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VIMS Hydrofile: Ambient Water Monitoring and Meteorological Data for Chesapeake Bay and Near Coastal Shelf Waters, 1942-1982

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Description: Historical ambient water quality and meteorologic conditions from cruises conducted by the Virginia Institute of Marine Science in Chesapeake Bay and nearshore coastal shelf waters over a 40-year period through 1982.

Abstract: Bulk water parameters were routinely measured during cruises conducted in Chesapeake Bay and nearshore coastal waters conducted by VIMS over a 40-year period ending in 1982. Data were punched on 80-character cards known as 'Form 1' format by the VIMS central Computer Center. These were later converted to digital files. For this publication the Form 1 files were unpacked into yearly flat files containing two record types:

Station records - Contain surface observations at the time a station was occupied, including secchi depth, total depth, wind speed, wind direction, air temperature, tide stage, sea state, and cloud cover.

Depth records - Contain observations at one or more depths per station and include salinity, temperature, conductivity, suspended solids, dissolved oxygen, chlorophyll, trace elements and current speed and direction. The full suite of parameters were not always measured, the observations made were specific to the purpose of the individual cruises.

The original files in Form 1 format are included as well. See the ASSOCIATED PUBLICATION referenced below for complete description of the Form 1 format and data management plan.

Yearly Station and Depth files are provided in Text (.csv) and MS Access format.

File Descriptions:

File Name	Description
Readme.txt	Data Dictionary
WQcodes.csv	csv file of parameter codes
Folder name: Original Hydro Form1 files	
hydro.va.42-70	Original Form 1 formatted file, 1942 through 1970
hydro.va.71-82	Original Form 1 formatted file, 1971 through 1982
Folder name: Yearly csv files	
• 1942Station.csv	Station records file
• 1942Depth.csv	Depth records file
• 1945Station.csv	
• 1945Depth.csv	See README data dictionary below for parameters
• 1946Station.csv	
• 1946Depth.csv	
• …	
• 1981Depth.csv	
• 1981Station.csv	
• 1982Depth.csv	
• 1982Station.csv	Total = 38 .csv files
Folder name: Program files for data processing	
• Extract_Hydro.c	C++ program to unpack Form 1 files
• Extract_Hydro.exe	Compiled C++ program (Windows) to unpack Form 1 files
• Extract_Hydro77.sas	SAS script to extract yearly Form 1 data
• Import_Hydro77.sas	SAS script to import .csv station files
Folder name: Yearly Access accdb files	
• Hydro1942.accdb	MS Access database containing Station and
• Hydro1945.accdb	Depth tables from imported .csv files
• Hydro1946.accdb	
• (……)	See README data dictionary for parameters
•	
• Hydro1979.accdb	
• Hydro1980.accdb	
• Hydro1981.accdb	
• Hydro1982.accdb	Total = 19 .accdb files
Folder name: Yearly Hydro Form1 files	
• Data1942.txt	Yearly Form 1 text files
• Data1945.txt	
• Data1946.txt	The .txt files were edited to remove coding errors
• …	such as incorrect number of depths, cardcodes and
• Data1979.txt	invalid number of parameters

• Data1980.txt	
• Data1981.txt	
• Data1982.txt Folder name: Yearly Hydro Station Maps	Total = 19 Form 1 .txt files
• 1942-1947 Hydro Stations.pdf	Maps showing station locations
• 1948-1951 Hydro Stations.pdf	
• 1952-1955 Hydro Stations.pdf	
• 1956-1959 Hydro Stations.pdf	
• 1960-1963 Hydro Stations.pdf	
• 1964-1967 Hydro Stations.pdf	
• 1968-1971 Hydro Stations.pdf	
• 1972-1975 Hydro Stations.pdf	
• 1976-1979 Hydro Stations.pdf	
• 1980-1982 Hydro Stations.pdf	

Keywords: *Salinity, Temperature, Dissolved Oxygen, Turbidity, Water Quality, Chesapeake Bay, Mid-Atlantic, Monitoring, Meteorological Data, Climate Change, Long term dataset*

Associated Publications:

Moncure, R. W. (1972) Instructions for using Oceanography Form 1 (Virginia Institute of Marine Science Hydrographic Data Form). Virginia Institute of Marine Science, William & Mary. https://doi.org/10.25773/g4wp-k611

Additional information: See README file containing Data Dictionary:

-----List of Variables and Attributes-----

STATION Records:

Position	Name	Description
1	cruise	Cruise ID
2	river	River ID
3	date	Date
4	cardcode	Unique ID linking Station to Depth records
5	stime	Sample time
6	lat	Latitude in decimal degrees
7	long	Longitude in decimal degrees
8	station	Station ID
9	vessel	Vessel ID
10	tdepth	Total Depth (m)
11	tide	Tide Stage
12	diskvs	Secchi Depth (m)

13	winddir	Wind Source Direction
14	windspd	Wind Speed (m/s)
15	airtemp	Air Temperature (c)
16	numdepths	Number of depth records
17	nffb	Number of Freeform code characters to follow
18	freeform	Free text codes and/or information

DEPTH Records:

Position	Name	Description
1	cruise	Cruise ID
2	river	River ID
3	date	Date
4	cardcode	Unique ID linking Depth to Station records
5	depth	Sample Depth (m)
6	code	Parameter Code
7	value	Measured value
8	lat	Latitude in decimal degrees
9	lng	Longitude in decimal degrees

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