

NOAA Satellite Proving Ground Fire Weather and Lightning Demo

**Brian Motta
National Weather Service
Office of Climate, Weather and Water Services
Training Division
Forecast Decision Training Branch
Boulder, CO**

Leveraging Resources and Boulder PG Synergies

- Leverage NSF/NASA/NOAA Field Project
- DC3 – Deep Cumulus Convection & Chemistry
 - ✓ NM Tech Lightning Mapping Array in Greeley, CO
 - ✓ CSU CHILL Doppler Radar
 - ✓ NESDIS GOES Satellite RSO and SRSO Imaging
- NESDIS STAR and JPSS – Soumi NPP VIIRS
 - National Fire Detection (start) Project
 - Partners: NWS, NESDIS, U/MD
- Lightning Validation
 - CG Network, Total Network(ENI/Weatherbug), LMA

Leveraging Resources and Boulder PG Synergies

- NOAA Boulder Proving Ground Demo Candidates
 - NOAA Fire Weather Research Program
 - Fire Weather Season is now all year long
 - Western Governors' Association
 - Higher Resolution Forecasting
 - Smoke Forecasts
 - Downscaled Version of LAPS (< 1km)
 - Need “LAPS Portable” window that runs quickly
 - Extend lead time for fire operations (evac, behavior, safety, etc.)
 - OFCM
 - UAVs, NSSL Lightning Prediction Model

Leveraging Resources and Boulder PG Synergies

- NOAA Boulder Proving Ground Demo Candidates
 - NOAA Fire Weather Research Program
 - NIST Neighborhood-scale Wildland Fire DS Model
 - ESRL HRRR -Chem (with Fire Emissions)
 - GAP: LAPS/STMAS 13km – 1KM
 - Automated Downscaling for Fire, Terrain
 - Include Fire Mapping Aircraft Data
 - Fine Scale Wind Analysis (500m, over complex terrain)
 - Temperature
 - Humidity
 - Terrain-following
 - Land surface, Land cover, High-res Satellite Maps

NOAA Satellite PG

Boulder Demonstration Goals

- Demonstrate integration of new satellite capabilities for detection, monitoring of wild fires in NWS ops
- Evaluate data fusion and analysis
- 1st responder analysis system (??)

Recommendations

