NODC Inventory of XBT Data Along Transects in U.S. Atlantic and Gulf Coastal Waters from NMFS/MARAD Ship of Opportunity Program for 1976

JULY 1978

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data and Information Service

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National Oceanographic Data Center
Washington, D.C.

U.S. DEPARTMENT OF COMMERCE

Juanita M. Kreps, Secretary

National Oceanic and Atmospheric Administration

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Environmental Data and Information Service

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ACKNOWLEDGMENT

The expendable bathythermograph (XBT) data comprising the transects cataloged in this inventory were observed as a part of the NMFS Marine Resources Monitoring, Assessment, and Prediction (MARMAP) program's Ship of Opportunity Program (SOOP) under the guidance of Steven K. Cook of the Atlantic Environmental Group (AEG), National Marine Fisheries Service (NMFS), NOAA, and were assembled by him for processing by the National Oceanographic Data Center (NODC), Environmental Data and Information Service (EDIS), NOAA. NODC and AEG acknowledge the considerable efforts of the participants in the program, especially by the observers of the U.S. Merchant Marine Academy, Maritime Administration (MARAD), and of the U.S. Coast Guard.

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ABSTRACT

This inventory of expendable bathythermograph (XBT) observations along transects in U.S. Atlantic and Gulf coastal waters adds to the Ship of Opportunity Program XBT data listed in the former publication "Expendable Bathythermograph Observations From the NMFS/MARAD Ship of Opportunity Program for 19 " (years 1971, 1972, 1973, 1974, and 1975). It depicts monthly transect locations along which XBT observations were made and for which XBT data are available at NODC; provides a tabular summary of the data by ship name, cruise number, station number, dates, and NODC reference number; includes a sample plot of the data for one transect; and describes how and in what forms the data can be obtained.

INTRODUCTION

In midyear 1970 a cooperative expendable bathythermography (XBT) program was initiated between the National Marine Fisheries Service and the Maritime Administration (MARAD) of the U.S. Department of Commerce. The program, conducted in support of the Marine Resources Monitoring, Assessment, and Prediction Program of NMFS involved the use of midshipmen trained at the U.S. Merchant Marine Academy, Kings Point, N.Y., to gather XBT data on board various merchant ships along the Atlantic and Gulf coasts of the United States. The objective of this cooperative program was to identify and describe seasonal and year-to-year variations of temperature and circulation in major currents of the tropical Atlantic, Caribbean Sea, Gulf of Mexico, and western North Atlantic, using merchant ships as relatively inexpensive platforms for the collection of data.

Results of each year's cooperative program activity were made available in the National Marine Fisheries Service's publication titled "Expendable Bathythermograph Observations From the NMFS/MARAD Ship of Opportunity Program for 19 " (years 1971, 1972, 1973, 1974, and 1975--see literature cited). Beginning with this inventory, the availability of NMFS/MARAD Ship of Opportunity Program XBT data will be announced in an annual inventory such as this.

DESCRIPTION OF DATA AND DATA PRODUCTS

This inventory contains monthly location plots of transects along which XBT observations were made in 1976 and for which the processed XBT data are available in NODC's XBT data file. Each transect is identified by letter on the location plots and in column one of table 1, which is a chronological listing of cruise time, location, and identification information. Data for any transect are available from NODC in a variety of forms. One form is the transect-plot graphic shown as figure 1. This graphic comprises a station location plot, a plot of surface seawater temperature and salinity along the transect, and two temperature vertical-section plots that can be produced over specified depth ranges.

CRUISE TRACK PLOT

MORMAC RIGEL 7609 (50867) STATIONS 1-19 9/1/76-9/2/76

Figure 1.--Sample of XBT transect-plot graphic.

The Atlantic Environmental Group has been the principal user of XBT transect-plot graphics. By convention AEG has specified that transects be oriented on these plots so that the coastal end of a transect (usually the northern or western end) is on the left side of the plot. In table 1, first-to-last stations are indicated in the direction of travel--sometimes toward, sometimes away from the land. Because these conventions may conflict, on some transect plots the order of stations is opposite that indicated in the Station Numbers Column of table 1. Transects for which this is the case are indicated by an asterisk in the table.

Another AEG usage is to begin each transect plot at the surface, extending it down to the depth specified in the depth-scale column of table 1. A "D" in that column signifies default values of 200 m and 800 m.

When simultaneous surface seawater temperature and salinity observations are submitted with the XBT analog data it is possible to plot these values as part of the transect-plot graphic (see plot at top of fig. 1). For cruises lacking separate surface-water temperature observations, the strip-chart zero-depth value of temperature is used to plot the surface temperature profile. For cruises lacking surface salinity data, no such alternative is available. Availability of surface salinity data is indicated in the last column of table 1.

Requests for, or inquiries about, NODC-held Ship-of-Opportunity XBT data or data products should be directed to:

National Oceanographic Data Center (D761)
Environmental Data and Information Service, NOAA
Washington, DC 20235

The transect-plot graphics, accompanied by a digital listing of the component XBT data, can be obtained from NODC at a cost ranging from \$5 to \$60, among other things depending on the number of XBT stations along the transect. The requester should specify the ship name and cruise and station numbers or the NODC reference number and station numbers (as given in table 1) for the transect desired.

LITERATURE CITED

- Cook, S. K. 1973. Expendable bathythermograph observations from the NMFS/MARAD Ship of Opportunity Program for 1971. NMFS Data Rep. 81, 132 p.
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January 1976 AEGX SOOP XBT Transects

February 1976 XBT Transects

March 1976 XBT Transects

April 1976 XBT Transects

May 1976 XBT Transects

June 1976 XBT Transects

July 1976 XBT Transects

August 1976 XBT Transects

September 1976 XBT Transects

October 1976 XBT Transects

November 1976 XBT Transects

December 1976 XBT Transects

1976 AEG/SOOP XBT TRANSECT DATA
AVAILABLE AT NODC

Table 1

TRANSECT IDEN /SHIP NAME	ORIG CRUISE NUMBER	NODC REFERENCE NUMBER	NODC STATIONS	DATES FROM - TO	LATITUDE - LONGITUDE FIRST LAST	DEPTH SCALES USED BY AEG (METERS)	SURFACE SALINITY REPORTED?
A/INGHAM	7601	50107	1-12	JANUARY 1/15-1/16	36°35'N, 74°16'W-37°27'N, 71°21'W	50; 450	NO
B/TANEY	7601	50058	1-13*	1/16-1/17	37°47'N, 71°56'W-37°08'N, 74°42'W	100; 500	YES
C/BLUENOSE	7601	50061	1-11	1/20-1/20	44°20'N, 68°09'W-43°45'N, 66°16'W	50; 200	YES
D/DELTA NORTE	7601	50165	1-14	1/23-1/24	29°15'N, 94°35'W-24°34'N, 88°52'W	D	YES
E/MORMAC RIGEL	7601	50057	1-9	1/24-1/25	40°05'N, 73°25'W-34°24'N, 67°23'W	50; 250	YES
F/DALLAS	7601	50062	1-11	1/26-1/27	40°02'N, 73°01'W-38°34'N, 71°49'W	100; 800	YES
G/LASH ATLANTICO	7601	50064	1-13	1/31-2/1	40°24'N, 73°26'W-40°17'N, 68°00'W	D	YES
A/BIBB	7602	50060	1-7	FEBRUARY 2/6-2/6	40°26'N, 69°46'W-38°00'N, 71°00'W	D	YES
B/INGHAM	7602	50108	1-17*	2/6-2/7	37°45'N, 71°07'W-36°33'N, 74°25'W	50; 450	NO
C/EXPORT DEFENDER	7602	50164	1-16	2/7-2/8	40°27'N, 73°50'W-40°14'N, 67°04'W	D	YES
D/OREGON II	7602	50063	1-20	2/11-2/13	30°00'N, 88°25'W-24°15'N, 82°46'W	D	YES
E/BIBB	7602	50060	8-16*	2/29-3/1	38°06'N, 70°56'W-39°58'N, 69°50'W	D	YES
A/DELTA NORTE	7603	50163	1-5*	MARCH 3/5-3/6	28°23'N, 90°29'W-28°09'N, 92°07'W	D	YES
B/MORMAC RIGEL	7601	50057	10-27*	3/7-3/8	33°10'N, 77°38'W-39°51'N, 73°44'W	50	YES
C/DELTA NORTE	7603	50163	8-14	3/8-3/8	25°30'N, 89°50'W-23°50'N, 87°37'W	D	YES
D/LASH ATLANTICO	7603	50169	1-9	3/11-3/11	40°27'N, 73°51'W-36°53'N, 75°54'W	50	YES
E/MORMAC RIGEL	7603	50299	1-15	3/23-3/23	40°25'N, 73°50'W-37°10'N, 70°30'W	D	YES
F/BLUENOSE	7603	50137	1-12	3/25-3/25	44°21'N, 68°10'W-43°47'N, 66°10'W	50; 200	YES
G/EVERGREEN	7603	50166	1-22	3/26-3/27	40°34'N, 69°58'W-40°56'N, 64°38'W	50; 450	YES
A/EXPORT DEFENDER	7604	50713	1-22	APRIL 4/3-4/4	40°27'N, 72°51'W-38°55'N, 64°26'W	D	YES
B/MORMAC RIGEL	7604	50305	1-21*	4/4-4/5	33°27'N, 77°02'W-40°27'N, 73°30'W	D	YES
C/DELTA NORTE	7603	50163	15-26*	4/10-4/11	21°55'N, 85°15'W-25°19'N, 83°54'W	D	YES
D/DELTA NORTE	7603	50163	27-32*	4/12-4/13	27°41'N, 83°21'W-28°05'N, 85°23'W	D	YES
E/EXPORT DEFENDER	7604	50713	23-31#	4/17-4/17	35°31'N, 05°52'W-36°02'N, 05°06'W	D	YES
F/GALLATIN	7604	50821	1-6	4/17-4/18	40°21'N, 73°50'W-38°50'N, 72°00'W	100; 500	YES
G/DELTA NORTE	7604	50711	1-7	4/17-4/18	29°09'N, 94°22'W-27°32'N, 92°20'W	D	YES
H/DELTA NORTE	7604	50711	8-19	4/18-4/19	24°20'N, 88°28'W-21°35'N, 86°08'W	D	YES
I/BLUENOSE	7604	50168	1-11	4/20-4/20	44°19'N, 68°06'W-43°47'N, 66°23'W	50; 200	YES
J/LASH ATLANTICO	7603	50169	10-19*	4/22-4/23	38°08'N, 74°31'W-39°57'N, 73°43'W	50	YES
K/EVERGREEN	7603	50166	23-41	4/23-4/24	42°34'N, 65°15'W-41°25'N, 69°57'W	50; 450	YES
L/LASH ATLANTICO	7604	50712	1-22	4/24-4/25	40°30'N, 73°31'W-40°22'N, 63°45'W	D	YES

1976 AEG/SOOP XBT TRANSECT DATA AVAILABLE AT NODC

Table 1 (continued)

TRANSECT IDEN /SHIP NAME	ORIG CRUISE NUMBER	NODC REFERENCE NUMBER	NODC STATIONS	DATES FROM - TO	LATITUDE - LONGITUDE		DEPTH SCALES USED BY AEG (METERS)	SURFACE SALINITY REPORTED?
C/MORMAC RIGEL	7610	50866	1-11*	10/16-10/17	FIRST	LAST	50; 150	YES
D/TANEY	7610	50865	1-14	10/19-10/19	36°06'N, 77°48'W	35°53'N, 74°57'W	100; 500	NO
E/BLUENOSE	7610	50213	1-12	10/19-10/19	36°32'N, 74°24'W	37°38'N, 71°08'W	50; 200	YES
F/GALLATIN	7610	50836	1-16*	10/23-10/24	44°20'N, 68°08'W	43°46'N, 66°11'W	100; 500	YES
G/MORMAC RIGEL	7615	50930	1-21	10/31-11/1	38°19'N, 71°47'W	40°21'N, 73°46'W	D	YES
A/DELTA MAR	7611	50194	1-8	NOVEMBER	31°55'N, 80°36'W	28°05'N, 73°54'W	D	YES
B/BLUENOSE	7611	50868	1-12	11/5-11/5	24°57'N, 87°26'W	22°58'N, 86°22'W	D	YES
C/BIBB	7611	50892	1-11	11/9-11/9	44°20'N, 68°08'W	43°47'N, 66°11'W	50; 200	YES
D/LASH TURKIYE	7610	50869	23-39*	11/10-11/10	41°15'N, 71°13'W	38°23'N, 71°04'W	200; 500	YES
E/LASH TURKIYE	7611	50203	1-19	11/16-11/17	39°09'N, 66°20'W	40°14'N, 72°34'W	D	YES
F/DELTA NORTE	7611	50191	1-8*	11/22-11/23	32°42'N, 78°47'W	33°28'N, 72°17'W	D	YES
G/DELTA NORTE	7611	50191	9-15	11/22-11/23	28°26'N, 93°06'W	28°30'N, 90°03'W	D	YES
A/BIBB	7611	50892	12-34*	11/25-11/26	25°54'N, 90°13'W	23°43'N, 89°38'W	D	YES
B/TANEY	7612	50193	1-12	DECEMBER	35°10'N, 74°51'W	41°06'N, 71°16'W	200; 500	YES
C/MORMAC RIGEL	7615	50930	22-45*	12/4-12/5	36°34'N, 74°26'W	37°27'N, 71°17'W	100; 500	YES
D/GALLATIN	7612	50929	1-13	12/8-12/8	39°07'N, 71°54'W	33°28'N, 65°00'W	D	YES
E/INGHAM	7612	50192	1-14	12/12-12/12	38°51'N, 72°17'W	40°08'N, 73°36'W	100; 500	NO
				12/21-12/21	36°31'N, 74°25'W	37°50'N, 71°26'W	50; 500	NO
				12/28-12/29				

* Sequence of stations reversed on transect plot.
# Not shown on transect location plot.

1976 AEG/SOOP XBT TRANSECT DATA AVAILABLE AT NODC							
TRANSECT IDEN /SHIP NAME	ORIG CRUISE NUMBER	NODC REFERENCE NUMBER	NODC STATIONS	DATES FROM - TO	LATITUDE - LONGITUDE FIRST LAST	DEPTH SCALES USED BY AEG (METERS)	SURFACE SALINITY REPORTED?
A/SANTA CRUZ	7605	50306	1-22*	MAY 5/12-5/13	33°10'N, 75°10'W-40°12'N, 73°41'W	D	YES
B/MORMAC RIGEL	7605	50822	1-24	5/15-5/16	40°25'N, 73°57'W-33°09'N, 77°52'W	100	YES
C/EVERGREEN	7605	50710	1-22	5/19-5/20	42°10'N, 70°01'W-43°02'N, 64°54'W	50; 400	YES
D/DELTA NORTE	7604	50711	20-25*	5/25-5/25	24°15'N, 87°10'W-22°25'N, 86°15'W	D	YES
E/BLUENOSE	7605	50716	1-11	5/25-5/25	44°19'N, 68°06'W-43°36'N, 66°14'W	50; 200	YES
F/LASH ATLANTICO	7604	50712	23-33*	5/27-5/28	38°23'N, 60°55'W-39°33'N, 68°17'W	D	YES
G/DELTA NORTE	7605	50824	1-10	5/30-7/4 JUNE	29°15'N, 94°15'W-22°00'N, 86°05'W	D	YES
A/BLUENOSE	7606	50714	1-11	6/16-6/16	44°21'N, 68°10'W-43°47'N, 66°12'W	50; 200	YES
B/SANTA CRUZ	7606	50709	1-23*	6/29-6/30	29°25'N, 74°55'W-36°56'N, 74°27'W	D	NO
C/EVERGREEN	7605	50710	23-42*	6/29-6/30 JULY	42°40'N, 65°04'W-42°11'N, 69°41'W	50; 400	YES
A/MORMAC RIGEL	7605	50822	25-48*	7/6-7/7	34°59'N, 68°20'W-40°05'N, 73°15'W	100	YES
B/BLUENOSE	7607	50823	1-11	7/15-7/15 AUGUST	44°19'N, 68°07'W-43°46'N, 66°12'W	50; 200	YES
A/KNORR	7608	50834	2-16	8/1-8/2	41°09'N, 71°03'W-38°56'N, 72°24'W	D	NO
B/KNORR	7608	50834	17-23	8/4-8/5	38°17'N, 69°35'W-37°14'N, 69°32'W	D	NO
C/SANTA CRUZ	7608	50197	1-22	8/14-8/14	24°55'N, 79°40'W-20°43'N, 74°38'W	D	NO
D/BLUENOSE	7608	50831	1-11	8/17-8/17	44°20'N, 68°06'W-43°47'N, 66°10'W	50; 200	YES
E/KNORR	7609	50832	1-11	8/27-8/28 SEPTEMBER	41°16'N, 70°56'W-38°58'N, 72°21'W	D	YES
A/MORMAC RIGEL	7609	50867	1-19	9/1-9/2	40°15'N, 73°39'W-36°03'N, 69°00'W	D	YES
B/KNORR	7609	50832	34-42*	9/6-9/6	38°52'N, 72°19'W-40°39'N, 71°15'W	D	YES
C/BLUENOSE	7609	50833	1-11	9/14-9/14	44°19'N, 68°07'W-43°47'N, 66°11'W	50; 200	YES
D/OCEANUS	7609	50835	1-28	9/18-9/20	41°11'N, 70°52'W-35°25'N, 67°58'W	D	YES
E/DUANE	7609	50262	1-11	9/20-9/20	40°17'N, 73°51'W-39°22'N, 72°13'W	100; 400	YES
F/DUANE	7609	50262	11-19*	9/20-9/21	39°22'N, 72°13'W-40°37'N, 72°56'W	100; 400	YES
G/DUANE	7609	50262	19-26	9/21-9/21	40°37'N, 72°56'W-39°47'N, 71°45'W	100; 400	YES
H/DUANE	7609	50262	26-34*	9/21-9/21	39°47'N, 71°45'W-40°50'N, 71°54'W	100; 400	YES
I/DUANE	7609	50262	34-40	9/21-9/22	40°50'N, 71°54'W-40°04'N, 71°07'W	100; 400	YES
J/DELTA MAR	7609	50891	1-25	9/21-9/22	29°10'N, 94°24'W-22°55'N, 87°57'W	D	YES
K/DUANE	7609	50262	40-48*	9/22-9/22	40°04'N, 71°07'W-41°23'N, 71°05'W	100; 400	YES
L/SANTA CRUZ	7609	50198	1-15*	9/28-9/28 OCTOBER	33°10'N, 75°10'W-38°16'N, 73°21'W	D	NO
A/OCEANUS	7609	50835	29-73*	10/6-10/8	30°04'N, 70°44'W-40°53'N, 70°54'W	D	NO
B/LASH TURKIYE	7610	50869	1-22	10/7-10/8	40°25'N, 73°30'W-40°44'N, 64°22'W	D	YES

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