NARSTO_SOS_SC_UPSTATE PM2.5 Composition Data

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1. Data Set Description:

The purpose of this study is to determine experimentally the concentration and chemical composition of fine particulate matter (PM2.5, particles with a diameter less than 2.5 um) in South Carolina.

During the course of this study, data were collected during July of 2001 and then again during January of 2002 in order to elucidate the seasonal variability of the aerosol. Samples, which were collected at a rural location in South Carolina, begun and finished at midnight in order to associate each sampling event with a calendar day. In all, 40 samples per month have been collected (including blanks). The collection of PM2.5 samples on Teflon filters was carried out using a cyclone-based system. Ion chromatography analysis for anions and cations was performed, as well as x-ray fluorescence (XRF) analysis for crustal metals. PM2.5 samples on quartz filters also were collected in order to determine the organic and elemental carbon (EC/OC) particle concentration.

The average concentration for PM2.5 during July of 2001 was 20.85 µg/m3. The major components of the aerosol were organic compounds (38.5%) and sulfates (34.7%). During January of 2002, the average concentration for PM2.5 was 9.4 µg/m3. Again, the major components of the aerosol were organic compounds (64.1%) and sulfates (21.9%).

The data set should be cited as follows:
Christoforou, Christos, Huzefa Husain, and David Calhoun. 2003. NARSTO_SOS_SC_UPSTATE PM2.5 Composition 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.
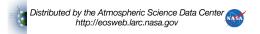
3. References:

TBD

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Data Center:

The User and Data Services Office at the Langley Atmospheric Science Data Center is involved throughout the system to monitor the quality of data on ingest, to ensure prompt replies to user questions, to verify media orders prior to filling them, and to ensure that the needs of the users are being met.

If you have a problem finding what you need, trouble accessing the system, or need an answer to a question concerning the data or how to obtain data, please contact the User and Data Services staff.

Telephone: (757) 864-8656
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E-mail: support-asdc@earthdata.nasa.gov
URL:http://eosweb.larc.nasa.gov

5. Acknowledgement:

When data from the Langley Atmospheric Science Data Center are used in a publication, we request the following acknowledgment be included: "These data were obtained from the NASA Langley Research Center Atmospheric Science Data Center".

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