

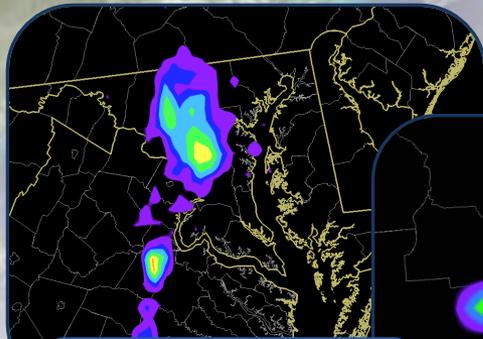
Proving Ground Activities with Aviation Weather Center, Storm Prediction Center and NASA SPoRT

Geoffrey Stano
Amanda Terborg
Christopher Siewert

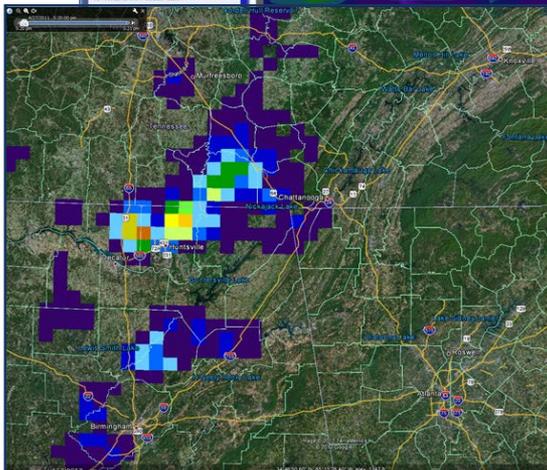
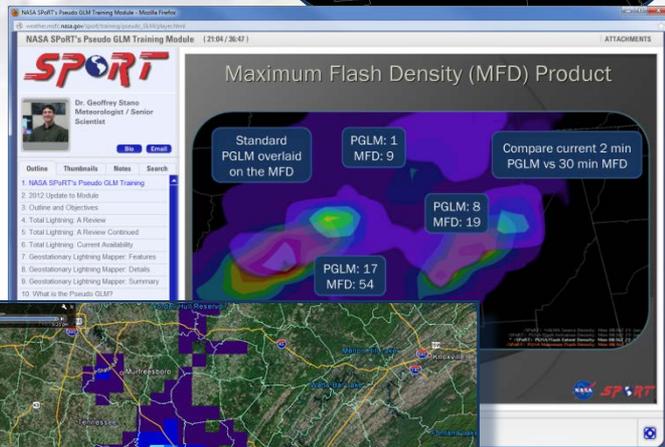
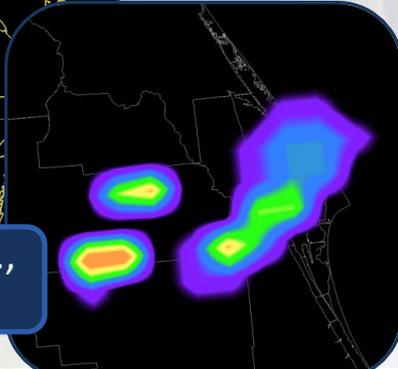
GLM Science Meeting
Huntsville, Alabama
20 September 2012



Origin of Collaboration



Washington D. C.,
KSC, and others



SPoRT has been a PG partner since 2009

Major emphasis with total lightning

- Collaborating with forecast offices since 2003

Producing the Pseudo GLM (PGLM)

- Not to be confused with the proxy
- Developing visualization tools
- Training (2010 and 2012 update)
 - Available on Learning System
- Expanding efforts with local WFOs

Collaborations with National Centers

SPoRT's primary partners are local weather forecast offices

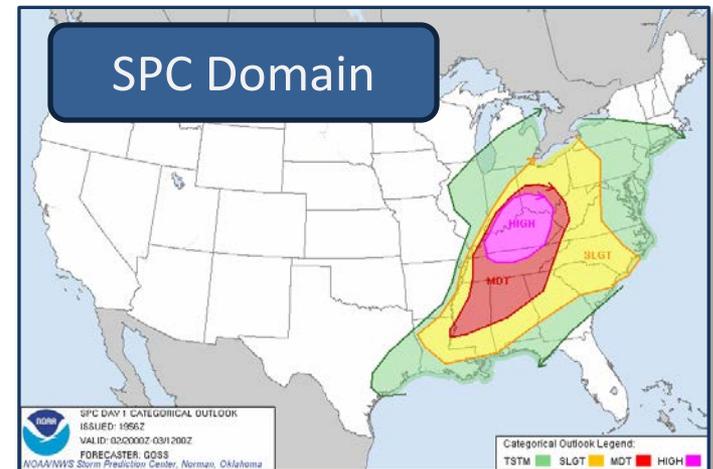
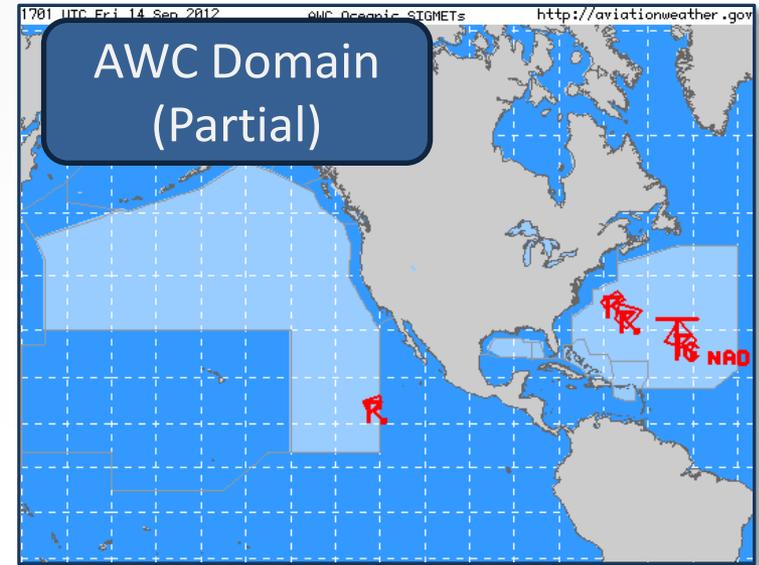
PG lightning activities also focus on offices

Emphasis on:

- Warning operations
- Individual storms
- Localized issues

These are different needs from National Centers

- Drove visiting scientist proposal



Visiting Scientist Proposal

Objectives

- Science sharing presentations
- Learn AWC / SPC operations
 - Forecaster shadowing
- Discuss plan to demonstrate total lightning to forecasters
- Discuss plan to incorporate total lightning in operations
- Aviation Weather Center
 - 23-27 April
- Storm Prediction Center
 - 26-30 March

Accomplishments

- PGLM available in N-AWIPS at AWC and SPC
- PGLM used in AWC's Summer Experiment
- Training about GOES-R and the GLM
- Excellent information exchange
- Discussed limited availability of LMAs versus AWC/SPC operations

Summer Experiment

4-15 June 2012

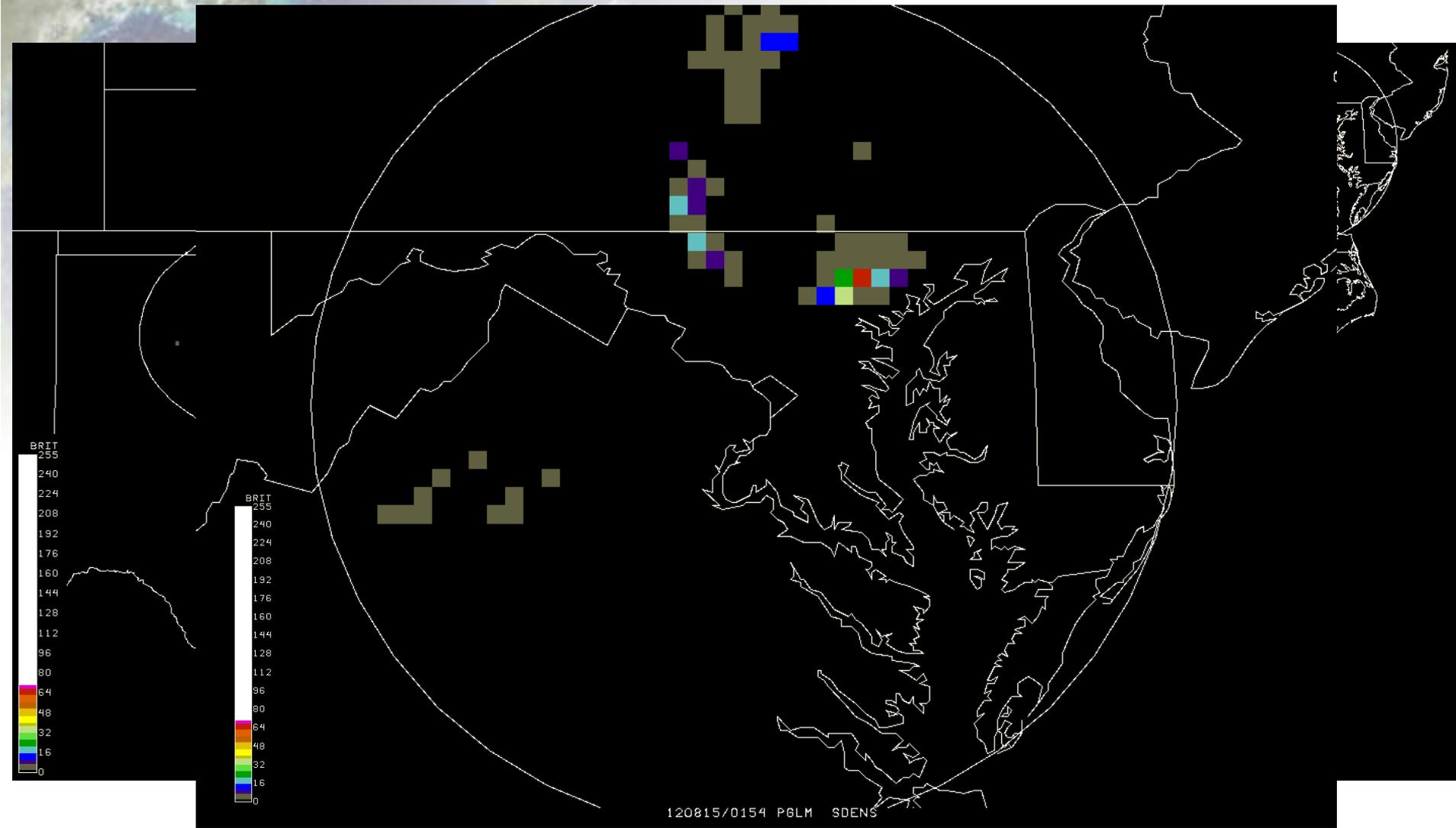
Multiple participants

- AWC, CWSUs, NWS forecasters, airline operators, FAA, AFWA, and researchers

Emphasis

- Traffic flow management
- Aviation Weather Statement
- Desk to evaluate GOES-R products
 - PGLM was a late addition
 - Required a format change

PGLM in N-AWIPS



Summer Experiment

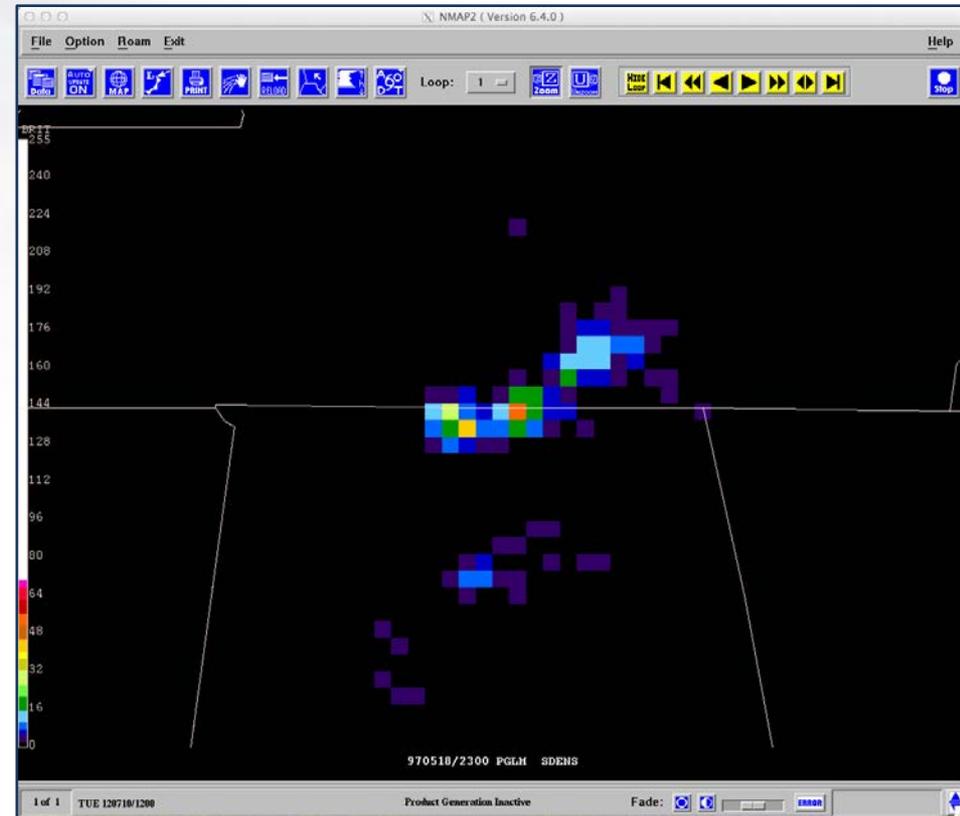
Summer Experiment Results

- Several network outages from all networks

- LDM connection issue

Still, generated much interest

- Forecasters want to see more
- Interested in applications
- Discussions for more training



Summer Experiment - Example

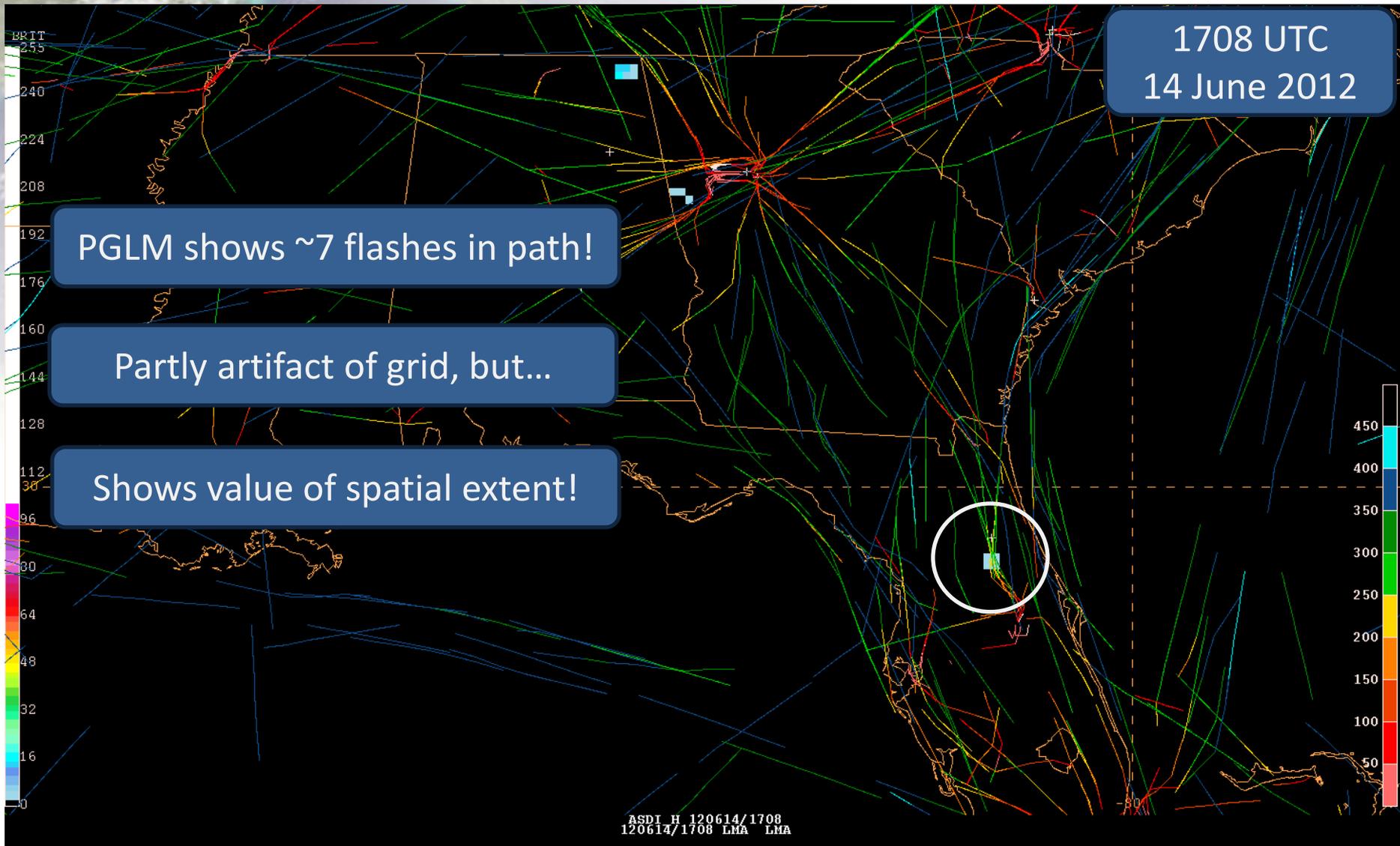
1707 UTC
14 June 2012

Convection north of Orlando

CGs with storms

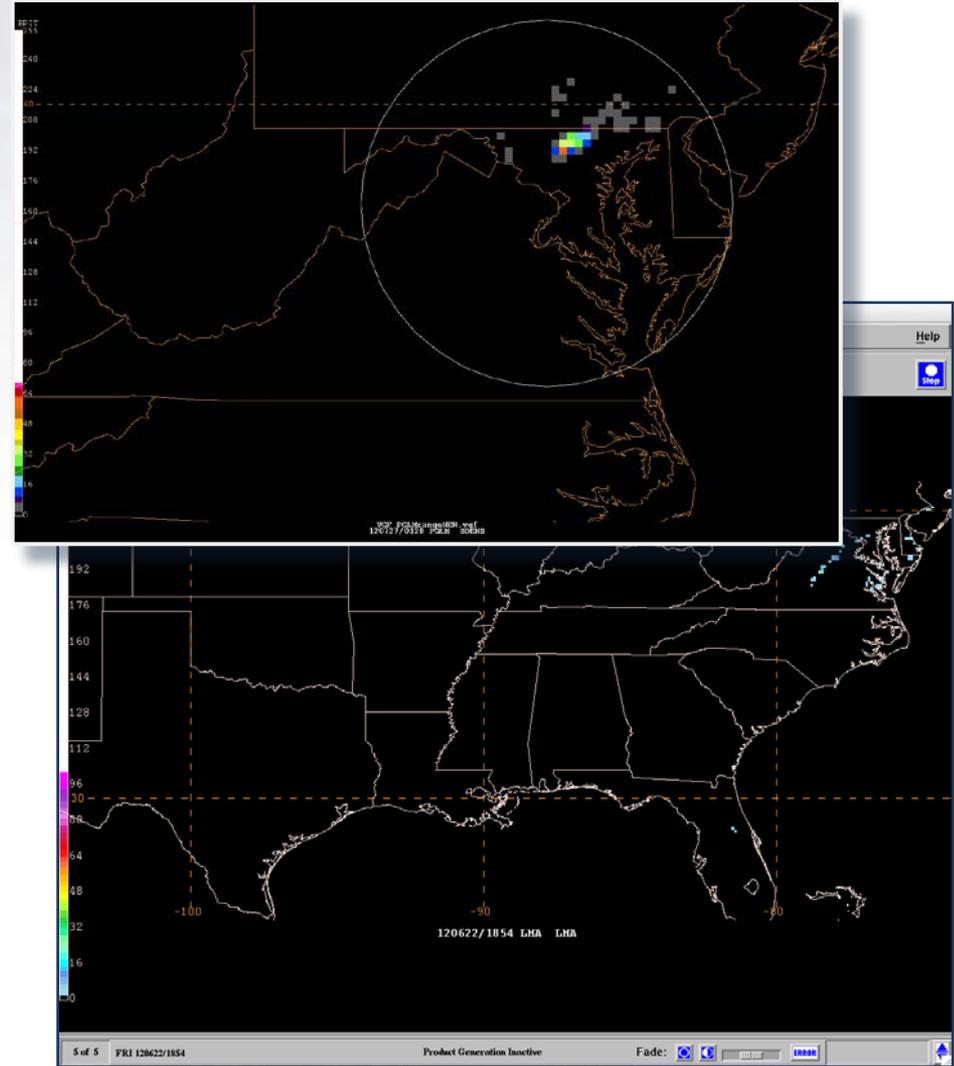
Outbound flights flying the gap

Summer Experiment - Example



Other Forecaster Proposed Uses

- Total lightning confirms convection particularly in remote regions
- Aid with flight diversions
- Monitor status of the cap breaking
- Modify mesoscale discussions
 - Expire or re-issue
- Modify convective forecasts
- Interest over tropical regions (once GLM launched)
- Nighttime decay and morning initiation scenarios



Expanding Partnerships

- Full access
- Collaboration
- In discussions
- No contact

Dugway

Colorado
Front Range

St. Louis

Washington D.C.

North
Alabama

Langmuir
Laboratory

Wallops Island

Oklahoma

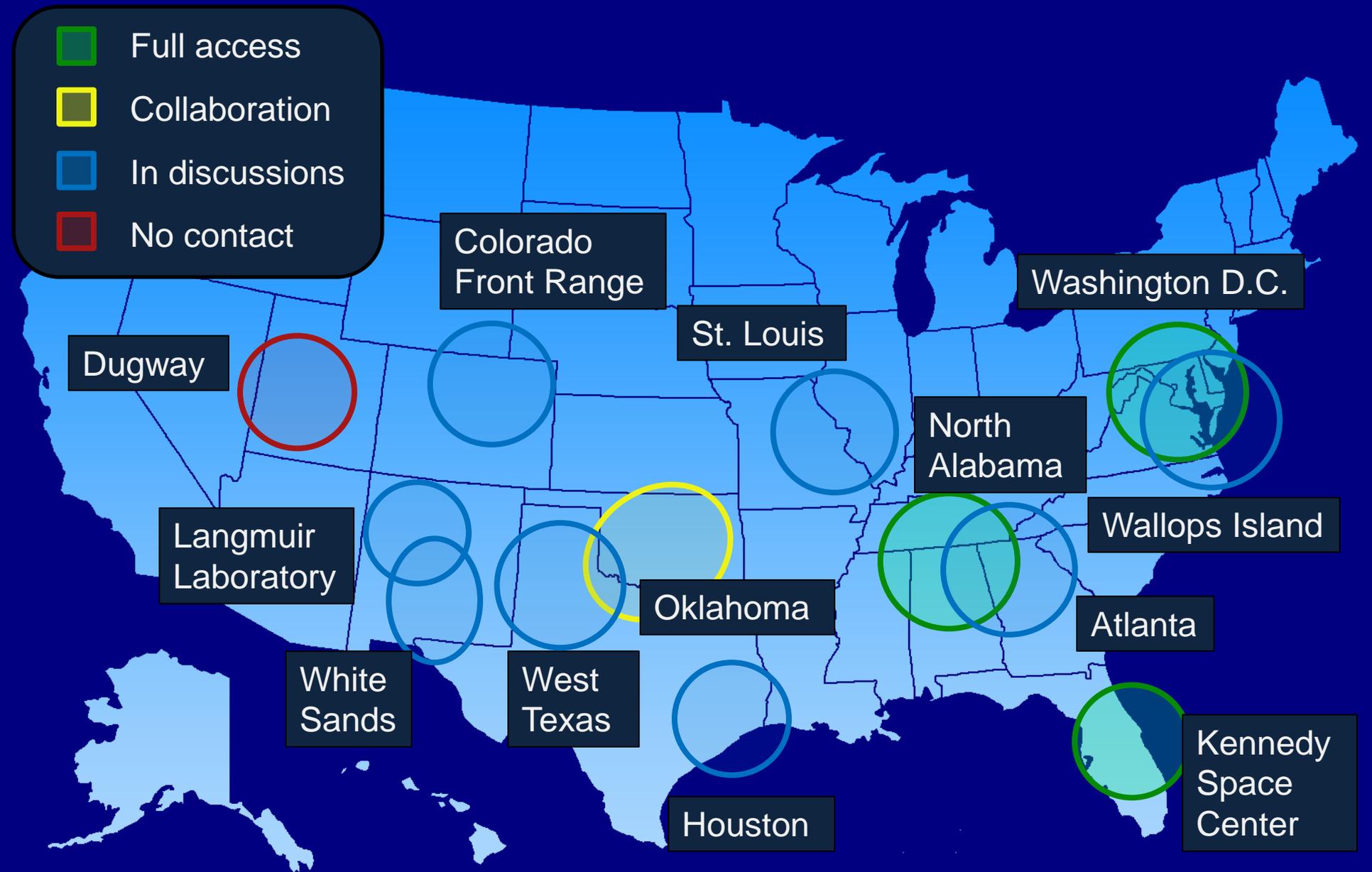
Atlanta

White
Sands

West
Texas

Houston

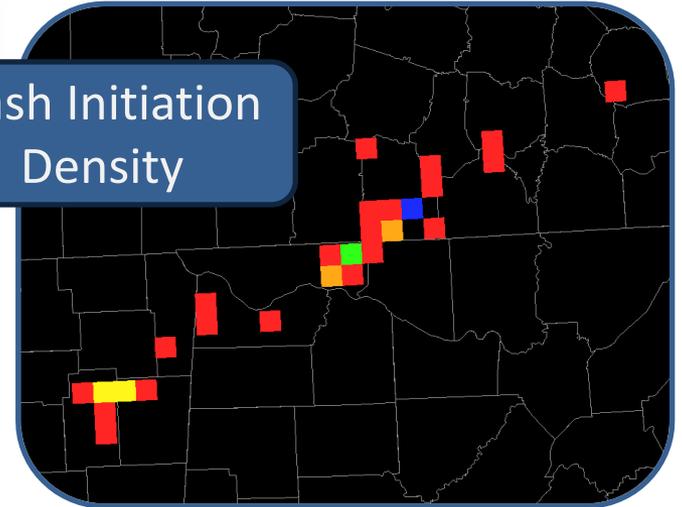
Kennedy
Space
Center



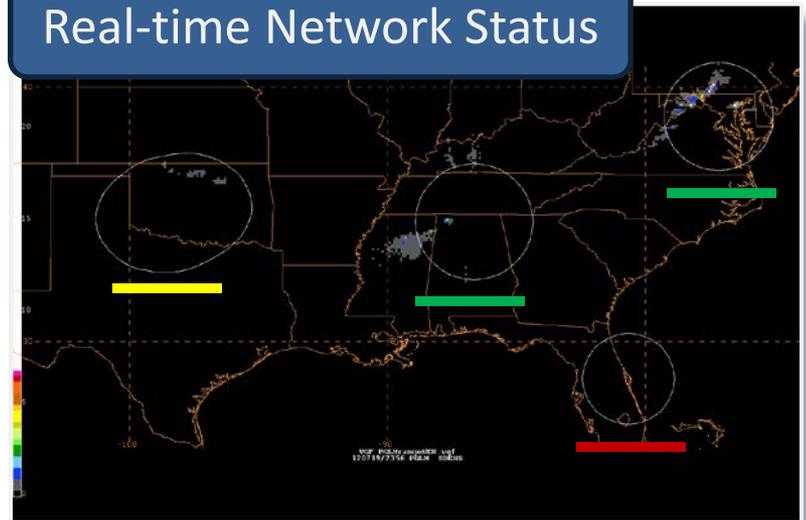
Upcoming Activities

- Include other networks
- Transition PGLM to operations
- Coordinating with GOES-R champions on National Center specific lightning training
- SPoRT improving data processing
- Determine if time stamp method needs to change
 - 1810 NLDN covers 18:09:01-18:10:00
 - 1810 PGLM covers 18:10:00-18:11:59
- Expand product suite
 - Flash Initiation / Max Flash Density
- Include network status

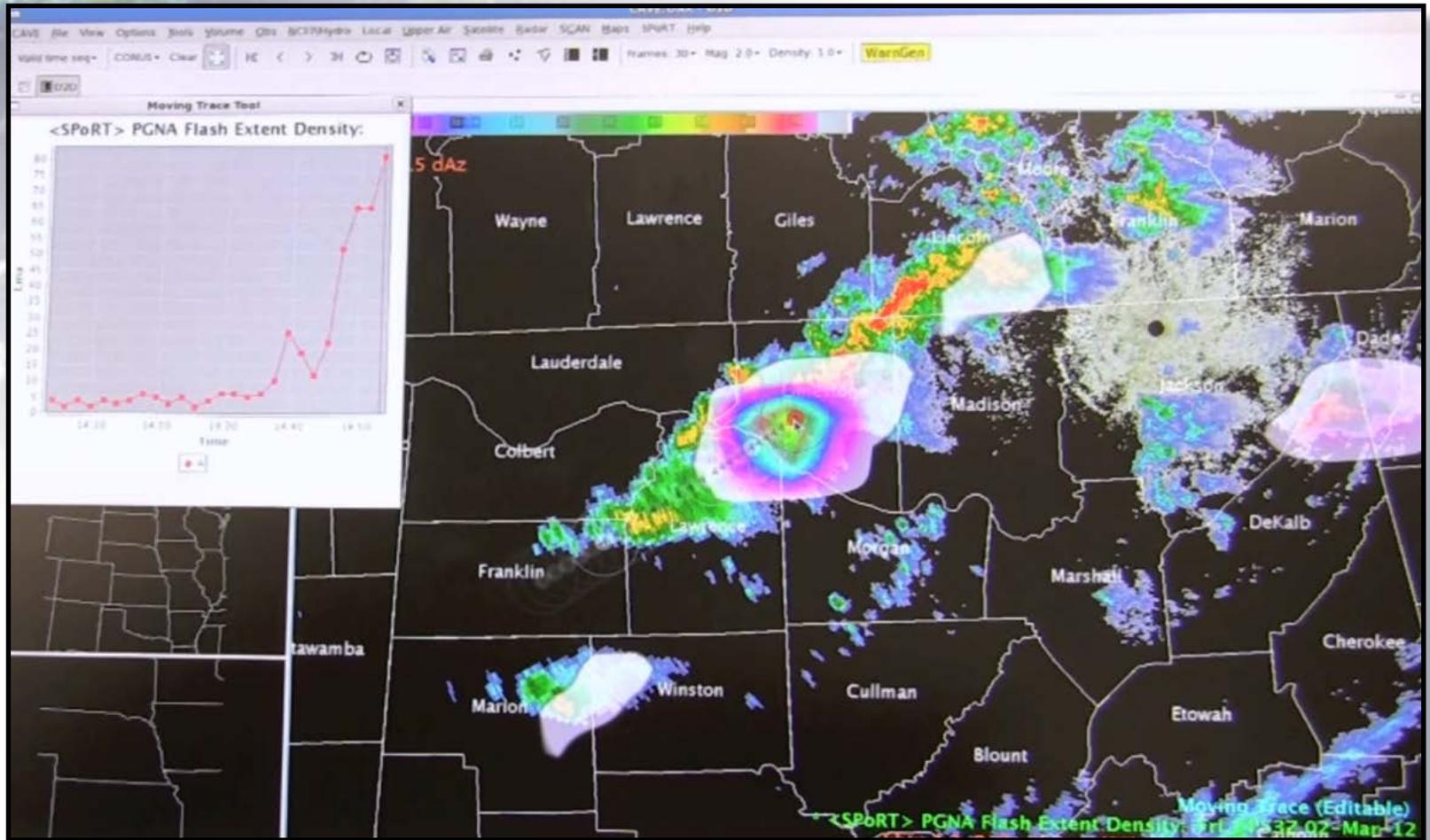
Flash Initiation Density



Real-time Network Status



AWIPS II



Looking forward to the national perspective

- Update existing plug-ins
- Trend tool, IC-CG comparison

Questions

Thank-you for your time!

Geoffrey Stano

geoffrey.stano@nasa.gov

SPoRT webpage: <http://weather.msfc.nasa.gov/sport/>

Wide World of SPoRT Blog: <http://nasasport.wordpress.com/>