DATA DOCUMENTATION FORM

TW0909 — TW0923

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

Oceanographic Surveys Branch
Oceanographic Division
National Ocean Survey
National Oceanic and Atmospheric Administration

6001 Executive Boulevard
Rockville, Maryland 20852

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

OPR-500-FE-72-73
South Coastal Plains Expedition
(SCOPE)

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

OPR-500-FE-72-73

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
NOAA Ship FERREL	130' Survey Ship			2/13/72	4/3/72
		USA	USA	2/13/73	4/24/73

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?)

[ ] 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.

Marsden Square 116
GENERAL AREA

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	%o	Nansen bottles	Inductive salinometer (Hytech model S 510)	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)

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
Velocity	Knots	Photo Geodyne meter-A102		See attached sheet
Direction	Degrees True	Photo Geodyne meter-A102		See attached sheet
Tilt	Degrees from Vertical	Photo Geodyne meter-A102		See attached sheet

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

NOAA FORM 24-13 (3-72)

USCOMM-DC 44259-P72

C. DATA FORMAT

This information is requested only for data transmitted on punched cards or magnetic tape. Have one of your data processing specialists furnish answers either on the form or by attaching equivalent readily available documentation. Identify the nature and meaning of all entries and explain any codes used.

1. List the record types contained in your file transmittal (e.g., tape label record, master, detail, standard depth, etc.).

2. Describe briefly how your file is organized.

3-13. Self-explanatory.

14. Enter the field name as appropriate (e.g., header information, temperature, depth, salinity.

15. Enter starting position of the field.

16. Enter field length in number columns and unit of measurement (e.g., bit, byte, character, word) in unit column.

17. Enter attributes as expressed in the programming language specified in item 3 (e.g., "F 4.1," "BINARY FIXED (5.1)").

18. Describe field. If sort field, enter "SORT 1" for first, "SORT 2" for second, etc. If field is repeated, state number of times it is repeated.

C. DATA FORMAT

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

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

```
Two Types of Records:
   Station Headings
      READ (1,2) TITLE
      DIMENSION TITLE(40)
   2 FORMAT (8A10)
Data
      READ (1,5)JDAY,MO,IYR,TIME,JCOMP,JVANE,JDIR,CVEC,VVEC,V,ITILT
   5 FORMAT (1X,2(I2,1X),I4,1X,F5.2,3(1X,I3,),2(1X,F6.4),1X,F5.2,
      1X,I4)
```

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

Station Heading

Lines of data – This sequence is repeated for the number of files
(stations) on the tape. The number of lines of data
in each file can be gotten from the attached summary
listing.

End of File

ATTRIBUTES AS EXPRESSED IN ☐ PL-1 ☐ ALGOL ☐ COBOL
☒ FORTRAN ☐ _____ LANGUAGE

4. RESPONSIBLE COMPUTER SPECIALIST:
NAME AND PHONE NUMBER Bruce Parker   496-8050
ADDRESS Rm. 605, WSC-1, C333, Rockville, Maryland 20852

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

5. RECORDING MODE ☒ BCD ☐ BINARY ☐ ASCII ☐ EBCDIC ☐ _____	**9. LENGTH OF INTER-RECORD GAP (IF KNOWN)** ☒ 3/4 INCH ☐ _____
6. NUMBER OF TRACKS (CHANNELS) ☒ SEVEN ☐ NINE ☐ _____	**10. END OF FILE MARK** ☒ OCTAL 17 ☐ _____
7. PARITY ☐ ODD ☒ EVEN	**11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)** South Coastal Plains Expedition (SCOPE) OPR-500-FE-72-73 Photo Geodyne data – current data Bruce Parker
8. DENSITY ☐ 200 BPI ☐ 1600 BPI ☒ 556 BPI ☐ 800 BPI ☐ _____	**12. PHYSICAL BLOCK LENGTH IN BYTES** 80 & 54
	13. LENGTH OF BYTES IN BITS

RECORD FORMAT DESCRIPTION

RECORD NAME _____

14. FIELD NAME PHOTO	15. POSITION FROM - 1 MEASURED IN _____ (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
TITLE		40	A10	Literal	Literal description of station information
JDAY		1	I2	Integer	Day of data observation
MO		1	I2	Integer	Month of data observation
IYR		1	I4	Integer	Year of data observation
TIME		1	F5.2	Floating Point	Time of data observation (hundredths of an hour)
JCOMP		1	I3	Integer	Compass direction in degree
JVANE		1	I3	Integer	Vane direction in degrees
JDIR		1	I3	Integer	Direction of current in degrees true
CVEC		1	F6.4	Floating Point	Gives an indication of how close 15 instantaneous compass readings were to each other. 1.050=all equal.
VVEC		1	F6.4	Floating Point	Gives an indication of how close 15 instantaneous vane readings were to each other 1.000=all equal.
V		1	F5.2	Floating Point	Velocity of current in knot
ITILT		1	I4	Integer	Tilt of meter in degrees from vertical

NOAA FORM 24-13   USCOMM-DC 44289-P7.

RECORD FORMAT DESCRIPTION

RECORD NAME _____

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN _____ (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		

RECORD FORMAT DESCRIPTION

RECORD NAME _____

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN _____ (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		

RECORD FORMAT DESCRIPTION

RECORD NAME _____

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN _____ (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		

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 (√)	(√)
Photo Geodyne meter-A102-1	Winter 1972	X		X					

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 $\bar{s}(t_0)$ and $\bar{s}(t_2)$ where t_0, 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

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

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

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

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 cancelling vectors.

3

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

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

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.

ACCESSION NO._____   FILETYPE_____   TRACK NO._____   PROJECT
IDENTIFICATION_____

STEP	DATE	INIT.	TAPE OR DISK DSN	NO. FILES	LRECL	BLK SIZE	NO. RECORDS
ORIG. TAPE							
DUPLICATE TAPE							
REFORMATTED TAPE							
REFORMATTED DISK							
FIRST MULCHEK							
FINAL MULCHEK							
MPD75 OR F022							
DATA SET FINALIZED							

ERRORS REPORTED TO PRINCIPAL INVESTIGATOR:

ADDITIONAL ERRORS/CORRECTIONS (NOT REPORTED TO P.I.)

COMMENTS (TRACKS DELETED, FIELDS DELETED, ETC.)

Accession # 750583
Filetype L-150
Cruise # OPR-500-FE-72-73
Institute Oceanographic Surveys Branch, Oceanographic Division 34 J4
00TExpedition/project OPR-500-FE-72-73 South Coastal Plains Expedition (SCOPE)
Platform/ship NOAA Ship Ferrel   130' Survey Ship 318L
Dates 2/13/72-4/3/72   8/13/73-4/24/73
Location Marsden Square 11 b
Principal investigator Chief, Oceanographic surveys
Description salinity, water color, sediment size, velocity, direction, h/t.
No. of stations - 15
Reference #

TAPES D00947   SCOPE 72/73 | W04428 | L150
                                      |1600 BPi |
                                      |ASCII /SL |

Tape Description Entry Form

\>\> `   \<\<

Slot number D00947   Original reel id: 008245   NODC trk-sys #: 008245

Acce●   number: 7500503 Owner name: HADSELL   Org code: OC11

Tape category (ARCHIVE/BACKUP/ORIGIN/WORK): ORIGIN   Proprietary (Y/N): N

Tape member of multi-reel file (Y/N): N   Pos # (within multi-reel file):
        Previous reel id: Next reel id:

Creation date (mm/dd/yy):   / /   Retention date (mm/dd/yy):   / /

\>\>\>\>\>Number of files: 1   Records (approx):   Blocks (approx):

Tape tracks (7/9): 7 Density: 556   Label: NL Dsn:

Record Type (F/FB/V/VB/VBS/UND): FB   Record length: Blocksize:

Code (ASC/BCD/EBC/FIE/BIN/STD): STD   NODC file type:

Tape contents: 75-0583 SCOPE 72/73
\<TAB\> next field \<CTRL\>H prior field \<CR\> continue \<PF2\> help \<PF4\> print screen

ALT-F10 HELP | VT-100 | FDX | 9600 N81 | LOG CLOSED | PRT OFF | CR | CR

ACCESS NUMBER	REF NUMBER	FILE TYPE	PROJ CODE	INST	PLAT		CRUISE NO	CRUISE START	CRUISE END	NUM STA	NUM REC
7500583	TW0909	F005	0077	31J4	317F	J142		03/16/72	03/23/72	1	957
7500583	TW0910	F005	0077	31J4	317F	J303		03/16/72	03/23/72	1	1,005
7500583	TW0911	F005	0077	31J4	317F	J303		03/23/72	04/03/72	1	1,580
7500583	TW0912	F005	0077	31J4	317F	J303		02/25/72	03/02/72	1	717
7500583	TW0913	F005	0077	31J4	317F	J307		02/13/72	02/20/72	1	1,044
7500583	TW0914	F005	0077	31J4	317F	J148		03/28/73	04/04/73	1	993
7500583	TW0915	F005	0077	31J4	317F	J148		04/06/73	04/13/73	1	1,004
7500583	TW0916	F005	0077	31J4	317F	J148		03/01/73	03/09/73	1	1,146
7500583	TW0917	F005	0077	31J4	317F	J148		03/12/73	03/19/73	1	989
7500583	TW0918	F005	0077	31J4	317F	J150		02/13/73	02/20/73	1	1,031
7500583	TW0919	F005	0077	31J4	317F	J141		02/13/73	02/20/73	1	1,032
7500583	TW0920	F005	0077	31J4	317F	J152		03/01/73	03/06/73	1	750
7500583	TW0921	F005	0077	31J4	317F	J142		03/29/73	04/06/73	1	1,148
7500583	TW0922	F005	0077	31J4	317F	J142		04/16/73	04/24/73	1	1,167
7500583	TW0923	F005	0077	31J4	317F	J330		02/13/73	02/20/73	1	1,032

ACCESSION NO. 750583   FILETYPE F005   TRACK NO. _____   PROJECT IDENTIFICATION Scope

TW 0909-923

STEP	DATE	INIT.	TAPE OR DISK DSN	NO. FILES	LRECL	BLK SIZE	NO. RECORDS
ORIG. TAPE			*D00947				
DUPLICATE TAPE			*W 04428				
REFORMATTED TAPE	1-30-92	R.P.S.	W 57267 **	1	60	6000	13600
REFORMATTED DISK							
FIRST MULCHEK							
FINAL MULCHEK							
MPD75 OR F022							
DATA SET FINALIZED							

ERRORS REPORTED TO PRINCIPAL INVESTIGATOR: * Tapes Are 7 tracks/556 BPI/ASCII
** LABEL DNODC*SCOPEOUT.

DNODC & OACC 750583

ADDITIONAL ERRORS/CORRECTIONS (NOT REPORTED TO P.I.)

COMMENTS (TRACKS DELETED, FIELDS DELETED, ETC.)

D005P