Pac 2504 (56) | NUMBER | TR0628

DDFA: 1:17

DATA DOCUMENTATION FORM

NOAA FORM 24-13 (7-71)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEANOGRAPHIC DATA CENTER
RECORDS SECTION
ROCKVILLE, MARYLAND 20852

FORM APPROVED
O.M.B. No. 41-R2(

This form should accompany all data submissions to NODC. Section A, Originator Identification, must be completed when the data are submitted. It is highly desirable for NODC to also receive the remaining pertinent information at that time. This may be most easily accomplished by attaching reports, publications, or manuscripts which are readily available describing data collection, analysis, and format specifics. Readable, handwritten submissions are acceptable in all cases. All data shipments should be sent to the above address.

A. ORIGINATOR IDENTIFICATION

THIS SECTION MUST BE COMPLETED BY DONOR FOR ALL DATA TRANSMITTALS

1. NAME AND ADDRESS OF INSTITUTION, LABORATORY, OR ACTIVITY WITH WHICH SUBMITTED DATA ARE ASSOCIATED

National Ocean Survey (Oceanographic Division)
NOAA/Department of Commerce
6001 Executive Blvd.
Rockville, Maryland

2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED

OPR - 501 - FE - 71, OPR - 500 - FE - 72
(1971 Boston Harbor Current Survey)

3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT

OPR - 501 - FE - 71

4. PLATFORM NAME(S)	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.)	6. PLATFORM AND OPERATOR NATIONALITY(IES)		7. DATES	
		PLATFORM	OPERATOR	FROM: MO/DAY/YR	TO: MO/DAY/YR
Ferrel	Surface Buoys	U. S. A.	U. S. A.	5/12/71	10/26/71

8. ARE DATA PROPRIETARY?

[X] NO [ ] YES

IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR ____ MONTH ____

9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)?
(I.E., SHOULD THEY BE INCLUDED IN WORLD DATA CENTERS HOLDINGS FOR INTERNATIONAL EXCHANGE?)

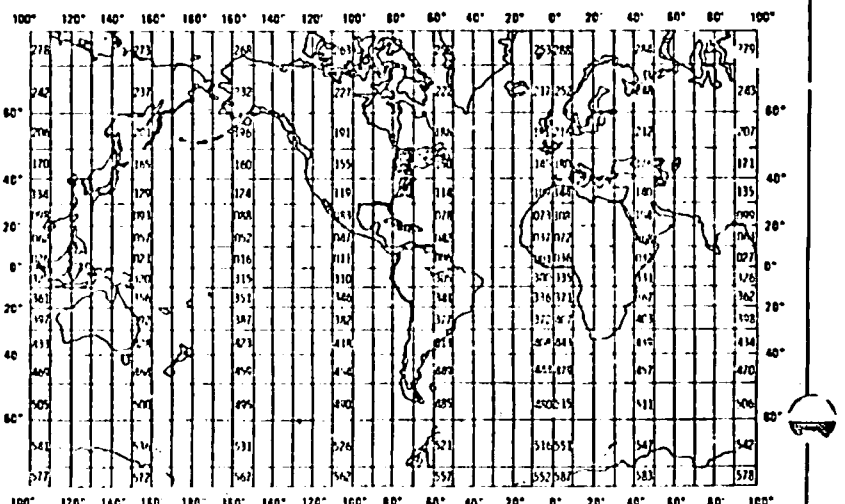
[X] NO [ ] YES [ ] PART (SPECIFY BELOW)

10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED WITH TELEPHONE NUMBER (AND ADDRESS IF OTHER THAN IN ITEM-1)

Chief, Oceanographic Surveys
Branch
(301) 496-8501

11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA CONTAINED IN YOUR SUBMISSION WERE COLLECTED.

GENERAL AREA



NOAA FORM 24-13

USCOMM-DC 44289-P72

COMPLETE THIS SECTION FOR PUNCHED CARDS OR TAPE, MAGNETIC TAPE, OR DISC SUBMISSIONS.

1 LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE
IVE METHOD OF IDENTIFYING EACH RECORD TYPE

There are two record types.
5 Records - 80 Characters each/alpha numeric (Master Record)
*N Records - 54 Characters each/numeric (data)(Detail Record)

* N = the number of data points at a particular station

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

Tape 13553 contains 22 files
Tape 13554 contains 23 files

ATTRIBUTES AS EXPRESSED IN [ ] PL-1 [ ] ALGOL [ ] COBOL [X] FORTRAN [ ] _____ LANGUAGE

4. RESPONSIBLE COMPUTER SPECIALIST:
NAME AND PHONE NUMBER Bruce Parker, (301) 496-8050
ADDRESS Room 605, WSC 1, Rockville, Maryland

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

5. RECORDING MODE
[X] BCD [ ] BINARY
[ ] ASCII [ ] EBCDIC
[ ] _____

6. NUMBER OF TRACKS (CHANNELS)
[X] SEVEN
[ ] NINE
[ ] _____

7. PARITY
[ ] ODD
[X] EVEN

8. DENSITY
[ ] 200 BPI [ ] 1600 BPI
[X] 556 BPI
[ ] 800 BPI
[ ] _____

9. LENGTH OF INTER-RECORD GAP (IF KNOWN) [X] 3/4 INCH
[ ] _____

10. END OF FILE MARK
[X] OCTAL 17
[ ] _____

11. PASTE-ON-PAPER LABEL DESCRIPTION *(INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)*

13553 (5/10/71-10/18/71)

13554 (6/21/71-10/26/71)

12. PHYSICAL BLOCK LENGTH IN BYTES
80 and 54 characters unblocked

13. LENGTH OF BYTES IN BITS
6 Bits/ character

NOAA FORM 24-13

USCOMM-DC 44289-P72

B. SCIENTIFIC CONTENT

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Current Data (Total Current i.e. Tidal + Nontidal)	Speed (knots) Direction (° True)	Current Meters hung from surface buoys (Minimum 7 days, Maximum 170 days) Geodyne Photographic Current Meters Model A102 [Film recording samples for a minute, Savonius Rotor 25 Direction reading every 2 1/2 sec. Tilt indication]		

Since the weight $\bar{w}$ applies only to the $\bar{\theta}$ the ordered pair of numbers for time t will in reality be the number $\bar{s}$ paired with the ordered pair $(\bar{\theta}, \bar{w})$, or

$$(\bar{s}, (\bar{\theta}, \bar{w}))$$

The components (x,y) are resolved to a tentative $\bar{\theta}$.

$$\bar{\theta} = \tan^{-1} \quad y/x$$

This $\bar{\theta}$ is compared to the θ_i. If any $|\bar{\theta} - \theta_i| > 90^\circ$, that θ_i is removed and a new $\bar{\theta}$ is computed. On the second pass all θ_i such that $|\bar{\theta} - \theta_i| > 60^\circ$ are removed and a new mean computed. A third pass is made to eliminate θ_i where $|\bar{\theta} - \theta_i| > 30^\circ$ and the final $\bar{\theta}$ is computed.

This final $\bar{\theta}$ and the $\bar{s}$ discussed above are assigned to the ordered pair $(\bar{s}, \bar{\theta})$.

The estimated validity of $\bar{\theta}$ is assigned $\bar{w}$ according to the ratio

$$\bar{w} = \sqrt{\frac{\left(\sum_{i=1}^{5} \cos \theta_i\right)^2 + \left(\sum_{i=1}^{5} \sin \theta_i\right)^2}{(5\cos \bar{\theta})^2 + (5\sin \bar{\theta})^2}}$$

By visual test this yields a weight $\bar{w} = 1.000$ for $\theta_1 = \theta_2 = \theta_3 = \theta_4 = \theta_5 = \bar{\theta}$ and $\bar{w} = 0.000$ for $\theta_1 - \theta_2 = \theta_2 - \theta_3 = \theta_3 - \theta_4 = \theta_4 - \theta_5 = \theta_5 - \theta_1 = 72^\circ$ or the cases of mutually cancelli vectors.

DISCUSSION OF TICUS REDUCTION PROCEDURE

The speeds and directions recorded by the TICUS-II system are recorded as five speeds s_i and five directions θ_i. NOS treats the two series s_i and θ_i separately deriving a mean of each series $\bar{s}$ and $\bar{\theta}$, then assuming that in the mean $\bar{s}$ and $\bar{\theta}$ can be treated as an ordered pair centered on the middle of the measurement cycle, $(\bar{s}, \bar{\theta})$.

The mean of the series s_i is a simple arithmetic mean.

$$\bar{s} = \sum_{i=1}^{N} s_i \; / N$$

At present no editing of the s_i is done at this stage of the programming. The NOS method of editing $\bar{s}$ is to compare $\bar{s}\,(t_1)$ with $\bar{s}(t_o)$ and $\bar{s}\,(t_2)$ where t_o, t_1, t_2 represent consecutive recording intervals.

The mean of the series θ_i is determined by assigning a unit vector to each of the elements θ_i. The cosine and sine components are arithmetically averaged to yield

$$x = \left(\sum_{i=1}^{N} \cos \theta_i \right) / N \qquad y = \left(\sum_{i=1}^{N} \sin \theta_i \right) / N$$

BRIEF EXPLANATION OF THE TERM "WT" (WEIGHT)

Each direction reading shown on the printout is actually an edited average of 5 direction readings (each direction reading taken instantaneously every 7.5 seconds over a 38 second period).

"WT" is an indication of how close these 5 direction values were to each other. The two extreme cases are: (1) If all 5 direction values were identical, WT = 1000.; (2) If the 5 direction values were evenly distributed around the compass, WT = 000.

There are two situations that normally bring about low WT's: (1) readings taken at or near slack waters (or minimums), i.e. when the direction of flow is rapidly changing.; (2) when the sea state is fairly great and the data is taken near the surface (i.e. 10 to 15 ft from the surface); the current meter is jerked up and down by the bouncing surface buoy, flipping the vane around and also affecting the savonius rotor.

At the present time there is no method for adjusting the data according to WT.

WT should be used only as a rough qualitative tool.

D. INSTRUMENT CALIBRATION

This calibration information will be utilized by NOAA's National Oceanographic Instrumentation Center in their efforts to develop calibration standards for voluntary acceptance by the oceanographic community. Identify the instruments used by your organization to obtain the scientific content of the DDF (i.e., STD, temperature and pressure sensors, salinometers, oxygen meters, velocimeters, etc.) and furnish the calibration data requested by completing and/or checking ("✓") the appropriate spaces. Add the interval time (i.e., 3 months, 6 months, 9 months, etc.) if the fixed interval calibration cycle is checked.

INSTRUMENT TYPE (MFR., MODEL NO.)	DATE OF LAST CALIBRATION	INSTRUMENT WAS CALIBRATED BY		CHECK ONE: INSTRUMENT IS CALIBRATED					INSTRUMENT IS NOT CALIBRATED (✓)
		YOUR ORGANIZATION (✓)	OTHER ORGANIZATION (GIVE NAME)	AT FIXED INTERVALS (✓)	BEFORE OR AFTER USE (✓)	BEFORE AND AFTER USE (✓)	ONLY AFTER REPAIR (✓)	ONLY WHEN NEW (✓)	
	(BY LAB)								
GEODYNE PHOTOGRAPHIC A102	APRIL '70 *	✓					✓ (BY LAB)	✓	
TICUS	APRIL '70 *	✓							
	↑ REPORT ENCLOSED								
* CALIBRATION ALSO CONTINUALLY CHECKED BY SHIP									

NOAA FORM [illegible]

COMM-DC 4428-P7

RECORD FORMAT DESCRIPTION

RECORD NAME Photometer Current Meter Data

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN _____ (e.g., bits, bytes)	16. LENGTH NUMBER	UNITS	17. ATTRIBUTES	18. USE AND MEANING
Master Record Detail Record	1	80	Bytes	20A4	Description of data
Date					
Day	1	3	Bytes	I3	(1-31)
Blank	4	1	Bytes	1X	
Month	5	2	Bytes	I2	(1-12)
Blank	7	1	Bytes	1X	
Year	8	4	Bytes	I2	Year of Observation
Blank	12	1	Bytes	1X	
Time	13	5	Bytes	F5.2	1/100 Hour (GMT Time)
Blank	18	1	Bytes	1X	
Compass	19	3	Bytes	I3	* Mean Value of 15 instantaneous readings (every 2 1/2 sec.)
Blank	22	1	Bytes	1X	
Vane	23	3	Bytes	I3	* Mean Value of 15 instantaneous readings (every 2 1/2 sec.)
Blank	26	1	Bytes	1X	
Direction	27	3	Bytes	I3	Compass + Vane (Degrees True)
Blank	30	1	Bytes	1X	
C Vec	31	6	Bytes	F6.2	The comparison of readings (*)
Blank	37	1	Bytes	1X	
V Vec	38	6	Bytes	F6.2	The comparison of readings (*)
Blank	44	1	Bytes	1X	
Velocity	45	5	Bytes	F5.2	Speed (Knots)
Blank	50	1	Bytes	1X	
Tilt	51	4	Bytes	I4	Degrees

* 15 = The first 15 readings out of total of 25 taken at meter.

B. SCIENTIFIC CONTENT

Include enough information concerning manner of observation, instrumentation, analysis, and data reduction routines to make them understandable to future users. Furnish the minimum documentation considered relevant to each data type. Documentation will be retained as a permanent part of the data and will be available to future users. Equivalent information already available may be substituted for this section of the form (i.e., publications, reports, and manuscripts describing observational and analytical methods). If you do not provide equivalent information by attachment, please complete the scientific content section in a manner similar to the one shown in the following example.

EXAMPLE (HYPOTHETICAL INFORMATION)

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Salinity	‰	Nansen bottles	Inductive salinometer (Hytech model 5510)	N/A (Not applicable)
		STD Bissett-Berman Model 9006	N/A	Values averaged over 5-meter intervals
Water color	Forel scale	Visual comparison with Forel bottles	N/A	N/A
Sediment size	ϕ units and percent by weight	Ewing corer	Standard sieves. Carbonate fraction removed by acid treatment	Same as "Sedimentary Rock Manual," Folk '65

(SPACE IS PROVIDED ON THE FOLLOWING TWO PAGES FOR THIS INFORMATION)

```
Password:
accNo   fleA refNo  proj inst ship    startDate  cruise   catId
------- ---- ------ ---- ---- ------- ---------- -------- ----------
7300431 C100 TR0028 9999 31J4 318L    1971/05/01 NULL         282466

(1 row affected)
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