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IA JOLLA	CA.	9203	8			
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ALBACORE ON 4. PLATFORM NAME(S) R/V DAVID STARR JORDAN	S. PLATFORM TYPE (E.G., SHIP, BUO SHIP	E(S) Y, ETC.)	JORI 6. PLATFORM / NATIONALIT PLATFORM	AND OPERATION	CRUISE	79 STD DATES
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NOAA FORM 24-13

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
DEPTH	meters	STD PLESSEY Model 9006	N/A	SEE ATTACHMENT
TEMPERATURE	<u>ە</u> ر	I	11	11
SALINITY	*/• D	11	11	11
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B. SCIENTIFIC CONTENT

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C. DATA FORMAT

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

IST RECORD TYPES CONTAINED IN THE TRANSMITTA	L OF YOUR FILE
UNLABELED TAPE.	
132 FILES, EACH FILE IS	AN STD CAST.
TWO END-OF-FILE MARKS	FOLLOWING LAST CAST.
/	
2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION	
FIRST RECORD - HEADER	NFORMATION
SECOND RECORD DEPTH, TE	EMP. SAL. AT IMETER INTERNALS.
LAST RECORD	
VARIABLE NUMBER OF RECO	RDS/FILE.
3. ATTRIBUTES AS EXPRESSED IN PL-1	ALGOL COBOL
4. RESPONSIBLE COMPUTER SPECIALIST: NAME AND PHONE NUMBER <u>KEN BLIS</u> ADDRESS <u>P.O. BOX 271</u> <u>LA</u>	<u>5 (714) 453-2820</u> JOLLA, CA. 92038
COMPLETE THIS SECTION IF DATA ARE ON MAGNE	
	RECORD GAP (IF KNOWN) 3/4 IN CH
🗙 ASCII 🗌 EBCDIC	
	OCTAL 17
6. NUMBER OF TRACKS (CHANNELS) SEVEN	
NINE	11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)
7. PARITY	NATIONAL MARINE FISHERIES
ODD EVEN	CRUISE 79 STD
8. DENSITY	JORDAN 1973
556 BPI	12. PHYSICAL BLOCK LENGTH IN BYTES
800 BPI	4680 13. LENGTH OF BYTES IN BITS
	8 60.100 /10000
	U ODYTES / WORD

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RECORD FORMAT DESCRIPTION

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RECORD NAME

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12	5	"	ر ۲۶	60 FIELDS / RECORD
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NOAA FORM 24-13

I.

D. INSTRUMENT CALIBRATION

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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 (" \checkmark ") the appropriate spaces. Add the interval time (i.e., 3 months, 6 months, 9 months, etc.) if the fixed interval calibration cycle is checked.

•		TYDE	DATE OF LAST	INSTRUMENT WAS	INSTRUMENT WAS CALIBRATED BY			ECK ONE:			INSTRU- MENT IS
i	(MFR., MODE	EL NO.)	CALIBRATION	YOUR ORGANIZATION {√}	OTHER ORGANIZATION (GIVE NAME)	AT FIXED INTERVALS (√)	BEFORE OR After Use (√)	BEFORE AND After Use (√)	ONLY AFTER REPAIR (√)	ONLY WHEN NEW	NOT CALI- BRATED
· -	PLESSEY	9006	1973		PLESSEL ENVIRONMENTA SUSTEMS.	۷			~		
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NOAA FORM 24-13

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NUMBER	8100	438	5

DATA DOCUMENTATION FORM

	JCUMEN	IATION FOR	m					
NOAA FORM 24-13 (4-77) WATIONAL OCEANIC NATIONAL O WA	PARTMENT AND ATMO CEANOGRA RECORDS S SHINGTON,	OF COMMERCE SPMERIC ADMINI PHIC DATA CENT ECTION DC 20235	STRATION IER	FC O. E2	DRM APPROVED M.B. No. 41-R2651 KPIRES 1-81			
(While you are not required to use this for ancillary information enabling the NODC an	(While you are not required to use this form, it is the most desirable mechanism for providing the required ancillary information enabling the NODC and users to obtain the greatest benefit from your data.)							
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. ORIG								
THIS SECTION MUST BE COMPLETED BY DONOR F	OR ALL D	ATA TRANSMIT	TALS					
1. NAME AND ADDRESS OF INSTITUTION, LABORA	TORY. OF	ACTIVITY WIT	H WHICH SUBM	TTED DATA A	REASSOCIATED			
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NATIONAL MARINE			/CV.		1			
P.O. BOX 2+1	_	_						
LA JOLLA, CA.	92	2038						
2. EXPEDITION, PROJECT, OR PROGRAM DURING DATA WERE COLLECTED	ЖНІСН	3. CRUISE NUM DATA IN TH	BER(S) USED E	BY ORIGINATOP	R TO IDENTIFY			
ALBACORE OCEANOGRAPHY	1	JORD	AN CRU	uise 86	STD			
4. PLATFORM NAME(S) 5. PLATFORM TYPE (E.G., SHIP, BUO)	E(S) Y, ETC.)	6. PLATFORM A NATIONALIT	ND OPERATOR	7. DA	TES			
R/V		PLATFORM	OPERATOR	FROM: MODAY,YF	TO: MO / DAY / YR			
DAVID STARR SHIP JORDAN		U.S.	U.S.	5/28/74	7/6/74			
8. ARE DATA PROPRIETARY?	11. PLEAS	E DARKEN ALL	MARSDEN SQ	UARES IN WHIC	H ANY DATA			
IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR MON TH	<u></u>		GENERAL AR	IE A				
9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)?	100* 120* 1	40" 168" 180" 160" 140	· 120* 100* 60* 60*	40° 20° 8° 20°	40" 80" 87" 100"			
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(714) 453-2820	517	40" 160" 160" 160" 140		40" 20" 6" 20"	543 578 40* 88* 88* 108*			
NOAA FORM 24-13	······	- ·						

Reversing thermometers were calibrated and maintained by Scripps Institution of Oceanography. The differences between the Nansen/Niskin and DDL for each data set was plotted and a quadratic equation computed to determine the best fit line through the points.

For stations recorded on the DDL:

Temp. needed no correction

$S' = S-(.036-2*10^{-5}Z+4*10^{-8}Z^2)$

where Z = depth.

For stations digitized from analog traces:

T' = T+0.05°C 0-1000 meters S' = S-0.025°/... S' = S-0.045°/... 501-1000 meters

No tests were made for a possible offset in the depth channel. No record was maintained of depth channel frequency count at the sea surface.

Questions on these data may be directed to Ronald Lynn or Ken bliss, Southwest Fisheries Center, P.O. Box 271, La Jolla, CA 92038. Tele: (714) 453-2820 or FTS: 893-6820.

B. SCIENTIFIC CONTENT

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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
DEPTH	meters	STD PLESSEY Model 9006	N/A	SEE ATTACHMENT
TEMPERATURE	°C .	11	17	17
SALINITY	e /00	11 11	·	11
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NOAA FORM 24-13			 	

C. DATA FORMAT

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

2

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

UNLABELED TAPE 111 FILES, EACH FILE IS AN STO CAST. TWO END-OF-FILE MARKS FOLLONING LAST CAST. 2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION FIRST RECORD - HEADER INFORMATION SECOND RECORD DEPTH, TEMP., SAL., AT IMETER INTERVALS. RECORD LAST NUMBER OF RECORDS / FILE. VARIABLE 3. ATTRIBUTES AS EXPRESSED IN PL-1 ALGOL Совог FORTRAN LANGUAGE 4. RESPONSIBLE COMPUTER SPECIALIST: NAME AND PHONE NUMBER KEN BLISS (714) 453-2820 ADDRESS P.D. BOX 271 LA JOLLA, CA. COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE 5. RECORDING MODE 9. LENGTH OF INTER-RECORD GAP (IF KNOWN) BCD BINARY 3/4 INCH X ASCII EBCDIC ¥ 10. END OF FILE MARK OCTAL 17 6. NUMBER OF TRACKS (CHANNELS) SEVEN 11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER) NATIONAL MARINE FISHERIES 7. PARITY X 0 D D CRUISE 86 STD EVEN 8. DENSITY 1974 JORDAN 200 BPI 1600 BPI 12. PHYSICAL BLOCK LENGTH IN BYTES 556 BPI 4680 X 800 8P1 13. LENGTH OF BYTES IN BITS 8 6 Bytes/word

NOAA FORM 24-13

RECORD FORMAT DESCRIPTION

RECORD NAME

14. FIELD NAME	15. POSITION FROM - 1	16. LEN	GŤĤ	17. ATTRIBUTES	18. USE AND MEANING
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	IN ROD KOK	NUMBER	UNITS		
	(e.g., bits, bytes)		CHARS	•	
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MONTH	3	2	ΓZ		
DAY	4	2	T 2		
YEAR	5	2	I2		IN FORMATION
TIME	6	4	I4		
LATITUDE	7	6	16-		deg., MIN., tenths of MIN.
LONGITUDE	8	6	I6 -		· ·
ND. LEVELS	7	4	I 4		
DEPTH	ID	4	I 4		FIELD REPEAT
TEMP.	11	4 :	<u> </u>		"NO. OF LEVELS TIMES
SALINITY	12	2	I2		60 FIELDS/RECORD
ť					TEMP. AND SAL. HAVE AN IMPLIED DECIMAL 2 AND 3 PLACES RESpectively TO THE LEFT OF THE LEAST SIGNIFICANT DIGIT.

NOAA FORM 24-13

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 (" $\sqrt{}$ ") 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 WAS CALIBRATED BY			CH INSTRUMEN	ECK ONE: IT IS CALIBRAT	FED		INSTRU- MENT
(MFR., MODEL NO.)	CALIBRATION	YOUR ORGANIZATION (√)	YOUR ORGANIZATION (1/)		BEFORE OR AFTER USE (√)	BEFORE AND AFTER USE {√}	ONLY AFTER REPAIR (√)	ONLY WHEN NEW (V)	NOT CALI- BRATED
PLESSEY 9006	1974		PLESSEY ENVIRONMENT	AL			V		
			Systems						
						~			
NO AA FORM 24-13									 :

Notes on quality of STD (salinity/temperature/versus depth) casts from R/V David Starr Jordan Cruise No. 86, May 28 - July 6, 1974.

Number of STD casts: 111 Number of Nansen casts: 28 Number of Niskin casts: 39

These STD casts were judged by the data collection and processing team to be of good quality. Considerable effort was directed toward processing and calibration.

Measurements were made with a Plessey Model 9006 STD system modified with a Model 9040 Paraloc. The STD sensor unit was lowered at 30 m/min through the surface layer and thermocline and thereafter at about 60 m/min. Data was recorded at .5 sec intervals on a Plessey Model 8114 Digital Data Logger (DDL) and recorded on a Leeds and Northrup $X-Y_1-Y_2$ analog recorder.

The data were processed by computer routines which converted recorded frequencies to oceanographic parameters, corrected salinity offset and spiking (caused by differences in response times of sensors), removed depth reversals, computed running means and selected final values at each whole meter of depth. The routines were largely modified from those published by J. H. Jones (1969, Spec. Sci. Rep. No. 588, U.S. Fish, Wildlife Serv.). At the core of the modified version a salinity correction was derived to produce a common temperature-salinity (T-S) trace from the downcast and upcast for each station in which both were recorded. The correction term was based upon the instantaneous temperature gradient and an empirically derived constant (combining sensor and system response time differences) which produced the best fit. In all 111 casts, 94 had accompanying upcasts. The constants fell into patterns and were assigned to those stations without upcasts. Results suggest that this is an effective processing scheme. The overall guality was slightly compromised by the rather large variability among groups of station in the degree of spiking and hysteresis between the upcast and downcast T-S traces caused by changes within the STD instrument.

The following stations failed to record on the DDL and were manually digitized: Stations 1, 68, 69, 70, 71, 72. Points were chosen along the temperature and salinity traces for digitization so as to effectively reproduce the traces including all significant inflections and inversions. Each digitized cast was reviewed for consistency.

Calibration standards were determined from Nansen and Niskin cast data. An 18-bottle Nansen cast accompanied 28 of the STD casts and a 12-bottle Niskin rosette sampler accompanied 39 STD casts. Three or four salinty samples and two temperature readings were taken from each Niskin cast. Salinities were determined using a laboratory inductive salinometer. Reversing thermometers were calibrated and maintained by Scripps Institution of Oceanography. The differences between the Nansen/Niskin and DDL for each data set was plotted and a quadratic equation computed to determine the best fit line through the points.

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Results were as follows:

Temperature - Station 1-118

T' = T -0.05

Salinity - Stations 1-18

S' = S + (.015-6.83*10<sup>-5</sup>Z+3.33*10<sup>-8</sup>Z<sup>2</sup>)

- Stations 19-53

S' = S -(.005-3.05*10<sup>-5</sup>Z+4.5*10<sup>-8</sup>Z<sup>2</sup>)

- Stations 54-118

S' = S + (.017-1.1*10<sup>-4</sup>Z+2.5*10<sup>-8</sup>Z<sup>2</sup>)

where Z = depth in meters.
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No tests were made for a possible offset in the depth channel. No record was maintained of depth channel frequency count at the sea surface.

Questions on these data may be directed to Ronald Lynn or Ken Bliss, Southwest Fisheries Center, P.O. Box 271, La Jolla, CA 92038. Tele: (714) 453-2820 or FTS: 893-6820.

TAPE OR DISK ASSIGNMENT SHEET (MRL) 11/6/78 (Rev. 11/80)

ACCESSION/TRACK NO.:

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PE OF TAPE	TAPE NUMBER	LABEL	LRECL	BLKSIZE	RECFM	REMARKS	# RECORDS
ORIGINATOR							
DUPLICATE		-	- P				
REFORMATTED							
FIRST							
FINAL USER							
DISK FILE	DSN					REMARKS	# RECORDS
WORK DISK FILE							
EDITED DISK FILE	~						

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FROM:		
SUBJECT :	Error Correction in Processing of Da	ta Set - Accession $\#$
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•	2) Project Ident.:	
	3) Track Nos.:	
I. Erro:	Corrections as reported to Principal	Investigator:
	Error	Correction Completed (Check)

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II. Additional error corrections:

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Error Correction Completed (Check)

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III. Processor Name:_____

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Notes on quality of STD (salinity/temperature/versus depth) casts from R/V David Starr Jordan Cruise No. 79, May 30-July 6, 1973.

Number of STD casts: 132 Number of Nansen casts: 16 Number of Niskin casts: 40

These STD casts were judged by the data collection and processing team to be of good quality. Considerable effort was directed toward processing and calibration.

Measurements were made with a Plessey Model 9006 STD system modified with a Model 9040 Paraloc. The STD sensor unit was lowered at 30 m/min through the surface layer and thermocline and thereafter at about 60 m/min. Data was recorded at .5 sec intervals on a Plessey Model 8114 Digital Data Logger (DDL) and recorded on a Leeds and Northrup $X-Y_1-Y_2$ analog recorder.

The data were processed by computer routines which converted recorded frequencies to oceanographic parameters, corrected salinity offset and spiking (caused by differences in response times of sensors), removed depth reversals, computed running means and selected final values at each whole meter of depth. The routines were largely modified from those published by J. H. Jones (1969, Spec. Sci. Rep. No. 588, U.S. Fish, Wildlife Serv.). At the core of the modified version a salinity correction was derived to produce a common temperature-salinity (T-S) trace from the downcast and upcast for each station in which both were recorded. The correction term was based upon the instantaneous temperature gradient (with algebraic sign) and an empirically derived constant (combining sensor and system response time differences) which produced the best fit. In all 132 casts, 83 had accompanying upcasts. The constants fell into patterns and were assigned to those stations without upcasts. Results suggest that this is an effective processing scheme. The overall quality was slightly compromised by the rather large variability among groups of station in the degree of spiking and hysteresis between the upcast and downcast T-S traces caused by changes within the STD instrument.

On a separate note the temperature and salinities at some levels between 100 and 115 meters of stations 39 and 40 have a small offset causing inversions in the density. These faults are still in the final data file.

The following stations failed to record on the DDL and were manually digitized: Stations 23, 24, 64, 92, 109, 163, 169-175, 177-180. Points were chosen along the temperature and salinity traces for digitization so as to effectively reproduce the traces including all significant inflections and inversions. Each digitized cast was reviewed for consistency.

Calibration standards were determined from Nansen and Niskin cast data. An 18-bottle Nansen cast accompanied 16 of the STD casts and a 12-bottle Niskin rosette sampler accompanied 40 STD casts. Salinities were determined using a laboratory inductive salinometer.

DATA SET ROUTE SHEET

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ACCESSION/TRACK #_____

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Step	<u>Completion Date/Init.</u>	Tape # <u>or DSN</u>	# of <u>Files</u>	BLKSIZE	LRECL	# RECORDS
ORIGINATOR TAPE #						
QUADI/SCAN TAPE #						
DDF EVALUATION						
QUALITY REVIEW						
PRELIMINARY DATA SORT						
PRELIMINARY MULCHEK						
FIRST USER TAPE #						
WORK DISK FILE						
FINAL USER TAPE #						
FINAL MULCHEK						
EDITED DISK FILE						
DATA SET "FINALIZED"						



UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration ENVIRONMENTAL DATA AND INFORMATION SERVICE Washington, D.C. 20235

Liaison Office P. O. Box 271 La Jolla, California 92038

February 24, 1981

EDIS:NCR

TO: OA/D781 - Anthony Picciolo FROM: Nerson L. Ross, Jr.

SUBJECT: Data Submission (NMFS, La Jolla)

Forwarded are two magnetic tapes and DDFs for the following cruises:

- Albacore Oceanography Jordan Cruise 79 STD May 30, 1973 - July 6, 1973 132 casts.
- Albacore Oceanography Jordan Cruise 86 STD May 28, 1974 - July 6, 1974 111 casts

Please perform quality checks with respect to documentation and acceptability. In addition please acknowledge receipt of data and forward the assigned NODC Reference Numbers to the submitter.

cc: Ken Bliss, SWFC 0A/D75

Acc # 8100438



J=ENTRY X = D78.2 ENTRY T-CO [-] - NAPIS RECORD N.D.D.C. . J CCESSION NO D DATE RECEIVED: YR [8/] MG [03] DAY [02] N.J.D.C. -- TRACK RECORD ACCESSION NO C J REFERENCE NO C DNP (Y/N) EY COUNTRY CODE [3/] COUNTRY E U.S. INST. CODE [A2] NMFS ٢ FILE-ALIAS EC1483 FILE-NAME E STO -----· · · · · · . PRCJ-CODE [] PROJ-NAME [MEDIUM: CODE [09] TYPE [PLATFORM: · · · · · TYPE CODE [09] TYPE [•• . • -PLAT CODE [3/JD] NAME [JORDAN CRUISE NO E 86] CRUISE-START [740528] CRUISE-END [740706 REGURT E D STATIONS-IN E /// D STATIONS-OUT E D STATUS REJ E] SU E**8/0302**3 SP E] QUADI E DATES: PROCESS E] DIP E] MEUPDT E] RETCOR E TRACK: RUE] FILE-IDE] LEASE D

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B. SCIENTIFIC CONTENT METHODS OF OBSERVATION AND ANALYTICAL METHODS DATA PROCESSING REPORTING UNITS AME OF DATA FIELD INSTRUMENTS USED (INCLUDING MODIFICATIONS) TECHNIQUES WITH FILTERING OR CODE (SPECIFY TYPE AND MODEL) AND LABORATORY PROCEDURES AND AVERAGING STD PLESSEY Model 9006 SEE ATTACHMENT N/A meters DEPTH 11 1 00 11 TEMPERATURE 11 11 -/00 SALINITY 1A FORM 24-13

C. DATA FORMAT

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

ST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE

UNLABELED TAPE. 132 FILES, EACH FILE IS AN STD CAST. TWO END-OF-FILE MARKS FOLLOWING LAST CAST. 2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION FIRST RECORD - HEADER INFORMATION SECOND RECORD DEPTH, TEMP. SAL. AT IMETER INTERVALS. LAST RECORD JARIABLE NUMBER OF RECORDS / FILE. ALGOL COBOL 3. ATTRIBUTES AS EXPRESSED IN X FORTRAN LANGUAGE 4. RESPONSIBLE COMPUTER SPECIALIST: NAME AND PHONE NUMBER KEN BLISS (714) 453-2820 ADDRESS P.O. BOX 271 LA JOLLA, CA. 92038 COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE 5. RECORDING MODE 9. LENGTH OF INTER-Пвсо BINARY RECORD GAP (IF KNOWN) 3/4 INCH XASCII EBCDIC 10. END OF FILE MARK OCTAL 17 6. NUMBER OF TRACKS SEVEN (CHANNELS) 11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER) NINE NATIONAL MARINE FISHERIES 7. PARITY CRUISE 79 STD X 000 EVEN 8. DENSITY 1973 JORDAN 200 BPI 1600 BPI 12. PHYSICAL BLOCK LENGTH IN BYTES 556 BPI 4680 X 800 BPI

13. LENGTH OF BYTES IN BITS

RECORD FORMAT DESCRIPTION

RECORD NAME _____

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14. FIELD NAME	15. POSITION FROM - 1 MEASURED	16. LEN	GTH	17. ATTRIBUTES	18. USE AND MEANING
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					TEMP. AND SAL. HAUE AN IMPLIED DECIMAL 2 AND 3 PLACES RESPEC: TO THE LEFT OF THI LEAST SIGNIFICANT DI

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 (" $\sqrt{}$ ") 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	DATE OF LAST	INSTRUMENT WAS	CHECK ONE: INSTRUMENT IS CALIBRATED					INSTRU- MENT IS		
(MFR., MODEL NO.) CALIBRATION		CALIBRATION	YOUR ORGANIZATION {√}	OTHER ORGANIZATION (GIVE NAME)	AT FIXED INTERVALS (√)	BEFORE OR AFTER USE (V)	BEFORE AND AFTER USE {\/}	ONLY AFTER REPAIR (√)	ONLY WHEN NEW (V)	NOT CALI- BRATED
PLESSEY	9006	1973	<u>.</u>	PLESSEY ENVIRONMENTA	۷			~		

Notes on quality of STD (salinity/temperature/versus depth) casts from R/V David Starr Jordan Cruise No. 79, May 30-July 6, 1973.

Number of STD casts: 132 Number of Nansen casts: 16 Number of Niskin casts: 40

These STD casts were judged by the data collection and processing team to be of good quality. Considerable effort was directed toward processing and calibration.

Measurements were made with a Plessey Model 9006 STD system modified with a Model 9040 Paraloc. The STD sensor unit was lowered at 30 m/min through the surface layer and thermocline and thereafter at about 60 m/min. Data was recorded at .5 sec intervals on a Plessey Model 8114 Digital Data Logger (DDL) and recorded on a Leeds and Northrup $X-Y_1-Y_2$ analog recorder.

The data were processed by computer routines which converted recorded frequencies to oceanographic parameters, corrected salinity offset and spiking (caused by differences in response times of sensors), removed depth reversals, computed running means and selected final values at each whole meter of depth. The routines were largely modified from those published by J. H. Jones (1969, Spec. Sci. Rep. No. 588, U.S. Fish, Wildlife Serv.). At the core of the modified version a salinity correction was derived to produce a common temperature-salinity (T-S) trace from the downcast and upcast for each station in which both were recorded. The correction term was based upon the instantaneous temperature gradient (with algebraic sign) and an empirically derived constant (combining sensor and system response time differences) which produced the best fit. In all 132 casts, 83 had accompanying upcasts. The constants fell into patterns and were assigned to those stations without upcasts. Results suggest that this is an effective processing scheme. The overall quality was slightly compromised by the rather large variability among groups of station in the degree of spiking and hysteresis between the upcast and downcast T-S traces caused by changes within the STD instrument.

On a separate note the temperature and salinities at some levels between 100 and 115 meters of stations 39 and 40 have a small offset causing inversions in the density. These faults are still in the final data file.

The following stations failed to record on the DDL and were manually digitized: Stations 23, 24, 64, 92, 109, 163, 169-175, 177-180. Points were chosen along the temperature and salinity traces for digitization so as to effectively reproduce the traces including all significant inflections and inversions. Each digitized cast was reviewed for consistency.

Calibration standards were determined from Nansen and Niskin cast data. An 18-bottle Nansen cast accompanied 16 of the STD casts and a 12-bottle Niskin rosette sampler accompanied 40 STD casts. Salinities were determined using a laboratory inductive salinometer. Reversing thermometers were calibrated and maintained by Scripps Institution of Oceanography. The differences between the Nansen/Niskin and DDL for each data set was plotted and a quadratic equation computed to determine the best fit line through the points.

For stations recorded on the DDL:

Temp. needed no correction

 $s' = s_{-}(.036 - 2 \times 10^{-5} Z + 4 \times 10^{-8} Z^2)$

where Z = depth.

For stations digitized from analog traces:

T' = T+0.05°C 0-1000 meters S' = S-0.025°/... 0-500 meters S' = S-0.045°/... 501-1000 meters

No tests were made for a possible offset in the depth channel. No record was maintained of depth channel frequency count at the sea surface.

Questions on these data may be directed to Ronald Lynn or Ken bliss, Southwest Fisheries Center, P.O. Box 271, La Jolla, CA 92038. Tele: (714) 453-2820 or FTS: 893-6820.

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LA JOLLA, CA. 92038								
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NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIF:CATIONS) AND LABORATORY PROCEDURES	DATA PROCESSIN TECHNIQUES WITH FIL AND AVERAGING		
DEPTH	meters	STD PLESSEY Model 9006	N/A	SEE ATTACHME		
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SALINITY	0/00	11	<i>.</i>	11		
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B. SCIENTIFIC CONTENT

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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 UNLABELED TAPE 111 FILES, EACH FILE IS AN STD CAST. TWO END-OF-FILE MARKS FOLLONING LAST CAST. 2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION FIRST RECORD - HEADER INFORMATION SECOND RECORD DEPTH, TEMP., SAL., AT IMETER INTERVALS. RECORD LAST VARIABLE NUMBER OF RECORDS / FILE. COBOL ALGOL 3. ATTRIBUTES AS EXPRESSED IN PL-1 FORTRAN LANGUAGE 4. RESPONSIBLE COMPUTER SPECIALIST: NAME AND PHONE NUMBER KEN BLISS (714) 453-2820 ADDRESS P.D. BOX 271 LA JOLLA, CA. 92038 COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE 9. LENGTH OF INTER-5. RECORDING MODE D HCD BINAHY RECORD GAP (IF KNOWN) 3/4 INCH MASCH EBCDIC 10. END OF FILE MARK OCTAL 17 6. NUMBER OF TRACKS SEVEN (CHANNELS) 11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER) NINE NATIONAL MARINE FISHERIES 7. PARITY X oon. STD CRUISE 86 I CVEN JORDAN 1974 8. DENSITY 200 BPI 1600 BPI 12, PHYSICAL BLOCK LENGTH IN BYTES 555 BPI 4680

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14. FIELD NAME	15. POSITION FPOM - 1 MEADURED	16. LFN	GTH	1" ATTRIBUTES 18. USE AND MEANING
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DAY	4	2	I2	
YEAR	5	2	I2	IN FORMATION
TIME	6	4	I4	
LATITUDE	7	6	16-	deg., min., tenths
LONGITUDE	8	6	I6-	
ND. LEVELS	9	4	I4	
DEPTH	10	4	I4	FIELD REPEAT
TEMP	u .	4	I4	"NO. OF LEVELS" TIME
SALINITY	12	5	I2	60 FIELDS / RECORD
				TEMP. AND SAL. HAVE AN IMPLIED DECIMAL 2 AND 3 PLACES RESPECTIVELY TO THE LEFT OF THE LEAST SIGNIFICANT DIGIT.

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NOAA FORM 24-13

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D. INSTRUMENT CALIBRATION

This calibration information will be utilized by NCAA'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 (" \checkmark ") 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 WA	S CALIBRATED BY	CHECK ONE: INSTRUMENT IS CALIBRATED					
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Notes on quality of STD (salinity/temperature/versus depth) casts from R/V David Starr Jordan Cruise No. 86, May 28 - July 6, 1974.

Number of STD casts: 111 Number of Nansen casts: 28 Number of Niskin casts: 39

These STD casts were judged by the data collection and processing team to be of good quality. Considerable effort was directed toward processing and calibration.

Measurements were made with a Plessey Model 9006 STD system modified with a Model 9040 Paraloc. The STD sensor unit was lowered at 30 m/min through the surface layer and thermocline and thereafter at about 60 m/min. Data was recorded at .5 sec intervals on a Plessey Model 8114 Digital Data Logger (DDL) and recorded on a Leeds and Northrup $X-Y_1-Y_2$ analog recorder.

The data were processed by computer routines which converted recorded frequencies to oceanographic parameters, corrected salinity offset and spiking (caused by differences in response times of sensors), removed depth reversals, computed running means and selected final values at each whole meter of depth. The routines were largely modified from those published by J. H. Jones (1969, Spec. Sci. Rep. No. 588, U.S. Fish, Wildlife Serv.). At the core of the modified version a salinity correction was derived to produce a common temperature-salinity (T-S) trace from the downcast and upcast for each station in which both were recorded. The correction term was based upon the instantaneous temperature gradient and an empirically derived constant (combining sensor and system response time differences) which produced the best fit. In all 111 casts, 94 had accompanying upcasts. The constants fell into patterns and were assigned to those stations without upcasts. Results suggest that this is an effective processing scheme. The overall quality was slightly compromised by the rather large variability among groups of station in the degree of spiking and hysteresis between the upcast and downcast T-S traces caused by changes within the STD instrument.

The following stations failed to record on the DDL and were manually digitized: Stations 1, 68, 69, 70, 71, 72. Points were chosen along the temperature and salinity traces for digitization so as to effectively reproduce the traces including all significant inflections and inversions. Each digitized-cast was reviewed for consistency.

Calibration standards were determined from Mansen and Niskin cast data. An 18-bottle Nansen cast accompanied 28 of the STD casts and a 12-bottle Niskin rosette sampler accompanied 39 STD casts. Three or four salinty samples and two temperature readings were taken from each Niskin cast. Salinities were determined using a laboratory inductive salinometer. Reversing thermometers were calibrated and maintained by Scripps Institution of Oceanography. The differences between the Nansen/Niskin and DDL for each data set was plotted and a quadratic equation computed to determine the best fit line through the points.

Results were as follows:

Temperature - Station 1-118

T' = T - 0.05

Salinity - Stations 1-18

 $S' = S + (.015-6.83*10^{-5}Z+3.33*10^{-8}Z^2)$

- Stations 19-53

 $S' = S - (.005 - 3.05 \times 10^{-5} \text{Z} + 4.5 \times 10^{-8} \text{Z}^2)$

- Stations 54-118

$$S' = S + (.017 - 1.1 + 10^{-4} Z + 2.5 + 10^{-8} Z^{2})$$

where Z = depth in meters.

No tests were made for a possible offset in the depth channel. No record was maintained of depth channel frequency count at the sea surface.

Questions on these data may be directed to Ronald Lynn or Ken Bliss, Southwest Fisheries Center, P.O. Box 271, La Jolla, CA 92038. Tele: (714) 453-2820 or FTS: 893-6820.

TAPF OR DISK ASSIGNMENT SHEET (MRL) 11/6/78 (Rev. 11/80)

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I. Error Corrections as reported to Principal Investigator:

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DATA SET ROUTE SHEET

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DDF EVALUATION							
QUALITY REVIEW							
PRELIMINARY DATA SORT							
PRELIMINARY MULCHEK							
FIRST USER TAPE #							
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Liaison Office P. O. Box 271 La Jolla, California 92038

February 24, 1981

EDIS:NCR

TO: OA/D781 - Anthony Picciolo FROM: Norson C. Ross, Jr.

SUBJECT: Data Submission (NMFS, La Jolla)

Forwarded are two magnetic tapes and DDFs for the following cruises:

- Albacore Oceanography Jordan Cruise 79 STD May 30, 1973 - July 6, 1973 132 casts.
- 2. Albacore Oceanography Jordan Cruise 86 STD May 28, 1974 - July 6, 1974 111 casts

Please perform quality checks with respect to documentation and acceptability. In addition please acknowledge receipt of data and forward the assigned NODC Reference Numbers to the submitter. $\eta_{c} \in 1$

cc: Ken Bliss, SWFC OA/D75



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NANSEN REF. # 319633

MULDARS TRACK # 75089 .

MONITOR: CONTACT SELKIRK

. . LOCATION OF FO22 SOURCE ARCHIVES

RECORD ALL ERRORS FOUND

CONSEC(S).

NONE

ERRORS FOUND

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