



# 2012 Hazardous Weather Testbed Spring Experiment

Chris Siewert



Proving Ground All-Hands Telecon  
7/9/2012



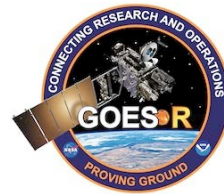
# 2012 Goals in the HWT

- Demonstrate products and capabilities available on GOES-R within an operational warning environment
  - Severe Weather and Convective Initiation
- Build connections with non-satellite research community
  - Radar (dual-pol, MRMS), NWP, and Lightning (LMA)
- Define product training requirements
- Define AWIPS II display requirements
- Accelerate the R2O (and O2R) process for current satellite decision support tools
  - Expose the satellite research community to operational challenges
- Expose broad user community to GOES-R capabilities

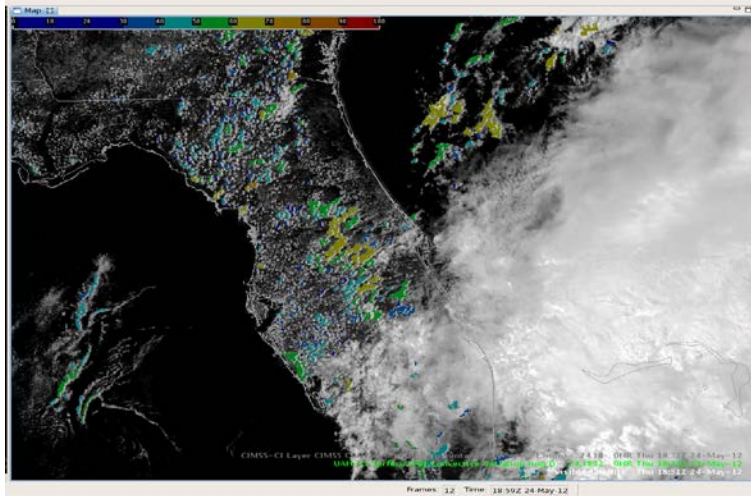
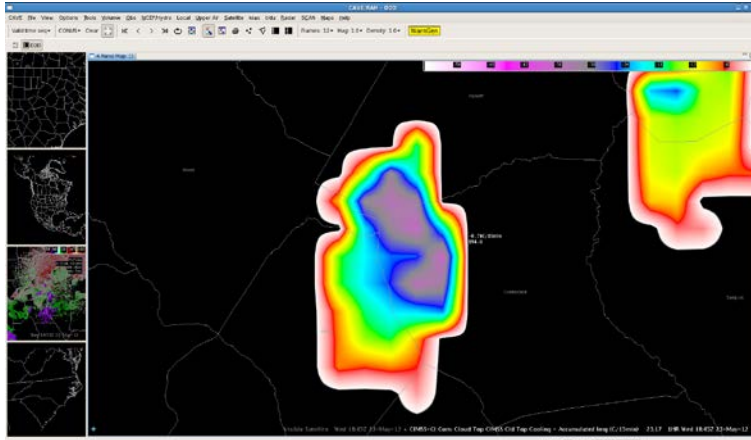


# 2012 Changes

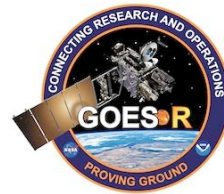
- **AWIPS II**
  - Demonstrate products in AWIPS II for the first time within the HWT
  - Many thanks to Darrel Kingfield (NSSL / OU-CIMMS)
- **WES case and training material**
  - Forecaster participants receive prior to arrival
  - Forecasters take one admin shift to review material
  - No death by PowerPoint on Mondays
- **“Tales from the Testbed” weekly webinars**
- **New products**
  - Simulated satellite imagery (new to EWP)
  - Sounder RGB airmass
  - Significant upgrades to CI products



# Convective Initiation



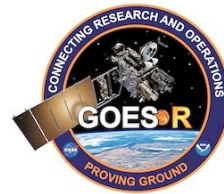
- **UWCI Cloud-top Cooling Rate**
  - Box-averaged 15-minute cloud-top cooling rates
  - GOES-E/W, rapid-scan and nighttime capable
  - *New ability to capture cooling rates under thin cirrus*
- **SATCAST (aka UAHCI)**
  - Object-based 0-1 hour “Strength of Signal” probabilistic nowcast of convective initiation
  - Utilizes IR BT cooling rates and multi-spectral information
  - GOES-E, rapid-scan and nighttime capable



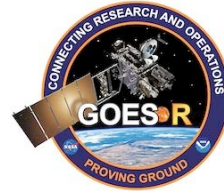
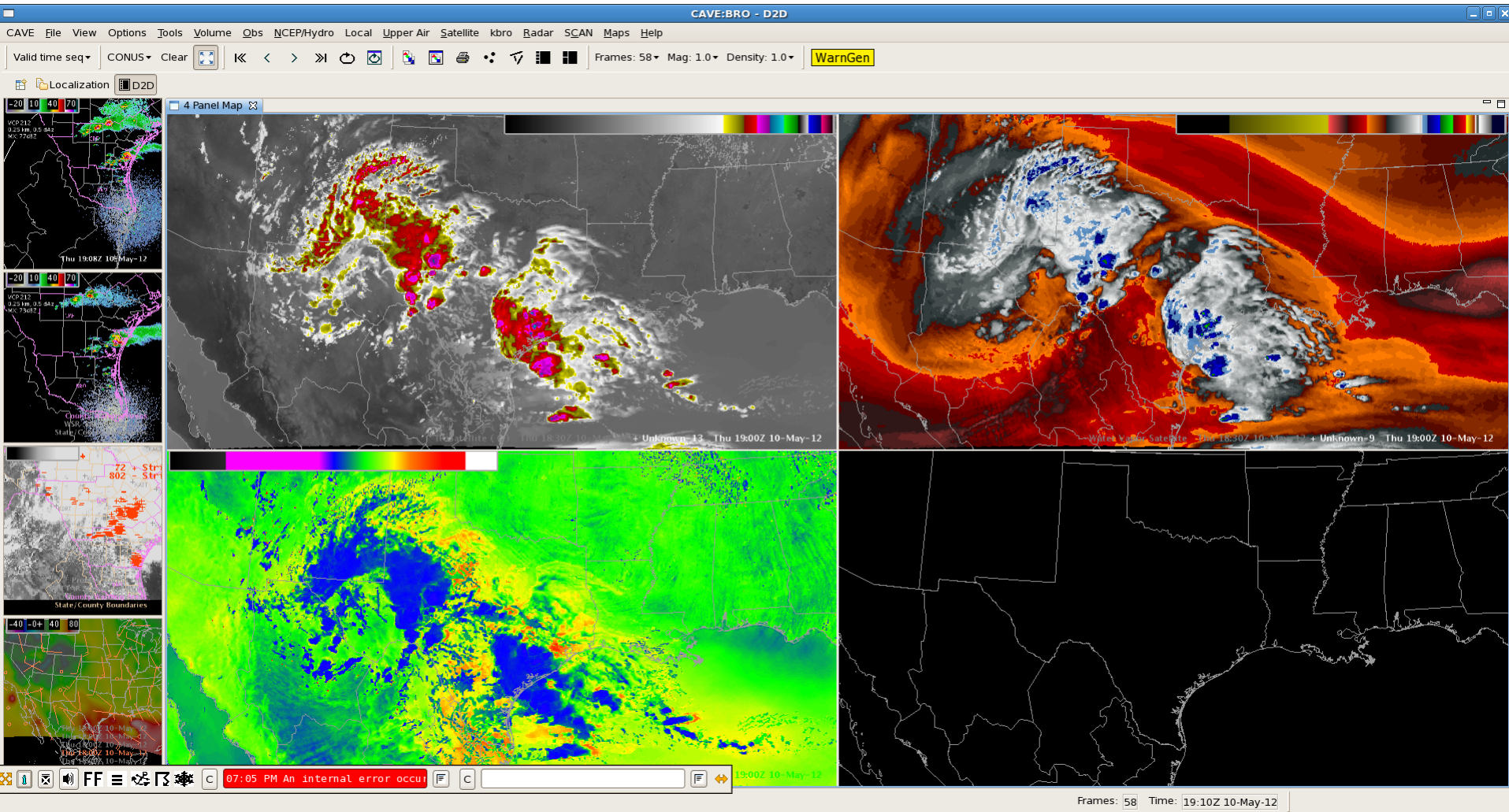


# Simulated Satellite Imagery

- Produced from the OZ 4km NSSL-WRF
  - All 9 non-solar IR bands and visible band available from UW-CIMSS/CIRA/NSSL
  - Hourly output available for 12-36 hr forecast periods
  - Ability to simply produce unique GOES-R band differences
  - EWP demonstration focused on:
    - WV channel
    - Standard window IR
    - Band differencing (10-12  $\mu\text{m}$ )
  - EFP demonstration focused on:
    - Utilizing simulated satellite in an ensemble to evaluation model microphysics



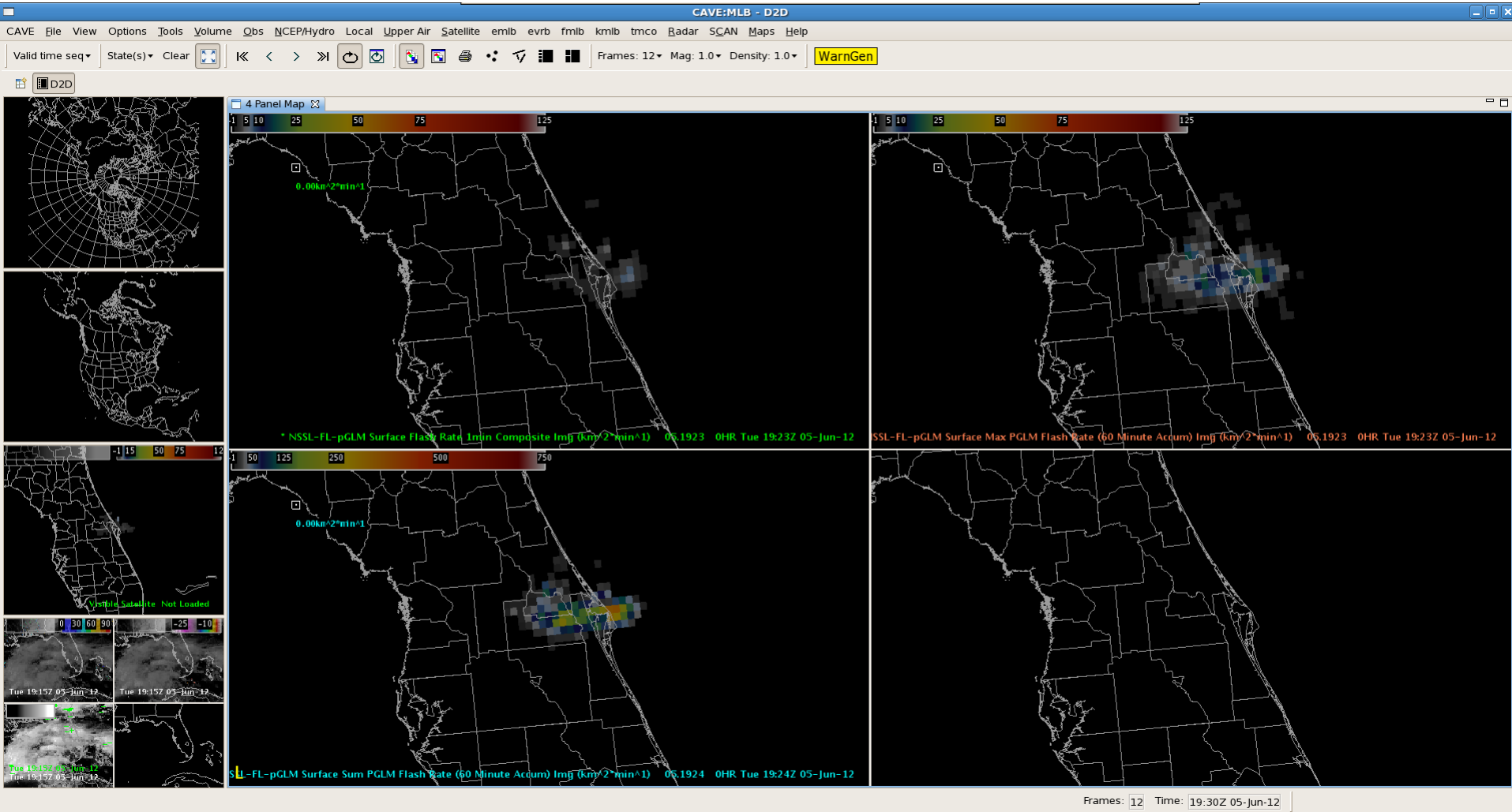
# Simulated Satellite Imagery





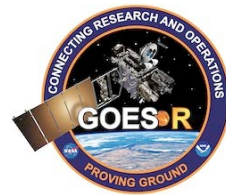


# Pseudo-GLM



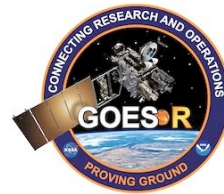
# Capturing Feedback

- **Real-time blogging**  
<http://goesrhwt.blogspot.com/>
  - During forecast/warning exercises
  - Participants are also encouraged to blog following forecast/warning exercises
- **Web-based surveys**
  - Immediately following forecast/warning operations
- **Daily post-mortem discussions**
  - Between visiting scientists and forecasters
- **Weekly “Tales from the Testbed” webinars**  
<http://www.wdtb.com.noaa.gov/resources/HWT-EWP>



# 2012: By the numbers...

- 6-week period (7 May – 15 June)
  - No EWP operations Memorial Day week
- 28 NWS forecasters
  - WFO and CWSU
- 18 visiting scientists
  - CIMSS, CIRA, SPoRT, UAH, DWD, AFWA
- 6 products demonstrated
- 225 blog posts
  - Most from NWS forecasters
- 109 completed surveys
- 5 weekly webinars



# Thanks for your attention!

[chris.siewert@noaa.gov](mailto:chris.siewert@noaa.gov)

HWT Websites:

<http://goesrhwt.blogspot.com/> (blog)

<http://www.wdtb.com.noaa.gov/resources/HWT-EWP> (archived webinars)

