

CATALOG DOCUMENTATION

National Stream Survey (NSS) Database

SBR SYN (synthesized chemistry data for Pilot Upper nodes)

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document

NSS-I Data Set SBR SYN

1.2 Authors of the Catalog Entry

U.S. EPA NHEERL Western Ecology Division
Corvallis, OR

1.3 Catalog Revision Date

March 1998

1.4 Data Set Name

SBR SYN

1.5 Task Group

Aquatic Effect Research Program (AERP)- National Surface Water Survey

1.6 Data Set Identification Code

161

1.7 Version

001

1.8 Requested Acknowledgment

This research was funded as part of the National Acid Precipitation Assessment Program (NAPAP) by the U.S. Environmental Protection Agency (EPA). If you publish these data or use them for analyses in publications, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U.S. Environmental Protection Agency, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement of the conclusions should be inferred."

2. INVESTIGATOR INFORMATION

2.1 Principal Investigator

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2.2 Investigation Participant - Sample Collection

John Baker, Coordinator

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

The primary function of the stream water chemistry samples characterizes or indexes the chemical and physical properties of a sample reach. In the Pilot Survey, only 20 of the 54 probability reaches were sampled at both upstream and downstream sampling location during the spring index base flow period. A supplemental dataset (SBR SYN) was synthesized to provide spring upstream estimates for the Southern Blue Ridge Province compatible with data from other NSS-I subregions.

3.2 Keywords for the Data Set

Aluminum, alkalinity, acid neutralizing capacity, calcium, carbonate, color, specific conductance, dissolved inorganic carbon, dissolved organic carbon, bicarbonate, potassium, magnesium, ammonium, sodium, nitrate, total nitrogen, pH, total phosphorus, silica, total suspended solids, turbidity, absorbance, chlorophyll a, water chemistry

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

The objectives of the pilot survey were (1) to test the ability of NSS-I sampling design to meet Phase I objective, based on analysis of data collected during the pilot survey, (2) to evaluate the Phase I logistics plan (including safety aspects and uncertainties concerning legal and physical site access) and alternative methods of collection, handling, and chemical analysis of samples, and (3) to develop and test a data analysis plan for Phase I, using actual data collected in the pilot survey.

4.2 Data Set Objective

Data set sbrsyn was synthesized to provide spring upstream estimates for the Southern Blue Ridge Province compatible with data from other NSS-I subregions.

4.3 Data Set Background Discussion

4.4 Summary of Data Set Parameters

Water chemistry parameters are reported for one sample taken at the midpoint of the selection stream reach. These include: aluminum, alkalinity, acid neutralizing capacity, calcium, carbonate, color, specific conductance, dissolved inorganic carbon, dissolved organic carbon, bicarbonate, potassium, magnesium, ammonium, sodium, nitrate, total nitrogen, pH, total phosphorus, silica, total suspended solids, and turbidity.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective

5.1.2 Sample Collection Methods Summary

5.1.3 Sampling Start Date

5.1.4 Sampling End Date

5.1.5 Platform

NA

5.1.6 Sampling Gear

- 5.1.7 Manufacturer of Instruments
NA
- 5.1.8 Key Variables
NA
- 5.1.9 Sampling Method Calibration
NA
- 5.1.10 Sample Collection Quality Control
NA
- 5.1.11 Sample Collection Method Reference
NA
- 5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Processing

- 5.2.1 Sample Processing Objective
NA
- 5.2.2 Sample Processing Methods Summary
NA
- 5.2.3 Sample Processing Method Calibration
NA
- 5.2.4 Sample Processing Quality Control
NA
- 5.2.5 Sample Processing Method Reference
NA

6. DATA MANIPULATIONS

6.1 Name of New or Modified Values
None.

6.2 Data Manipulation Description

7. DATA DESCRIPTION

7.1 Description of Parameters

#	Parameter	Data	Parameter
	SAS Name	Type Len Format	Label
7	A1	Num 8 F	DIRECT WATERSHED AREA (SQ MI)
61	A1PRIME	Num 8	UPDATED (1989) A1 (SQ MI)
62	A2	Num 8	WS AREA TO MAPPED UPPER NODE (SQ MI)
63	A3	Num 8	WS AREA TO MAPPED HEADWATER (SQ MI)
8	A4	Num 8	WS AREA BETWEEN U/L SAMPLE SITE (SQ KM)
9	A5	Num 8	WS AREA TO UPPER SAMPLE SITE (SQ KM)
2	ALEX16	Num 8	EXTRACTABLE (MIBK) ALUMINUM (UMOL/L)
3	ALKA11	Num 8	ACID NEUTRALIZING CAPACITY (UEQ/L)
4	ALOR16	Num 8	ORG. MONOMERIC (PCV) ALUMINUM (UMOL/L)
5	ANDEF	Num 8	ANION DEFICIT, CATSUM-ANSUM (UEQ/L)
6	ANSUM	Num 8	SUM OF ANIONS (UEQ/L)
1	A_WS	Num 8	WS AREA TO MAPPED NODE (SQ KM)

7.1 Description of Parameters, continued

#	Parameter SAS Name	Data Type	Len	Format	Parameter Label
11	CA16	Num	8		CALCIUM (UEQ/L)
10	CATSUM	Num	8		SUM OF CATIONS (UEQ/L)
12	CL16	Num	8		CHLORIDE (UEQ/L)
13	COND11	Num	8		CONDUCTANCE -ANALYTICAL LAB- (US/CM)
59	COUNTY1	Char	25		COUNTY NAME
14	DICI11	Num	8		INITIAL DIS. INORGANIC CARBON (MG/L)
15	DOC11	Num	8		DIS. ORGANIC CARBON (MG/L)
50	DRPCDE	Num	8		SITE EXCLUSION CODE (0,1,2,3,4,5,13)
16	ELEV	Num	8		SAMPLE SITE ELEVATION (M)
17	FE16	Num	8		IRON (UMOL/L)
18	FTL16	Num	8		TOTAL FLUORIDE (UEQ/L)
19	GRADE	Num	8		STREAM REACH GRADIENT (%)
21	H16	Num	8		HYDROGEN ION ACTIVITY (UEQ/L)
20	HCO316	Num	8		BICARBONATE (UEQ/L)
22	K16	Num	8		POTASSIUM (UEQ/L)
25	L2	Num	8		LENGTH BETWEEN U/L SAMPLE SITES (KM)
23	LAT_STD	Num	8		SAMPLE SITE LATITUDE (DECIMAL FORM)
24	LON_STD	Num	8		SAMPLE SITE LONGITUDE (DECIMAL FORM)
54	MAP1	Char	30		1:24,000 SCALE MAP NAME
55	MAP2	Char	30		1:24,000 SCALE MAP NAME
56	MAP3	Char	30		1:24,000 SCALE MAP NAME
57	MAP4	Char	30		1:24,000 SCALE MAP NAME
58	MAP5	Char	30		1:24,000 SCALE MAP NAME
26	MG16	Num	8		MAGNESIUM (UEQ/L)
27	MN16	Num	8		MANGANESE (UMOL/L)
28	NA16	Num	8		SODIUM (UEQ/L)
29	NH416	Num	8		AMMONIUM (UEQ/L)
31	NO316	Num	8		NITRATE (UEQ/L)
30	NODE	Char	1		REACH SAMPLE POSITION (U=UPPER, L=LOWER)
32	PHSTVL	Num	8		CLOSED SYSTEM PH -PROCESS. LAB-
52	PTL16	Num	8		TOTAL PHOSPHOROUS (UMOL/L)
60	QUAD	Char	30		1:250,000 SCALE MAP NAME
33	RCH_HW	Num	8		SHREVE ORDER -1:250,000 SCALE MAP
34	RCH_ID	Char	8		REACH IDENTIFICATION CODE
35	RCH_LN	Num	8		LENGTH OF MAPPED BLUE LINE REACH (KM)
51	SAMCOD	Char	2		SAMPLE TYPE (D,DA,E,EDA,ER,NS,SY,R)
48	SAMRN	Num	8		SAMPLE VISIT NUMBER (0,1,2,3,4)
36	SHRE75	Num	8		SHREVE ORDER -1:24,000 SCALE MAP
37	SI0216	Num	8		DISSOLVED SILICA (UMOL/L)
39	SO416	Num	8		SULFATE (UEQ/L)
38	SOBC	Num	8		SUM OF BASE CATIONS (UEQ/L)
40	STATE1	Char	2		STATE (TWO CHARACTER CODE)
42	STRA75	Num	8		STRAHLER ORDER -1:24,000 SCALE MAP
41	STRATUM	Num	8		STRATUM (1=REG.,2=LOW ANC,3=SMALL A1)
44	STRMDP	Num	8		STREAM DEPTH (M)
53	STRMNAM	Char	30		STREAM NAME
45	STRMWD	Num	8		STREAM WIDTH (M)
43	STRM_ID	Char	9		STREAM/SITE IDENTIFICATION CODE
46	SUB_ID	Char	3		SUBREGION IDENTIFICATION CODE
47	W	Num	8		REACH WEIGHTING FACTOR
49	WC	Num	8		STAGE II CONDITIONAL WEIGHT

7.1.6 Precision to which values are reported

7.1.7 Minimum Value in Data Set

Name	Min
A1	1.01
A1PRIME	1
A2	0
A3	0
A4	0.07
A5	1.73
ALEX16	0.0779988
ALKA11	20.8805
ALOR16	0
ANDEF	-98.9614
ANSUM	72.5375
A_WS	5.1282
CA16	19.6915
CATSUM	97.352
CL16	13.9782
COND11	9.96657
DIC111	0.332389
DOC11	0.388698
DRPCDE	0
ELEV	329.168
FE16	0.122732
FTL16	0.789583
GRADE	0.543065
H16	0.0597785
HC0316	12.167
K16	9.90819
L2	0.8851
LAT_STD	34.4969
LON_STD	-82.1394
MG16	16.7214
MN16	0.0185266
NA16	42.3906
NH416	0.440348
N0316	-0.733514
PHSTVL	6.30873
PTL16	0.552049
RCH_HW	1
RCH_LN	1.9794
SAMRN	1.5
SHRE75	1
SI0216	82.0363
S0416	6.34192
SOBC	96.0708
STRA75	1
STRATUM	1
STRMDP	0.0091
STRMWD	0.3048
W	3.55062
WC	2

7.1.8 Maximum Value in Data Set

Name	Max
A1	36.05
A1PRIME	36
A2	32.83
A3	2.0098069498
A4	32.83
A5	53.61

7.1.8 Maximum Value in Data Set, continued

Name	Max
ALEX16	0.386041
ALKA11	1452.98
ALOR16	0.918678
ANDEF	68.6072
ANSUM	1526.13
A_WS	138.8758
CA16	1239.13
CATSUM	1457.5
CL16	44.5671
COND11	125.2
DICI11	18.181
DOC11	1.13948
DRPCDE	0
ELEV	1307.53
FE16	0.915793
FTL16	2.75205
GRADE	17.6481
H16	0.538367
HC0316	1452.56
K16	30.0639
L2	21.2906
LAT_STD	35.9644
LON_STD	-84.7172
MG16	132.333
MN16	0.192739
NA16	105.319
NH416	3.73002
N0316	37.8691
PHSTVL	7.78779
PTL16	2.33734
RCH_HW	7
RCH_LN	23.0126
SAMRN	1.5
SHRE75	81
SI0216	269.846
S0416	85.8898
SOBC	1456.48
STRA75	4
STRATUM	1
STRMDP	0.6096
STRMWD	24.9924
W	213.333
WC	2

7.2 Data Record Example

7.2.1 Column Names for Example Records

A1 A1PRIME A2 A3 A4 A5 ALEX16 ALKA11 ALOR16 ANDEF ANSUM A_WS CA16 CATSUM CL16
 COND11 COUNTY1 DICI11 DOC11 DRPCDE ELEV FE16 FTL16 GRADE H16 HC0316 K16 L2 LAT_STD
 LON_STD MAP1 MAP2 MAP3 MAP4 MAP5 MG16 MN16 NA16 NH416 N0316 NODE PHSTVL PTL16
 QUAD RCH_HW RCH_ID RCH_LN SAMCOD SAMRN SHRE75 SI0216 S0416 SOBC STATE1 STRA75
 STRATUM STRMDP STRMNAM STRMWD STRM_ID SUB_ID W WC

7.2.2 Example Data Records

8.290000,8,0,0.11,0.39,8.29,0.0779988,754.432,0.213076,-98.9614,1007.28,21.4711,
 699.101,908.319,19.1663,42.355,"POLK",10.976,0.388698,0,329.168,0.182026,1.82331,
 1.27592,0.0675395,905.665,12.8562,7.644,35.235,84.435,"MCFARLAND (TN)"," "," "," ",
 " ",130.614,0.0788668,64.9252,0.755004,4.00475,"U",7.69055,0.56299,"MCFARLAND, TN",
 1,"2A07701",9.382,"SY",1.5,1,149.411,76.621,907.496,"TN",1,1,0.0305,"CHILDERS CREEK",
 0.762,"2A07702U","2AS",30.3318,2

7.2.2 Example Data Records, continued

4.220000,4,0,0.03,0.55,4.2,0.164251,179.438,0.251704,29.2345,236.687,10.9298,100.297,265.921,38.6478,28.0397,"MADISON",2.39222,0.599266,0,1097.23,0.53038,2.46641,2.66752,0.122568,155.307,18.713,6.8555,35.9644,82.5297,"BALD CREEK (NC-TN)",
"SAMS GAP (NC-TN)",",",",",52.8937,0.066568,92.963,0.932617,23.14,"U",7.35632,0.855399,"KNOXVILLE",1,"2A07702",7.3222,"SY",1.5,2,209.836,17.1258,264.866,"NC",2,1,0.0914,"PUNCHEON FORK",1.2191,"2A07802U","2AS",17.4625,2

3.920000,4,0,0.54996139,0.67,3.19,0.102642,83.43,0.185955,37.7858,127.25,10.1528,59.5943,165.036,14.1001,15.7846,"COCKE",1.08376,0.577475,0,499.848,0.182026,1.40367,2.17337,0.170934,63.7345,10.5725,2.945,35.7831,83.2178,"LUFTEE KNOB (TN-NC)",
"HARTFORD (TN-NC)",",",",",30.1405,0.0205936,63.9469,0.610799,20.7164,"U",6.98667,0.626643,"KNOXVILLE",3,"2A07703",3.3312,"SY",1.5,41,113.951,27.2954,164.254,"TN",4,1,0.1524,"COSBY CREEK",4.9985,"2A07805U","2AS",93.4307,2

2.360000,2,32.83,0,32.83,35.19,0.151929,81.8254,0.159791,36.5718,104.14,91.1421,46.266,140.712,14.9009,13.2591,"MADISON",1.02989,0.590959,0,993.599,0.182026,2.20449,7.54728,0.185013,56.8862,13.0911,4.2807,35.8206,82.9347,"LEMON GAP (NC-TN)",",",",",
",",17.9358,0.0222679,62.3651,0.868661,15.2388,"U",6.86394,0.765886,"KNOXVILLE",1,"2A07801",5.1979,"SY",1.5,6,151.951,14.9094,139.658,"NC",3,1,0.0762,"ROARING FORK",3.6574,"2A07806U","2AS",22.8571,2

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude
-82.1394 Decimal Degrees

8.2 Maximum Longitude
-84.7172 Degrees

8.3 Minimum Latitude
34.4969 Decimal Degrees

8.4 Maximum Latitude
35.9644 Decimal Degrees

8.5 Name of Area or Region
Southern Blue Ridge Province Subregion 2As (Tennessee, Kentucky, Virginia, Georgia)

9. QUALITY CONTROL / QUALITY ASSURANCE

9.1 Data Quality Objectives

9.2 Quality Assurance Procedures

9.3 Unassessed Errors
NA

10. DATA ACCESS

10.1 Data Access Procedures

10.2 Data Access Restrictions

10.3 Data Access Contact Persons

10.4 Data Set Format

10.5 Information Concerning Anonymous FTP

10.6 Information Concerning WWW

10.7 EMAP CD-ROM Containing the Data

11. REFERENCES

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12. TABLE OF ACRONYMS

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