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