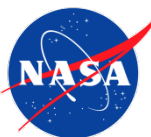




# NASA's Short-term Prediction Research and Transition (SPoRT)



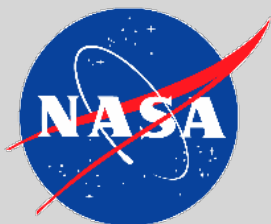
transitioning research data to the operational weather community



# Short-term Prediction Research and Transition (SPoRT)

SPoRT is focused on transitioning unique NASA and NOAA observations and research capabilities to the operational weather community to improve short-term weather forecasts on a regional and local scale.

Research To Operations (R2O)

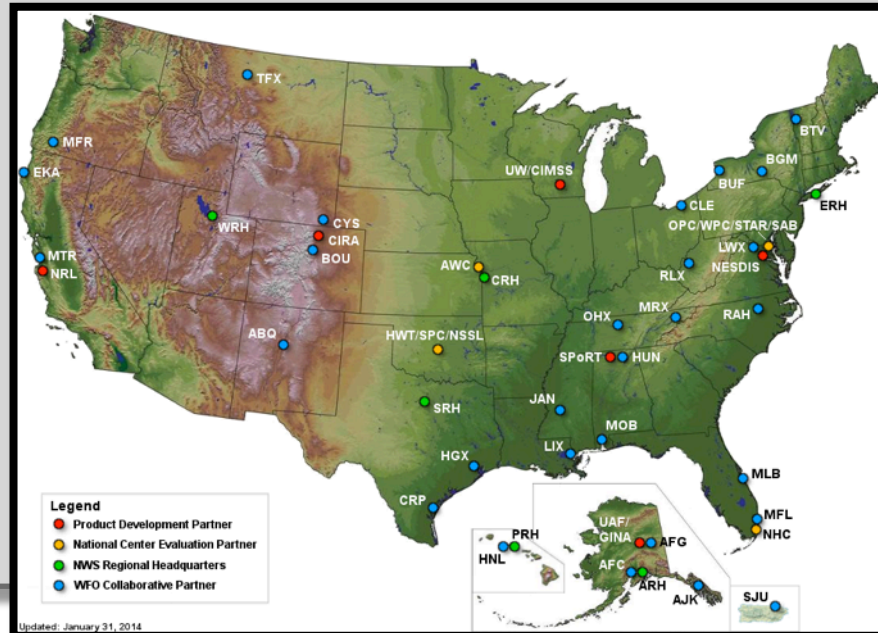


# SPoRT Partnerships and End Users

Partnered with NOAA / University community / DoD (NRL)

## End users

- regular interactions with >25
  - National Weather Service Forecast Offices
  - River Forecast Centers
- National Weather Service National Centers



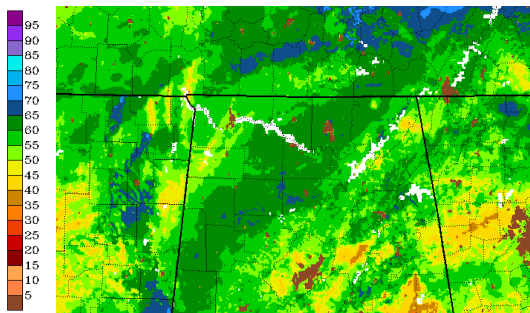




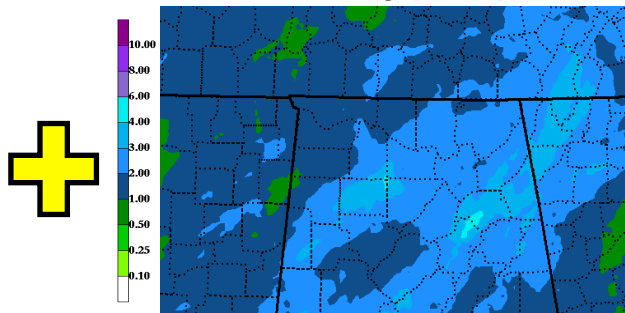
# Flood Potential Using Land Surface Modeling

## March

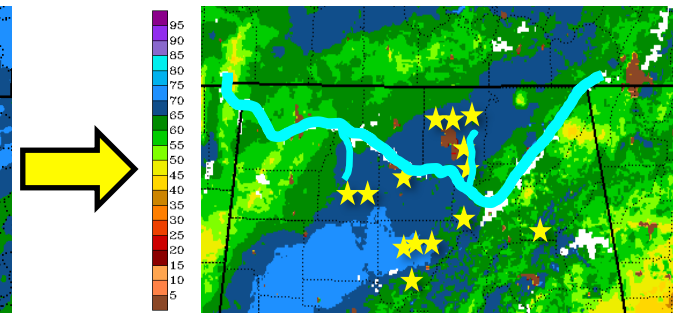
Moderate antecedent soil moisture



Moderate-heavy precipitation

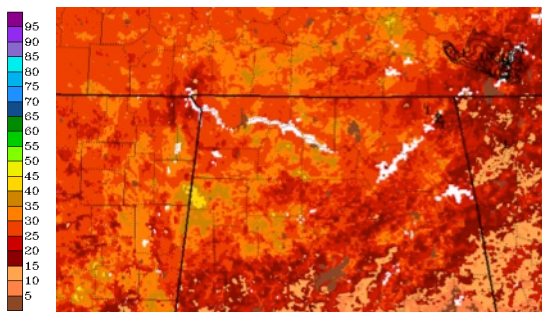


Moderate river flooding and numerous flooding reports

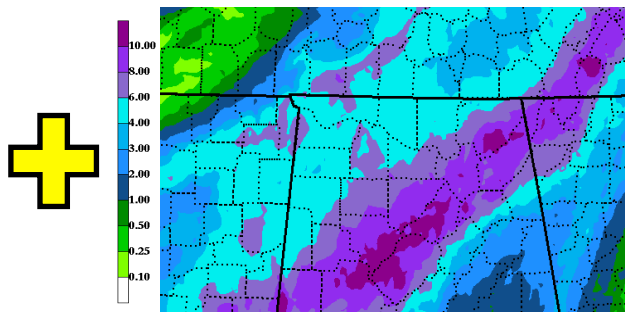


## September

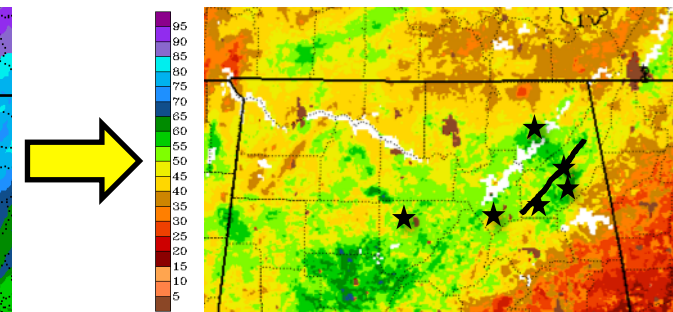
Low antecedent soil moisture



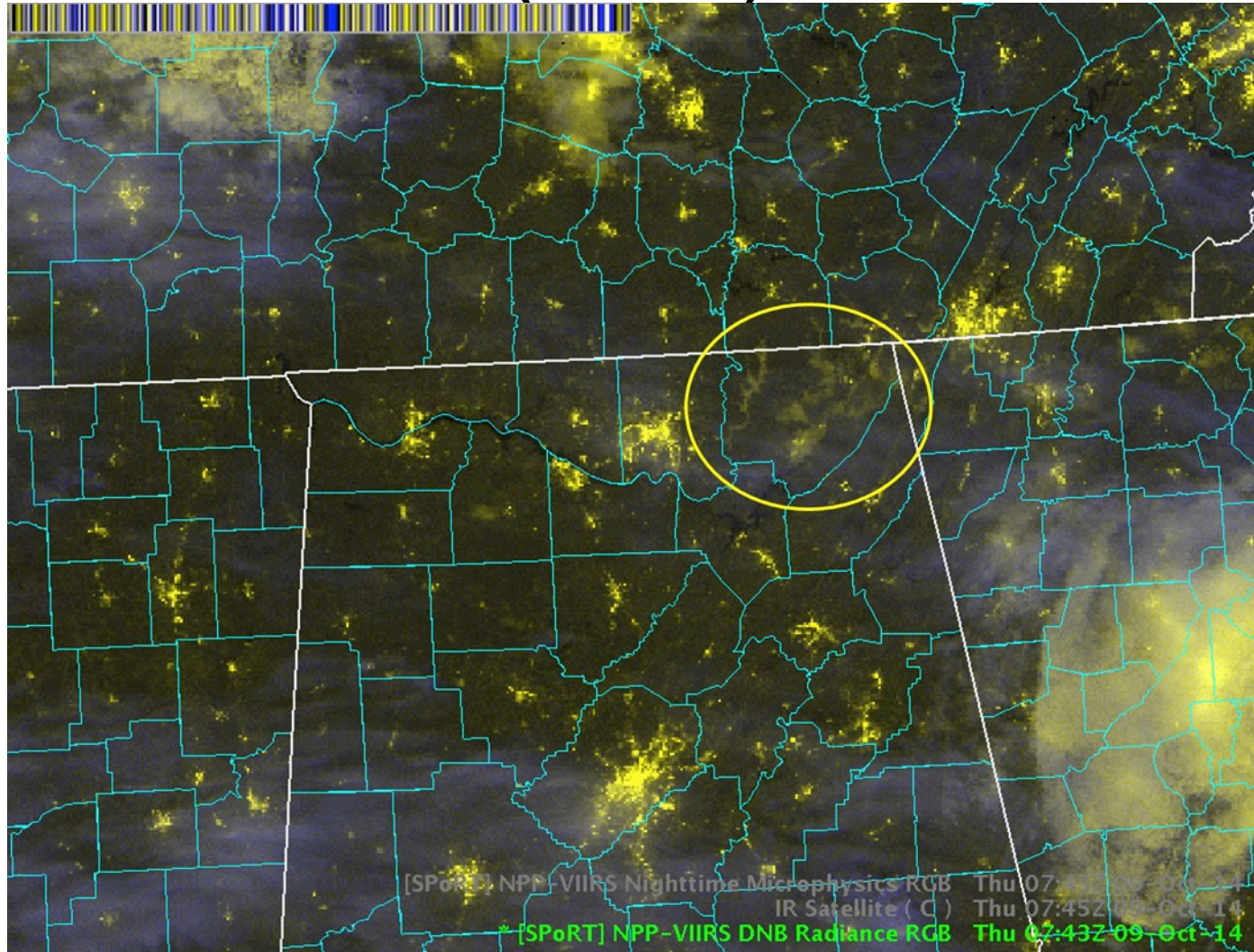
Heavy precipitation



Isolated minor flooding



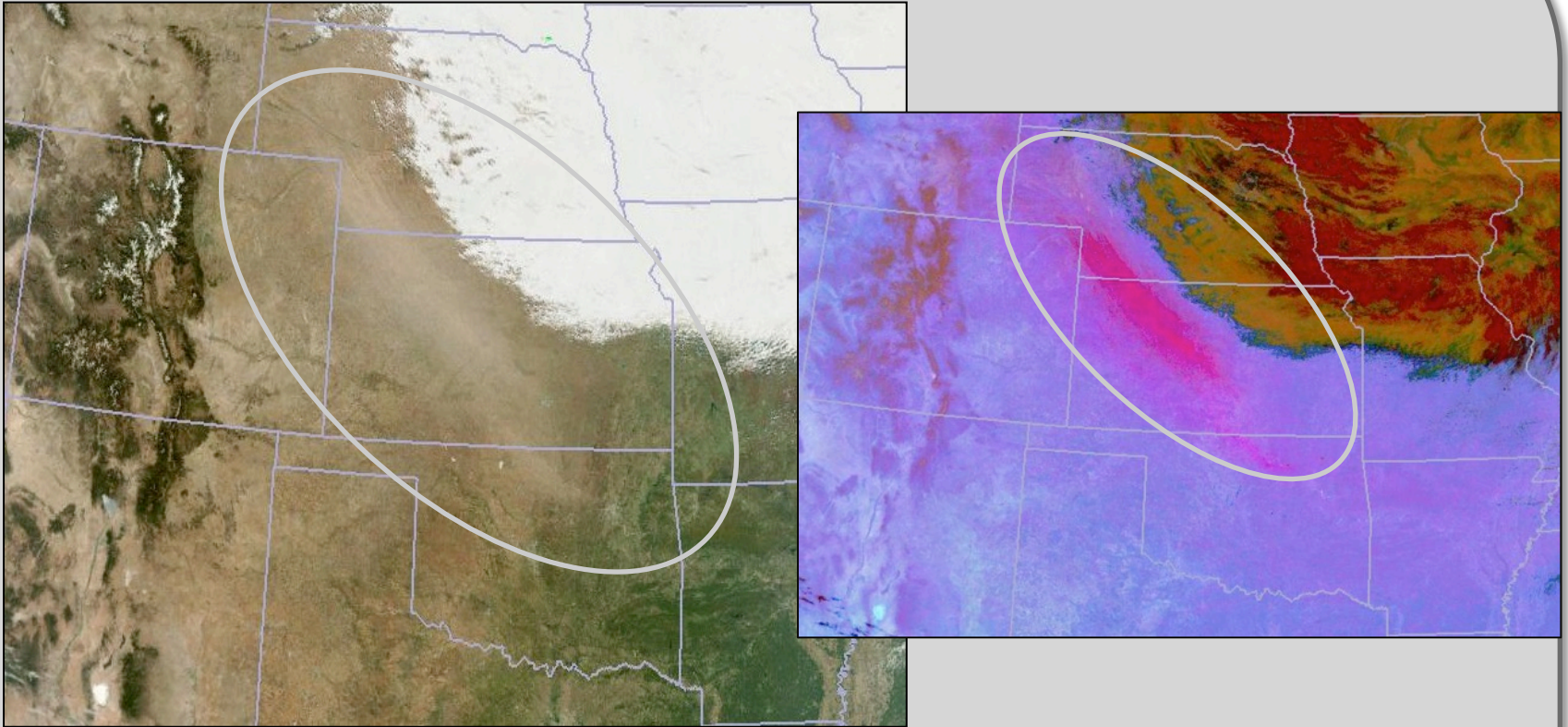
# Case Study (DNB)





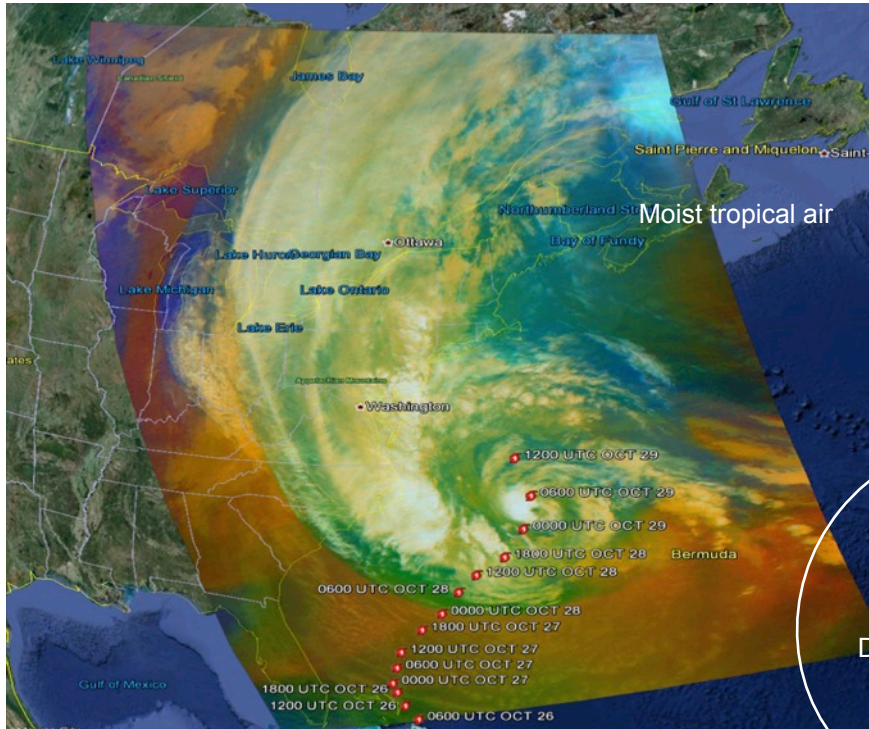
# Unique SPoRT Products

## Dust Identification

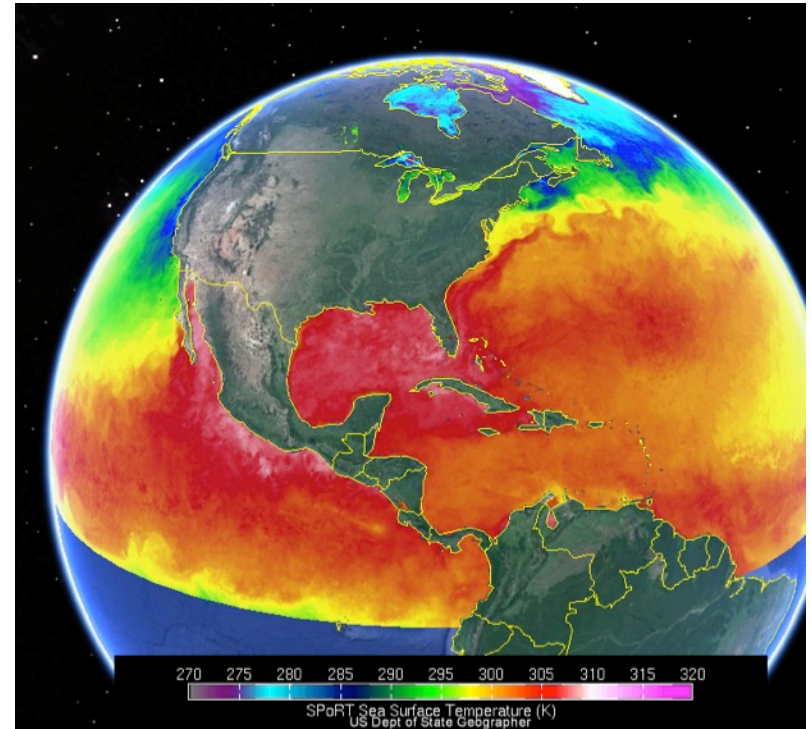


# Unique SPoRT Products

## MODIS Air Mass Product



## Composite SST Product

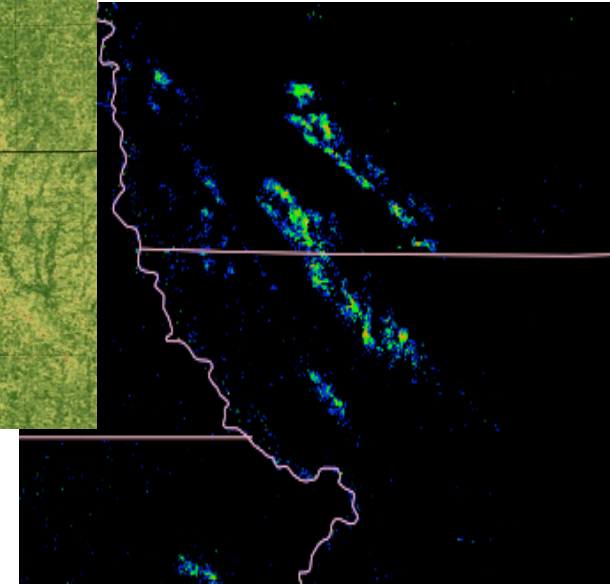
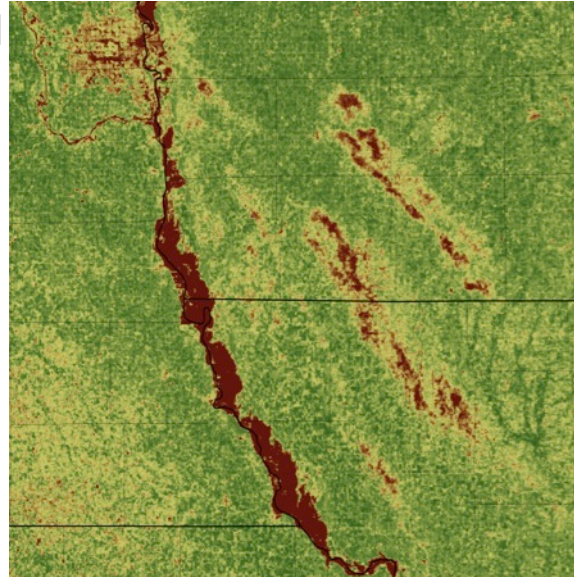
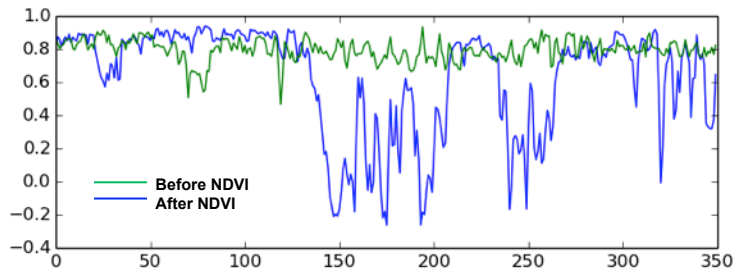
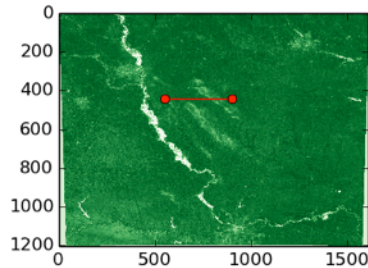




# Hail Damage Swath Detection in Satellite Imagery

Damage surveys are rarely conducted for hail storms.

Satellite data can be used to detect the damage scars from hail just like for tornados.



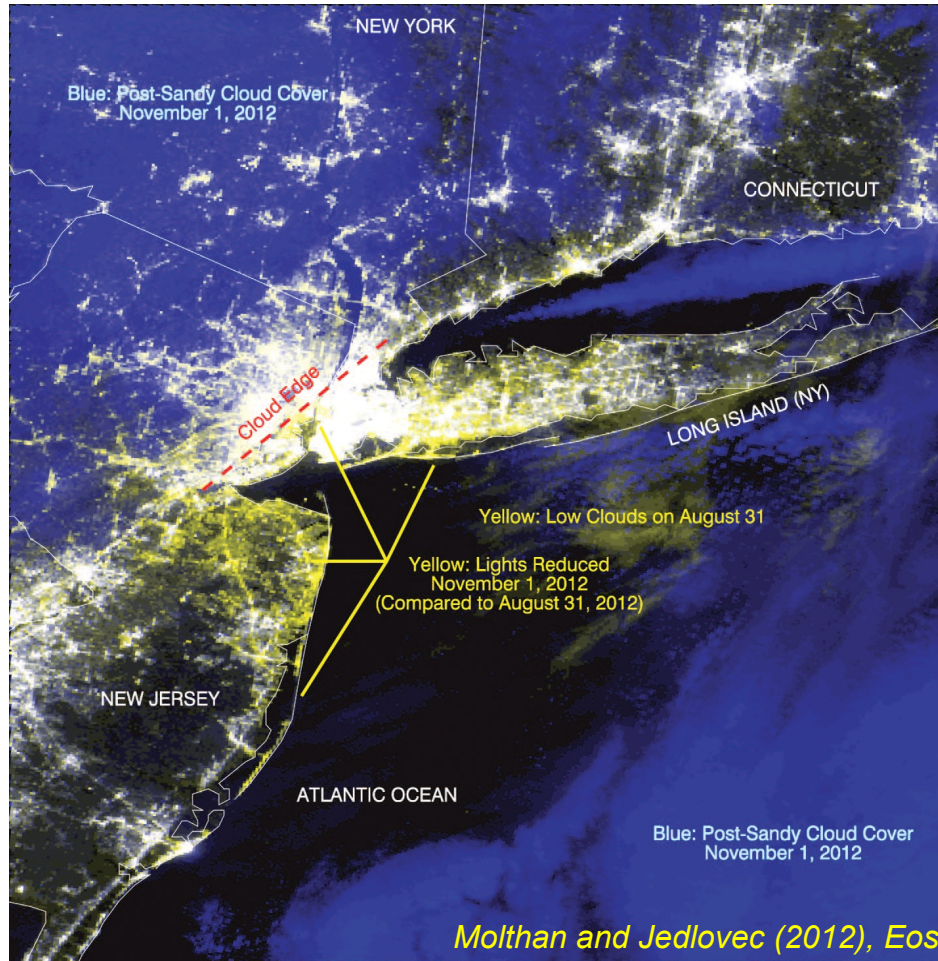
Use of thresholds in a change detection algorithm has proven useful in developing an automated technique.

- improve the accuracy of records kept on hail events
- applications to mapping tornado damage tracks, mudslides, and burn scars

Understanding the reflective characteristics of hail damage swaths from satellite remote sensing measurements may allow for the development of an automated damage detection algorithm.

# Using the VIIRS DNB to Detect Outages and Recovery

## False Color “Blackout” Composites



**Blackout composite derived from the VIIRS DNB on November 1, 2012 following Superstorm Sandy.**

# Questions / Comments ?



transitioning research data to the operational weather community

---

---

