

NARSTO Quality Systems Science Center

2006-2007 Annual Report to the NARSTO Executive Assembly

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QSSC Activities for 2006-2007

Data Management and Archiving

Maintained 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.”

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

Data Management and Archiving

Developed and maintained variable names and units that are friendlier to 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 NASA AMES “ICARTT” data file format.
- Include cross references to DES standard names and units, and
- Support a prototype ICARTT-DES Formatted Data File.

Maintain Data and Metadata Reporting Tools on the QSSC Web Site

- **Guidance for Projects to Develop Data Management Policies and Plans**
- **Reference tables for chemical and physical variable names:**
 - 1000+ chemical names and CAS RNs
 - 50+ other chemical constituents
 - 150+ names for non-chemical sampling variables
- Metadata reference tables for **the Data Exchange Standard** template pick lists.
- **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

EPA FRESNO SS PM2.5 Particulate Nitrate and Sulfate Data (22 data files with plots)

EPA FRESNO SS BAM Particulate Mass Concentration Data (10 data files with plots)

EPA NY SS Air Chemistry, Particulate Matter, and Met Data (162 data files with plots and documentation)

MILAGRO MAX-Mex 2006 DOE G-1 Aerosol, Air Chem, Radiometric, and Met Data (30 data files)

In the Queue to be Archived

EPA PITTSBURGH SS Gas Conc and PM Physical Properties Data (26 data files with plots)

EPA PITTSBURGH SS Particulate Matter Composition Data (29 data files with plots)

EPA LOS ANGELES SS Aethalometer Elemental Carbon Data (6 data files with plots)

In the Near-Term Working Queue

EPA FRESNO SS data

EPA LOS ANGELES SS data

EPA ST LOIUS SS data

EPA BALTIMORE SS data

NEOPS data

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 continue to receive and process Supersites Project data and to work with Data Providers to archive these valuable products.
- Continued interactions and support for the Mexico City Metropolitan Area Programs 2003, and 2006 and components MCMA-2006 and MAX-Mex.
- Continued interactions with the TexAQS II Intensive Field Study Program.
- Continued interactions with the BRACE (Bay Regional Atmospheric Chemistry Experiment) project.

QSSC Plans for 2007-2008

- Continue routine data management and archiving activities
- Actively seek feedback from users of QSSC products and applications (e.g., data archive, FTP site, web site, documentation, DES template and format, reference tables, etc.).
- Develop a more convenient data search application and implement on QSSC web site.
- 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 (MCMA-2006, MAX-Mex, MILAGRO)
 - EPA Supersites Integrated Relational Database
 - DOE-ASP
 - BRACE
 - TexAQS II

Annual Summary Information

An overview of the QSSC Web Site

- NARSTO Permanent Data Archive user statistics:
 - The number of data sets archived and data files ordered continues to increase.
- QSSC Web Site user statistics:
 - Web site usage is up overall. New Google Earth files and DES template contributed to increase.
- QSSC Public FTP Site user statistics:
 - FTP site usage remains strong, with both the addition of new products and popularity of historical data.
- NARSTO Science Assessments FTP Site downloads



Welcome to the NARSTO Quality Systems Science Center

PDA

Direct Links:
[NARSTO Data Policy](#)

[Improving Emission Inventory Assessment](#)

[PM Science for Policy Makers](#)

[Ozone Assessment](#)

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

DES Template

[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](#)

Public FTP Site

ICARTT Variable Names

Permanent Data Archive User Statistics:

Period:	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007
Total <u>Data Sets</u> Requested: (Data Files Requested)	26	28 (230)	42 (656)	129 (1640)

<u>Projects:</u>	<u>Number of Data Sets (data files)</u>			
EPA Supersites—				
Atlanta	2	3	1 (3)	5 (122)
Baltimore		2	1 (18)	6 (72)
Fresno	1	1	1 (11)	24 (221)
Houston	10	26	24 (248)	27 (332)
Los Angeles	3	1	5 (22)	21 (66)
Pittsburgh		1	1 (4)	7 (66)
Env Canada —				
PAC2001		1	8 (288)	17 (601)
STIFS/SHEMP			1 (12)	5 (71)
SOS—				
Nashville 1999	11	1	3 (5)	2 (12)
SOS_SC		1	2 (2)	1 (1)
DOE G-1—				
ICARTT_NEAX_2004			1 (33)	1(30)

<p>These orders add up to 1640 individual data files.</p>
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QSSC Web Site User Statistics:

	Period of Interest				
	2002 – 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007
Unique Visitors	~3,647	~3,364	~3,060	~4,073	~4,588
Total Visits	~ 4,358	~3,982	~3,685	~4,981	~6,060
Visits / Month	~360	~330	~310	~414	~505

QSSC Home Page

Domains Represented in February 2007

- .edu, .gov, .org, .mil, .state (.us) 12 %
- .com, .net 30 %
- unidentified 32%
- identified (other than .us) 25 %

[Includes ~30 foreign countries]

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

QSSC Web Site

User Statistics:

	Period of Interest				
	2002 – 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007
Unique Visitors	~388	~329	~299	~361	~319
Total Visits	~445	~374	~341	~399	~364
Visits / Month	~ 37	~ 31	~ 28	~ 33	~ 30

Data & Metadata Reporting Guidance

Page

The screenshot shows the NARSTO Quality Systems Science Center website. The main heading is "Welcome to the NARSTO Quality Systems Science Center". Below this, there are several sections:

- WHAT DO YOU WANT TO DO?** with links for:
 - Send Data to QSSC for Permanent Archiving
 - Access NARSTO Data
 - Obtain MII AGRO I-CARTT Variable Names
 - Find Data & Metadata Reporting Guidance
- Direct Links:** NARSTO Data Policy, Improving Emissions Inventory Assessment, PM Science for Policy Makers, Ozone Assessment, Data Exchange Standard Template (May 2005), Template News, Search for NARSTO Data, Data Set Archiving Status (May 2005), NARSTO Permanent Data Archive.
- Guidance Documents for NARSTO and U.S. EPA Supersites Program** (shown in a separate window):
 - Consensus Metadata Standards**
 - CONSENSUS METADATA STANDARD: Site Identifier
 - CONSENSUS METADATA STANDARD: Identifying Chemical and Physical Variables and Descriptive Metadata
 - Non-chemical variables name reference table
 - Chemical variables name and CAS reference table
 - Variable names for chemicals without CAS numbers
 - CONSENSUS METADATA STANDARD: Data Quality Flags
 - SS_detailed_flagz_20010309.pdf
 - SS_detailed_flagz_20010309.csv
 - SS_detailed_flagz_20010309.xls
 - Data Exchange Standard and Site Information Templates**
 - Data Exchange Standard template - Excel 97
 - Data File and Data Set Naming and Archiving Guidance**
 - Archiving NARSTO Data Sets
 - Submission of Uncertainty Estimates Memorandum

<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	2006- 2007
Unique Visitors	~366	~434	~361	~497	~1066
Total Visits	~560	~624	~510	~703	~1305
Visits / Month	~ 47	~ 52	~ 43	~ 59	~ 109

The image shows two overlapping screenshots. The top one is the NARSTO Quality Systems Science Center website, featuring a navigation menu with 'Data Exchange Standard Template' highlighted. The bottom screenshot is a spreadsheet titled 'DATA EXCHANGE STANDARD VERSION' with various fields and instructions. Annotations include:

- A callout for 'QUALITY CONTROL LEVEL' explaining that it is an optional key phrase.
- A callout for 'COUNTRY CODE' explaining it is a 2-letter code as defined in the ISO3166 standard, followed by the country name in brackets (e.g., CA (Canada), AU (Australia)), and that it is a mandatory key phrase.
- A callout for 'SAMPLING FREQUENCY OF DATA IN MAIN TABLE' explaining that the value of this key phrase will be the same as that for the 'SAMPLING INTERVAL AS REPORTED IN MAIN TABLE' unless there are gaps between samples, and that it is a mandatory key phrase.
- A callout for 'SAMPLING INTERVAL AS REPORTED IN MAIN TABLE' explaining that the value of this key phrase will be the same as that for the 'SAMPLING FREQUENCY OF DATA IN MAIN TABLE' unless there are gaps between samples, and that it is a mandatory key phrase.

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>2003/</u> <u>2004</u>	<u>2004/</u> <u>2005</u>	<u>2005/</u> <u>2006</u>	<u>2006/</u> <u>2007</u>
Unique Users:		~ 142	~ 300	~ 190	~ 235
Total Data Files:		~ 3,100	~ 1350	~ 2300	~2500
<u>Projects:</u>					
EPA Supersites—					
Atlanta	150	225	99	305	173
Baltimore		5	79	62	40
Fresno		220	158	108	77
Houston	225	425	560	786	245
Los Angeles	135	120	139	63	15
New York					15
Pittsburgh				22	40
Environment Canada					
PAC2001			15	448	PDA
SHEMP				34	
STIFS				54	
DOE G-1					
ICARTT NEAX 2004					30
MAX-Mex					12
SOS Nashville 1995	1,300	350	397	459	979
Nashville 1999	950	15	145	200	192
DES Metadata Tables	300		350	310	100
MILAGRO-ICARTT Names Files					44
Google Earth Site Files					165

QSSC FTP Site User Statistics:

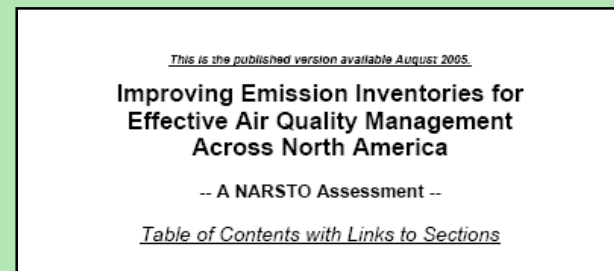
Emission Inventory Assessment Access

Period: 2006 – 2007

Total Files: ~ 195

Exec Sum 20

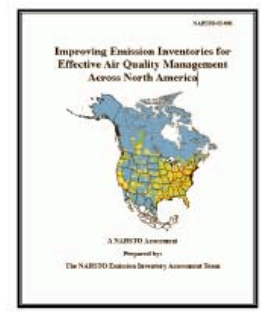
Chapters 1 – 9 10 to 20 of each



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- [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: 2006 – 2007

Total Files: ~ 510

Exec Sum 30

Synthesis 45

Chapters 1 – 11 20 to 30 of each

Ozone Assessment Access

Period: 2006 – 2007

Total Files: ~ 140

Exec Sum 26

Complete 18

Chapters 1 -6 7 to 15 of each

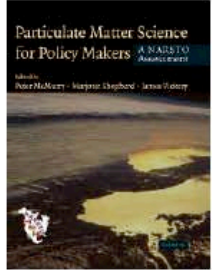
Particulate Matter Science
for Policy Makers
-- A NARSTO Assessment --
Second Printing, April 2004
Table of contents with links to sections.

[TITLE PAGE, TOC, LIST OF FIGURES and LIST OF TABLES](#)
[PREFACE, AUTHORS, and ACKNOWLEDGEMENTS](#)
[EXECUTIVE SUMMARY](#)
[SYNTHESIS](#) PARTICULATE MATTER SCIENCE FOR POLICY MAKERS (10 MB file)

[CHAPTER 1](#) PERSONAL AND COMMUNITY HEALTH
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[APPENDIX A.](#) EMISSION CALCULATIONS AND INVENTORY LISTINGS
[APPENDIX B.](#) MEASUREMENTS
[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 184267 5.



The PM Assessment, published by Cambridge University Press, is available for purchase in bookstores or online at <http://www.cambridge.org/9780521842675>.
Posted on the QSSC web site November 11, 2005