CATALOG DOCUMENTATION
EMAP SURFACE WATERS PROGRAM LEVEL DATABASE
1997-1998 Mid-Atlantic Integrated Assessment Program
Periphyton Diatom Counts Data

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document
1997-1998 Mid-Atlantic Integrated Assessment Program
Periphyton Diatom Counts Data

1.2 Authors of the Catalog Entry
U.S. EPA NHEERL Western Ecology Division
Corvallis, OR

1.3 Catalog Revision Date
August 2000

1.4 Data Set Name
PERIDCNT

1.5 Task Group
Surface Waters

1.6 Data Set Identification Code
144

1.7 Version
001

1.8 Requested Acknowledgement
These data were produced as part of the U.S. EPA's Environmental Monitoring and Assessment Program (EMAP). If you publish these data or use them for analyses in publication, 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 through its EMAP Surface Waters Program, 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 Participants - Sample Collection

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State of West Virginia
State of Maryland
University of Maryland
U.S. Environmental Protection Agency
Office of Research and Development
Region III

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

The data set contains the results of diatoms counts from samples collected from erosional and depositional habitats located at each of nine interior cross-section transects. Counts for each diatom species are represented as both raw laboratory counts and counts per area sampled.

3.2 Keywords for the Data Set

algae, bacteria, count, organic matter, periphyton, protozoa

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

In 1997 and 1998 the Ecological Monitoring and Assessment Program (EMAP) Surface Waters Program became a collaborator in the Mid-Atlantic Integrated Assessment (MAIA) project, which is attempting to produce an assessment of the condition of surface water and estuarine resources. The MAIA project represents a follow-up to the MAHA study, with an expanded geographic scope (southern New York to northern North Carolina, with more sites located in the Piedmont and Coastal Plain regions) and a different index period (July-September).

4.2 Data Set Objective

This data set is part of the MAIA project to characterize spatial and temporal variability of ecological indicators and demonstrate the ability of a suite of ecological indicators to estimate the condition of regional populations of aquatic resources.

4.3 Data Set Background Discussion
The primary function of the peripcnt data set is to provide a count of the periphyton species present in the stream at the time of sampling. Periphyton represents an integral component of stream biological integrity.

Periphyton is algae, fungi, bacteria, protozoa, and associated organic matter associated with channel substrates. Periphyton are useful indicators of environmental condition because they respond rapidly and are sensitive to a number of anthropogenic disturbances, including habitat destruction, contamination by nutrients, metals, herbicides, hydrocarbons, and acidification.

4.4 Summary of Data Set Parameters
Counts for each diatom species are represented as both raw laboratory counts and counts per area sampled. Flow type at sample point is also indicated.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective
To obtain counts of periphyton species at the sample site.

5.1.2 Sample Collection Methods Summary
Periphyton samples were collected from erosional and depositional habitats located at each of nine interior cross-section transects (transects "B" through "J") established within the sampling reach, according to the protocols outlined in Lazorchak et. al (1998).

5.1.3 Sampling Start Date
May 1997

5.1.4 Sampling End Date
September 1998

5.1.5 Platform
NA

5.1.6 Sampling Gear
Plastic funnel, 500ml plastic bottles, stiff-bristled toothbrush, 60-ml syringe, and a wash bottle.

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
See Lazorchak, et al. 1998.

5.1.11 Sample Collection Method Reference
Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00 U.S. Environmental Protection Agency, Las Vegas, Nevada.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Design

5.2.1 Sample Processing Objective
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.2 Sample Processing Methods Summary
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.3 Sample Processing Method Calibration
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.4 Sample Processing Quality Control
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.5 Sample Processing Method Reference
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

6. DATA MANIPULATIONS

6.1 Name of New or Modified Values
None

6.2 Data Manipulation Description
See Chaloud and Peck (1994).

7. DATA DESCRIPTION

7.1 Description of Parameters

Parameter SAS Name	Data Type	Len	Format	Parameter Label
CNT_AREA	Num	8		Taxon Population Per cm^2 Sampled
COMMENT	Char	200		Periphyton Comments
DATE_COL	Num	8	MMDDYY	Date of Site Visit
LAT_DD	Num	8	F	X-Site Latitude (decimal degrees)
LON_DD	Num	8	F	X-Site Longitude (decimal degrees)
RAWCNT	Num	8		Unadjusted (Raw) Lab Counts
SAMPLED	Char	30		Site Sampled Code
SAMPTYPE	Char	20		Sample Method
SAMP_ID	Num	8		Sample Tracking Number (Barcode)
SITE_ID	Char	15	$CHAR	Site Identification Code

7.1 Description of Parameters, continued

TAXACODE	Char	9	Unique Species ID
TAXON	Char	100	Latin Designation
VISIT_NO	Num	8	Within Year Site Visit Number
YEAR	Num	8	Year of Site Visit

7.1.6 Precision to which values are reported

7.1.7 Minimum Value in Data Set

Name	Min
CNT_AREA	0
DATE_COL	05/20/1997
LAT_DD	35.182938
LON_DD	-83.555659
RAWCNT	0
SAMP_ID	222222
VISIT_NO	0
YEAR	1997

7.1.7 Maximum Value in Data Set

Name	Max
CNT_AREA	26306878.307
DATE_COL	09/30/1998
LAT_DD	42.600349
LON_DD	-74.662034
RAWCNT	821
SAMP_ID	999999
VISIT_NO	3
YEAR	1998

7.2 Data Record Example

7.2.1 Column Names for Example Records

```
"CNT_AREA","COMMENT","DATE_COL","LAT_DD","LON_DD","RAWCNT","SAMPLED",
"SAMPTYPE","SAMP_ID","SITE_ID","TAXACODE","TAXON","VISIT_NO","YEAR"
```

7.2.2 Example Data Records

```
9312.1693122," ",09/08/1997,38.247943,81.886602,18,"Yes","POOL",235530,
"MAIA97-001","BAACBIA",
"Bacillarophyta Achnanthes biasolettiana (Kützing) Grunow",1,1997

15002.939447," ",09/08/1997,38.247943,81.886602,29,"Yes","POOL",235530,
"MAIA97-001","BAACLAN",
"Bacillarophyta Achnanthes lanceolata (Brébisson) Grunow",1,1997

45008.818342," ",09/08/1997,38.247943,81.886602,87,"Yes","POOL",235530,
"MAIA97-001","BAACMNU","Bacillarophyta Achnanthes minutissima Kützing",1,1997
```

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude
-84 Degrees 26 Minutes 39 Seconds West (-83.555659 Decimal Degrees)

8.2 Maximum Longitude
-75 Degrees 20 Minutes 16 Seconds West (-74.662034 Decimal Degrees)

8.3 Minimum Latitude
35 Degrees 10 Minutes 58 Seconds North (35.182938 Decimal Degrees)

8.4 Maximum Latitude
42 Degrees 36 Minutes 1 Seconds North (42.600349 Decimal Degrees)

8.5 Name of Area or Region
Mid Atlantic: EPA Region III which includes Delaware, Maryland, New York, Virginia, and West Virginia

9. QUALITY CONTROL / QUALITY ASSURANCE

9.1 Data Quality Objectives
See Chaloud and Peck (1994).

9.2 Quality Assurance Procedures
See Chaloud and Peck (1994).

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

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00 U.S. Environmental Protection Agency, Las Vegas, Nevada.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

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