Summary of AQFFG workshop

College Park, MD
September 27-28, 2018

Findings

- An active summer with numerous USG exceedances and wildfires impacting the US

- NOAA AQ predictions are useful for forecasting, even with systematic errors (CT, SC, TX, AZ, NC, ME, OH, FL)

- Bias correction is generally useful even though it overcorrects in some areas (MD, PA, CT) - availability was an issue for evaluation

- Ozone underpredicted early in the season, transitions to overprediction (MD, OH, CT, ME, SC)

- Substantial ozone overprediction in coastal areas - Gulf Coast and SE US. Dew points and land/sea breeze may contribute. (AL, MD, TX, SC, FL, MS, CT)

Findings

- Testing of NEI2014 emissions shows small, slight improvement (MD, CT)

- Some missed predictions for ozone seem related to wildfire emissions (CT, PA-May and June, MD-smoke screening effect, FL)

- Predictions at higher elevations sites challenging (AZ, ME)

- PM2.5 exceedances due to dust not predicted in AZ

- LBCs for smoke and dust (NC, TX)

- Inaccuracies identified in AirNOW Tech reported NOAA guidance (CT, OH, TX, NC)

Recommendations

- Predictions for 72 hours are needed. Testing with FV3GFS meteorology indicates the need for improvement of PBL meteorology in that system (All)

- Access was requested for three-dimensional ozone fields (AZ, ME)

- Access to predictions at monitor location in an improved format through a web site - spreadsheet for monitors to include all the model versions being provided (MD, PA)

- Contours at level thresholds on AQ prediction maps (SC)

Recommendations

- Include wildfire smoke impacts in addition to particulate matter emissions: gaseous emissions, aerosol attenuation, outside of domain sources (PA, CT, TX, NC)

- Need 4 km resolution or better for coastal areas, complex terrain, thunderstorms, hourly variability (MD, AZ, FL, SC, TX, CT, AL)

- Probabilistic predictions would be useful (All)

- Plant blooms, lightning