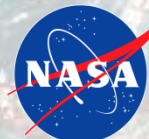


SPoRT ROSES Proposals

Science Advisory Committee Meeting

26 – 28 August, 2014

National Space Science and Technology Center, Huntsville, AL



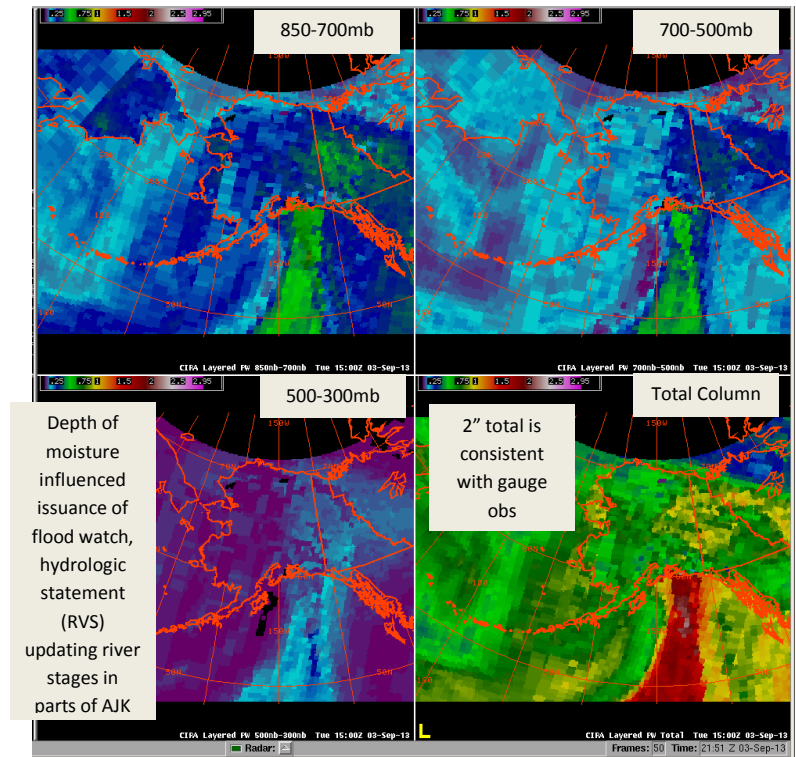
Background

- SPoRT supplements its core funding from NASA and NOAA by submitting proposals to expand current projects/capabilities
- Additionally, NASA has solicited through ROSES for outside researchers to propose transition of their products to the operational community through SPoRT
 - Foster new collaborations with the research community
 - Address new forecast challenges to bring additional operational forecast offices into SPoRT collaborations
 - 25% of total budget comes to SPoRT for R2O activities related to these proposals



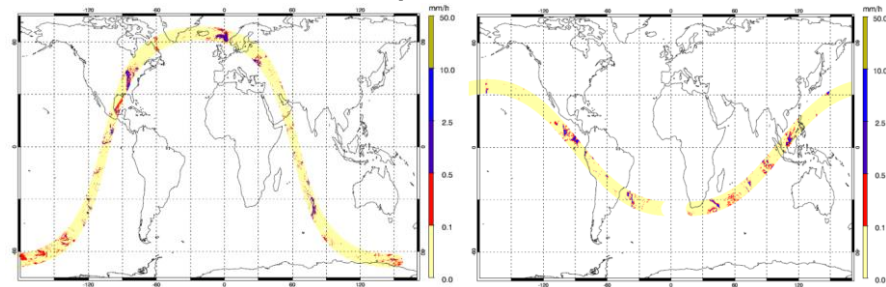
CIRA Layered Total Precipitation Water (TPW) Product (ROSES10)

- Stanley Kidder (PI; CSU/CIRA), John Forsythe (CSU/CIRA)
- Using previous feedback from SPoRT collaborations, AIRS moisture information was used to enhance CIRA Blended TPW Product to produce a Layered TPW product
- Performed two targeted formal evaluations of product with West Coast and OCONUS WFOs
- Outcome: Forecasters had high confidence in the product and said that it provided value for tropical waves, atmospheric rivers, and the depth of other moisture events



Data Assimilation and Evaluation of GMI and DPR Data with WRF GSI (ROSES13)

- Xuanli Li (PI; UAH), John Mecikalski (UAH), Walt Petersen (GSFC)
- Improve understanding of GPM retrieval products and evaluate methods and impact of assimilation in high-resolution GSI/WRF
- Research goals:
 - Generate package in community GSI to assimilate GPM rainfall
 - Developed methodology to assimilate GPM DPR reflectivity data into GSI
 - Leverage SPoRT connections with JCSDA to transition techniques to operational NWP groups
- Currently building package in GSI for GMI rainfall product and processing for a 5/15/2014 heavy rainfall event



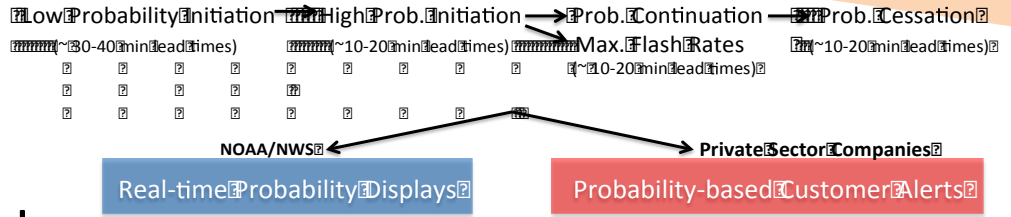
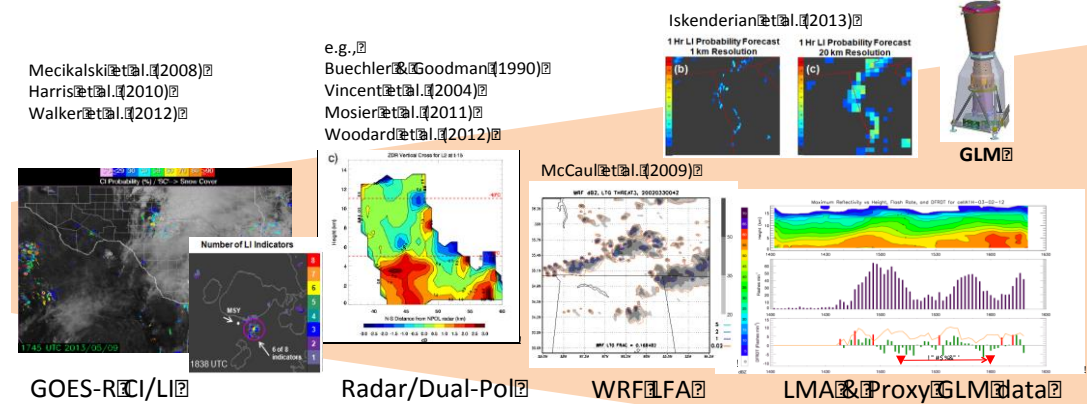
Integrated 0-1 Hour First Flash Lightning Nowcasting, Amount, and Jump Warning Capability (ROSES13)

- John Mecikalski (PI; UAH), Larry Carey (UAH), Chris Jewett (UAH)
- Integrate disparate lightning data into one “lightning threat” nowcasting tool

- GOES-R convective storm initiation cloud object tracking
- WDSS-II radar echo object tracking and projected lightning threat areas
- NWP diagnostics from WRF lightning forecasting algorithm
- Real-time monitoring using LMA/pseudo-GLM fields on a per-cell basis

Multi-Source Lightning Prediction Algorithm (MSLPA)

A complete picture of lightning potential from initiation through cessation.



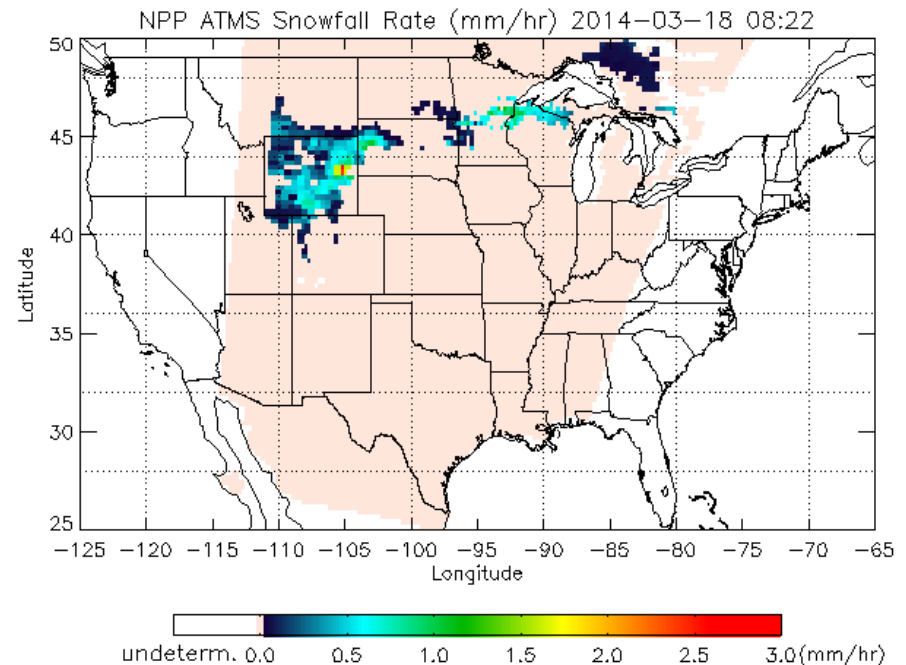
- Currently working to develop processing code to combine these various datasets into a single product

- Plan to evaluate at select WFOs at end of Year 2



ATMS Snowfall Rate Product (ROSES13)

- Huan Meng (PI; NOAA/NESDIS), other NESDIS collaborations
- Expand current POES, MetOp suite of passive microwave SFR Product to include ATMS and demonstrate at select WFOs
- Research goals:
 - Transition ATMS SFR product
 - Implement time delay index
 - Developed fused radar product
- Currently completing training and preparing data transfer of SFR files in AWIPS II format for Alaska (Nov.-Dec.) and CONUS (Jan.-Feb.) assessments using direct broadcast data



Summary/Future Work

- SPoRT supplements its core funding from NASA and NOAA by submitting proposals to expand current projects/capabilities
- Specific solicitations that encourage the research community to partner with SPoRT to transition their products to operations have enabled valuable new collaborations with new partners
- SPoRT will continue to pursue new partnerships through writing proposals and encouraging the community to respond to future SPoRT-specific solicitations

