

# Overview of a GOES-R Proving Ground fire weather experiment with the Boulder and Cheyenne NWS WFOs in late spring 2013

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Topics: Severe Weather and Lightning

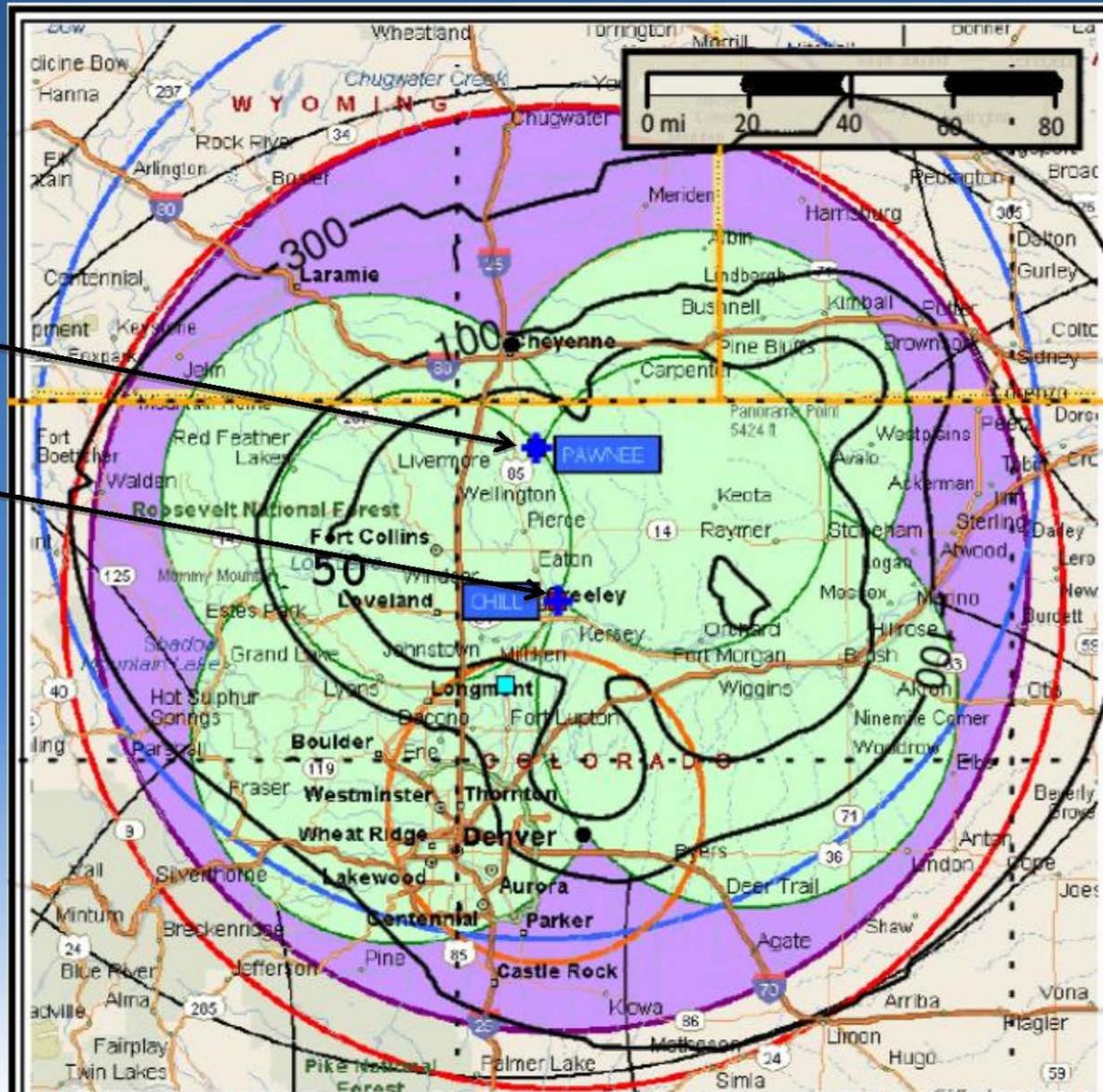
Program: Proving Ground



## 2. Introduction

- Use the experimental Colorado Lightning Mapping Array (LMA) to replicate the GOES-R Global Lightning Mapper (GLM) output (*network is shown in the next slide*)
  - SPO-RT provides output in AWIPS1 and AWIPS2
- Concentrate on potential applications for Fire Weather
  - Secondary use for severe weather may occur
- Combine with the WFABBA (GOES Wildfire Automated Biomass Burning Algorithm) product

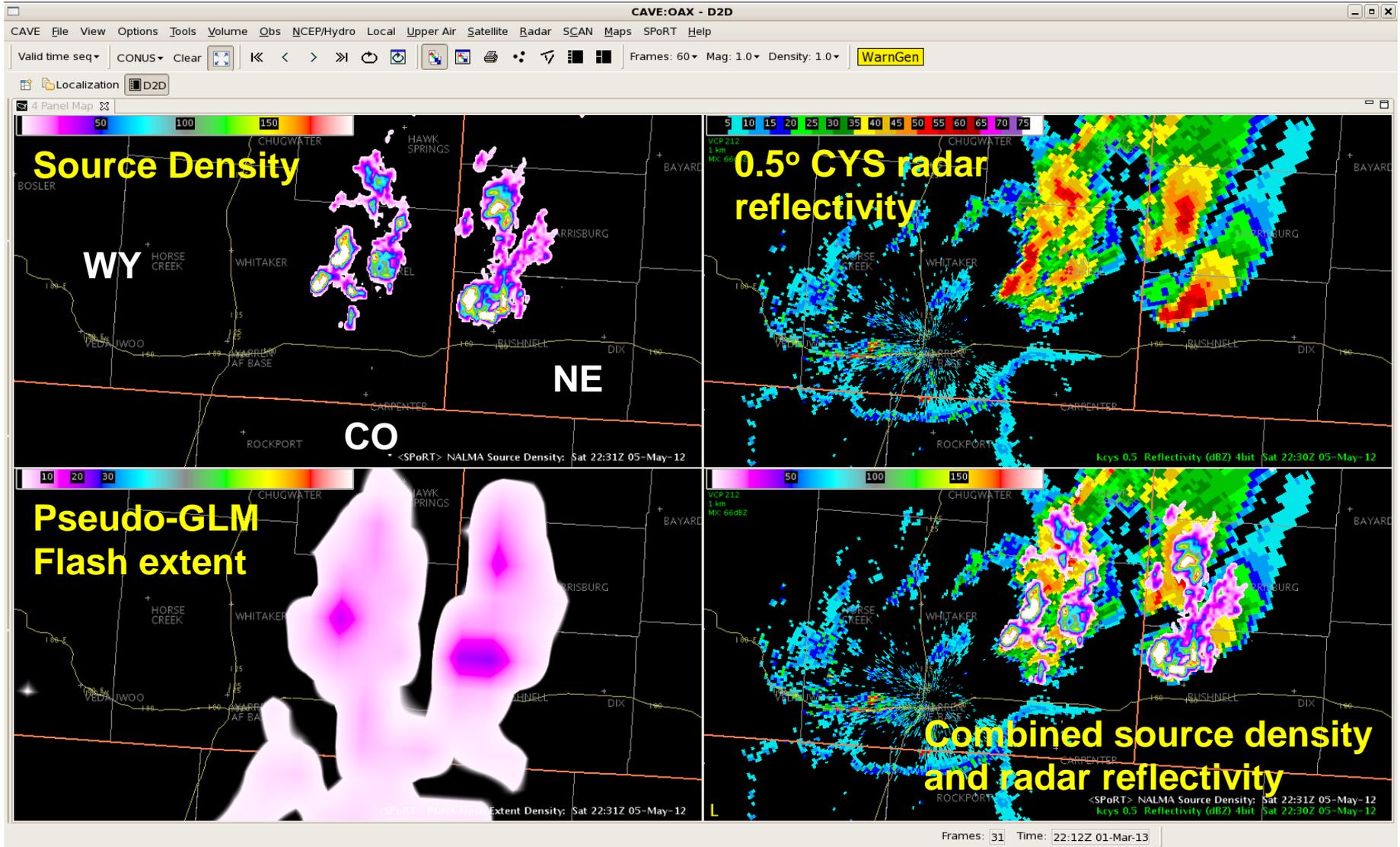
# Map of NE Colorado Ground Facilities



PAWNEE radar

CHILL radar

# Example of Colorado LMA output for 5 May 2012 at 2230 UTC – for cells over southeast Wyoming



# 3. Methodology

- Field test will be done Spring into Summer of 2013
  - Start date dependent on outcome of latest AWIPS2 evaluation period that will occur in late March into April
- WFOs taking part
  - Boulder (BOU) – they are on AWIPS2
  - Cheyenne (CYS) – are on AWIPS1
    - Close interaction/communication will occur with WFOs during the experiment
- Training will occur in Spring 2013

# 3. Expected Outcomes

- A preliminary assessment of the potential use of pseudo-GLM data in fire weather applications
  - Most research thusfar has focused on severe weather applications
  - What communication issues are involved to make use of the data in fire weather operations?
- Feedback on product displays for GLM data
- Feedback on the WFABBA product for fire detection
  - Comparison to the standard satellite “hot spot” detection

# 4. Results

- We hope to have preliminary results by the summer
- Various evaluation methods will be used to get feedback
  - Interaction with forecasters during operations
  - Short online questionnaires
  - Blog entries

# 5. Possible Path to Operations

- Put the LMA data into AWIPS1 and 2
- Use feedback to make any changes needed to the GLM and fire detection products
- Improve training on both products to help develop formal training for operations

## 6. Future Plans

- We expect that we will learn a number of lessons from our experience in this first exercise
  - Also how much feedback we get will of course be subject to highly variable fire weather
- This should help improve products and training for another exercise in 2014

# 7. Publication List

- Stano, G. T., 2012: Using total lightning observations to enhance lightning safety. *7<sup>th</sup> Symposium on Policy and Socio-Economic Research*. Amer. Meteor. Soc., New Orleans, LA, 9 pp.
- Darden, C., D. J. Nadler, B. C. Carcione, G. T. Stano, and D. E. Buechler, 2010: Utilizing total lightning information to diagnose convective trends. *BAMS*, DOI: 10.1175/2009BAMS2808.1.
- White, K., B. Carcione, C. J. Schultz, G. T. Stano, and L. D. Carey, 2012: The use of the North Alabama Lightning Mapping Array in the real-time operational warning environment during the March 2, 2012 severe weather outbreak in Northern Alabama. *NWA Newsletter*, Oct. 2012, No. 12-10.