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1. Data Set Description:

The overall objective of the LA Supersite in SCPCS is to conduct monitoring and research that contributes to a better understanding of the measurement, sources, size distribution, chemical composition and physical state, spatial and temporal variability, and linkages to health effects of airborne particulate matter in the Los Angeles Basin. At Claremont, Downey, Riverside, Rubidoux, and the University of Southern California (USC) in Los Angeles County, California, the Magee Scientific AE-2 series dual beam aethalometer was used in a mobile trailer to collect mass concentrations of optically absorbing black carbon particles in the submicron size range during the period of September 15, 2000 to October 16, 2003. The Aethalometer collected aerosol continuously on quartz fiber paper and determined the increment of optically absorbing black carbon per unit volume of sampled air every 5 minutes.

The overall objective of the **Southern California Supersite (SCS)** was to conduct research and monitoring that contributes to a better understanding of the measurement, sources, size distribution, chemical composition, physical state, spatial and temporal variability, and health effects of suspended particulate matter (PM) in the Los Angeles Basin (LAB). Intensive aerosol measurements, well beyond the traditional PM_{2.5} mass, sulfate and nitrate concentrations, were conducted in several areas of the LAB. These included particle number concentrations, size distributions, and detailed PM chemical composition as a function of particle size. Sampling locations were chosen to provide wide geographical and seasonal coverage, including urban "source" sites and downwind "receptor" sites. The primary sampling facility, a mobile Particle Instrumentation Unit (PIU), was deployed to several locations to conduct a wide range of PM measurements. Sampling in each site lasted for 6-12 months. Intensive PM measurements were also conducted up and downwind of several freeways of the LAB, to characterize near-roadway exposure environments and to support several in vivo and in vitro health studies. The monitoring activities of the SCS were linked with toxicology studies in the LAB using a mobile PM Concentrator facility to investigate health effects associated with exposures to ultrafine, fine and coarse particles. Finally, the PIU facility was successfully used as a platform to develop, test, and evaluate numerous PM measurement instruments and sampling technologies, including several monitors for semi-continuous size fractionated mass and chemistry, personal PM exposure monitors, particle concentration technologies, and particle counting devices.

The [U.S. EPA Particulate Matter \(PM\) Supersites Program](#) was an ambient air monitoring research program from 1999-2004 designed to provide information of value to the atmospheric sciences, and human health and exposure research communities. Eight geographically diverse projects were chosen to specifically address these EPA research priorities: (1) to characterize PM, its constituents, precursors, co-pollutants, atmospheric transport, and its source categories that affect the PM in any region; (2) to address the research questions and scientific uncertainties about PM source-receptor and exposure-health effects relationships; and (3) to compare and evaluate different methods of characterizing PM including testing new and emerging measurement methods. Data collected by these projects are publicly available at the NARSTO Permanent Data Archive, NASA Langley Atmospheric Science Data Center. Data users should acknowledge the U.S. EPA Particulate Matter (PM) Supersites Program and the project investigator(s) listed below.

More information can be found at the [Southern California Particle Center](#).

The data set should be cited as follows:

Sioutas, Constantinos, and Rong Chun (RC) Yu. 2007. NARSTO EPA_SS_LOS_ANGELES Aethalometer Elemental Carbon Data. Available on-line via [NARSTO Data and Information](#) at the Atmospheric Science Data Center at NASA Langley Research Center, Hampton, Virginia, U.S.A.

2. Sample Data Record/Data Format:

Data files are in the NARSTO Data Exchange Standard (DES) format that is described in detail on the [NARSTO Quality Systems Science Center \(QSSC\) web site](#). The files follow a tabular layout and are stored as ASCII comma-separated values files (.csv). The DES does not rely on row position to identify specific information, but uses a tag to describe the information contained in the row. The DES is a self-documenting format with three main sections: the header contains information about the contents of the file and the data originator; the middle section contains metadata tables that describe/define sites, flags, and other codified fields; and the final section is the main data table that

contains key sampling and analysis information and the data values. Descriptions of the standardized metadata fields are also available on the QSSC web site.

3. References:

Not Available

4. Contact Information:

Investigator(s) Name and Title:

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Data Center:

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