



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, DC 20350-2000

IN REPLY REFER TO

OPNAVINST 3141.1
OP-096
22 JAN 1990

OPNAV INSTRUCTION 3141.1

From: Chief of Naval Operations

Subj: COLLECTION AND REPORTING OF BATHYTHERMOGRAPH OBSERVATIONS

Ref: (a) NWP 4, Basic Operational Communications Doctrine
(b) OPNAVINST 5510.1H

Encl: (1) Sample Bathythermograph Log Form CNOC 3167/2

1. Purpose. To establish responsibilities and procedures for observing and reporting bathythermograph (BT) data by naval units and to renumber the instruction following current Standard Subject Identification Codes (SSIC). This instruction has been substantially revised and should be read in its entirety.

2. Cancellation. OPNAVINST 3160.17 and OCEANAV 3167-1.

3. Background

a. Bathythermograph (BT) observations of ocean temperature versus depth provide data of significance to a variety of naval warfare mission areas. BT data are of obvious critical value to Anti-submarine Warfare (ASW), Mine Warfare, and Naval Special Operations. To a lesser degree, they affect mission areas ranging from Anti-surface Warfare to ship construction. BT data reported by ships and aircraft are used in on board acoustic prediction systems for real-time tactical ASW. They are also the basis for quick-response acoustic support from ashore, which can benefit both the units collecting the data as well as other units which may later transit or operate in the area. BT data are also used to analyze the location and structure of ocean fronts and eddies, and are an important input to numerical oceanographic models that analyze and predict ocean currents, surface temperatures and other parameters. BT data are also archived in climatological records. Such records provide data bases for on board acoustic prediction systems. They are used by Research and Development (R&D) activities to develop new oceanographic and acoustic models, and to design new weapon and sensor systems.

b. BT observations are processed ashore at Naval Oceanography Command (NAVOCEANCOM) activities, principally the Fleet Numerical Oceanography Center (FLENUMOCEANCEN) and the Naval Oceanographic Office (NAVOCEANO). Archived records and data bases are used by a number of Navy R&D activities and their contractors, including the Naval Research Laboratory, the Naval Oceanographic and Atmospheric Research Laboratory, the Naval Ocean Systems Center, and the Naval Underwater Systems Center.

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c. Maintaining an oceanographic/acoustic support capability for naval forces worldwide requires an extensive data base of current and archived BT observations. The amount of data required is far greater than that obtainable from dedicated oceanographic ships and aircraft, and from cooperative arrangements with allied forces. BT observations collected by the operating forces of the Navy are thus vital to maintaining an effective worldwide support capability.

4. Requirements for BT Observations and Reports

a. Observation Requirements

(1) Ships. Observations shall be taken by equipped ships at least every six hours while underway in open ocean areas where depths exceed 100 fathoms. Whenever possible, observations should coincide with the normal synoptic weather observation times of 0000Z, 0600Z, 1200Z and 1800Z. At least one BT observation shall be taken in each ASW Prediction Area transited. (ASW Prediction Areas are the homogeneous acoustic provinces depicted on Naval Warfare Planning Chart Base (NWPCB) 2401 series.) For ships operating in company or in close proximity (generally within 10 miles), commanders may designate a single unit to collect and report routine observations for the group.

(2) Submarines. Consistent with mission and operational requirements, and unless otherwise directed, submarines shall take one or two observations each day for data collection. Areas of interest are those where temperature-depth data are likely to be sparse because of little or no surface ship traffic or other operations which allow data collection. Sound velocity (SV) and BT data from AN/BQH-1 and AN/BQH-7 systems for all depths acquired are valuable for further use and should be submitted whenever practical. Submarines are exempt from the reporting provisions of paragraphs 4b, c, and d. However, when security procedures allow, properly classified SV and BT data recorder traces (or copies) should be forwarded upon return to port to:

Commanding Officer
Naval Oceanographic Office
Stennis Space Center, MS 39522-5001

Recorder traces (or copies) included with patrol and operation data packages should be extracted from the packages and forwarded to NAVOCEANO following procedures defined in applicable Force Operation Orders (OPORDS).

(3) Aircraft. Observations shall be taken by equipped aircraft in open ocean areas where depths exceed 100 fathoms. At least one BT observation shall be taken during all ASW flights which utilize sonobuoys. Additional observations are desired for each ASW Prediction Area transited. BT observations are desired,

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on a not-to-interfere basis, during all open ocean flights. For multiple aircraft operations in the same ASW Prediction Area, tasking for collection of BT observations shall be coordinated by the functional Wing Commander.

b. Reports of Observations

(1) Coding. Observations shall be encoded for radio transmission following the instructions on the BT Log Form. BT observations may be transmitted in the unit system (English or Metric) in which they were recorded. Strict adherence to the prescribed format is essential for efficient automatic data processing and computer analysis. Position data is reported to the nearest tenth of a degree latitude and longitude. Each message shall terminate with the International Radio Call Sign (IRCS) of the observing ship or the aircraft squadron designator.

(2) Classification. Message reports shall include classification and downgrading instructions as required by the classification of the particular operation, movement report (MOVREP), or other suitable criteria. Doctrine on message classification, downgrading instructions, and message transmission under MINIMIZE conditions is given in the effective version of reference (a). When BT reports are classified solely on the basis of the MOVREP, declassification dates, vice use of Originating Authority Decision Required (OADR), are strongly encouraged. As a general rule in such cases, declassification 10 days after the date of the report is usually sufficient. While the use of OADR does not affect the use of such reports for operational purposes, it does prevent such reports from being archived in unclassified data bases and greatly reduces their accessibility for R&D purposes.

(3) Transmission. Messages shall be addressed to the appropriate Collective Address Designator (CAD) shown in the following subparagraphs, 4b(3)(a) and (b), and transmitted with priority precedence within three hours after each observation using SSIC 3141. Reports that cannot be transmitted within the prescribed time nevertheless remain valuable and should be transmitted as soon as possible thereafter. (Refer to ATP-32 (NOTAL) for NATO addressee requirements.)

(a) OCEANO EAST
(2ND/6TH Fleet areas, Arctic waters)

Atlantic (North and South), Hudson Bay,
Great Lakes, Gulf of Mexico, Caribbean,
North, Norwegian, Baltic, Mediterranean,
Black and Red Seas, all Arctic waters
(Bering Strait, north of 66 Degrees N).

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(b) OCEANO WEST
(3RD/7TH Fleet areas, Antarctic waters)

Pacific (North and South), Indian Ocean, Arabian Sea, Persian Gulf, and all other associated seas and basins. All oceans south of 60 Degrees S.

Notes:

* Add NAVPOLAROCEANCEN SUITLAND MD as an info addee to all reports north of 55 Degrees N, south of 55 Degrees S and to all Hudson Bay observations.

* In the Eastern Pacific area under CINCLANTFLT OPCON, address reports:

TO: OCEANO WEST
NAVEASTOCEANCEN NORFOLK VA
INFO: CINCLANTFLT NORFOLK VA
LANTCOMOPSUPPFAC NORFOLK VA

c. Quality Control. The accuracy of a report as well as proper calibration of the equipment are important factors in the application of the data. Coding errors and other discrepancies must be kept to a minimum. Error statistics will be compiled during FLENUMOCEANCEN computer processing and periodically provided to reporting ships and aircraft squadrons by NAVOCEANCOM activities. Consistency in high quality reporting will also be recognized. Training in BT observation, encoding and reporting is available, on request, through the nearest NAVOCEANCOM activity.

d. Records. At the end of each month, unclassified log sheets and BT recorder traces shall be mailed by each reporting unit to:

National Oceanographic Data Center (NODC)
1825 Connecticut Avenue, N.W.
Washington, DC 20235

Note: Disregard Rockville, MD address for NODC shown on the BT Log Sheet until forms are revised with correct address.

Since facilities for handling classified BT records are not available at NODC, classified records shall be mailed to:

Commanding Officer
Naval Oceanographic Office
Stennis Space Center, MS 39522-5001

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Extra care should be taken to ensure that the recorder traces are not cut into individual records from the roll, but submitted as one continuous roll with beginning and ending calibration and BT traces intact. Ensure that entries of date/time, position, and proper declassification instructions are included. Reference (b) and BT Log Sheet instructions germane.

5. Action

a. All bathythermograph equipped ships, submarines, and aircraft take and report BT observations as set forth in this instruction.

b. Commanders provide appropriate modified guidance to their subordinates as the operational situation dictates.

6. Reports. Symbol NAVOCEANCOM 3140-10 is assigned to reports required by paragraph 4b and is approved for three years from the date of this instruction.

7. Forms. The Bathythermograph Log Form CNOC 3167/2, S/N 0108-LF-031-6710, example at enclosure (1), may be obtained by submitting Requisition Document DD Form 1348 to:

Commanding Officer
Naval Publications and Forms Center
5801 Tabor Avenue
Philadelphia, PA 19120-5099

The back of the form, not included in enclosure (1), provides instructions for marking the BT recorder chart, mailing log sheets, obtaining log sheets, entering "Reference Information," "Optional Environmental Information," and "Radio Message Information" portions of the log sheet, interpreting the temperature-depth trace, addressing radio messages, and special instructions for Navy use.


R. F. PITTENGER
Oceanographer of the Navy

Distribution
(See Page 6)

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 - 42R (Fleet Composite Squadron - VC)
 - 42S (Air Test and Evaluation Squadrn - VX, Antarctic Development Squadron - VXE and Oceanographic Development Squadron - VXN)
 - 42BB (Helicopter Anti-Submarine Squadron - HS)
 - FD1 (Oceanography Command) (5)
 - FD2 (Oceanographic Office) (5)
 - T-100Q (Surveying Ship - AGS)
 - T-100S (Oceanographic Research Ship - AGOR)
 - T-103 (Contract-Operated Oceanographic Acoustic Surveillance Ship (T-AGOS))
- OPs 02, 03, 05, 06, 07, 094, 095, 096 (5 each)

Copy to:

- SNDL A1 (Immediate Office of the Secretary)(ASSTSECNAV MRA, only)
- A2 (Department of the Navy Staff Offices - Chief of Naval Research only)
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FD3 (Fleet Numerical Oceanography Center)
FD4 (Oceanography Center) (5)
FD5 (Oceanography Command Center) (5)
FD6 (Oceanography Command Facility) (5)
FF38 (Naval Academy)
FF42 (Scol Postgraduate)
FF44 (Naval War College)
FG1 (Telecommunications Command Headquarters)
FKA1B (Space and Naval Warfare Systems Command - PMW-141)
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FT78 (Education & Training Program Management Support
Activity)

Stocked:

CO, NAVPUBFORMCEN
5801 Tabor Avenue
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BATHYTHERMOGRAPH LOG

Prepared by the COMMANDER, NAVAL OCEANOGRAPHY COMMAND and the NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION in accordance with specifications established by the INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC) and WORLD METEOROLOGICAL ORGANIZATION (WMO)

FOR NAVY SHIP USE

SHIP TYPE, HULL NUMBER, SORTIE NUMBER, YE, MON

FOR NAVY AIRCRAFT USE

SODIN TYPE, SODIN NAME, SORTIE NUMBER, YE, MON

I. REFERENCE INFORMATION: TYPE, NAME, PLATFORM, DESIGNATOR, COUNT, INSTITUTION, PROJEC, STATION NUMBER, OBSERVATION NUMBER, INSTRUMENT

II. OPTIONAL ENVIRONMENTAL INFORMATION: DEPTH, WIND, DIR, SPEED, PRESSURE, SEA TEMP, WAVE, SWELL, DIR PER HT, RADIATION, PRECIP, TRANS

I. REFERENCE INFORMATION

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III. RADIO MESSAGE INFORMATION

a. METRIC Coding Example: MESSAGE PREFIX, DATE, TIME, LONGITUDE, DEPTH, TEMP, RADIO CALL

b. ENGLISH Coding Example

Enclosure (1)