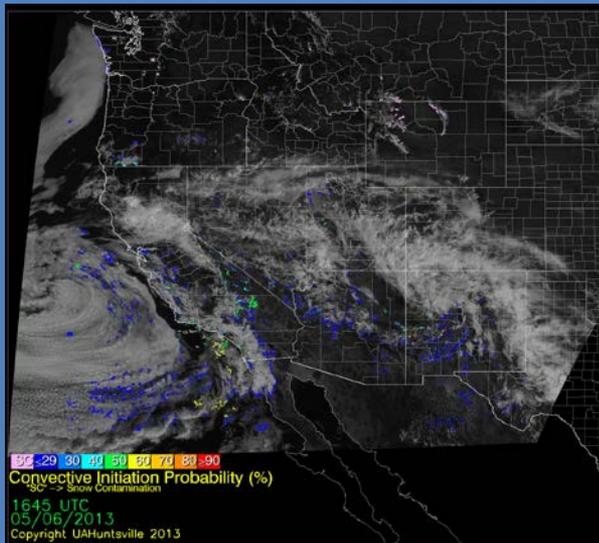
# AWG Support by SPoRT

- QPE (NESDIS)
  - Ending Evaluation by W. Coast
  - Planning OCONUS Evaluation
    - AK, HI, San Juan (late June – Aug)
  - Presentation May 15 to AK Reg.
- GOES-R CI
  - Supporting HWT
  - Ingest/Display to WFO partners
  - Supporting data to other groups



# UAH GOES-R CI Nowcasting Algorithm

- Latest version uses RAP model data and satellite interest fields in a logistical regression framework to produce true probabilities of CI.
  - Coverage over CONUS
  - Includes a snow mask
  - To be evaluated at HWT-2013
- Ongoing 2013 Activities include the addition of a lightning initiation component
  - Proposed evaluation at the AWC testbed in August
- Ongoing activities to support ESRL
  - Assimilate into experimental RAP model



# Experimental Products Development Team (EPDT)

18-22 March 2013 Huntsville, AL @ NASA/SPoRT

## Presenters

- Jason Burks (NASA/SPoRT) EDEX & Data plug-ins
- Max Schenkelberg (Raytheon) Viz plug-ins
- Ed Mandel (NWS OST/SEC) Software Governance
- Ken Sperow (MDL) VLab
- Matt Foster (NWS/CRHQ) GRIB ingest

Presentations /documents are on VLab

## Hands-On Exercises

- EDEX plug-in
- Viz plug-in

## Brainstorming sessions

- AWIPS II enhancements
- data additions

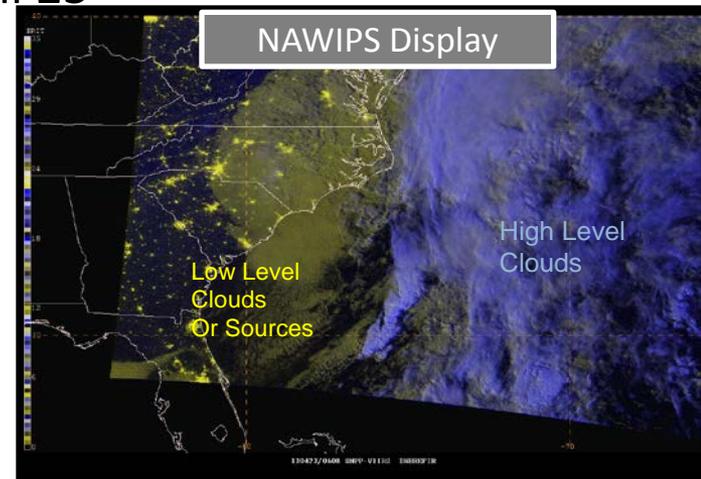
## Next steps

- Biweekly training telecons continue
- Team composition TBD
- Next Meeting tentatively Fall 2013



# JPSS Proving Ground Activities

- VIIRS data in forecasters' hands
  - More partner WFOs (AWIPS) being added (8 done, 6 to go)
  - AWIPS II partners on deck
- JPSS Monthly Science Seminar Series Feb. 19
  - SPoRT JPSS PG Activities with WFOs/National Centers
    - Presented by Gary Jedlovec
  - Feature article #4 from JPSS Program Science
- VIIRS Night-time Imagery Evaluations – being planned
  - Front Range (ABQ, BOU, CYS, TFX) for fire weather season
  - Include DNB, Night-time Microphysics, and IR single channels
    - Coordinate with other Fire Wx PG efforts as needed
  - Have sent Quick Guides on VIIRS and DNB to 10 WFO partners
- Presentation to HSU and TAFB (NHC) users April 25
  - Basics of VIIRS and DNB imagery
  - Examples of Reflectance and RGB version
  - To provide for use in NAWIPS
  - Left “Quick Guide” training in laminated form with them (Hugh Cobb) and will send more



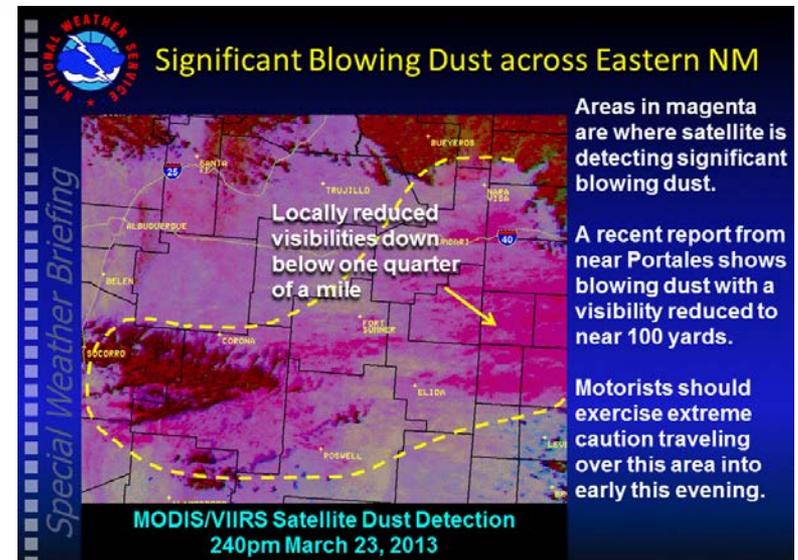
# JPSS Proving Ground Activities

- Wide World of SPoRT - Blog Posts
  - Day-Night Band (HUN)
    - <http://nasasport.wordpress.com/2013/03/27/full-moonlight-observations-with-the-viirs-day-night-band-imagery/>
  - Dust RGB (ABQ)
    - <http://nasasport.wordpress.com/2013/03/23/classic-mid-latitude-dynamic-dry-slot-event-for-new-mexico/>



Extent of snow cover easily seen in DNB

VIIRS DNB Radiance RGB 0752 UTC 27



ABQ WFO blog post graphic



End of Slides  
- Questions

