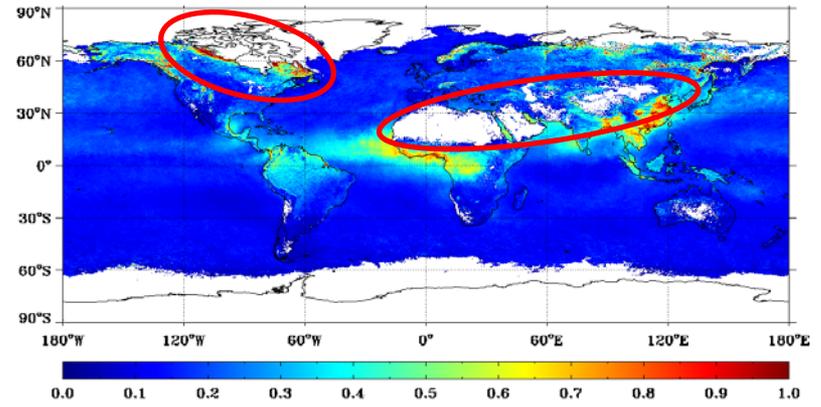


- **Enterprise AOT Algorithm Status:**

- Scheduled for operational implementation in Spring 2017
 - Pixel-level retrieval and diagnostic outputs in compressed netCDF4 and BUFR format for each granule
- Assimilation experiments being carried out at:
 - NOAA National Centers for Environmental Prediction (NCEP) Environmental Modeling Center (EMC)
 - University at Albany, State University of New York
 - Naval Research Laboratory (NRL)
 - NOAA ESRL (Earth System Research Laboratory)

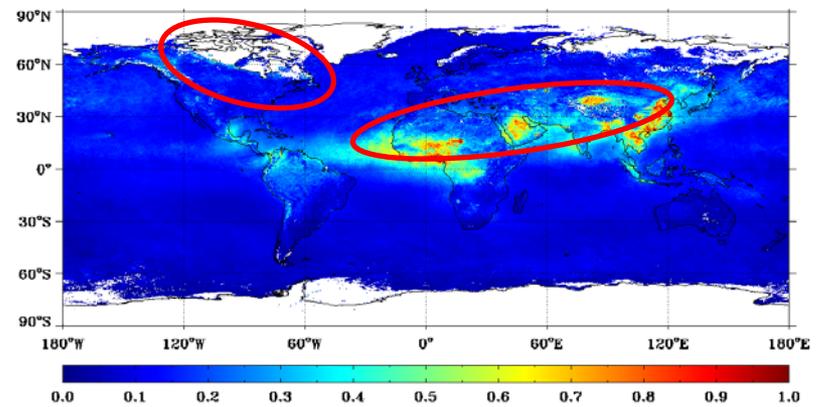
IDPS

2015 Spring (MAM) VIIRS (IDPS) High Quality AOD550



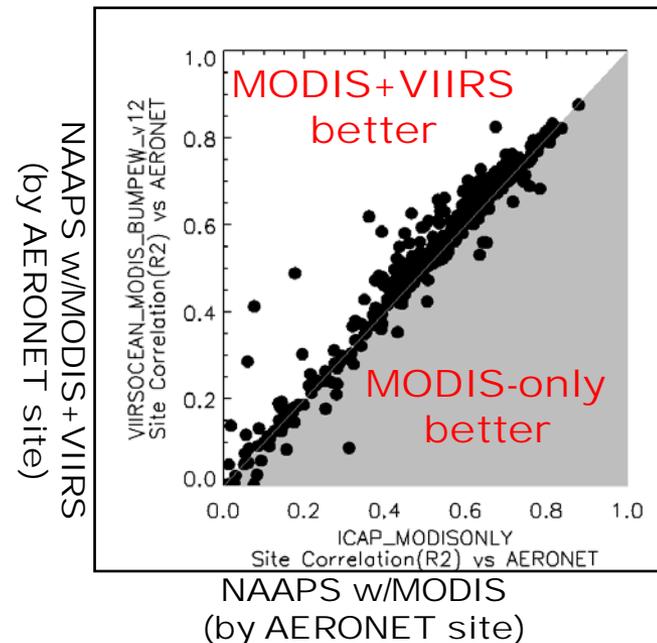
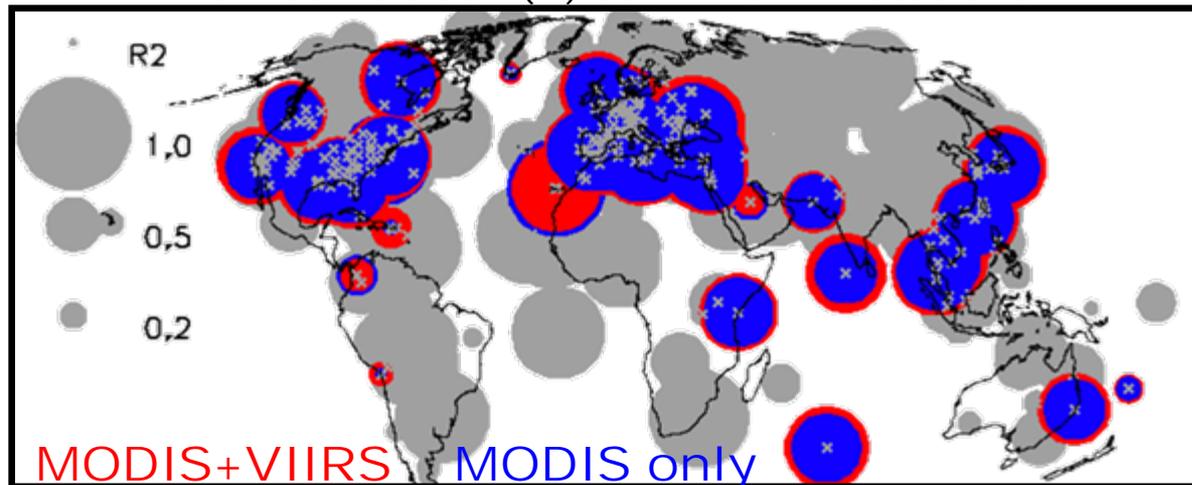
EPS

2015 Spring (MAM) VIIRS (EPS) High Quality AOD550



Assimilation of VIIRS AOD Products in NAAPS: the Navy Aerosol Analysis and Prediction System

AOD Correlation (r^2) at AERONET stations



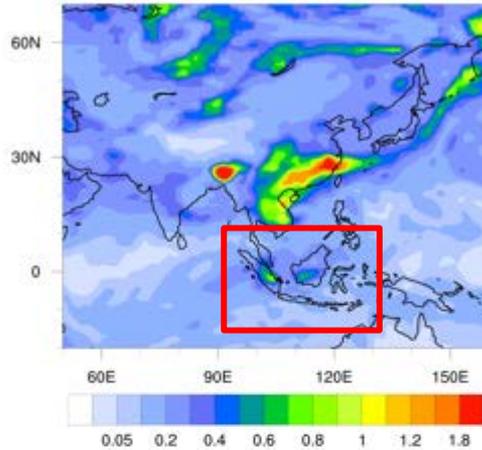
NAAPS AOD data assimilation experiment:

- 201302 – 201402 NAAPS analysis (6-hourly data) using VIIRS+MODIS or MODIS-only; verification with AERONET L2.0 data from 382 stations
- **Result: VIIRS+MODIS better than MODIS only**
 - correlation (r^2) vs AERONET L2.0 increased at 256 of 382 stations
 - Slope vs AERONET L2.0 improved at 224 of 382 stations

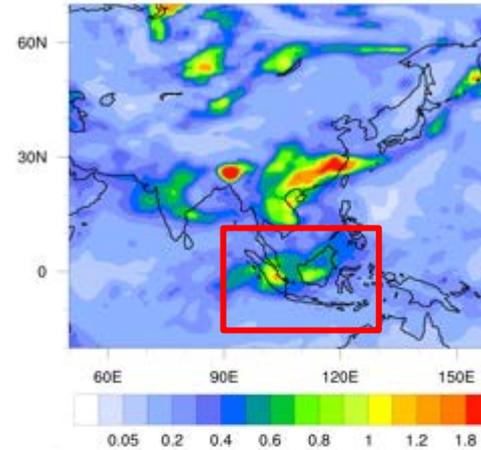
NCEP Assimilation Experiment

NO AOD DA

control3 TOTAL AOD 550nm
20150914 100z.f00



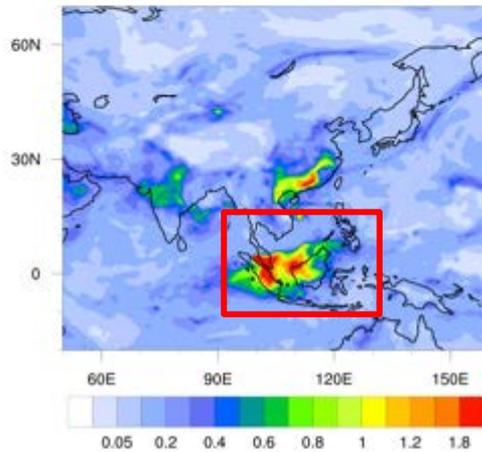
AODDA3 TOTAL AOD 550nm
20150914 100z.f00



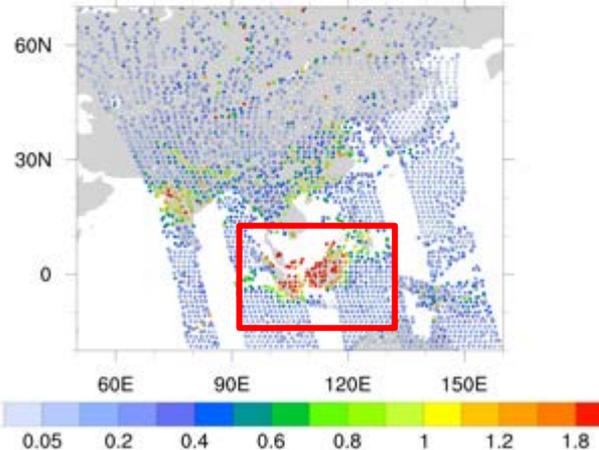
AOD DA

MERRA-2

MERRA2 TOTEXTTAU 550nm AOD
20150914 00z



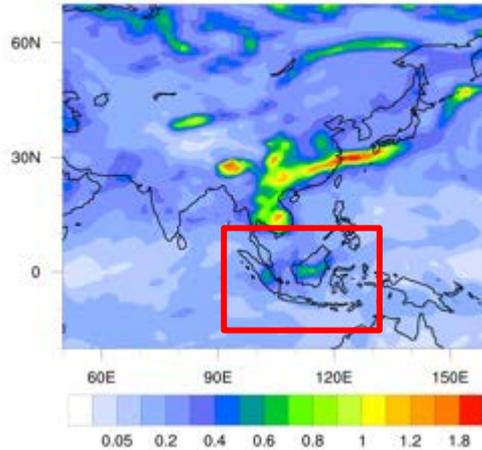
AODDA2 viirs_aod_npp ch.4 AOD
obsno. 3004 20150914 t06z



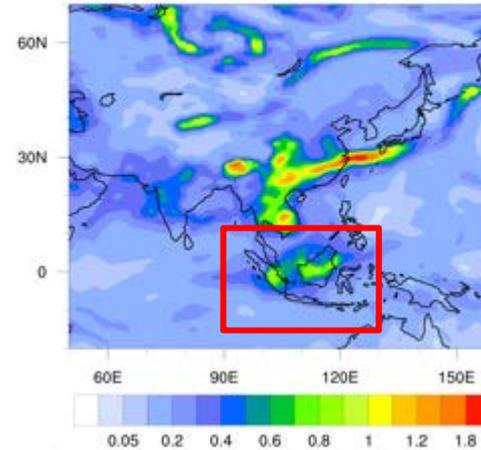
VIIRS AOD

NO AOD DA

control3 TOTAL AOD 550nm
20150914 t00z.f24



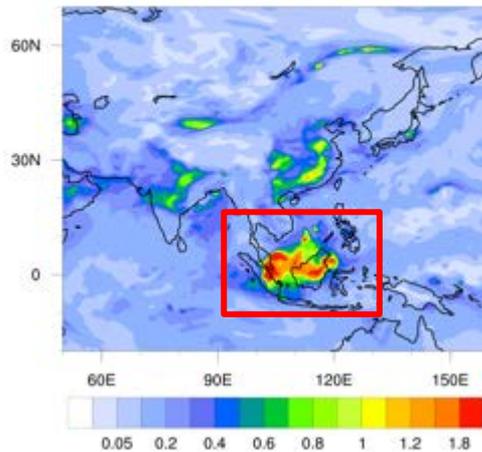
AODDA3 TOTAL AOD 550nm
20150914 t00z.f24



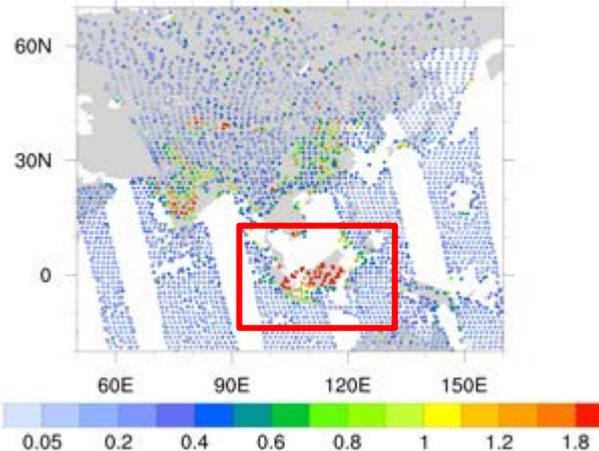
AOD DA

MERRA-2

MERRA2 TOTEXTTAU 550nm AOD
20150915 00z



AODDA2 viirs_aod_npp ch.4 AOD
obsno. 3318 20150915 t06z



VIIRS AOD

- **NRL:**
 - Work with EPS data and report back to STAR on findings
 - VIIRS AOD assimilation will be implemented operationally in the near future
- **NCEP:**
 - Longer time period assimilation experiments need to be conducted
 - Impact of data thinning vs. data averaging on forecast accuracy need to be evaluated
 - Operational implementation of VIIRS AOD assimilation depends on sustained funding and NGGPS plans. A meeting between Mitch Goldberg, Ivanka Stajner, Vijay Tallapragada, Jim Yoe is needed. I proposed this to Ivanka and she agreed to do a meeting.
- **CPO:**
 - Re-analysis needs?
 - Will need long-term reprocessing of aerosol dataset – ongoing at STAR