

# Goals for Aerosols and Air Quality Sub-group

How to make the most from satellite observations of aerosol for air quality? What do we recommend?

# Key Areas of Focus to Achieve Global Geo-AQ

- **Guidance from CEOS-ACVC Co-chairs:** Concrete plan with coordinated activities that lead to deliverables
- **2018 CEOS-ACVC meeting recommendation:** Continue tackling the AOD-PM2.5 problem
- **GEO-CAPE aerosol working group recommendation:** Fold GOES-R/TEMPO synergy activities into GEO-GEO and GEO-LEO synergy studies under CEOS-ACVC
- **Ongoing Discussion:** Consider co-varying trace gas pollutants
- **Geo-AQ constellation white paper:** Adopt Geo-AQ and related LEO missions for consistent product generation and validation

# Some Possible Deliverables

- Harmonized Geo aerosol retrievals
  - MAIAC algorithm for AHI and ABI. TEMPO, GEMS, Sentinel-4 as they are launched
  - Levy's MEASURES project (leverage?)

**Deliverable 1: Consistent hourly AOD across multiple platforms – 2019 to 2021**

- Recommended approach to scale satellite AOD to surface PM2.5
  - Continue exploring ABI and AHI AODs to obtain surface PM2.5
    - Aerosol layer height as additional input
    - Aerosol composition as additional input

**Deliverable 2: State of the art approach to scale AOD to PM2.5 - 2020**

- Fold GOES-R/TEMPO synergy activities into GEO-GEO and GEO-LEO constellation studies
  - VIIRS/TROPOMI as proxy
  - TROPOMI aerosol layer height

**Deliverable 3: AOD, Aerosol layer height and single scattering albedo from GEOs - 2020**

- Is PM2.5 the only focus or should we add other trace gas pollutants
  - Co-varying trace gases: CO, NO2, H2CO, trop O3
  - Aerosol detection (smoke, dust, etc.)

**Deliverable 4: An understanding of tracer-tracer correlations and air quality - TBD**

Deliverable	Contributors
Consistent hourly AOD across multiple platforms	
State of the Art approach to scale AOD to PM2.5	
Aerosol layer height and single scattering albedo from Geos	
Tracer-tracer correlations and air quality	