CATALOG DOCUMENTATION
NATIONAL COASTAL ASSESSMENT DATABASE
2003 NEW YORK/NEW JERSEY HARBOR SYSTEM
WATER QUALITY MEASUREMENT DATA: SURFACE AND BOTTOM

TABLE OF CONTENTS

1. DATA SET IDENTIFICATION
2. INVESTIGATOR INFORMATION
3. DATA SET ABSTRACT
4. OBJECTIVES AND INTRODUCTION
5. DATA ACQUISITION AND PROCESSING METHODS
6. DATA MANIPULATIONS
7. DATA DESCRIPTION
8. GEOGRAPHIC AND SPATIAL INFORMATION
9. QUALITY CONTROL/QUALITY ASSURANCE
10. DATA ACCESS
11. REFERENCES
12. TABLE OF ACRONYMS
13. PERSONNEL INFORMATION

1. DATA SET IDENTIFICATION

1.1 Title of Catalog document

National Coastal Assessment Database
2003 New York/New Jersey Harbor System
Water Quality Measurement Data: Surface and Bottom

1.2 Author of the Catalog entry

Melissa Hughes, Raytheon

1.3 Catalog revision date

June 22, 2012

1.4 Data set name

Bottom Water Quality Measurements
Surface Water Quality Measurements

1.5 Task Group

Regional Environmental Monitoring and Assessment Program

1.6 Data set identification code

NA

1.7 Version

NA

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-Estuaries 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 Investigator

Ms. Darvene A. Adams
U.S. Environmental Protection Agency - Region II

2.2. Investigation Participant

Ms. Sandi Robinson
U.S. Environmental Protection Agency - ORD/NHEERL/AED

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

The Water Quality Measurement data set provides summary data from a vertical profile taken at a site. Surface and bottom data for temperature, salinity and dissolved oxygen were reported, as well as secchi depth.

3.2 Keywords for the Data Set

temperature, salinity, dissolved oxygen, surface data, bottom data, secchi depth

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

The project was designed to support resource management decisions related to pollution control and remediation throughout the New York/New Jersey (NY/NJ) Harbor and to assist the New York-New Jersey Harbor Estuary Program (HEP) in developing a contaminant monitoring strategy to be included in the Comprehensive Conservation and Management Plan (CCMP) for the NY/NJ Harbor system.

4.2 Data Set Objective

To provide accurate physical data for the surface and bottom waters in the NY/NJ harbor region.

4.3 Data Set Background Discussion

The New York/New Jersey Harbor System Sediment Assessment was based on methods used in the EMAP-Estuaries program. Measurements of physical characteristics provide basic information about the environmental setting of a sample site. Knowledge of the physical context in which biological and chemical data are collected is important for interpreting results accurately because physical characteristics of the environment determine the distribution and species composition of estuarine communities, particularly assemblages of benthic macroinvertebrates.

4.4 Summary of Data Set Parameters

Surface, bottom and ambient values were recorded at the time of the visit.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective

To collect high-quality vertical water column profiles to characterize the physical conditions at a sampling site.

5.1.2 Sample Collection Methods Summary
A SeaBird SBE "Sealogger" CTD unit was used to obtain a vertical profile of depth, dissolved oxygen, temperature and salinity at each station. Measurements were made from within a meter of the water surface to approximately one meter above the sediment/water interface. A secchi disc was used to measure transparency.

5.1.3 Sampling Start Date
July 1, 2003

5.1.4 Sampling End Date
September 25, 2003

5.1.5 Platform
Sampling was conducted from the U.S.EPA research vessel, the R/V CLEAN WATERS.

5.1.6 Sampling Gear
SeaBird model SBE 25 "Sealogger" CTD
NBS thermometer
Refractometer

5.1.7 Manufacturer of Sampling Equipment
Sea-Bird Electronics, Inc.

5.1.8 Key Variables
This data set contains surface and bottom values measured at the time of sampling.

5.1.9 Collection Method Calibration
NA

5.1.10 Sample Collection Quality Control
Dissolved oxygen, temperature and salinity at the surface were measured using a Winkler titration, NBS thermometer and a refractometer, respectively and compared with the CTD results.

5.1.11 Sample Collection Method Reference
Reifsteck, D.M., C.J. Strobel and D.J. Keith. 1993. Environmental Monitoring and Assessment Program - Near Coastal Component: 1993 Virginian Province Field Operations and Safety Manual. U.S. EPA NHEERL-AED. Narragansett, RI.

5.2 Data Preparation and Sample Processing
Not applicable

6. DATA MANIPULATIONS
NA

6.1 Name of new or modified values
NA

6.2 Data Manipulation Description
NA

6.3 Data Manipulation Examples
NA

7. DATA DESCRIPTION

7.1 Description of Parameters

7.1.2 Bottom Water Quality Measurements

Attribute Name	Description
DATA GROUP	Group conducting sampling
SAMPLING YEAR	Year of sampling
LATITUDE	Latitude (decimal degrees)
LONGITUDE	Longitude (decimal degrees)
STATION	Station identifier
SAMPLING DATE	Sample collection date
BTM_DO	Bottom dissolved oxygen(mg/L)
BTM_SAL	Bottom salinity (ppt)
BTM_TEMP	Bottom temperature (deg C)
Depth	Depth (m) of measurement
Method	Method for salinty, temperature and DO measurements
Secchi	Secchi depth (m)
Method	Method for secchi measurements

7.1.3 Surface Water Quality Measurements

Attribute Name	Description
DATA GROUP	Group conducting sampling
SAMPLING YEAR	Year of sampling
LATITUDE	Latitude (decimal degrees)
LONGITUDE	Longitude (decimal degrees)
STATION	Station identifier
SAMPLING DATE	Sample collection date
SURF _DO	Surface dissolved oxygen(mg/L)
SURF _SAL	Surface salinity (ppt)
SURF _TEMP	Surface temperature (deg C)
Depth	Depth (m) of measurement
Method	Method for salinty, temperature and DO measurements

7.1.6 Precision to which values are reported

The precision is indicated by the attribute format reported under 7.1

7.1.7 Minimum value in data set

	Water Measurement Value
Water Measurement Name - Surface salinity	2.3
Water Measurement Name - Surface temperature	20.2
Water Measurement Name - Surface dissolved oxygen	2.3
Water Measurement Name - Secchi depth	0.5
Water Measurement Name - Bottom dissolved oxygen	0.4
Water Measurement Name - Bottom salinity	3.0
Water Measurement Name - Bottom temperature	16.5

7.1.8 Maximum value in Data Set

	Water Measurement Value
Water Measurement Name - Surface salinity	31
Water Measurement Name - Surface temperature	29
Water Measurement Name - Surface dissolved oxygen	13.5
Water Measurement Name - Secchi depth	3.5
Water Measurement Name - Bottom dissolved oxygen	9.6
Water Measurement Name - Bottom salinity	32.0
Water Measurement Name - Bottom temperature	28.0

7.2 Data Record Example

7.2.1 Column Names for Example Records

7.2.1.1 Bottom Water Quality Measurements

Data Group,Sampling Year,Latitude,Longitude,Station,
Sampling Date,BTM_DO,BTM_SAL,BTM_TEMP,Depth,Method,Secchi,Method

7.2.1.1 Surface Water Quality Measurements

Data Group,Sampling Year,Latitude,Longitude,Station,
Sampling Date,SURF_DO,SURF_SAL,SURF_TEMP,Depth,Method Used

7.2.2 Example Data Records

7.2.2.1 Bottom Water Quality Measurements

R-EMAP Region 2,2003,40.629,-73.759,JB301,7/31/2003,6.8,31,21,
8.5,CTD,1.5,Secchi disk
R-EMAP Region 2,2003,40.619,-73.778,JB303,8/8/2003,0.4,28,25.5,
9.7,CTD,0.75,Secchi disk
R-EMAP Region 2,2003,40.575,-73.87,JB305,8/7/2003,5.6,30,24,
3.3,CTD,1.3,Secchi disk

7.2.2.2 Surface Water Quality Measurements

R-EMAP Region 2,2003,40.629,-73.759,JB301,7/31/2003,7.2,30,22,1,CTD
R-EMAP Region 2,2003,40.619,-73.778,JB303,8/8/2003,9.1,25,26,1,CTD
R-EMAP Region 2,2003,40.575,-73.87,JB305,8/7/2003,4.1,30,24.5,1,CTD

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude

-74 Degrees 17.4 Minutes 48.00 Decimal Seconds

8.2 Maximum Longitude

-73 Degrees 45 Minutes 0.54 Decimal Seconds

8.3 Minimum Latitude

40 Degrees 25.2 Minutes 36.00 Decimal Seconds

8.4 Maximum Latitude

40 Degrees 51.6 Minutes 42.00 Decimal Seconds

8.5 Name of area or region

New York/New Jersey Harbor System:
Four sub-basins were sampled in the New York/New Jersey Harbor, including: Upper Harbor, Newark Bay, Lower Harbor (includes Raritan and Sandy Hook Bays) and Jamaica Bay. For purposes of this study, the region includes the lower portions of the Hudson, Passaic, Harlem, Hackensack and Raritan Rivers, upstream to a near-bottom salinity of 15 ppt, the East River to Long Island Sound and Lower Harbor to the Atlantic Ocean.

9. QUALITY CONTROL AND QUALITY ASSURANCE

9.1 Data Quality Objectives

NA

9.2 Data Quality Assurance Procedures

NA

10. DATA ACCESS

10.1 Data Access Procedures

Data can be downloaded from the WWW server.

10.2 Data Access Restrictions
Data can only be accessed from the WWW server.

10.3 Data Access Contact Persons
Ms. Darvene A. Adams
U.S. EPA Region II

10.4 Data Set Format
Tab-delimited

10.5 Information Concerning Anonymous FTP
Data cannot be accessed via ftp.

10.6 Information Concerning WWW
Data can be downloaded from the WWW servers.

10.7 EMAP CD-ROM Containing the Data Set
Data are not available on CD-ROM

11. REFERENCES

Adams, D. 1998. Quality Assurance Project Plan for Environmental Monitoring,"A 5-year Revisit of Sediment Quality in the NY/NJ Harbor." U.S. Environmental Protection Agency, Region 2, Edison, NJ.

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12. TABLE OF ACRONYMS

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