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## 1. Data Set Description:

The goal of the Supersite Transboundary Intensive Field Study (STIFS) was the measurement of PM<sub>2.5</sub> composition and related pollutants to improve estimates of the local vs. long-range transport contribution to particles. The regions of interest are from SW Ontario to SW Québec, and the Saturna/Vancouver area. This work was performed during the Summer-Winter-Summer of 2001-2002.

In addition to the long-range transport emphasis, the improved time resolution in the data sets will provide more detail for a variety of purposes, especially process studies and model development. STIFS particle-related measurements included: daily ambient meteorological measurements; real-time single particle size and chemistry; high time resolution OC, BC and particle nitrate; high time resolution particle sulfate; size-distribution of organic and element carbon; organic speciation; mass and water soluble organics and inorganics; particle mass and trace metals; and particle mass and inorganic ions. A companion document describing the project in greater detail and showing monitoring locations accompanies the data set.

Data archived at this time are the mass and water soluble organics and inorganics, speciated volatile organic carbon gas phase measurements, PM<sub>2.5</sub> and PM<sub>2.5-10</sub> mass concentration, and elemental and organic carbon mass concentrations.

It is known that U.S. sources contribute significantly to the regional particle levels during certain time periods and likely have a significant impact on the annual average. However, sources within Ontario, Québec and B.C. also play a role and better information on the relative importance of these sources vs. U.S. sources is critical to policy development. Improved information on this issue can be obtained through more detailed ambient measurements in urban and rural areas and through the use of models. The study provided the measurements needed to infer more about the sources of particles in areas impacted by regional transport and to improve regional models (e.g., AURAMS and Models-3/CMAQ) for future application.

### The data set should be cited as follows:

Brook, Jeffrey R., G. Evans, and Andrea M. Sass-Kortsak. 2004. NARSTO Supersite Transboundary Intensive Field Study Data, Canada, 2001-2002. 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 [<http://cdiac.esd.ornl.gov/programs/NARSTO/>]. 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.

Data are archived for these four sites

Site ID: standard	Site abbrev: standard	Description	Latitude decimal degree	Longitude decimal degree	Site land use	Site location setting	Measurement start date at site yyyy/mm/dd	Measurement end date at site yyyy/mm/dd	Co-incident measurements at site
STIFCAQU	WBZ_	St. Anicet	45.11667	-74.28333	Agricultural	Rural	2002/01/02	2002/01/22	CO, NO,



WBZ_									NOy, global radiation, VOC polar and non-polar
STIFCAONS IM_	SIM_	Simcoe	42.85000	-80.26667	Agricultural	Rural	2002/01/02	2002/01/22	None
STIFCAONG AG_	GAG_	Gage	43.65842	-79.39714	Residential	Urban and center city	2001/06/30	2001/08/02	None
STIFCAONE GB_	EGB_	Egbert	44.23250	-79.78139	Agricultural	Rural	2001/06/30	2001/07/31	Temperature, pressure, wind speed, wind direction, ozone, EBC, CNC

### 3. Examples of Data:

#### Archived Data Files Listed by Site

File Name	Browse Plot (PDF)
NARSTO_ENVCAN_STIFS_MULTI-SITE_DANN_VOC_CANNISTER_2001_07_V2.csv	<a href="#">View MULTI-SITE DANN VOC CANNISTER 2001</a>
NARSTO_ENVCAN_STIFS_WBZ_JRB_PM25+PM25-10_PARTISOL_2002_01_V1.csv	<a href="#">View WBZ JRB PM25+PM25-10 PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_WBZ_JRB_PM25+PM25-10_PARTISOL_2001_07_V1.csv	<a href="#">View WBZ JRB PM25+PM25-10 PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_WBZ_JRB_ORG+INORG_PARTISOL_2002_01_V1.csv	<a href="#">View WBZ JRB ORG+INORG PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_WBZ_JRB_ORG+INORG_PARTISOL_2001_07_V1.csv	<a href="#">View JRB ORG+INORG PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_WBZ_JRB_EC+OC_PARTISOL_2001_07_V1.csv	<a href="#">View WBZ JRB EC+OC PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_SIM_JRB_PM25+PM25-10_PARTISOL_2002_01_V1.csv	<a href="#">View SIM JRB PM25+PM25-10 PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_SIM_JRB_PM25+PM25-10_PARTISOL_2001_07_V1.csv	<a href="#">View SIM JRB PM25+PM25-10 PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_SIM_JRB_ORG+INORG_PARTISOL_2002_01_V1.csv	<a href="#">View SIM JRB ORG+INORG PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_SIM_JRB_ORG+INORG_PARTISOL_2001_07_V1.csv	<a href="#">View SIM JRB ORG+INORG PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_SIM_JRB_EC+OC_PARTISOL_2001_07_V1.csv	<a href="#">View SIM JRB EC+OC PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_GAG_JRB_PM25+PM25-10_PARTISOL_2002_01_V1.csv	<a href="#">View GAG JRB PM25+PM25-10 PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_GAG_JRB_PM25+PM25-10_PARTISOL_2001_07_V1.csv	<a href="#">View GAG JRB PM25+PM25-10 PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_GAG_JRB_ORG+INORG_PARTISOL_2002_01_V1.csv	<a href="#">View GAG JRB ORG+INORG PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_GAG_JRB_ORG+INORG_PARTISOL_2001_07_V1.csv	<a href="#">View GAG JRB ORG+INORG PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_GAG_JRB_EC+OC_PARTISOL_2001_07_V1.csv	<a href="#">View GAG JRB EC+OC PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_EGB_JRB_PM25+PM25-10_PARTISOL_2002_01_V1.csv	<a href="#">View EGB JRB PM25+PM25-10 PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_EGB_JRB_PM25+PM25-10_PARTISOL_2001_07_V1.csv	<a href="#">View EGB JRB PM25+PM25-10 PARTISOL 2001</a>
NARSTO_ENVCAN_STIFS_EGB_JRB_ORG+INORG_PARTISOL_2002_01_V1.csv	<a href="#">View EGB JRB ORG+INORG PARTISOL 2002</a>
NARSTO_ENVCAN_STIFS_EGB_JRB_ORG+INORG_PARTISOL_2001_07_V1.csv	<a href="#">View EGB JRB ORG+INORG PARTISOL 2001</a>



001_07_V1.csv	
NARSTO_ENVCAN_STIFS_EGB_JRB_EC+OC_PARTISOL_2001_07_V1.csv	<a href="#">View EGB_JRB_EC+OC_PARTISOL_2001</a>

## 4. References:

- Fan, Xinghua, Jeffrey R., Brook, and Scott A. Mabury. 2003. Sampling Atmospheric Carbonaceous Aerosols Using an Integrated Organic Gas and Particle Sampler. Environ. Sci. Technol.2003, 37,3145-3151.
- Lee, Patrick K. H., Jeffrey R. Brook, Ewa Dabek-Zlotorzynska, and Scott A. Mabury. 2003. Identification of the Major Sources Contributing to PM2.5 Observed in Toronto. Environ. Sci. Technol., 37,4831-4840.
- Tan, Phillip V., Greg J. Evans, Julia Tsai, Sandy Owega, Michael S. Fila, Oscar Malpica, and Jeffrey R. Brook. On-line Analysis of Urban Particulate Matter Focusing on Elevated Wintertime Aerosol Concentrations. Environ. Sci. Technol.2002, 36,3512-3518.

## 5. Contact Information:

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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 Users and Data Services staff.

Telephone: (757) 864-8656  
FAX: (757) 864-8807  
E-mail: [support-asdc@earthdata.nasa.gov](mailto:support-asdc@earthdata.nasa.gov)  
URL: <http://eosweb.larc.nasa.gov>

## 6. 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".

The Langley Data Center requests a reprint of any published papers or reports or a brief description of other uses (e.g., posters, oral presentations, etc.) of data that we have distributed. This will help us determine the use of data that we distribute, which is helpful in optimizing product development. It also helps us to keep our product-related references current.

Please contact us at [support-asdc@earthdata.nasa.gov](mailto:support-asdc@earthdata.nasa.gov) for instructions on mailing reprints.

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