File Names

File #	Original File Name
1	EPA_SS_ST_LOUIS_SEAS_PM25_METALS_V1.csv

Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

Dataset Key Phrases

Data Exchange Standard Version	Principal Investigator Name--last first	Principal Investigator Affiliation	File Contents Description--short long	Sampling Interval As Reported in Main Table
NARSTO 2002/05/28 (2.301)	Turner ; Dr. Jay	Washington University, Campus Box 1198, One Brookings Drive, St. Louis, MO 63130	UMCP_SEAS_Element_Ma ; UMCP SEAS_Element Mass St. Louis Supersite	30 minute

Sampling Frequency Of Data in Main Table	Quality Control Level	Organization Acronym	Organization Name	Data Usage Acknowledgement	Study Or Network Acronym
Every hour	2	EPA_PM_SS	EPA Particulate Matter Supersites Program	St. Louis - Midwest Supersite, Washington University and Harvard School of Public Health	EPA_SS_ST_LOUIS

Study Or Network Name	Country Code	State Or Province Code	Principal Investigator Contact Information	Co-investigator Name--last first	Co-investigator Affiliation
EPA_Supersites--St. Louis	US	IL	Dr. John M. Ondov, University of Maryland, Department of Chemistry and Biochemistry, College Park,MD 20742, tel: 301-405-1859; email: jondov@umd.edu	Ondov ; Dr. John	Department of Chemistry and Biochemistry, University of Maryland, College Park, MD 20742

Name And Affiliation Of Person Who Generated This File	Date Of Last Modification To Data In Main Table	Name And Version Of Software Used To Create This File
Gregory Beachley, University of Maryland	2006/12/13	MS Excel, v2003, sp3

Companion File Name format And Version	Date This File Generated archive Version Number	Table Explanation Of Zero Or Negative Values	Table Explanation Of Reported Detection Limit Values
None ; None	2004/09/19 ; 1	Zero values and negative values are permitted in this file	Average detection limits are reported. Detection limit is variable depending on sample matrix.

Table Explanation Of Reported Uncertainty	Table User Note	Table User Note2
uncertainty reported	Elements determined in PM2.5 sampled with the University of Maryland SEAS (Semi-continuous Elements in Aerosol Sampler) and analyses by graphite-furnace atomic absorption spectroscopy; Kidwell, C.B., Ondov, J. M.(2001); Pancras, J. P., Ondov, J.M., and Zeisler, R., (2005).	Kidwell, C.B., Ondov, J. M. 2001. Development and evaluation of a prototype system for collecting sub-hourly ambient aerosol for chemical analysis. AEROSOL SCIENCE AND TECHNOLOGY 35 (1): 596-601.

Table User Note3	Table User Note4	Table Name	Table Focus
Kidwell CB, Ondov JM. 2004. Elemental analysis of sub-hourly ambient aerosol collections. AEROSOL SCIENCE AND TECHNOLOGY 38 (3): 205-218.	Pancras, J. P., Ondov, J.M., and Zeisler, R. 2005. Multi-element electrothermal AAS determination of 11 marker elements in fine ambient aerosol slurry samples collected with SEAS-II. ANALYTICA CHIMICA ACTA 538 (1-2): 303-312.	PM-2.5_Elements	Surface--fixed

Site Information

Site ID	Name	State Province code	Latitude: decimal degree	Longitude: decimal degree	Sampling height above ground (m)	Ground elevation above sea level (m)
ES2SUSMOESL_	13th and Tudor, East St. Louis	IL	38.61220	-90.16030	5.0	135.0

Site ID	Site land use	Site location setting	Measurement start date	Measurement end date	Co-incident measurements	Study site ID	Lat lon accuracy
ES2SUSMOESL_	Residential	Suburban	2001/04/15	2002/06/30	None	None	-999.9

NARSTO Standard Flags

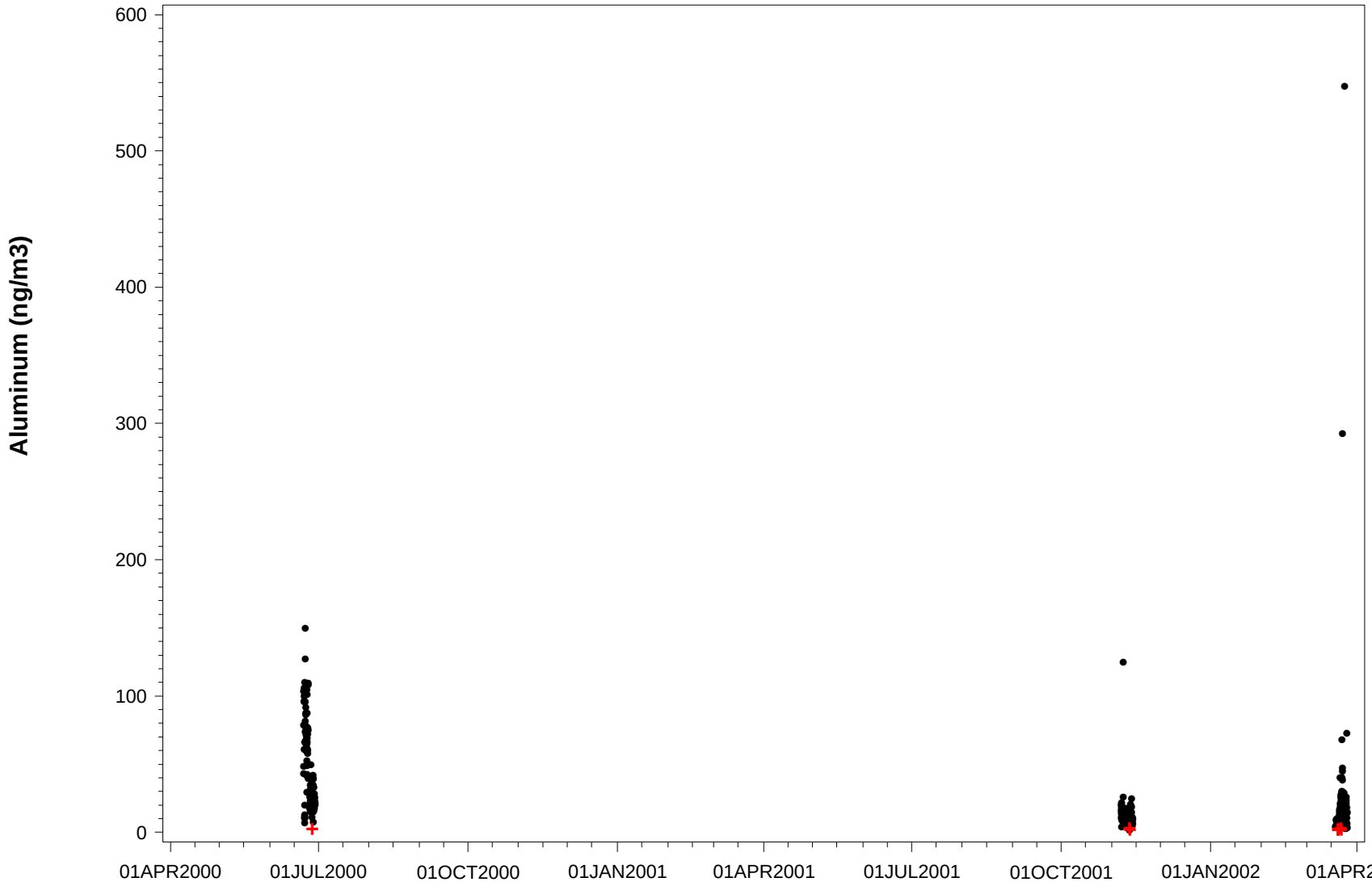
Flag: NARSTO	Description
H1	Historical data that have not been assessed or validated
M1	Missing value because no value is available
M2	Missing value because invalidated by data originator
V0	Valid value
V1	Valid value but comprised wholly or partially of below detection limit data
V2	Valid estimated value
V3	Valid interpolated value
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination (e.g., pollution source, laboratory contamination source)
V6	Valid value but qualified due to non-standard sampling conditions (e.g., instrument malfunction, sample handling)
V7	Valid value but set equal to the detection limit (DL) because the measured value was below the DL

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Aluminum** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7429-90-5** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **3.8**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **6**
Minimum: **0.42**
25th Percentile: **7.48**
Median: **13.74**
Mean: **24.391**
75th Percentile: **24.46**
Maximum: **547.21**
Stnd Dev.: **37.832**

NARSTO Flags

Flag	Symbol	Count
M1:		**6**
V0:	●	**419**
V1:	+	**8**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.txt

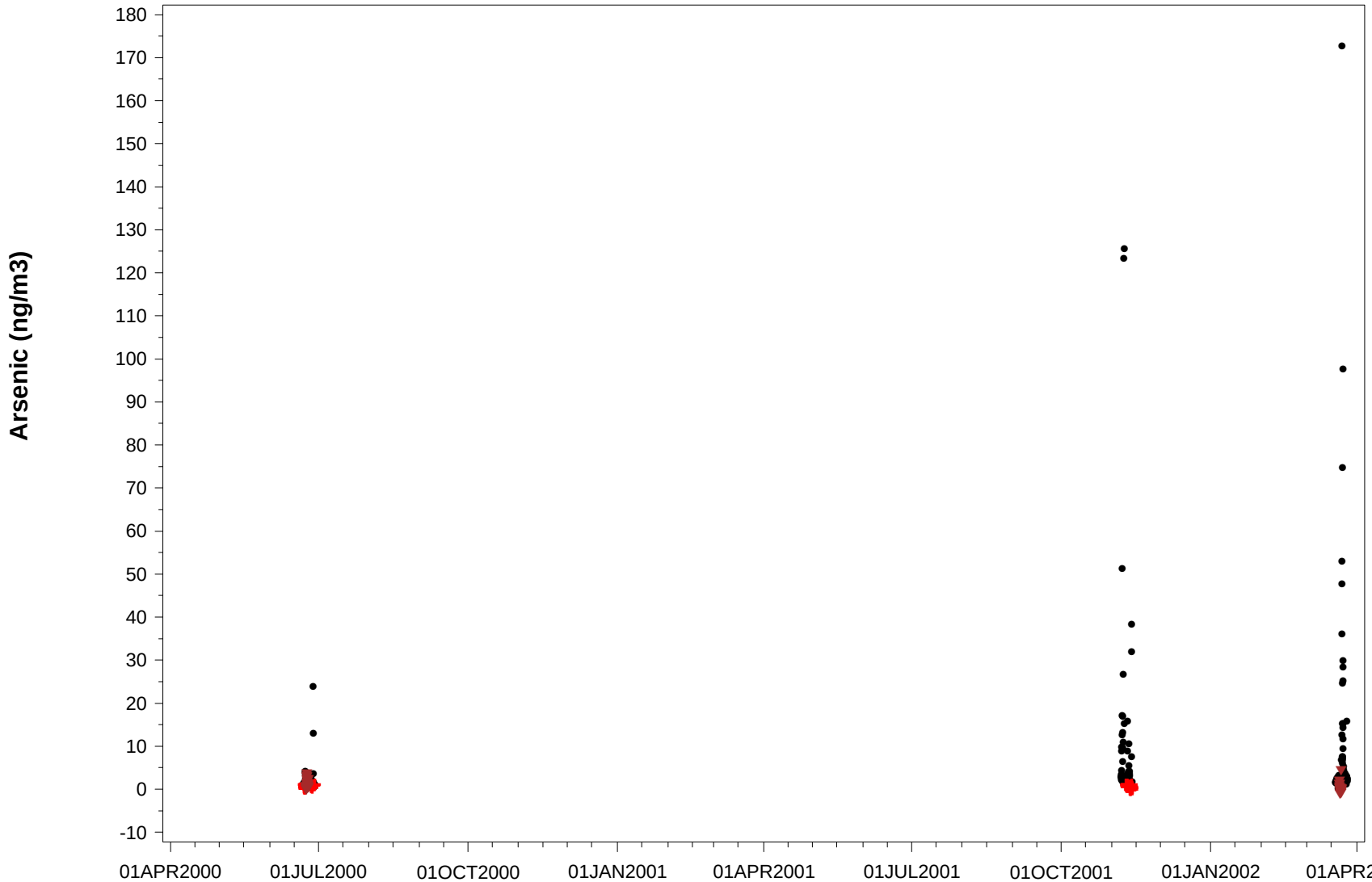
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Arsenic** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7440-38-2** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.03**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **3**
Minimum: **-1.08**
25th Percentile: **0.56**
Median: **1.425**
Mean: **4.297**
75th Percentile: **2.5**
Maximum: **172.67**
Stnd Dev.: **14.389**

NARSTO Flags

Flag	Symbol	Count
M1:		**3**
V0:	●	**301**
V1:	+	**72**
V6:	▼	**57**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS_01

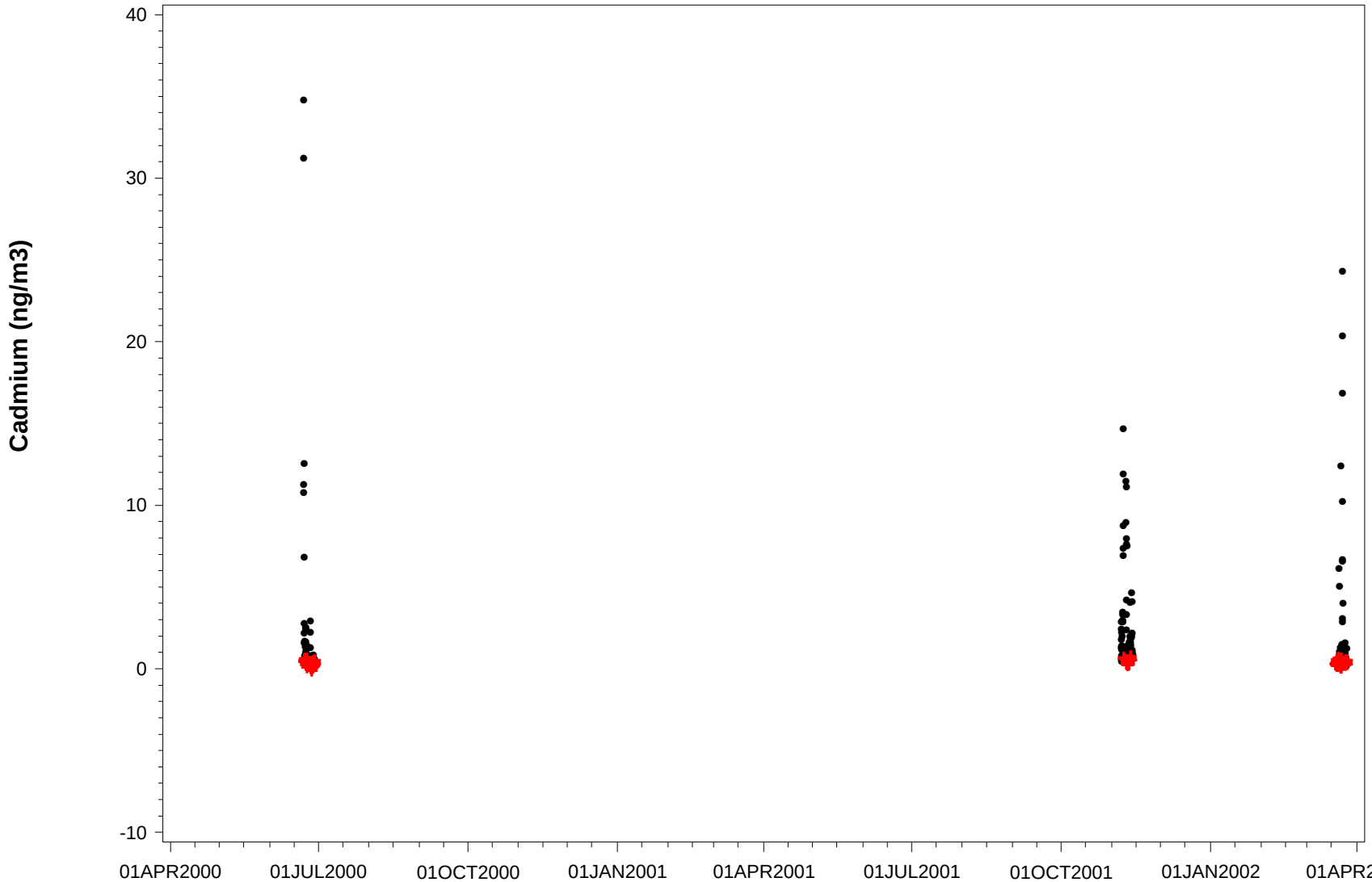
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Cadmium** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7440-43-9** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.04**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **0**
Minimum: **-0.23**
25th Percentile: **0.21**
Median: **0.42**
Mean: **1.354**
75th Percentile: **0.91**
Maximum: **34.74**
Stnd Dev.: **3.397**

NARSTO Flags

Flag	Symbol	Count
V0:	●	**222**
V1:	+	**211**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.xls

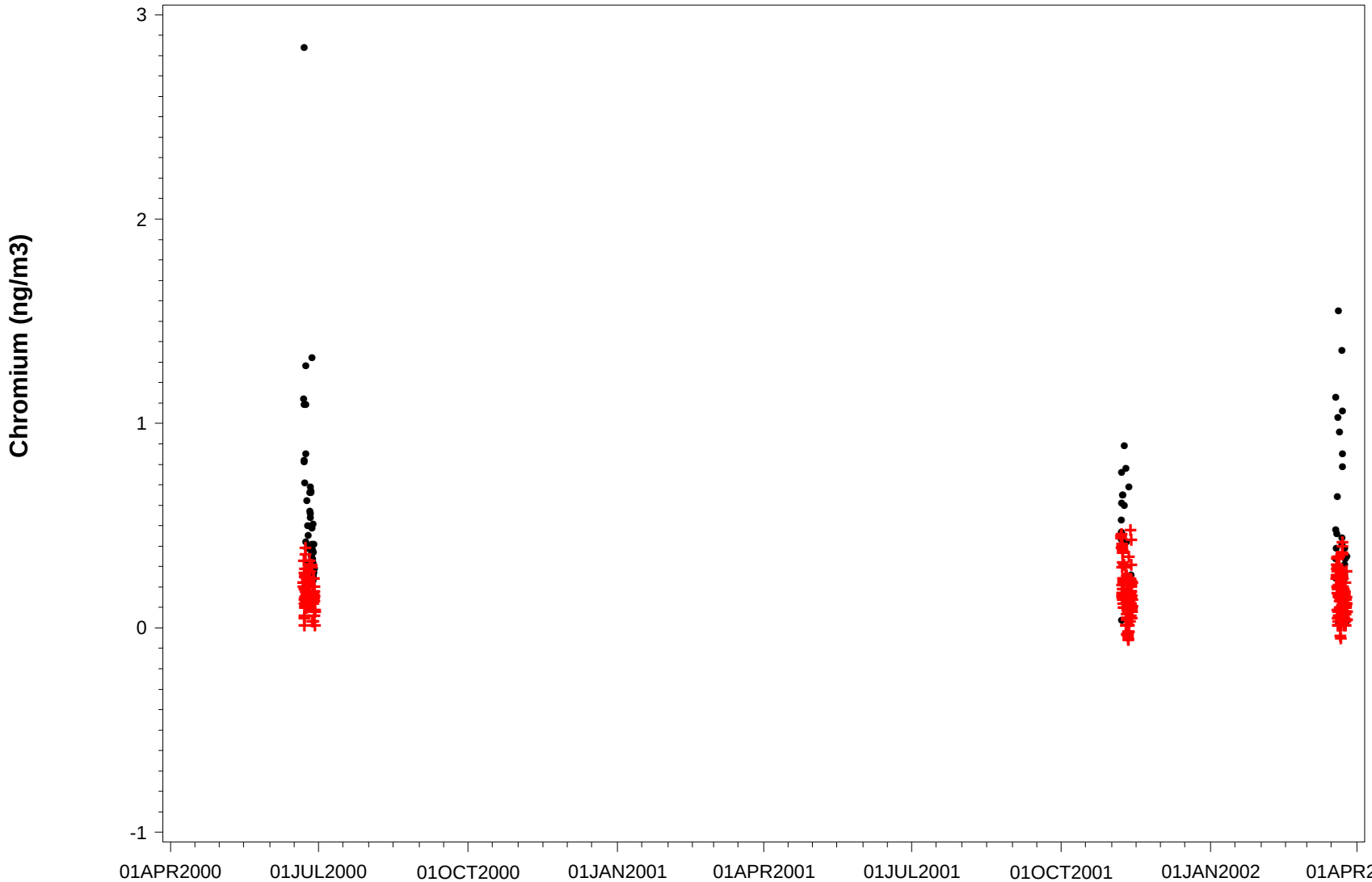
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Chromium** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7440-47-3** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.05**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **0**
Minimum: **-0.07**
25th Percentile: **0.09**
Median: **0.17**
Mean: **0.233**
75th Percentile: **0.29**
Maximum: **2.84**
Stnd Dev.: **0.263**

NARSTO Flags

Flag	Symbol	Count
V0:	●	**106**
V1:	+	**327**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.xls

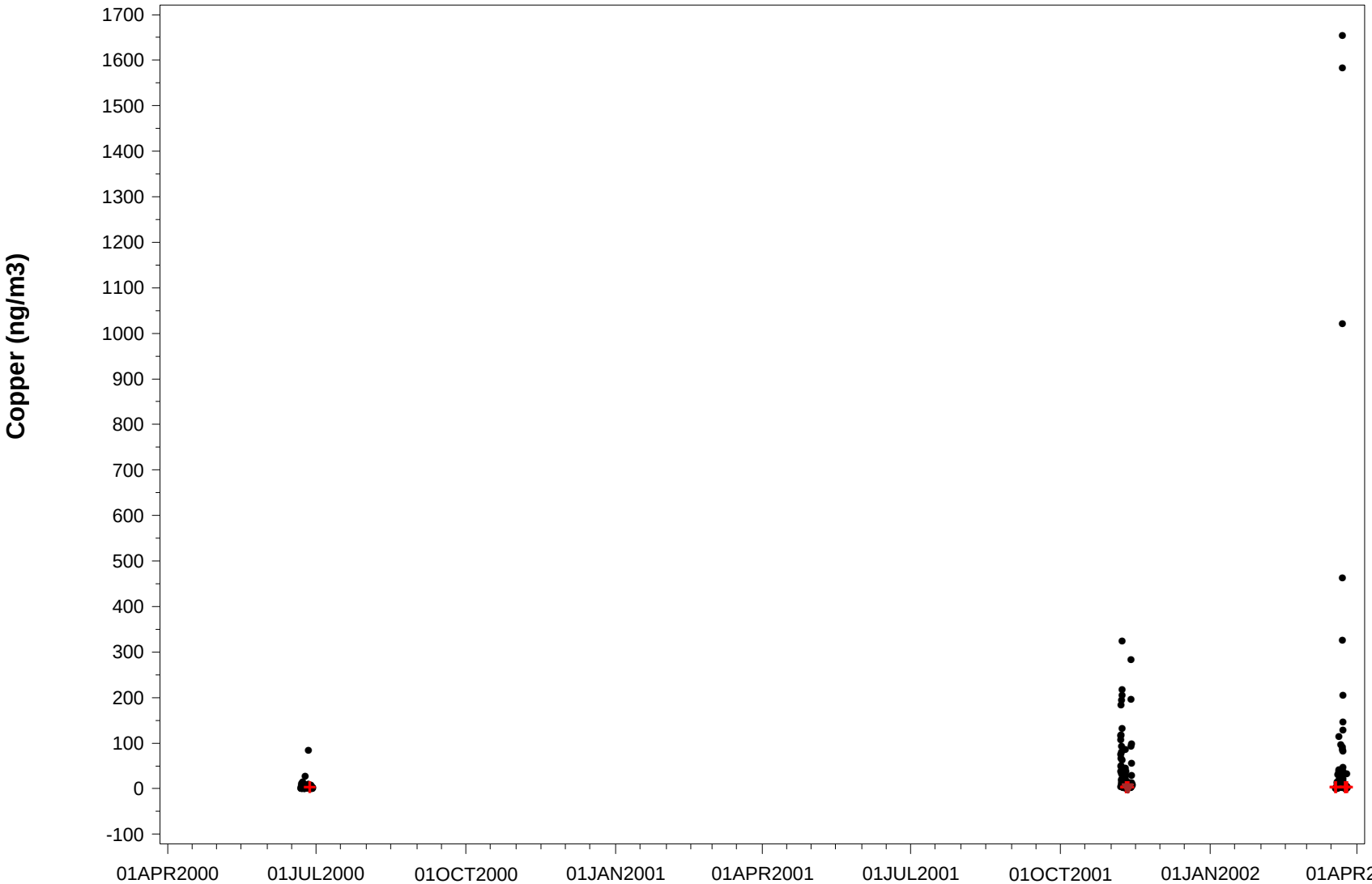
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Copper** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7440-50-8** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **1.07**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **0**
Minimum: **-0.48**
25th Percentile: **2.01**
Median: **3.52**
Mean: **26.151**
75th Percentile: **8.62**
Maximum: **1653.87**
Stnd Dev.: **127.164**

NARSTO Flags

Flag	Symbol	Count
V0:	●	**407**
V1:	+	**11**
V6:	▼	**15**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.txt

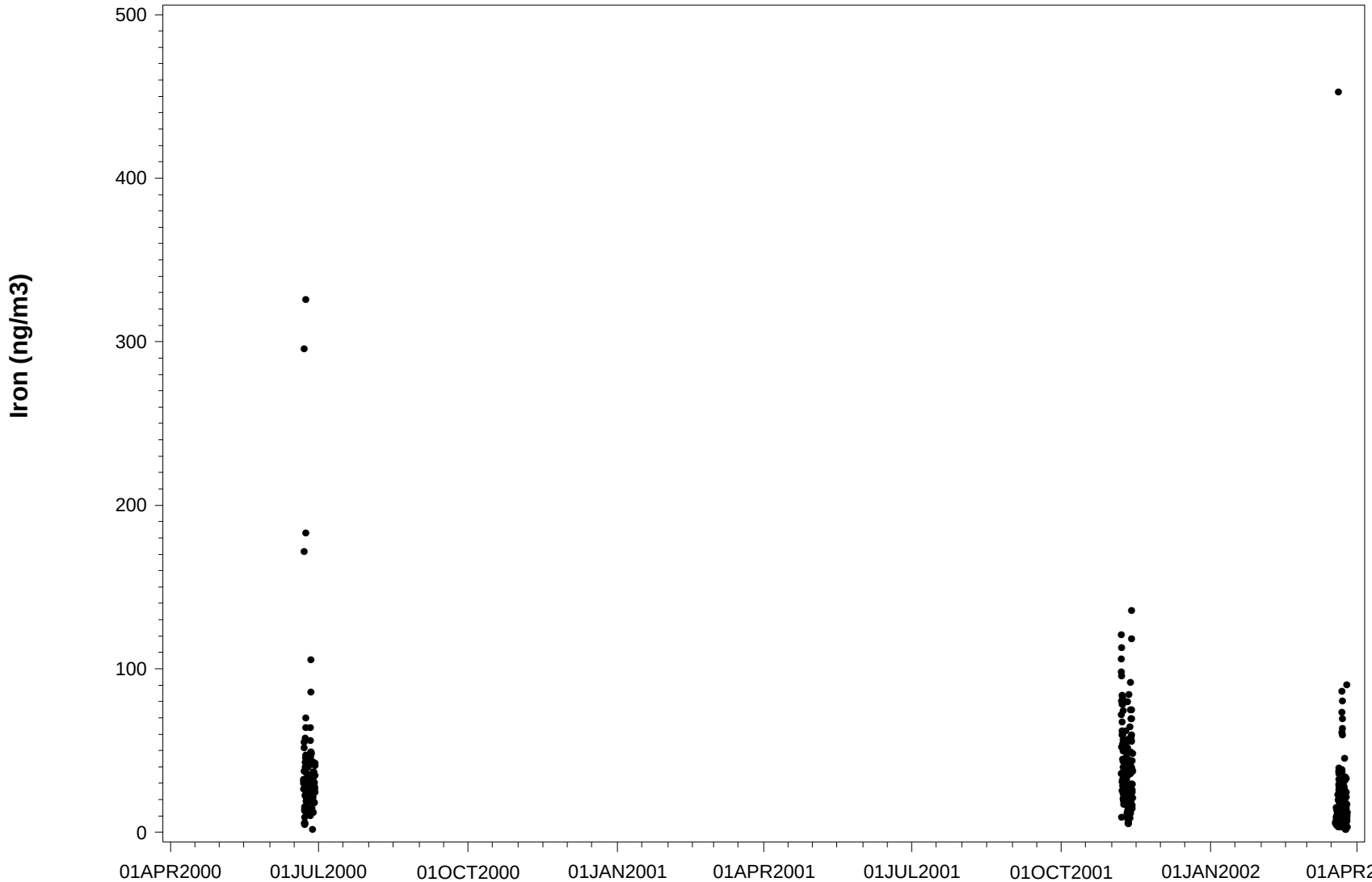
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Iron** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7439-89-6** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.72**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **0**
Minimum: **1.71**
25th Percentile: **13.27**
Median: **24.26**
Mean: **32.027**
75th Percentile: **37.28**
Maximum: **452.59**
Stnd Dev.: **36.768**

NARSTO Flags

Flag	Symbol	Count
V0:	●	**433**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.txt

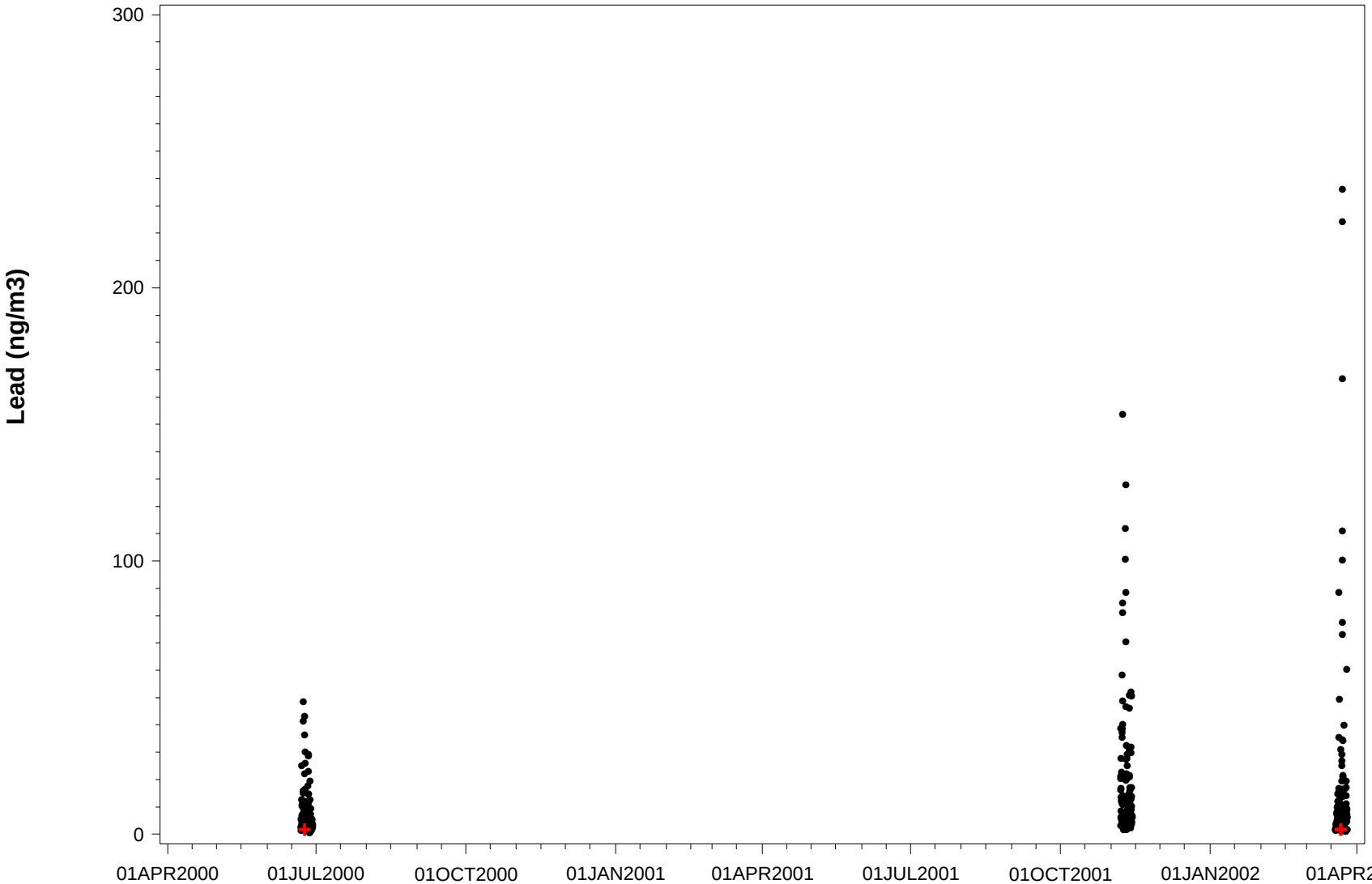
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Lead** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7439-92-1** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.31**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **3**
Minimum: **0.58**
25th Percentile: **3.59**
Median: **6.13**
Mean: **13.866**
75th Percentile: **12.66**
Maximum: **236.08**
Stnd Dev.: **25.025**

NARSTO Flags

Flag	Symbol	Count
M1:		**3**
V0:	●	**424**
V1:	+	**6**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.txt

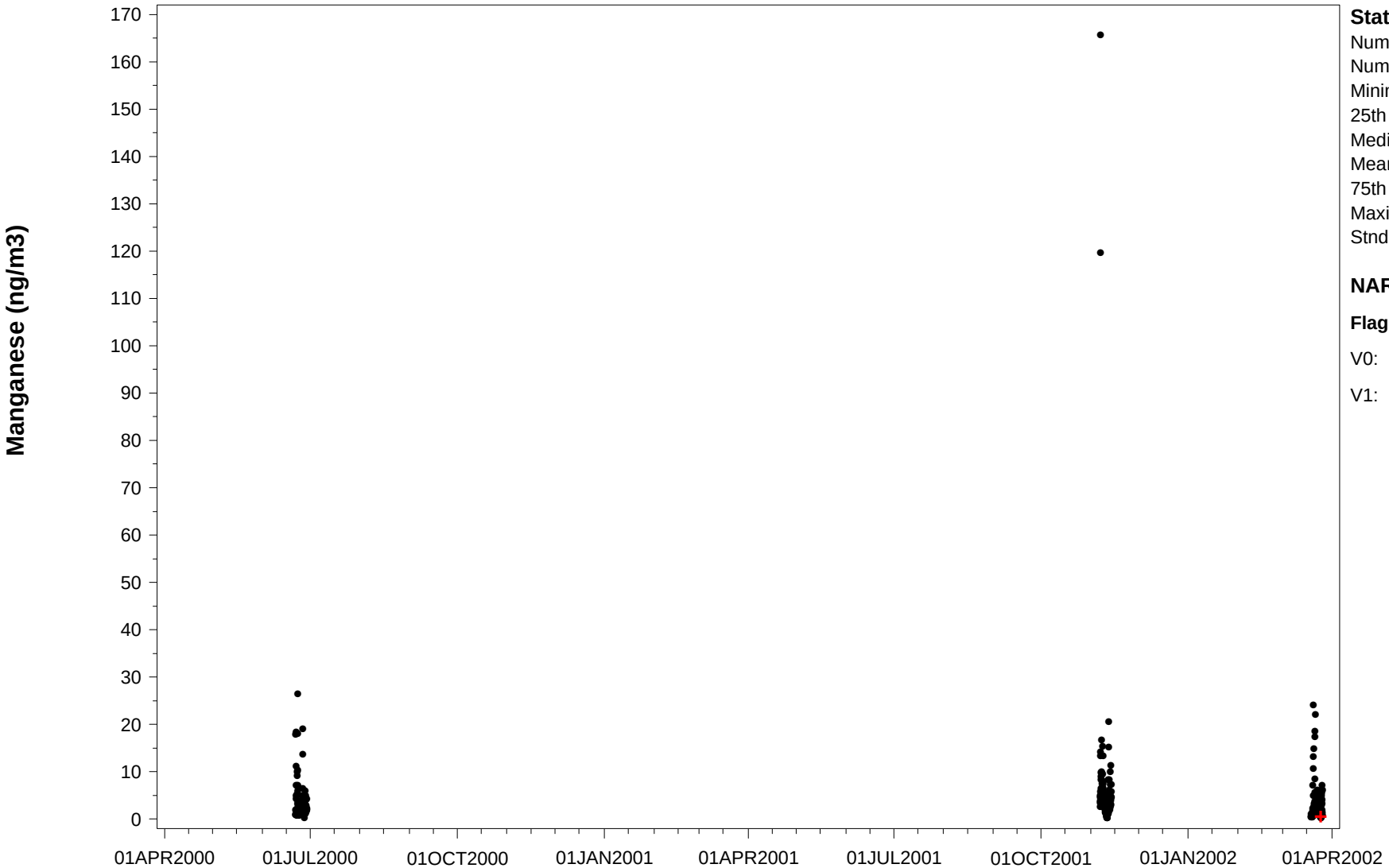
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Manganese** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7439-96-5** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.14**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **0**
Minimum: **0.17**
25th Percentile: **1.35**
Median: **2.49**
Mean: **4.206**
75th Percentile: **4.18**
Maximum: **165.61**
Stnd Dev.: **10.273**

NARSTO Flags

Flag	Symbol	Count
V0:	●	**432**
V1:	+	**1**

Time Zone: CST

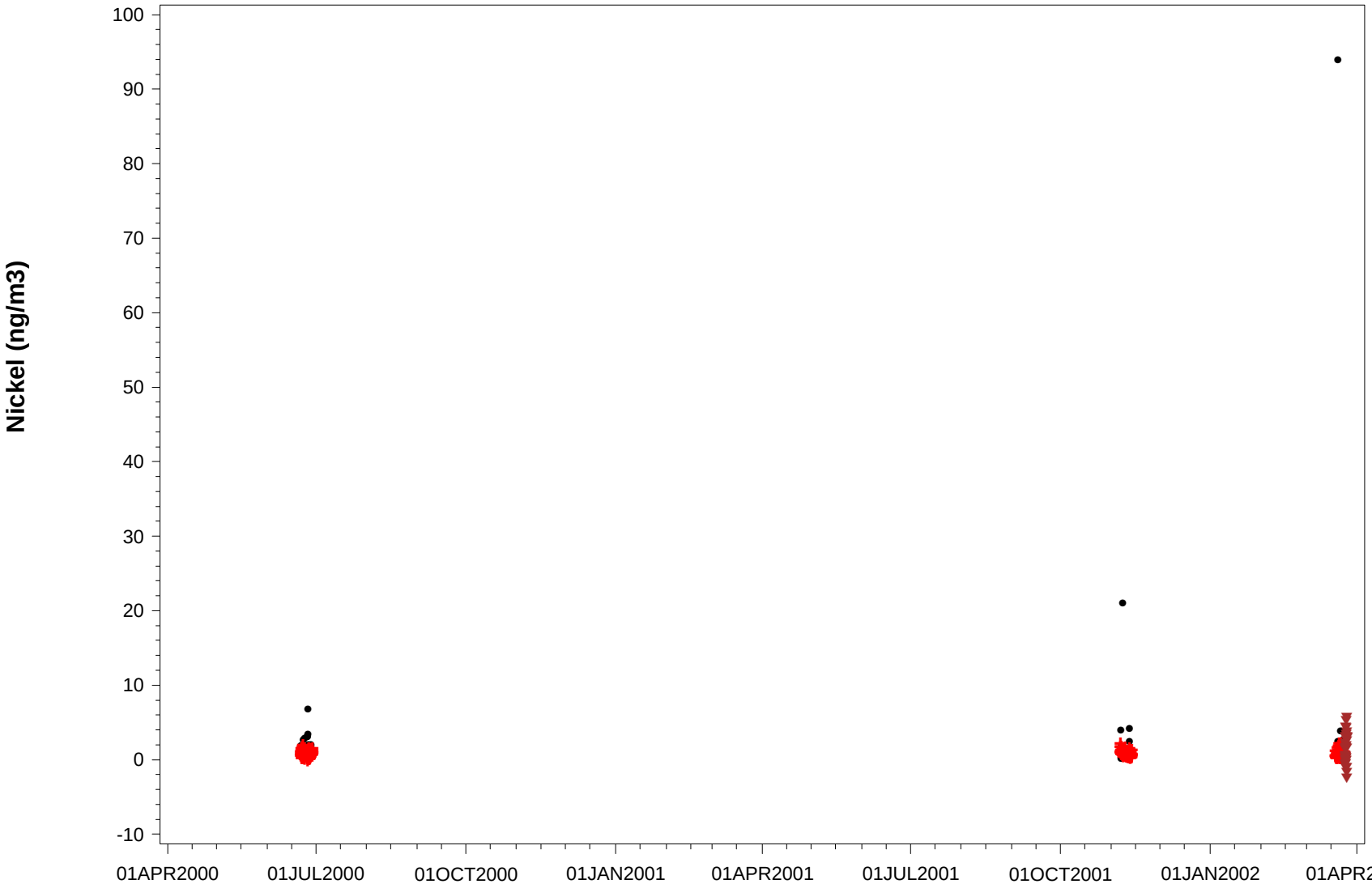
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Nickel** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7440-02-0** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.18**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **3**
Minimum: **-2.47**
25th Percentile: **0.3**
Median: **0.52**
Mean: **0.968**
75th Percentile: **0.81**
Maximum: **93.96**
Stnd Dev.: **4.683**

NARSTO Flags

Flag	Symbol	Count
M1:		**3**
V0:	●	**33**
V1:	+	**366**
V6:	▼	**31**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.txt

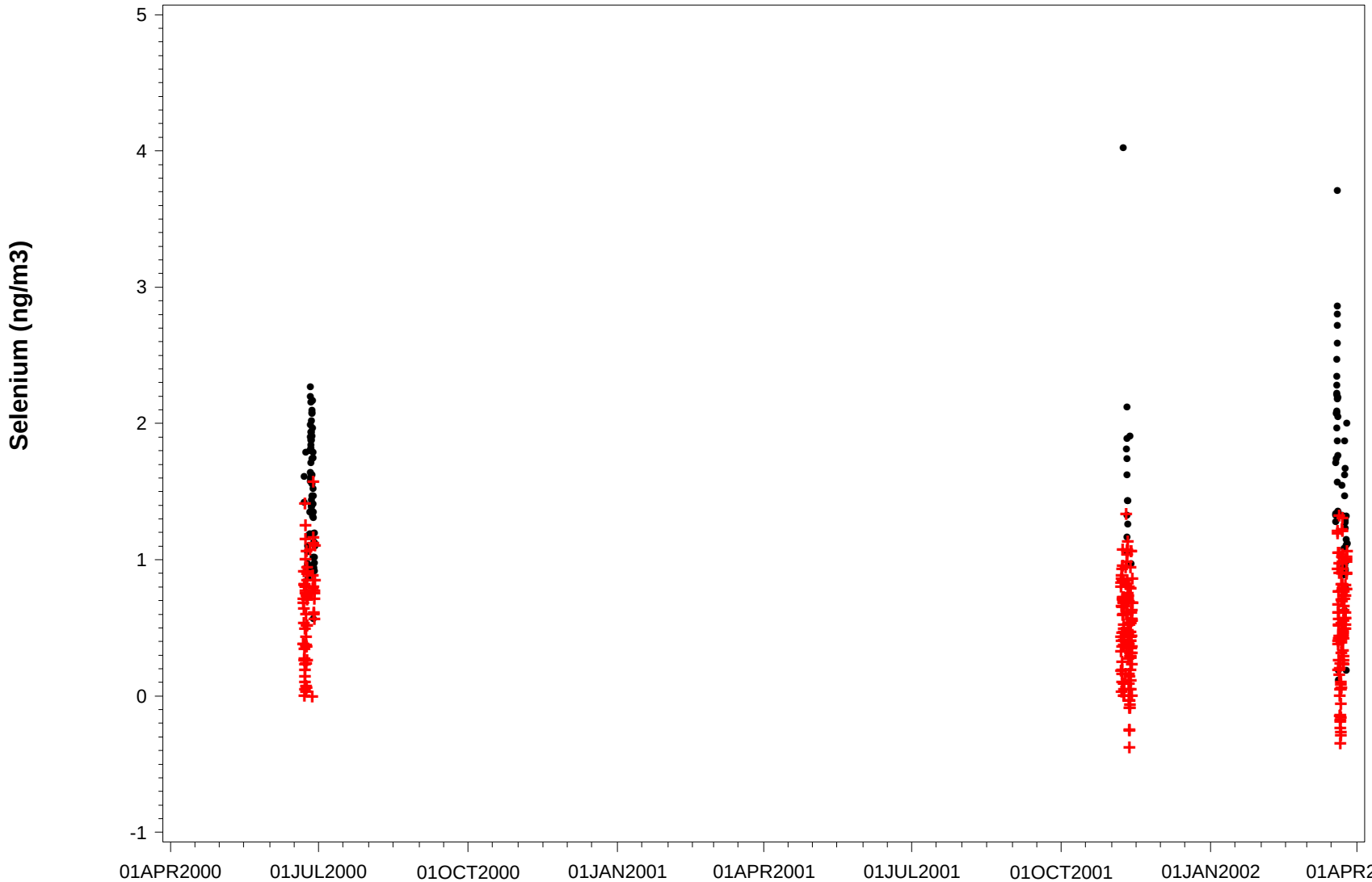
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Selenium** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7782-49-2** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **0.02**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **3**
Minimum: **-0.39**
25th Percentile: **0.41**
Median: **0.76**
Mean: **0.854**
75th Percentile: **1.17**
Maximum: **4.02**
Stnd Dev.: **0.651**

NARSTO Flags

Flag	Symbol	Count
M1:		**3**
V0:	●	**137**
V1:	+	**293**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.txt

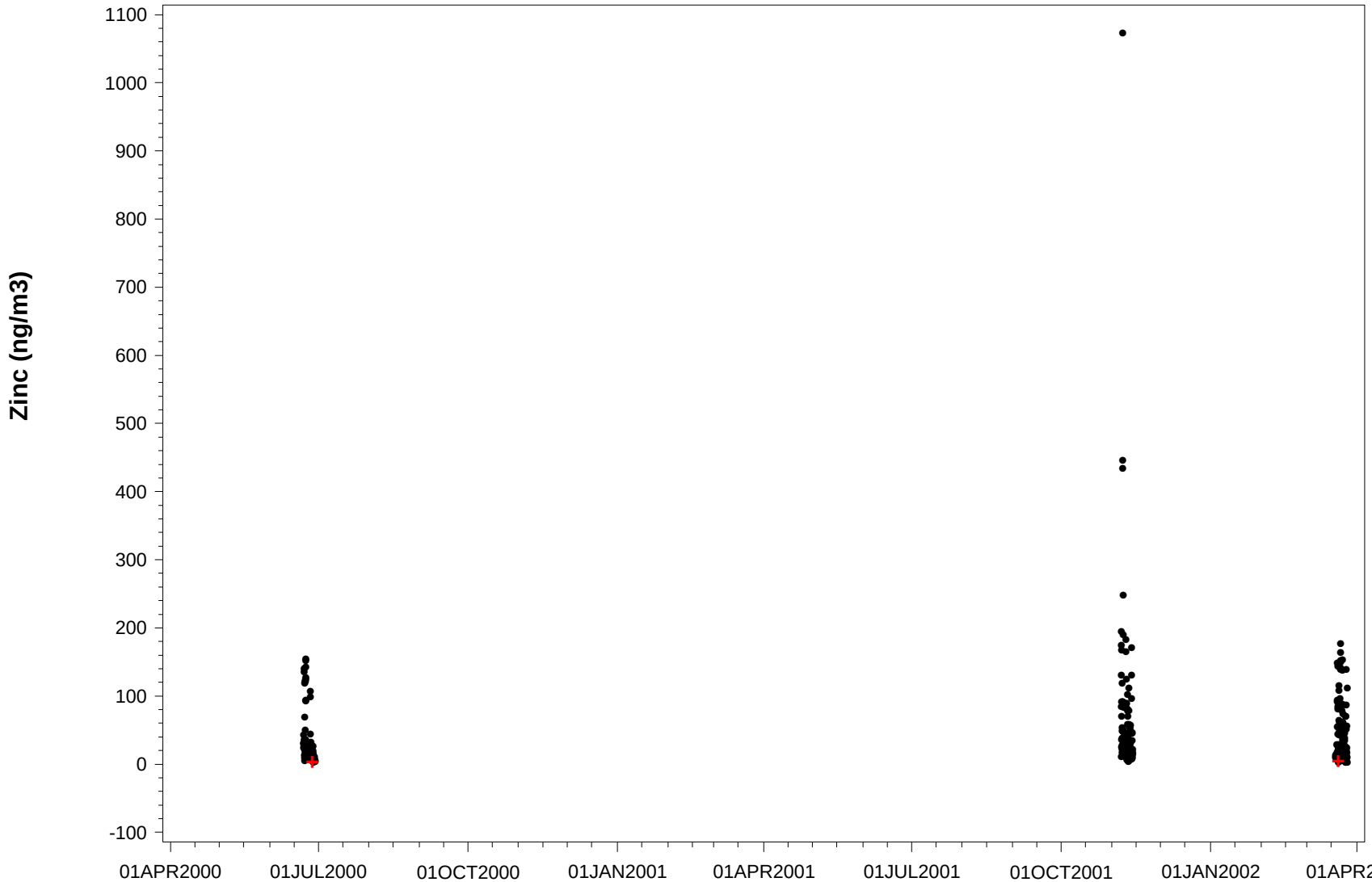
Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov

NARSTO Time Series Plot

23AUG2009

Site ID: **ES2SUSMOESL_** Variable name: **Zinc** Units: **ng/m3** Basis: **S/N121** Sampling interval: **30 minute** Sampling frequency: **Every hour**
CAS ID: **C7440-66-6** Observation type: **Particles** Particle diameter--lower bound (UM): **0.05** Particle diameter--upper bound (UM): **2.1**
Field sampling or measurement principle: **SEAS** Medium: **Slurry** Inlet type: **Impactor** Laboratory analytical method: **GFAAZ**
Sample preparation: **Acidified/sonicated** Blank Correction: **Blank corrected** Volume standardization: **Ambient temperature and pressure**
Sampling Height above ground (m): **5** Instrument name and model number: **SEAS-II** Measurement principal investigator: **Ondov, Prof. J. M.**
Detection Limit: **7.15**

Site Name:**13th and Tudor, East St. Louis, Missouri** Latitude:**38.6122 deg.** Longitude:**-90.1603 deg.** Start Date:**2001-04-15** End Date:**2002-06-30**



Statistics

Number of obs: **433**
Number of missing: **0**
Minimum: **-0.1**
25th Percentile: **10.3**
Median: **17.44**
Mean: **40.039**
75th Percentile: **45.2**
Maximum: **1072.9**
Stnd Dev.: **70.475**

NARSTO Flags

Flag	Symbol	Count
V0:	●	**431**
V1:	+	**2**

Time Zone: CST

File Name: NARSTO_EPA_SS_ST_LOUIS_SEAS_PM25_METALS.xls

Distributed by the Atmospheric Science Data Center
http://eosweb.larc.nasa.gov