



Department of
Environmental
Conservation

Air Quality Data Needs

NYSDEC Perspective

November 29, 2017

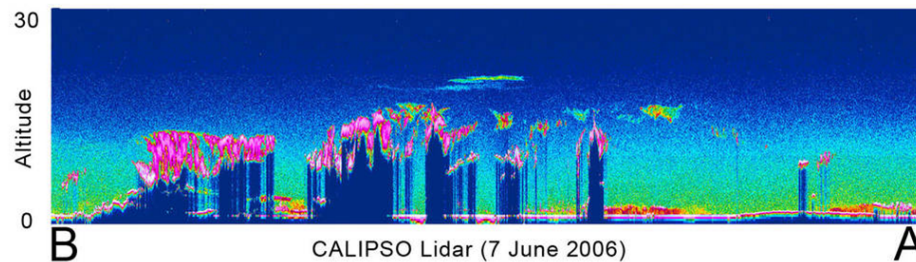
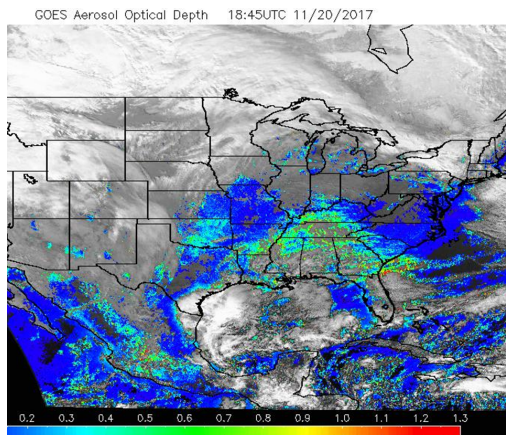
(Potential) Uses of Satellite Data at NYSDEC

- Daily Air Quality Forecasts
- Regional Modeling
- Ambient Monitoring Network
- Emissions Inventory Development



Daily Air Quality Forecasts

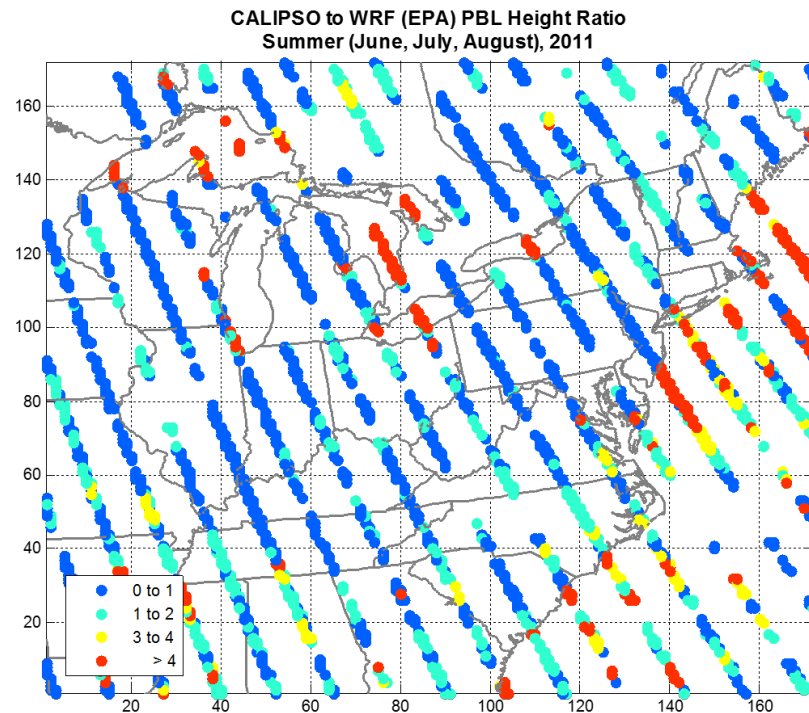
- GOES Aerosol Optical Depth - available during daylight hours. Shows smoke and aerosol plumes well if conditions are right.
- MODIS – good job at depicting smoke, but only 1-2 images/day and no vertical distribution of aerosols
- CALIPSO – provides vertical distribution of aerosols, but not timely



Regional Modeling

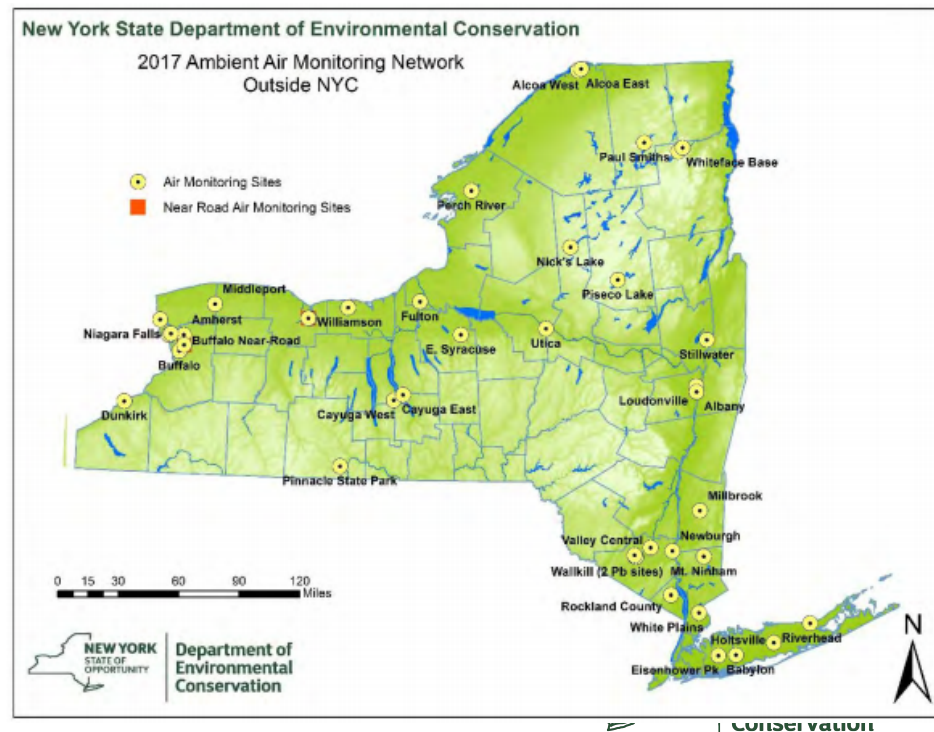
Model Validation

- Higher horizontal resolution to help validate model results at land/sea interface.
- Better spatial and temporal resolution needed to help define the Boundary Layer



Ambient Monitoring

- Upper air measurements as a component of EMPs – satellite data could supplement ground-based LIDAR/ceilometer data
- Determine Ozone formation over water
- States have used satellite images in exceptional event cases
- Methods needed to relate column AQ data to ground-level measured data



Emissions Inventory Development

- Use satellite data to better spatially and temporally allocate emissions
- Use to verify or improve current emissions inventory tools. (e.g. allocation of non-road sources)



Thank You

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