CATALOG DOCUMENTATION
EMAP-AGRICULTURAL LANDS PROGRAM LEVEL DATABASE
1994 AND 1995 MID ATLANTIC DATA
PUBLIC RELEASE DATA

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog document

EMAP-Agricultural Lands Program Level Database
1994 and 1995 MAIA Data
Public Release Data for 1994 & 1995

1.2 Authors of the Catalog entry

Dan Fiscus, North Carolina State University
George Hess, North Carolina State University

1.3 Catalog revision date

23 June 1999

1.4 Data set name

EMAP-Agricultural Lands Program Level Database
1994 and 1995 MAIA Data
Public Release Data for 1994 & 1995

1.5 Task Group

Agricultural Lands

1.6 Data set identification code

Data Set	Data Set ID
Survey: Crops/Management	2
Survey: Fertilizer	3
Survey: Pesticide	4
Survey: Indices	5
Soil: Soil 1994	6
Soil: Soil 1995	7
Soil: Soil Quality Index	8
Soil: Microbial Boimass	9
Ant: Ants 1995	10
Ant: Vegetation	11

1.7 Version

001

1.8 Requested Acknowledgment

If you plan to publish these data in any way, 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-Agricultural Lands Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement should be inferred."

2. INVESTIGATOR INFORMATION

2.1 Principal Investigators

C. Lee Campbell, North Carolina State University (deceased)
Steve Shafer
George Hess, North Carolina State University
Steve Peck
Mike Munster
Betty McQuaid
Anne Hellkamp

2.2 Investigation Participant-Sample Collection

US Department of Agriculture / National Agricultural Statistics Service
Contact: Craig Hayes, USDA / NASS

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

This dataset contains public release information from five components of the EMAP Agricultural Lands 1994 and 1995 MAIA studies covering the six Mid Atlantic states (DE, MD, NC, PA, VA, WV). The subsets of the database are:

1. Survey questionnaire (main, fertility, and pesticides)
2. June Enumerative Survey (JES; extent of resources)
3. Soil physical and chemical measures
4. Soil microbial biomass
5. Ants

We did not use the hexagon sampling schemes used by the other EMAP resource groups. Instead, we used a sampling scheme developed by the National Agricultural Statistics Service. The NASS sampling scheme, described completely in Cotter and Nealon (1987) is a stratified, two-stage sample. During the June Enumerative Survey, NASS personnel collect data to estimate the extent of the agricultural resource. Expansion factors are provided for each secondary sample unit (segment) so that the area represented by the segment may be expanded to obtain state totals. Stratum and substratum are provided for each segment to allow variance calculations (see example).

The sampling scheme and intensity of sampling are designed to estimate cropland at the scale of individual states. Sub-state estimates may be inaccurate and will be highly variable.

3.2 Keywords for the Data Set

MAIA, annually harvested herbaceous crops (AHHC), extent, agricultural land, agroecosystem

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

The Environmental Monitoring and Assessment Program (EMAP) was designed to periodically estimate the status and trends of the Nation's ecological resources on a regional basis. EMAP provides a strategy to identify and bound the extent, magnitude and location of environmental degradation and improvement on a regional scale.

The EMAP Agricultural Lands Resource group was charged with carrying out the EMAP mission on lands classified as agricultural.

4.2 Data Set Objective

This dataset contains public release information from from five components of the EMAP Agricultural Lands 1994 and 1995 MAIA studies covering the six Mid Atlantic states (DE, MD, NC, PA, VA, WV).

4.3 Data Set Background Discussion

***We did not use the EMAP hexagon sampling scheme.
The NASS sampling scheme we used is a stratified, two-stage sample. It is described completely in Cotter and Nealon (1987). You should refer to this document before using these data.

The data included in this dataset can be used to estimate, e.g. the extent of annually harvested herbaceous crops (AHHCs) at state or multi-state scales. The NASS survey is not designed to calculate estimates at a sub-state level.

4.4 Summary of Data Set Parameters

See the metadata file or file (as noted) for a description of variables for a database component. If no file is noted, check the data file.

1. Survey questionnaire - userguide.txt
2. June Enumerative Survey - metadata.jes, metacrossref.txt
3. Soil physical and chemical measures
4. Soil microbial biomass
5. Ants

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective

The objective of the NASS JES is to estimate crop acreage and other agricultural parameters at the state scale.

5.1.2 Sample Collection Methods Summary

SAMPLING DESIGN

***We did not use the EMAP hexagon sampling scheme.
The NASS sampling scheme we used is a stratified, two-stage sample. It is described completely in Cotter and Nealon (1987). You should consult this reference before using these data.

5.1.3 Sampling Start Date

Conducted each summer and fall, 1994 and 1995.

5.1.4 Sampling End Date

5.1.5 Platform

5.1.6 Sampling Equipment

These data are collected through personal visits to farmers in the secondary sample units. Data are collected by NASS personnel on paper forms and entered into a computer at NASS state offices. Data from states are collected in the NASS national office. Soil, microbial biomass and ant samples were processed by cooperating laboratories.

5.1.7 Manufacturer of Sampling Equipment

N/A.

5.1.8 Key Variables

The SEGMENT is a unique identifier given to each NASS secondary sample unit. It may be used with regional cross reference tables (provided separately) to help locate the site.

The SAMPLE is a unique identifier given to each field sample. It can be used to match up data between components of the database.

5.1.9 Sampling Method Calibration

N/A

5.1.10 Sample Collection Quality Control

Standard NASS QA procedures were used throughout. NASS personnel are trained to work with farmers to ensure accurate data. Responses are screened by computer for consistency; sites at which problems are identified are revisited. The EMAP Agricultural Lands Group also checked data for consistency with respect to annually harvested herbaceous cropland acreage.

For more detailed information on NASS QA procedures, consult the EMAP Agricultural Lands references cited below in Section 11, or contact Craig Hayes at USDA/NASS.

5.1.11 Sample Collection Method Reference

Cotter and Nealon 1987.

Peck, S. L., B. McQuaid, and C. L. Campbell. 1998. Using Ant Species (Hymenoptera: Formicidae) as a Biological Indicator of Agroecosystem condition.Environmental Entomology 27: 1102-1110.

USDA NASS. Agricultural Surveys: Interviewer's Manual (published periodically). USDA National Agricultural Statistics Service, Washington, DC.

USDA NASS. Area Frame Design Information (updated annually). USDA National Agricultural Statistics Service, Washington, DC.

5.2 Data Preparation and Sample Processing

Information here on the various labs processing guidelines

6. DATA MANIPULATIONS

Derived variables - see the data files for each database component.

6.1 Name of new or modified values

See the data files for each database component.

6.2 Data Manipulation Description

See the data files for each database component.

6.3 Data Manipulation Examples

N/ A

7. DATA DESCRIPTION

See the data files for each database component.

8. GEOGRAPHIC AND SPATIAL INFORMATION

There are no geographic or georeferenced variables.

8.1 Minimum Longitude

N/ A

8.2 Maximum Longitude

N/ A

8.3 Minimum Latitude

N/ A

8.4 Maximum Latitude

N/ A

8.5 Name of area or region

Mid Atlantic Region - DE, MD, NC, PA, VA, WV

9. QUALITY CONTROL AND QUALITY ASSURANCE

9.1 Data Quality Objectives

See:
Schumackher, B. A. 1994a. EMAP Agricultural Lands 1994 Quality Assurance Project Plan: Mid Atlantic Assessment Program. US. EPA. 620/.-94/002.

9.2 Data Quality Assurance Procedures

Standard NASS QA procedures were used throughout. NASS personnel are trained to work with farmers to ensure accurate data. Responses are screened by computer for consistency; sites at which problems are identified are revisited. The EMAP Agricultural Lands Group also checked data for consistency with respect to e.g., annually harvested herbaceous cropland acreage.

For more detailed information on NASS QA procedures, consult the EMAP Agricultural Lands references cited below in Section 11, or contact Craig Hayes at USDA/NASS.

10. DATA ACCESS

10.1 Data Access Procedures

Data access: The EMAP Agricultural Lands group was disbanded in 1996. Therefore, there is no formal support for these data and no single point of contact for information.

If you have questions about the use of these data, please contact the indicator lead directly and she/he will help you to the best of her/his ability.

10.2 Data Access Restrictions

10.3 Data Access Contact Persons

Data access: The EMAP Agricultural Lands group was disbanded in 1996. Therefore, there is no formal support for these data and no single point of contact for information.

If you have questions about the use of these data, please contact the indicator lead directly and she/he will help you to the best of her/his ability.

Soils - Betty McQuaid betty_mcquaid@ncsu.edu
Soils Microbial Biomass - Gail Olson olsogl@inel.gov
Survey/questionnaire - Mike Munster michaelmunster@netscape.net
June Enumerative Survey - George Hess grhess@ncsu.edu

10.4 Data Set Format

ASCII text in fixed format and comma separated variable format.

10.5 Information Concerning Anonymous FTP

N/A

10.6 Information Concerning WWW

N/A

11. REFERENCES

Hellkamp, A.S., J.M. Bay, C.L. Campbell, K.N. Easterling, D.A. Fiscus, G.R. Hess, B.F. McQuaid, M.J. Munster, G.L. Olson, S.L. Peck, S.R. Shafer, K. Sidik and M.B. Tooley. 2000. Assessment of the condition of agricultural lands in six Mid-Atlantic states. Journal of Environmental Quality 29(3): 795-804.

Hess, G.R., C.L. Campbell, D.A. Fiscus, A.S. Hellkamp, B.F. McQuaid, M.J. Munster, S.L. Peck, and S.R. Shafer. 2000. A conceptual model and indicators for assessing the ecological condition of agricultural lands. Journal of Environmental Quality 29(3): 728-737.

Hellkamp, A.S., S.R. Shafer, C.L. Campbell, J.M. Bay, D.A. Fiscus, G.R. Hess, B.F. McQuaid, M.J. Munster, G. L. Olson, S. L. Peck. 1998. Assessment of the condition of agricultural lands in six Mid-Atlantic states. Environmental Monitoring and Assessment 51: 317-324.

Campbell, C.L. et al. Environmental Monitoring and Assessment Program Agroecosystem Pilot Field Program Report - 1992. EPA/620/R-94/014. US EPA, Washington, DC.

Campbell, C.L. et al. Environmental Monitoring and Assessment Program Agroecosystem Pilot Field Program Plan - 1993. EPA/620/R- 93/014. US EPA, Washington, DC.

Cotter, J. and J. Nealon. 1987. Area Frame Design for Agricultural Surveys. USDA, NASS, Research and Applications Division, Area Frame Section, Washington, DC.

Heck, W.W. et al. Environmental Monitoring and Assessment Program Agroecosystem 1992 Pilot Plan. EPA/620/R-93/010. US EPA, Washington, DC.

Heck, W.W. et al. Environmental Monitoring and Assessment Program Agroecosystem Monitoring and Research Strategy. EPA/600/4- 91/013. US EPA, Washington, DC.

Hellkamp, A.S. et al. Environmental Monitoring and Assessment Program Agricultural Lands Pilot Field Program Report - 1993. EPA/620/R-95/004. US Environmental Protection Agency (EPA), Washington, DC.

Schumackher, B. A. 1994a. EMAP Agricultural Lands 1994 Quality Assurance Project Plan: Mid Atlantic Assessment Program. US. EPA. 620/.-94/002.

USDA NASS. 1993. Agricultural Surveys: Interviewer's Manual June 1993-May 1994. USDA National Agricultural Statistics Service, Washington, DC.

USDA NASS. 1994. Area Frame Design Information (updated annually). USDA National Agricultural Statistics Service, Washington, DC.

12. TABLE OF ACRONYMS

AHHC - Annually harvested herbaceous crop
EMAP - Environmental Monitoring and Assessment Program
EPA - Environmental Protection Agency
JES - June Enumerative Survey
NASS - National Agricultural Statistics Service
USDA - United States Department of Agriculture

13. PERSONNEL INFORMATION

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