Purpose and Goals of Continuous Speciation Program

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What’s Applicable to Continuous Speciation?

• Conventional Continuous Speciation
  – Sulfate
  – Nitrate
  – Carbon

• Indicator of Black Carbon
  – Aethalometer

• Size Distribution?
Purpose and Goals of Continuous Speciation Program
- sulfate, nitrate, and carbon

• Original Thinking:
  – Continuous speciation could replace a number of filter-based speciation sites for several objectives and be more resource effective
  – Up to 10 sites would operate daily speciation

• Current Thinking:
  – Continuous speciation can supplement (cannot replace) filter-based speciation to provide for high-time resolution data
  – No specific goal for number continuous speciation sites; monitoring agencies prioritize continuous speciation within their own program.
Purpose and Goals of Continuous Speciation Program - black carbon

• Continuous BC is not part of Speciation Trends Network
• However, Several National Air Toxics Trends Stations (NATTS) have aethalometers

• Black Carbon by Aethalometer
  – Good correlation with elemental carbon
  – Very high time resolution (5 minute intervals)
  – Useful for monitoring agencies looking to evaluate carbon in their networks
Purpose and Goals of Continuous Speciation Program - size distribution

- Size distributions measurements are primarily needed for use in health studies, but can also support other objectives
- Very little routine measurement data available for size distribution

- Size distribution:
  - Allows characterization of nucleation events
  - Size distribution can change significantly, while mass has little change