

# Integration across Ambient Air Observation Systems

## Outline

### Goal/Objective

Optimize value of ambient air measurement systems operated by Federal/State agencies and private industry.

1. Background/Rationale
  - Brief view of measurement systems and their utility
  - Opportunities, pressures and benefits expected from integration
2. Descriptive (light/qualitative) inventory of measurement systems.
  - Routine Land based gaseous/particle measurement systems
    - i. Routine “regulatory oriented” criteria pollutant networks operated by State/local agencies (NAMS, SLAMS)
    - ii. PM SPECIATION (STN and IMPROVE)
    - iii. Air toxics and PAMS
    - iv. CASTNET
    - v. AIRMON
    - vi. SEARCH/ARIES
    - vii. Houston Regional Monitoring Network
    - viii. Emerging NCore
  - Other North American networks (Canada, Mexico)
  - International efforts which support International Transport Assessments
  - Routine Precipitation deposition networks
    - i. NADP
    - ii. NADP-MDN
    - iii. IADN
  - Intensive field campaign programs
    - i. Brief history (Regional Air Pollution Study EMEFS, Northeast Regional Air Quality Study (NEROS), SCAQS, SJVCAQS, SOS, NARSTO-NE)
    - ii. Recent NOAA lead campaigns (Tennessee-plume, Houston, ICARTT-New England)
    - iii. PM<sub>2.5</sub> supersites
  - Remote Satellite based measurements
  - Vertical gradient systems

- i. Ground based LIDAR
  - ii. Routine aircraft flights
3. Information archiving, assimilation and display systems
  - AQS
  - AIRNOW
  - NARSTO
  - GEOSS remote sensing information gateway; ESIP-Federation Architecture
  - VIEWS
  - Network specific systems
4. Organizational structures in place.
  - EPA/STAPPA/ALAPCO
  - IMPROVE Steering Committee
  - CENR/AQRS
  - NADP???
  - GEOSS
5. Building an integrated air quality modeling and observational complex as the basis for characterization.
6. Critical observation gaps that foster integration across systems
7. Communication and outreach connections
8. Vision and organizing framework for an effective integration of measurement, modeling and information systems.
9. Recommendations.

