

NARSTO Quality Systems Science Center

2005-2006 Annual Report

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NARSTO QSSC

Environmental Sciences Division

Oak Ridge National Laboratory

U.S. Department of Energy



NARSTO Executive Assembly/Executive Steering Committee Meeting

Ottawa, Canada, May 9-10, 2006

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QSSC Activities for 2005-2006

Data Management and Archiving

Revised and Updated --

“Guidelines for Archiving Data in the NARSTO Permanent Data Archive”.

“NARSTO encourages Projects to utilize the NARSTO Data Exchange Standard (DES) format for ease of data evaluation, analyses, and sharing. In addition, we recognize that there are other widely accepted data exchange formats suitable for archiving.”

Implications?

NARSTO will encourage archiving of data in formats other than the DES that are supported by good metadata and documentation.

Data Management and Archiving, continued

Developed friendlier variable names and units for software and data systems.

In response to feedback on the standard naming conventions for the Data Exchange Standard format, we developed a set of names and units that are friendly to most data user software and data systems (i.e., shorter, with no spaces or special characters).

- These names can be used in the ICARTT data file format.
- Include cross references to DES standard names and units, and
- Support a prototype ICARTT-DES Formatted Data File.

A new bullet item has been added the web site:

“Obtain MILAGRO-ICARTT Variable Names”

[http://cdiac.ornl.gov/programs/NARSTO/MILAGRO_ICARTT_Names_20060316.pdf]

Data Management and Archiving, continued

Data and Metadata Reporting Tools Provided on the QSSC Web Site

- Maintained “Guidance for Projects to Develop Data Management Policies and Plans”
- Maintained reference tables for chemical and physical variable names:
 - 1000+ chemical names and CAS RNs
 - 50+ other chemical constituents
 - 150+ variable names for physical and sampling measurements
- Data and Information Sharing Tool (DIST)
 - Web-based entry of metadata for archive documentation
 - Link data and documents in searchable index (e.g., data sets and special issue papers)
- Public and restricted FTP sites for staging and interim data set access

Data Archiving

Archived additional EPA Supersites data sets.

NARSTO EPA_SS_PITTSBURGH Meteorological Data

NARSTO ICARTT NEAX 2004 DOE G-1 Air Chemistry, Aerosol, and Met Data

NARSTO EPA_SS_BALTIMORE Rapid Single-Particle Mass Spectrometer Data

Completed archiving the PAC2001 data sets and they are now only available at the Permanent Data Archive.

NARSTO PAC2001 Slocan Park Site Gaseous, Particle, and Meteorological Data

In the near-term queue:

EPA_SS_NEWYORK data files.

EPA_SS_FRESNO data files

EPA_SS_PITTSBURGH data files.

NEOPS data files.

External Interactions

We congratulate Bill Sukloff on the publication of his work with PAC2001.

Data management and archiving for the Pacific 2001 Air Quality Study. William B. Sukloff, Robert J. Vet and Shao-Meng Li. Atmospheric Environment, Volume 40, Issue 15, May 2006, Pages 2783-2795.

Interacted with the DOE Atmospheric Sciences Program to assist with development of a data policy.

Will attend the East Tennessee Ozone Study (ETOS) Workshop and give an informational presentation and poster display.

Support for Projects

- Continued monthly teleconferences with Program and Project Data Coordinators
- Continued data archiving support to the U.S. Environmental Protection Agency (EPA) Particulate Matter (PM) Supersites Program. The QSSC will gladly continue to receive and process Supersites Project data and to work with Data Providers to archive these valuable products.
- Continued interactions with the Mexico City Metropolitan Area Program. Attended the MILAGRO Science Teams Meeting, October 24-26, 2005, Boulder Colorado and provided input to the MILAGRO data policy.
- Attended the TexAQS II Intensive Field Study Meeting, Texas Commission on Environmental Quality, Austin, Texas. October 11-12, 2005. Presented “Key Program and Project Elements for Successful Data Management and Archiving for TexAQS 2005-2006: The NARSTO Perspective.”
- Continued interactions with NEOPS data providers to facilitate data and metadata submission to the Permanent Data Archive.
- Continued interactions with the BRACE (Bay Regional Atmospheric Chemistry Experiment) project.

QSSC Plans for 2006-2007

Archive data per the Revised and Updated

“Guidelines for Archiving Data in the NARSTO Permanent Data Archive”.

Continue “Activities” on previous slides.

Sources of Archive Data (1 year timeframe)

- EPA PM Supersites project data
- Mexico City Metropolitan Area Program (2003)

Future Sources of Archive Data (1-3 year timeframe)

- Mexico City Metropolitan Area Program (MILAGRO)
- EPA Supersites Integrated Relational Database
- DOE-NETL Air Quality Database
- DOE-ASP
- BRACE
- TexAQS II

As resources permit.

The following pages contain annual summary information.

An overview of the QSSC Web Site

- NARSTO Permanent Data Archive user statistics for past three years
– through February 2006
- QSSC Web Site user statistics for past 4 years – through February 2006
- QSSC Public FTP Site user statistics for past 4 years
– through February 2006
- Emission Inventory Assessment Access on FTP Site
- PM Assessment Access on FTP Site
- Ozone Assessment Access on FTP Site



Welcome to the NARSTO Quality Systems Science Center



Direct Links:
[NARSTO Data Policy](#)

[Improving Emission
Inventory Assessment](#)

[PM Science for
Policy Makers](#)

[Ozone Assessment](#)

[Data Exchange
Standard Template
\(May 2005\)](#)

[Template News](#)

[Search for
NARSTO Data](#)

[Data Set ~~UPDATED~~
Archiving Status
\(April 2005\)](#)

[NARSTO Permanent](#)



WHAT DO YOU WANT TO DO?

- [Send Data to QSSC for Permanent Archiving](#)
- [Access NARSTO Data](#)
- [Obtain MILAGRO-ICARTT Variable Names](#)
- [Find Data & Metadata Reporting Guidance](#)
- [Develop Data Management Policy and Plans \(*.pdf or *.doc\) \(May 2005\)](#)
- [Send Data to Limited Access FTP site](#)
- [Learn about NARSTO/QSSC](#)
- [View NARSTO Quality Systems Management Documentation](#)
- [Prepare Project Quality Documentation](#)
- [Software and Data Systems Development Information](#)
- [View the Compendium of Atmospheric Chemistry and Particles Analysis Methods](#)
- [View QSSC Posters/Presentations](#)



Permanent Data Archive User Statistics:



Period:	2003/ 2004	2004/ 2005	2005/ 2006
Total <u>Data Sets</u> Requested:	26	28 (230)	33 (656) (data files)

[Please note that these are “data sets” not “data files”. There are 1 to many data files in a data set.]

Projects:

EPA Supersites—	Atlanta	2	3	1
	Baltimore		2	1
	Fresno	1	1	1
	Houston	10	26	24
	Los Angeles	3	1	3
	Pittsburgh		1	1
Env Canada —	PAC2001		1	8
	SHEMP			1
SOS—	Nashville 1999	4	11	1
	SOS_SC		1	2

**These orders
add up to 656
individual data
files.**



**ATMOSPHERIC
SCIENCES
DATA CENTER**

Processing, archiving, and distributing Earth science data
at NASA Langley Research Center

**RADIATION BUDGET • CLOUDS • AEROSOLS
• TROPOSPHERIC CHEMISTRY**

QSSC Web Site User Statistics:

	Period of Interest			
	2002 – 2003	2003- 2004	2004- 2005	2005- 2006
Unique Visitors	~3,647	~3,364	~3,060	~4,073
Total Visits	~ 4,358	~3,982	~3,685	~4,981
Visits / Month	~360	~330	~310	~414

QSSC Home Page

<http://cdiac.ornl.gov/programs/NARSTO/>

Domains Represented in March 2006

- .edu, .gov, .org, .mil, .state (.us) 13 %
- .com, .net 28 %
- unidentified 29 %
- identified (other than .us) 28 %

[Includes ~30 foreign countries]

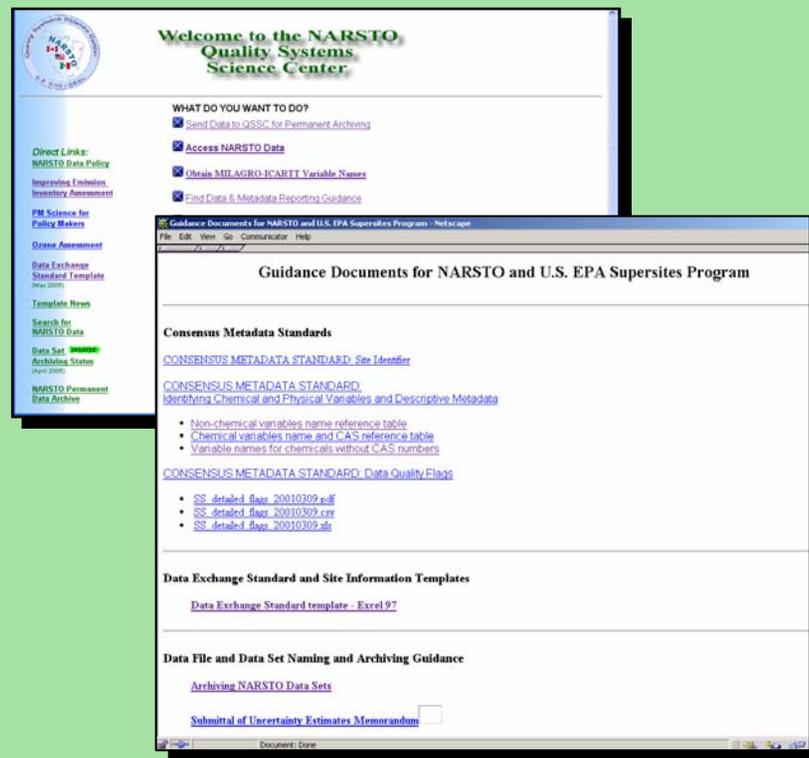
QSSC Web Site

User Statistics:

Data & Metadata Reporting Guidance

Page

	Period of Interest			
	2002 – 2003	2003- 2004	2004- 2005	2005- 2006
Unique Visitors	~388	~329	~299	~399
Total Visits	~445	~374	~341	~438
Visits / Month	~ 37	~ 31	~ 28	~ 37



<http://cdiac.ornl.gov/programs/NARSTO/epasupersites.htm>

Unique visitor = host = an IP address

A visit is defined as a series of consecutive views of a web site by the same visitor.

All visits by a visitor in a 24 hour period are counted as 1 visit.

QSSC Web Site

User Statistics:

Data Exchange Standard Template

	Period of Interest			
	2002 – 2003	2003- 2004	2004- 2005	2005- 2006
Unique Visitors	~366	~434	~361	~585
Total Visits	~560	~434	~510	~820
Visits / Month	~ 47	~ 36	~ 43	~ 68

The screenshot shows the NARSTO Quality Systems Science Center website interface. A red circle highlights the 'Data Exchange Standard Template' link in the left sidebar. Below the website is an Excel spreadsheet titled 'DATA EXCHANGE STANDARD VERSION'. The spreadsheet contains a list of fields for data entry, such as 'DATA EXCHANGE STANDARD VERSION', 'COMMENT', 'QUALITY CONTROL LEVEL', 'DATE THIS FILE GENERATED/ARCHIVE VERSION NUMBER', etc. Several callout boxes provide instructions and examples for these fields:

- Optional Key Phrase:** A callout box explains that an optional key phrase (up to 1000 characters) can be entered in any row except in the data section of a table.
- Mandatory Key Phrase:** A callout box explains that a mandatory key phrase (a 2-letter country code as defined in the ISO3166 standard, followed by the country name in brackets, e.g., CA (Canada), AU (Australia)) must be entered in the code field.
- Sampling Frequency:** A callout box explains that the sampling frequency of the data in the main data table must be the same as that for the 'SAMPLING INTERVAL AS REPORTED IN MAIN TABLE' unless there are gaps between samples.

http://cdiac.esd.ornl.gov/programs/NARSTO/NARSTO_template_atmospheric_measurements.xls

QSSC FTP Site

User Statistics for Data Files Downloaded

Period:	<u>2002/</u>	<u>2003/</u>	<u>2004/</u>	<u>2005/</u>
	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Unique Users:	~ 142	~ 300	~ 190	~ 235
Total Data Files:	~ 3,100	~ 1350	~ 2300	~2500

Projects:

EPA Supersites—

Atlanta	150	225	99	305
Baltimore		5	79	62
Fresno		220	158	108
Houston	225	425	560	786
Los Angeles	135	120	139	63
Pittsburgh				22

Environment Canada

PAC2001			15	448
SHEMP				34
STIFS				54

SOS Nashville 1995	1,300	350	397	459
Nashville 1999	950	15	145	200
DES Metadata Tables	300		350	310

Welcome to the NARSTO Quality Systems Science Center

WHAT DO YOU WANT TO DO ?

- Send Data to QSSC for Permanent Archiving
- Access NARSTO Data
- Find NARSTO/EPA Supersites Data & Metadata Reporting Guidance
- Send Data to Limited Access FTP site
- Learn about NARSTO/QSSC

Direct Links:

- [NARSTO Data Policy](#)
- [Data Exchange Standard Template](#)
- [Data Exchange Standard Template](#)

Index of ftp://narsto.ornl.gov/pub/

[Up to higher level directory](#)

DES metadata	2003/10/22 1:46:00 AM
DES new distribution	2002/10/18 12:00:00 AM
EPA Supersites	2004/01/25 11:17:00 PM
Ozone Assessment	2003/04/29 12:00:00 AM
PM Assessment	2003/06/19 12:00:00 AM
SOS	2004/01/25 11:17:00 PM

QSSC FTP Site User Statistics:

Emission Inventory Assessment Access

Period: 2005 – 2006 (partial year)

Total Files: ~ 362

Exec Sum 16

Chapters 1 – 9 12 to 24 of each

This is the published version available August 2005.

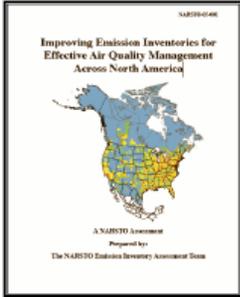
Improving Emission Inventories for Effective Air Quality Management Across North America

-- A NARSTO Assessment --

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CHAPTER 9	RECOMMENDATIONS AND CONCLUSIONS
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APPENDIX A	LISTS OF AGENCIES AND CONTACTS
APPENDIX B	SOURCE TEST METHODS
APPENDIX C	CONCEPTS AND METHODS FOR UNCERTAINTY AND SENSITIVITY ANALYSIS OF EMISSION INVENTORIES

Please cite this document as:
NARSTO. 2005. Improving Emission Inventories for Effective Air Quality Management Across North America. NARSTO 05-001. Pasco, Washington, U.S.A.



Posted on the QSSC web site November 11, 2005

QSSC FTP Site User Statistics:

PM Assessment Access

Period: 2005 – 2006 (partial year)

Total Files: ~ 220

Exec Sum 12
Synthesis 17

Chapters 1 – 11 10 to 15 of each

Ozone Assessment Access

Period: 2005 – 2006

Total Files: ~ 110

Exec Sum 12
Complete 9

Chapters 1 -6 5 to 10 of each

Particulate Matter Science
for Policy Makers
-- A NARSTO Assessment --

Second Printing, April 2004

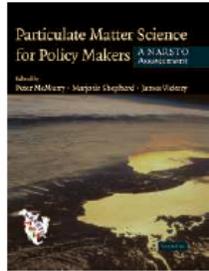
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[CHAPTER 4](#) EMISSIONS AND SOURCE CHARACTERIZATION
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[APPENDIX C.](#) MONITORING DATA: AVAILABILITY, LIMITATIONS, AND NETWORK ISSUES
[APPENDIX D.](#) GLOBAL AEROSOL TRANSPORT (11 MB file)
[APPENDIX E.](#) PREPARATION OF THIS ASSESSMENT

(Volume of all files is: 85 MB.)

Please cite this document as:
NARSTO. 2004. Particulate Matter Assessment for Policy Makers: A NARSTO Assessment. P. McMurry, M. Shepherd, and J. Vickery, eds. Cambridge University Press, Cambridge, England. ISBN 0 52 184287 5.



The PM Assessment, published by Cambridge University Press, is available for purchase in bookstores or online at <http://us.cambridge.org/files/catalogue.asp?isbn=0521842875>.

Posted on the QSSC web site November 11, 2005