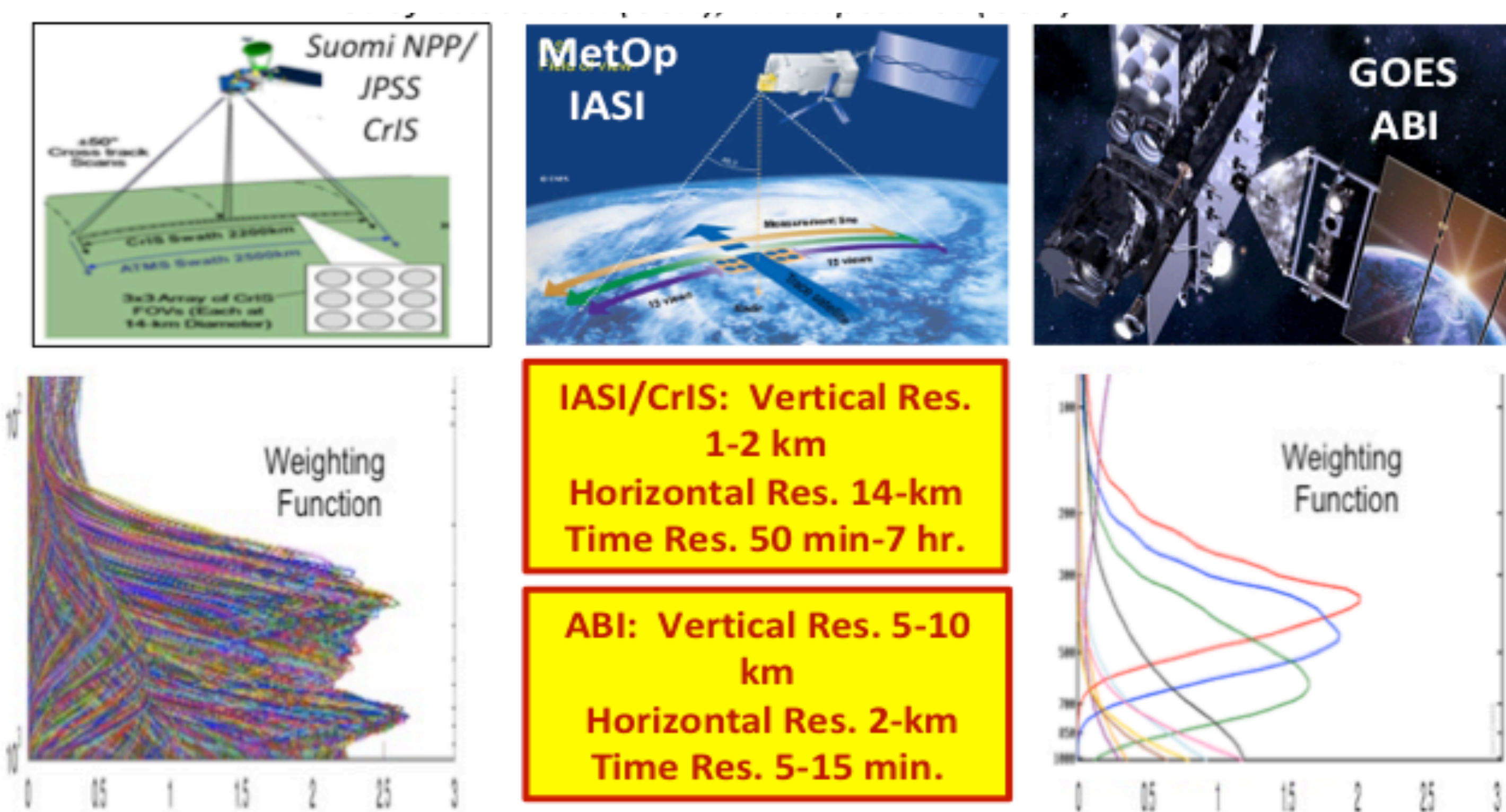


A system has been set up to produce in near real-time nowcasting and forecast model input data from combined Direct Broadcast Satellite (DBS) Polar Hyperspectral (PHS) CrIS/IASI and GOES ABI (PHSnABI) Data. The data is made available to potential users via the internet and through the NWS AWIPS. Studies are being performed to demonstrate severe and precipitation forecast improvements using these data. The PHSnABI observation and forecast products will be provided to weather forecasters for evaluation during the NOAA spring 2020 Hazardous Weather Testbed (HWT).

PHS and ABI Characteristics



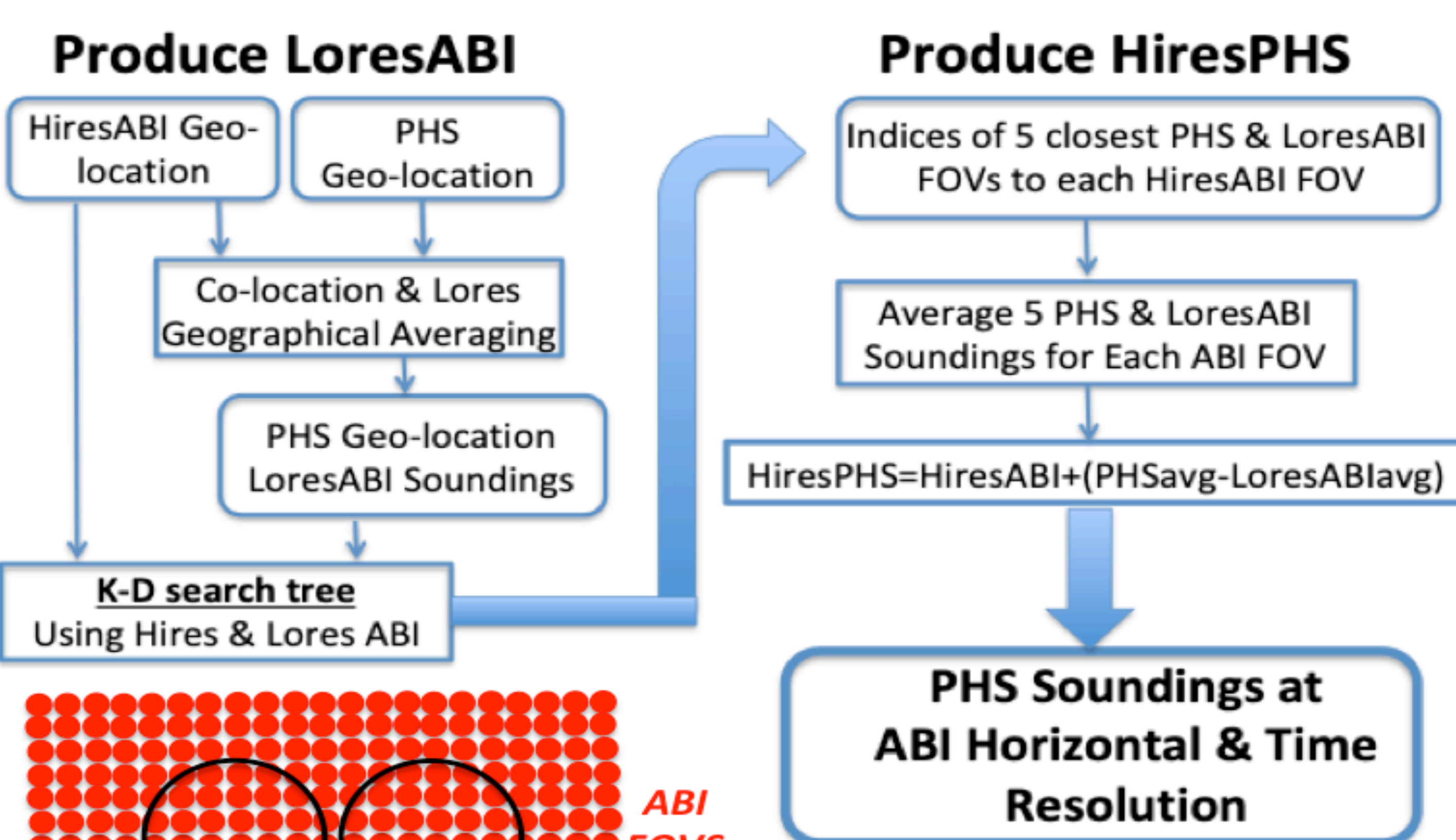
Sounding Retrieval Process

Dual Regression + De-Alias (DRDA)*

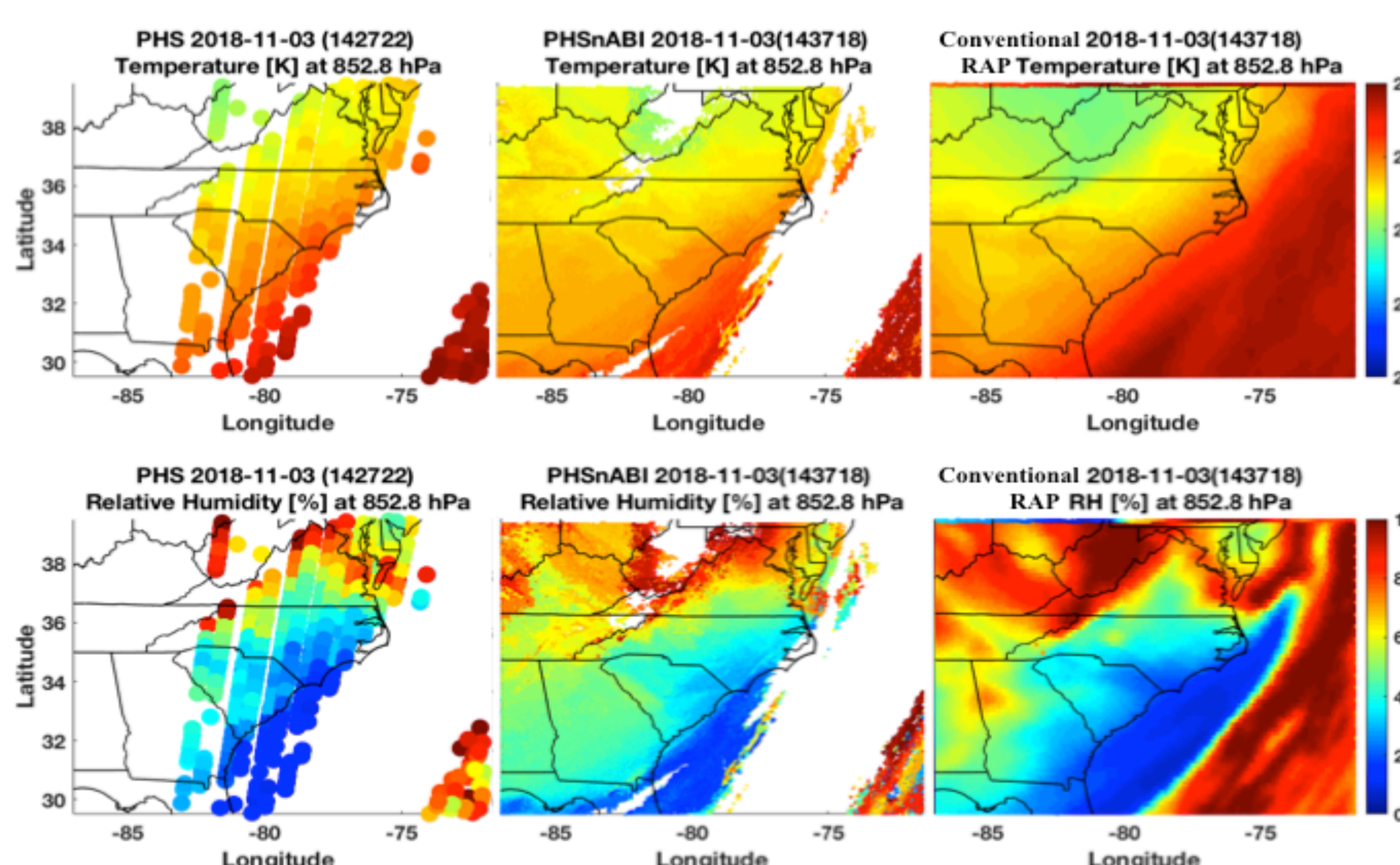
- Alias = Forecast Retrieval - Forecast Profile
- DRDA Retrieval = DR Retrieval - Alias

* Smith, W. L., and E. Weisz, 2017: Dual Regression Approach for High Spatial Resolution Infrared Soundings, in *Comprehensive Remote Sensing*, M. Goldberg, Editor, Elsevier Ltd, Langford Lane Oxford, OX5 1GB UK.

PHS and ABI Sounding Fusion

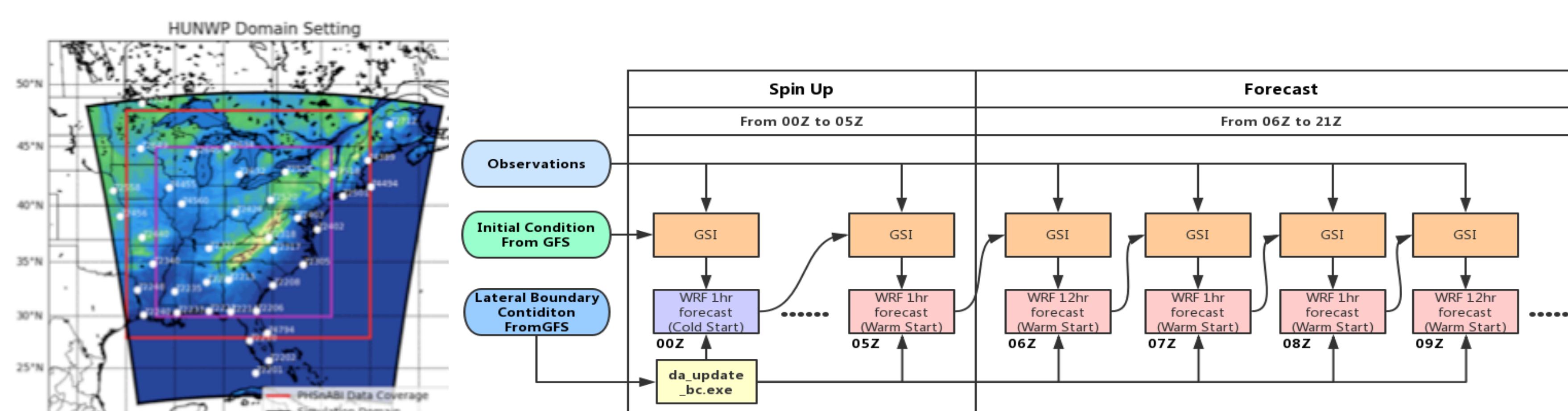


PHS and ABI Fusion Example

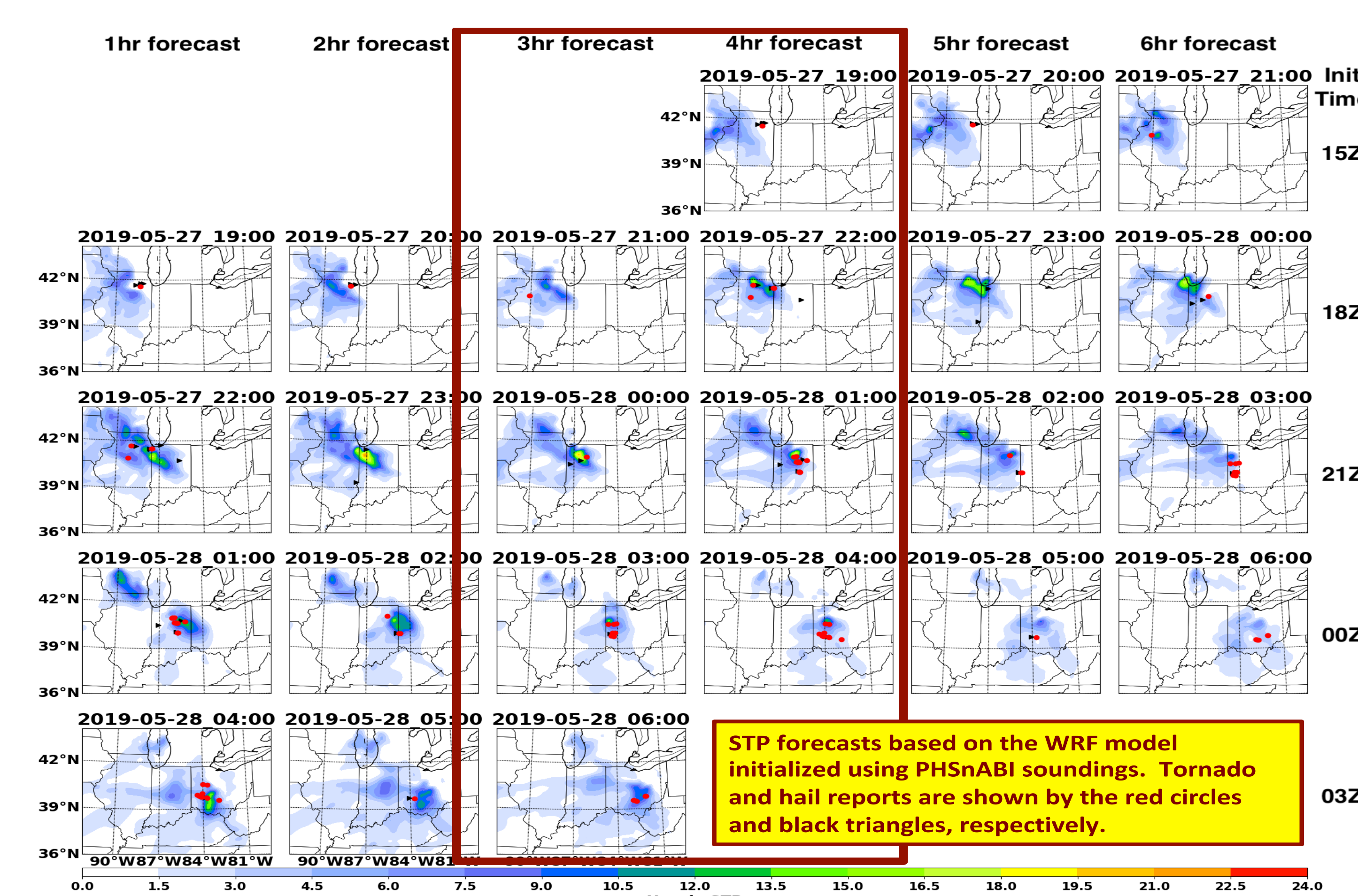
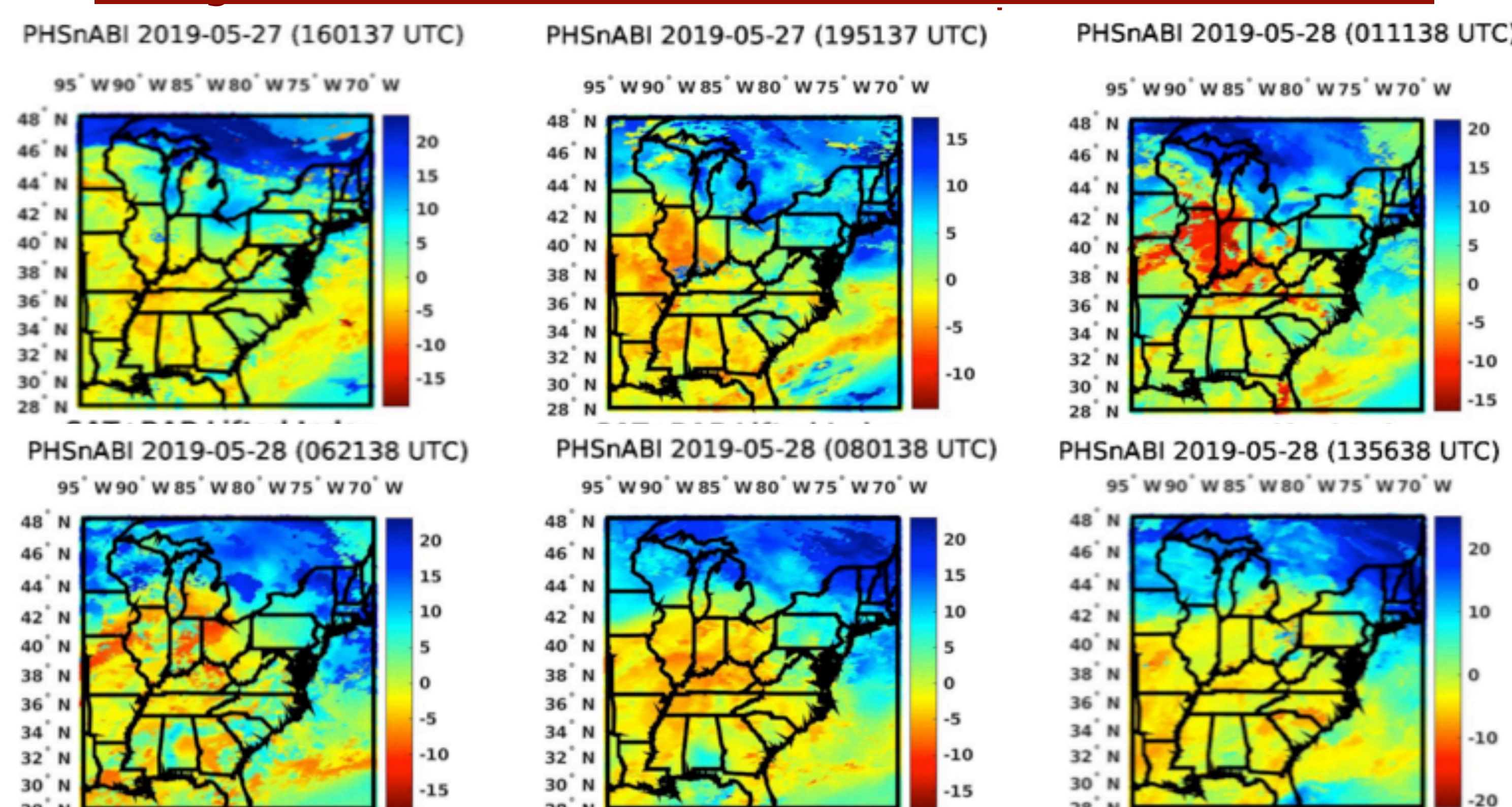


Assimilating PHSnABI

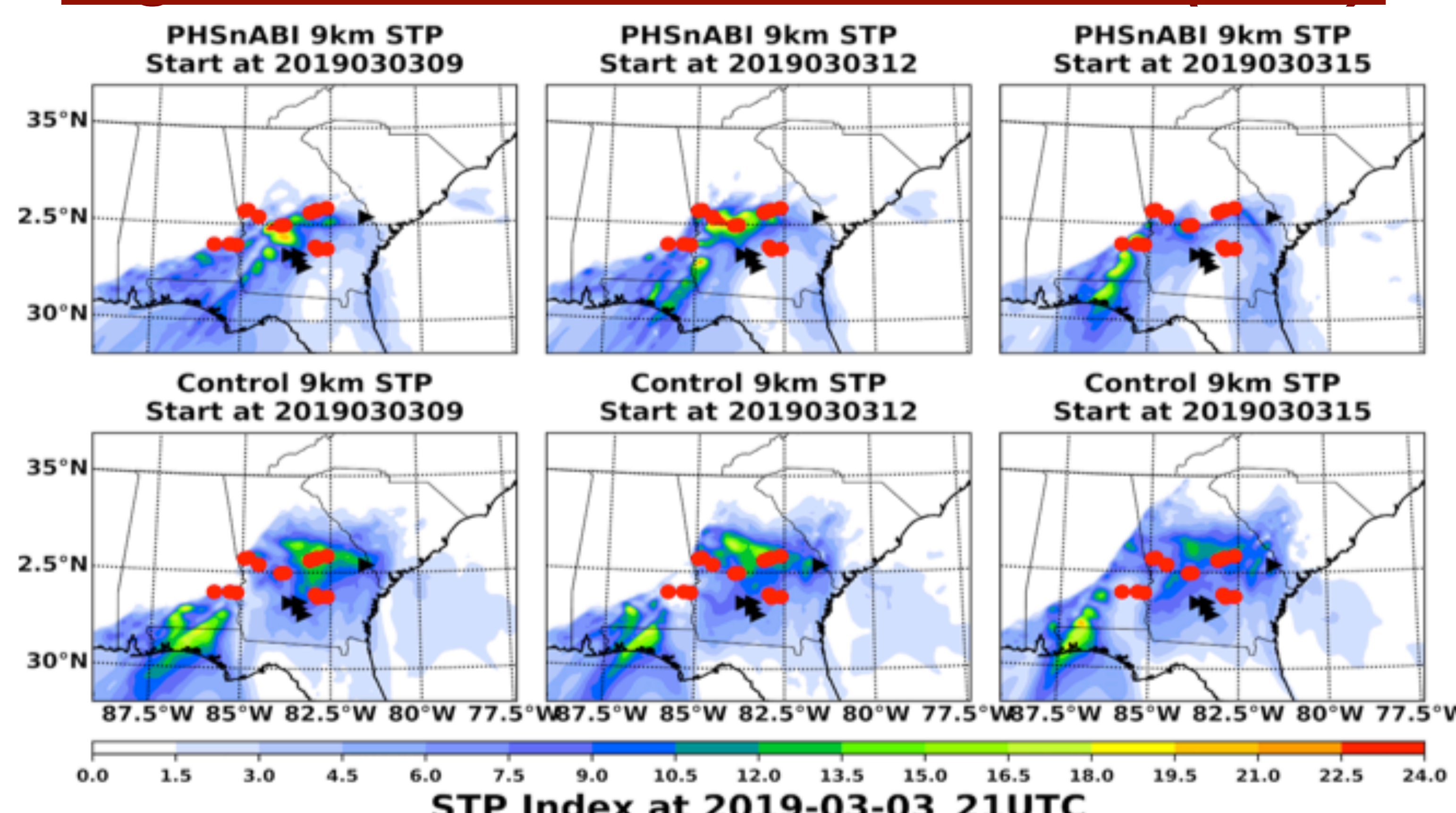
- NOAA RAP-like configured 9-Km WRF Model



May 27/28 2019 Lifted Index & STP

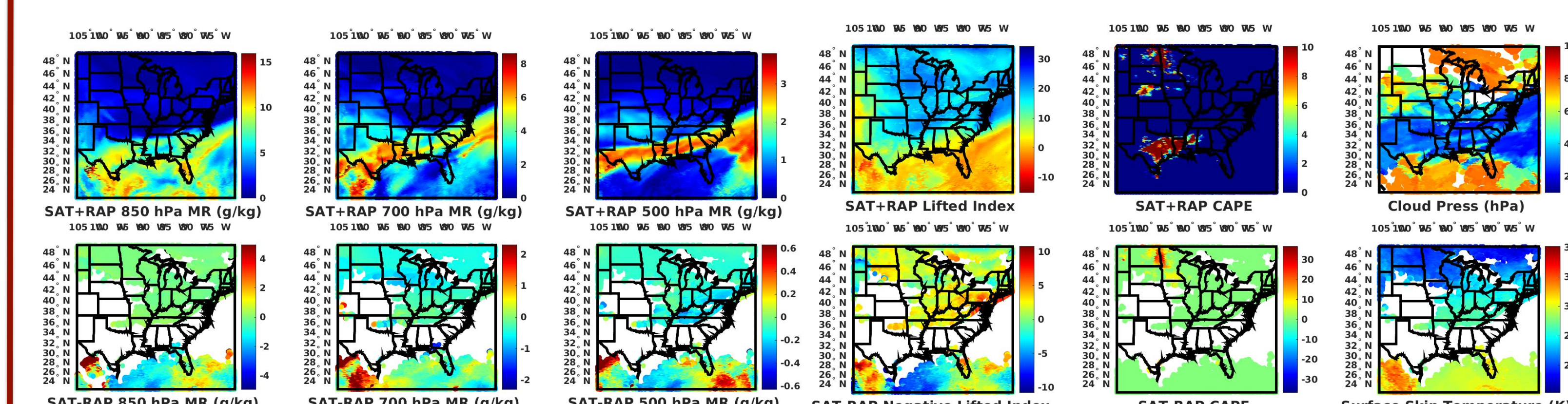


Significant Tornado Parameter (STP)



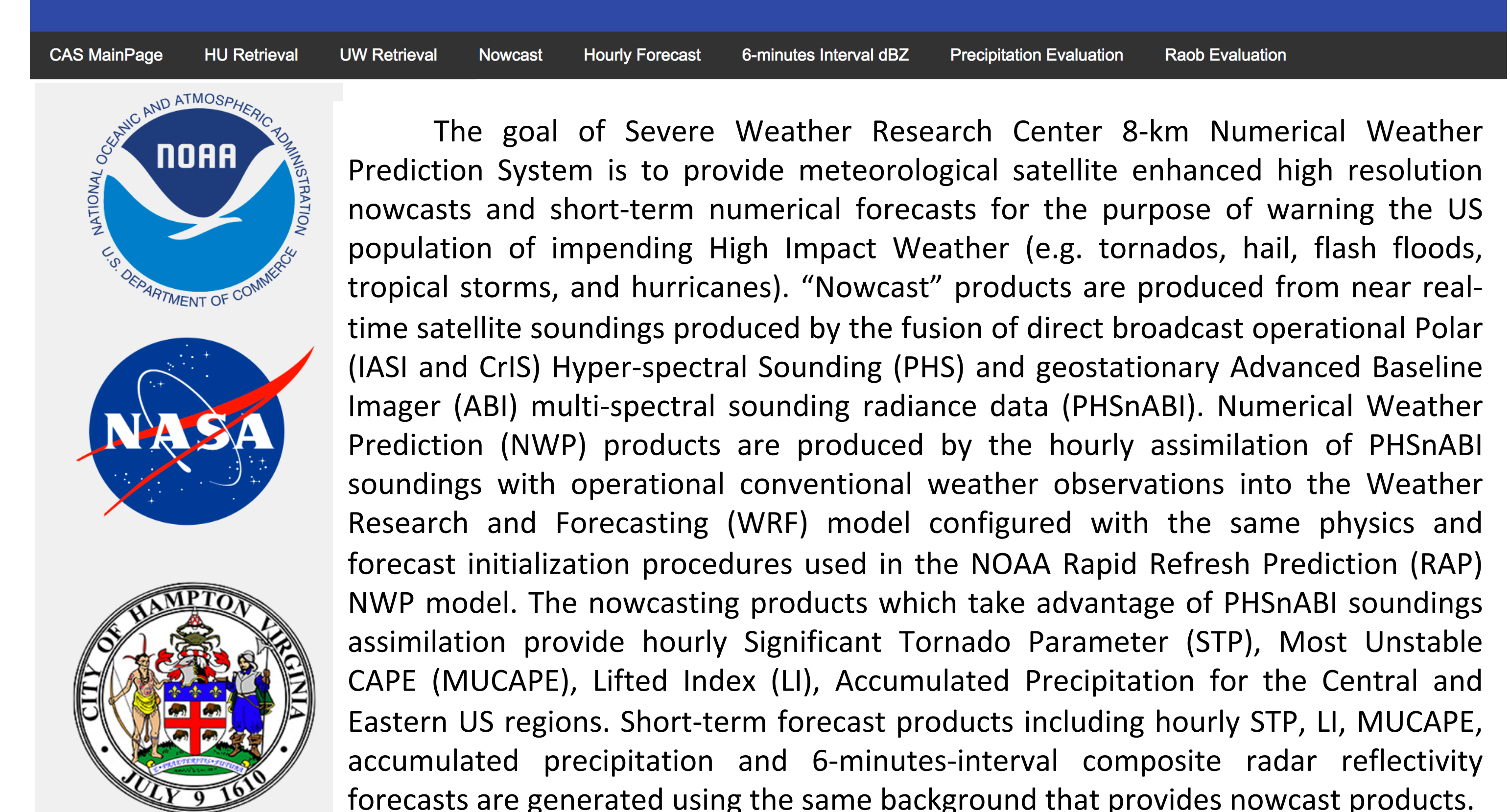
Nowcast Website (194116 UTC)

<http://dbps.cas.hamptonu.edu/development/>

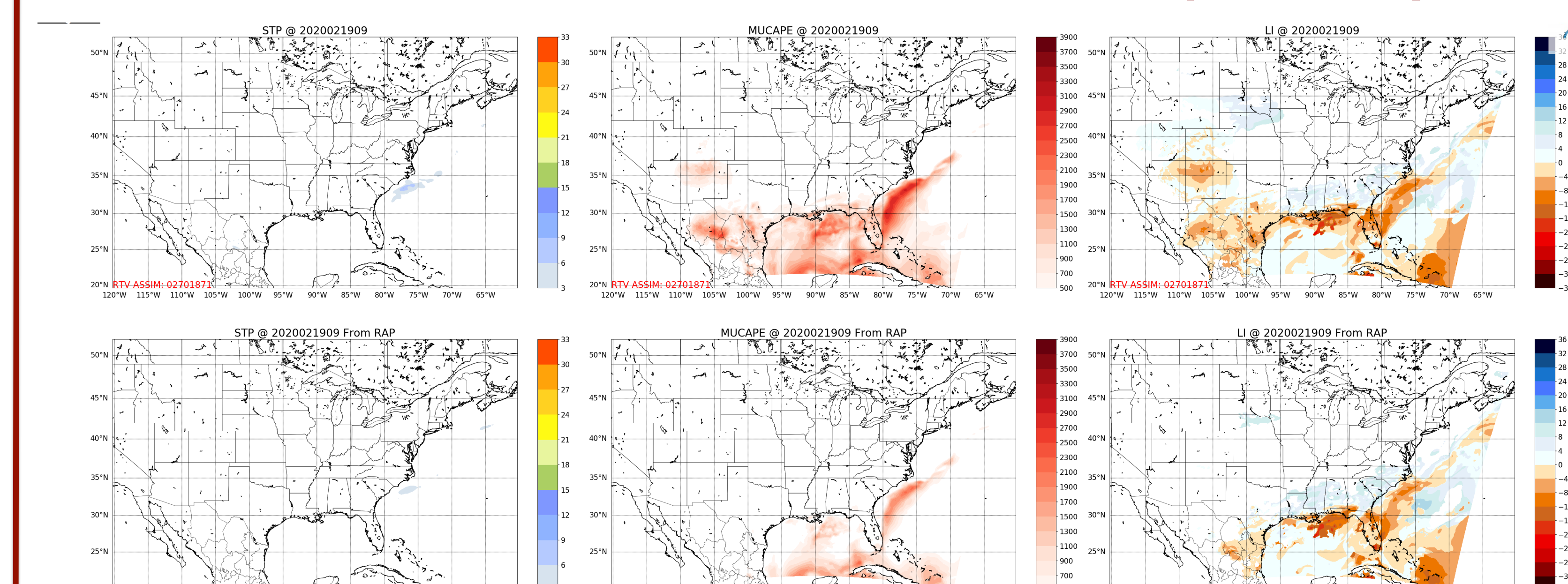


Severe Weather Research Center

8-km Numerical Weather Prediction System



Initial Condition 2020/02/19 (9 UTC)



1 to 6-hour Precipitation Forecast

2020/02/19 16 - 21 UTC

