90603

Current Meter and Tide Gauge Observations for the Strait of Belle Isle

Robert R. Lively

Atlantic Oceanographic Laboratory
Ocean Science and Surveys, Atlantic
Department of Fisheries and Oceans

Bedford Institute of Oceanography
P.O. Box 1006
Dartmouth, Nova Scotia B2Y 4A2

October 1984

Canadian Technical Report of Hydrography and Ocean Sciences No. 46

Fisheries and Oceans Pêches et Océans

Canada

Canadian Technical Report of Hydrography and Ocean Sciences

Technical reports contain scientific and technical information that contributes to existing knowledge but which is not normally appropriate for primary literature. The subject matter is related generally to programs and interests of the Ocean Science and Surveys (OSS) sector of the Department of Fisheries and Oceans.

Technical reports may be cited as full publications. The correct citation appears above the abstract of each report. Each report is abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Technical reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out of stock reports will be supplied for a fee by commercial agents.

Regional and headquarters establishments of Ocean Science and Surveys ceased publication of their various report series as of December 1981. A complete listing of these publications is published in the *Canadian Journal of Fisheries and Aquatic Sciences*, Volume 39: Index to Publications 1982. The current series, which begins with report number 1, was initiated in January 1982.

Rapport technique canadien sur l'hydrographie et les sciences océaniques

Les rapports techniques contiennent des renseignements scientifiques et techniques qui constituent une contribution aux connaissances actuelles, mais qui ne sont pas normalement appropriés pour la publication dans un journal scientifique. Le sujet est généralement lié aux programmes et intérêts du service des Sciences et levés océaniques (SLO) du ministère des Pêches et des Océans.

Les rapports techniques peuvent être cités comme des publications complètes. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports techniques sont résumés dans la revue *Résumés des sciences aquatiques et halieutiques*, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les rapports techniques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

Les établissements des Sciences et levés océaniques dans les régions et à l'administration centrale ont cessé de publier leurs diverses séries de rapports en décembre 1981. Une liste complète de ces publications figure dans le volume 39, Index des publications 1982 du *Journal canadien des sciences halieutiques et aquatiques*. La série actuelle a commencé avec la publication du rapport numéro 1 en janvier 1982.

Canadian Technical Report of
Hydrography and Ocean Sciences No. 46

October 1984

CURRENT METER AND TIDE GAUGE OBSERVATIONS FOR THE STRAIT OF BELLE ISLE

by

Robert R. Lively

Atlantic Oceanographic Laboratory
Ocean Science and Surveys, Atlantic
Department of Fisheries and Oceans

Bedford Institute of Oceanography
P.O. Box 1006
Dartmouth, Nova Scotia
Canada B2Y 4A2

Cat. No. Fs 97-18/44E ISSN 0711-6764

Correct citation for this publication:

Lively, R.R. 1984. Current meter and tide gauge observations for the Strait of Belle Isle. Can. Tech. Rep. Hydrogr. Ocean Sci. No. 46: vi + 166 p.

ABSTRACT

Lively, R. R. 1984. Current meter and tide gauge observations for the Strait of Belle Isle. Can. Tech. Rep. Hydrogr. Ocean Sci. No. 46:vi+ 166 p.

This report presents the results of the Strait of Belle Isle mooring experiment for the time period July 26, 1980 to October 18, 1980. The current meters were moored from the CSS Dawson during cruise 80-021 and recovered by the CSS Dawson on cruise 80-034. Also included in the report are the results of the tide gauges put in by the Canadian Hydrographic Service's Atlantic Region at the Bedford Institute of Oceanography for the same time period as the current meters.

RÉSUMÉ

Lively, R. R. 1984. Current meter and tide gauge observations for the Strait of Belle Isle. Can. Tech. Rep. Hydrogr. Ocean Sci. No. 46: vi + 166 p.

Le présent rapport renferme les résultats obtenus entre le 26 juillet et le 18 octobre 1980 dans le cadre de l'expérience de mouillage d'instruments menée dans le détroit de Belle-Isle. Les instruments de mesure des courants ont été mouillés par le Dawson lors de sa mission 80-021 et relevées par le Dawson lors de sa mission 80-034. Le rapport contient également les résultats enregistrés pendant la période susmentionnée par les marégraphes placés par les agents du Service hydrographique du Canada (région de l'Atlantique) à l'Institut océanographique de Bedford.

Table of Contents

Page

Abstract/Sommaire iii

List of Tables v

Introduction 1

Mooring Locations 2

Data Accuracy 6

Data Processing 8

Data Presentation 9

Acknowledgements 12

References 12

Current Meter (Station 397 at 14 meters) 23

Current Meter (Station 398 at 11 meters) 32

Current Meter (Station 398 at 46 meters) 41

Current Meter (Station 399 at 20 meters) 50

Current Meter (Station 399 at 50 meters) 59

Current Meter (Station 400 at 8 meters) 68

Current Meter (Station 400 at 43 meters) 77

Current Meter (Station 402 at 21 meters) 88

Current Meter (Station 402 at 51 meters) 97

Current Meter (Station 403 at 12 meters) 108

Current Meter (Station 403 at 47 meters 117

Current Meter (Station 404 at 24 meters) 124

Table of Contents (continued)

Page

Tide gauge (Station 404 at 66 meters)..... 132

Tide gauge (Station 5 at Castle Island)..... 136

Tide gauge (Station 6 at North Light Belle Isle)..... 149

Tide gauge (Station 7 at Ship Cove)..... 154

Tide gauge (Station 9 at West St. Modeste)..... 159

Tide gauge (Station 10 at Forteau Bay)..... 162

Tide gauge (Station 2633 at Savage Cove)..... 165

List of Tables

Page

1. Strait of Belle Isle Mooring Array..... 5
2. General Tidal Analysis for Currents, Temperature, Salinity... 14
3. General Tidal Analysis for Bottom Pressure and Temperature... 18
4. Mooring Summary for Station 397 at 14 meters..... 22
5. Mooring Summary for Station 397 at 50 meters..... 30
6. Mooring Summary for Station 398 at 11 meters..... 31
7. Mooring Summary for Station 398 at 46 meters..... 40
8. Mooring Summary for Station 399 at 20 meters..... 49
9. Mooring Summary for Station 399 at 50 meters..... 58
10. Mooring Summary for Station 400 at 8 meters..... 67
11. Mooring Summary for Station 400 at 43 meters..... 76
12. Mooring Summary for Station 401 at 15 meters..... 85
13. Mooring Summary for Station 401 at 50 meters..... 86
14. Mooring Summary for Station 402 at 21 meters..... 87
15. Mooring Summary for Station 402 at 51 meters..... 96
16. Mooring Station for Station 403 at 12 meters..... 107
17. Mooring Summary for Station 403 at 47 meters..... 116
18. Mooring Summary for Station 404 at 24 meters..... 123
19. Mooring Summary for Station 404 at 66 meters..... 131
20. Mooring Summary for Castle Island (Station 5)..... 135
21. Mooring Summary for North Light Belle Isle (Station 6)..... 148
22. Mooring Summary for Ship Cove (Station 7)..... 153
23. Mooring Summary for West St. Modeste (Station 9)..... 158
24. Mooring Summary for Forteau Bay (Station 10)..... 161
25. Mooring Station for Savage Cove (Station 2633)..... 164

Introduction

This report presents the Strait of Belle Isle current meter and tide gauge data in a graphical and statistical form for the time period July to October 1980. Also included in this report are the tide gauge data for the same time period for sites at Castle Island, North Light Belle Isle, West St. Modeste, Forteau Bay, Savage Cove, Amour Point and Ship Cove. The purpose of the project was to study the spatial and temporal variability of the circulation in the Strait and geostrophically level the permanent tide gauges at West St. Modeste and Savage Cove.

The plan was to have eight mooring sites (Fig. 1) across the Strait. The vertically and horizontally spaced instruments provided the data to examine the amplitude and phase relationships between the low frequency velocity components and to compare with a model of flow through the Strait developed from analysing old data gathered in the same locations (Garrett and Petrie, 1981), (Toulany et al. 1984). Moreover, the current meter data could be used to geostrophically level the permanent tide gauges on either side of the Strait. Both the current meter and sea level data were used to examine the circulation in the Strait.

This study should lead to a better understanding of the dynamics of flow through sea straits and permit an informed approach to the design of experiments to measure currents through the Arctic Archipelago (Garrett and Petrie 1981). Exchange of water, heat, salt and nutrients between the Gulf of St. Lawrence and Labrador Sea were examined by Juszko (1981). The long term measurements of surface current through the geostrophically levelled permanent tide gauges may be related to other flows such as the Labrador Current and thus may serve as an indicator of the circulation on the

Labrador - Newfoundland Shelf on extended time scales.

The overall return of useful data from this portion of the experiment was 62.65%. A perfomance chart (Fig. 2) shows the data return of each instrument. Extensive hydrographic surveys of one-two weeks duration were also carried out in the area on the cruises 80-021 and 80-034. These data are not included in this report.

Mooring Locations

Eight current meter stations (397 to 404) were deployed across the Strait from 51° 21.05'N and 56° 43.00'W (Savage Cove) to 51° 27.60'N and 56° 51.00'W (Amour Point). Bottom pressure gauges were deployed at seven sites through out the Strait. A detailed layout of the current meter and tide gauge deployments can be seen in Figure 1 and Table 1. Each of the current meter deployments had two current meters at depths of 15 and 50 meters where possible, except at stations 397 and 404 where a bottom pressure gauge was used instead of the current meter at approximately 50 meters. The current meter data were collected using Aanderaa current meters, except for station 404 where a VACM (vector averaging current meter) was used at a depth of 24 meters. The bottom pressure gauges used were a mixture of Aanderaa tide gauges and Ottboro gauges. Sites 397 and 404, North Light Belle Isle, Castle Island and Ship Cove had Aanderaa tide gauges. At West St. Modeste, Forteau Bay and Savage Cove, Ottboro gauges were used. The temporary Ottboro gauge put in at Savage Cove did not work so the data from the permanent tide gauge were used.

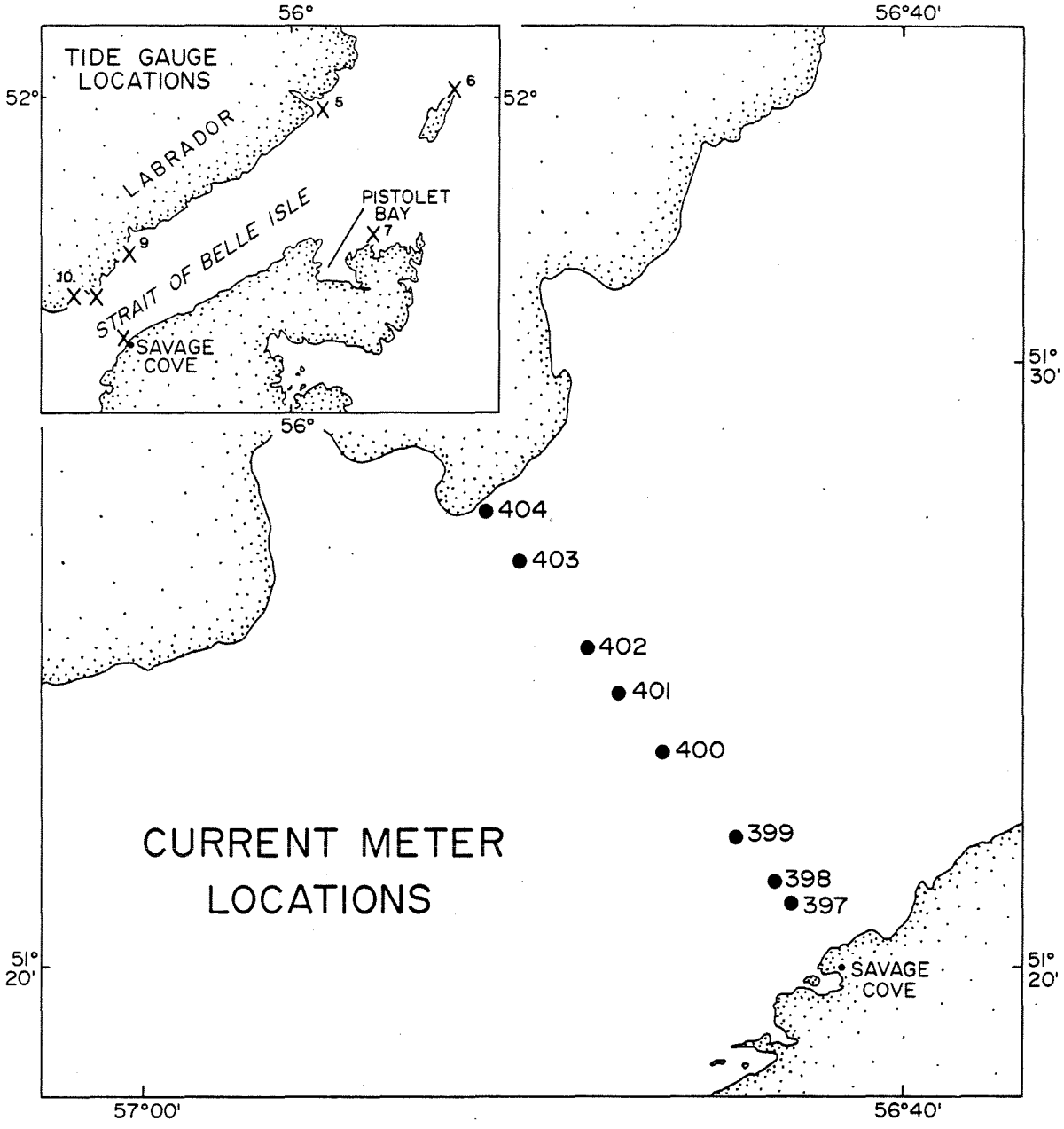
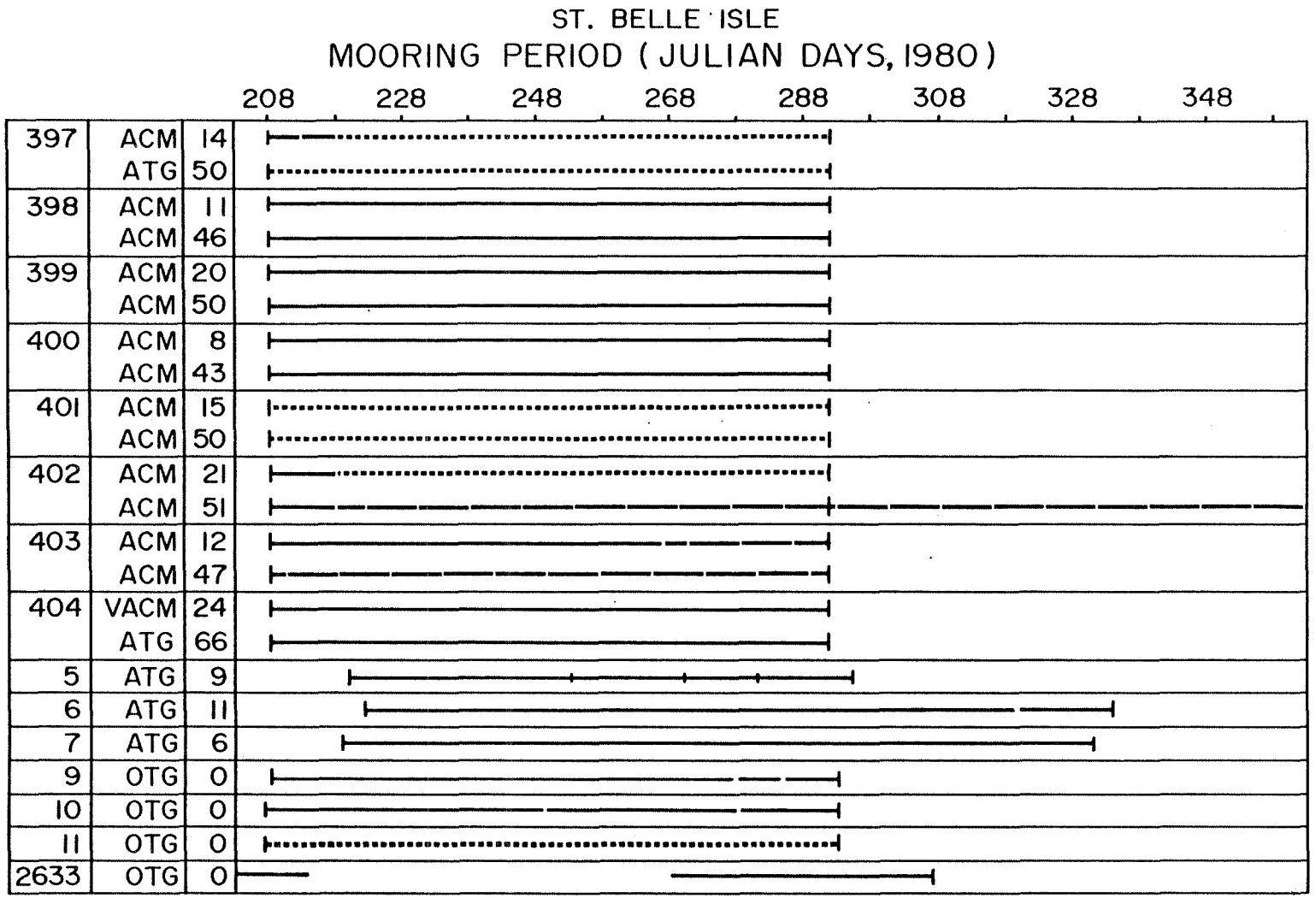


Figure 1 Location of Instruments Moored in the Strait of Belle Isle



ACM AANDERAA CURRENT METER
VACM VECTOR AVERAGING CURRENT METER
ATG AANDERAA TIDE GAUGE
OTG OTTBORO TIDE GAUGE

USEFUL DATA
PARTIAL DATA
NO DATA

Figure 2 Performance Chart for Instruments Moored During St. of Belle Isle Cruise, July 1980 to October 1980

TABLE 1

MOORING ARRAY

MOORING NUMBER	LATITUDE NORTH	LONGITUDE WEST	SOUNDING DEPTH (M)	INSTR. DEPTH (M)	START HH:MM	TIME Z DDD/YY	DURATION DAYS	INST. TYPE
397	51°21.05'N	56°43.00'W	50	14	22:33	208/80	11.69	ACM
				50	22:33	208/80	Lost	ATG
398	51°21.50'N	56°43.60'W	76	11	22:18	208/80	83.88	ACM
				46	22:18	208/80	83.88	ACM
399	51°22.15'N	56°44.40'W	94	20	22:31	208/80	83.56	ACM
				50	22:31	208/80	83.56	ACM
400	51°23.70'N	56°46.40'W	87	8	22:31	208/80	83.56	ACM
				43	22:31	208/80	83.54	ACM
401	51°24.55'N	56°47.60'W	70	15	18:30	208/80	Lost	ACM
				50	18:30	208/80	Lost	ACM
402	51°25.30'N	56°48.40'W	56	21	22:39	208/80	9.46	ACM
				51	20:39	208/80	152.79	ACM
403	51°26.80'N	56°50.25'W	80	12	22:41	208/80	82.96	ACM
				47	22:32	208/80	82.98	ACM
404	51°27.60'N	56°51.00'W	66	24	22:30	208/80	82.90	VACM
				66	22:00	208/80	82.96	ATG
5	51°54.00'N	55°51.60'W	9	9	16:30	222/80	30.75	ATG
				9	10:30	253/80	17.33	ATG
				9	18:30	270/80	10.70	ATG
				9	11:30	281/80	14.08	ATG
6	52° 1.20'N	55°16.80'W	11	11	20:30	222/80	111.33	ATG
7	51°37.80'N	55°37.80'W	6	6	20:30	220/80	111.00	ATG
9	51°35.76'N	56°42.00'W		0	13:30	207/80	85.75	OTG
10	51°28.20'N	56°57.00'W		0	22:30	207/80	85.92	OTG
2633	51°36.30'N	55°39.30'W		0	24:30	183/80	123.00	OTG

ACM - Aanderaa Current Meter
VACM - Vector Averaging Current Meter
ATG - Aanderaa Tide Gauge
OTG - Ottboro Tide Gauge

Data Accuracy

The factory quoted accuracies for the Anderaa current meters, VACM (vector average current meter), Aanderaa tide gauges and the Ottoboro tide gauges are as follows:

AANDERAA (RCM4 and RCM5)

Current Speed	± 1 cm/sec or ± 2% of actual speed, whichever is greater threshold 1.5 cm/sec
Current Direction	± 5 degrees with speed 5-100 cm/sec
Crystal Timer	± 2 sec/day
Temperature	± 0.15° C
Conductivity	0 to 70 mmho/cm 0.1% range

VACM (vector averaging current meter)

Current Speed	threshold 2.57 cm/sec range 2.57 cm/sec to 308.8 cm/sec rotor constant at 34.6 cm water revolution
Current Direction	compass 0° - 360°, 2.8° resolution vane 0° - 360°, 2.8° resolution
Crystal Timer	± 1 sec/day
Temperature	calibrated thermistor ± 0.01°C standard thermistor ± 0.1°C

AANDERAA TIDE GAUGE

Pressure	0.01% of range resolution 0.001% of range

Temperature	range - 5°C to 35°C, 0.05°C resolution 0.01%
Crystal Timer	± 2 sec/day

OTTBORO TIDE GAUGE

Pressure	range 0-3m, 0-6m, 0-9m, 0-18m ± 0.02m on a 3m scale (± 0.5 of a division)
Timer	± 10-15 sec day

The Aanderaa current meters were calibrated for a temperature and salinity in house before each deployment. Pre-calibrations were found to be within the manufacturer's specifications. Compass swings (see below) were done on each Aanderaa current meter before deployment and deviations of order ± 3° were applied in processing the records.

The VACM current meter was calibrated before deployment for compass error and was found to be within the manufacturer's specifications. Temperature sensors for the VACM current meters are calibrated in-house about once every two years. Then, before each deployment the temperature sensors are tested with a resistance box to make sure they fall within range of the calibration values. The resistance box is calibrated once a year.

A pressure sensor in the Aanderaa tide gauge is calibrated once a year. The temperature sensors were calibrated before deployment and found to be within the manufacturer's specifications. However, in 1984 it was found that the pressure sensor could change by up to ± 1.3 MBAR when the temperature varied by ± 1°C. This was originally stated in the manufacturer's specifications in 1978 but not in any specification publications thereafter. The data presented in this report have not been corrected for this error. A three point calibration is done on the Ottboro tide gauges

before they go into the field. The instruments are adjusted for 0, mid chart and full scale. Time corrections are made on a day to day basis in the field.

Data Processing

The data that were recorded by the Aanderaa current meters were translated to computer-compatible tape. The encoder numbers were converted to physical units using several programs found in the CMSYST package available at Bedford Institute of Oceanography (AOL, 1979). A compass swing was done before each Aanderaa current meter was deployed. Each instrument was placed on a compass swing table and rotated clockwise in 10.25° increments through a complete revolution and then counterclockwise through a complete revolution. The readings for clockwise and counterclockwise revolutions were averaged to produce the calibration points used to correct the direction readings. A local magnetic variation was taken from chart 5375 (Haslan, 1981). A great deal of effort had to be applied to editting the rate because of the constant overlapping and sometimes double overlapping of the rate sensor. This was due to the large rate and a long time interval for each data cycle on the current meter. The temperature, conductivity and pressure values were used to calculate salinity using the UNESCO formula (Perkin and Lewis, 1980). No account was taken of the mismatch between temperature and conductivity sensor responses.

VACM (vector averaging current meter) data were translated to computer-compatible tape using a series of pragrams available from Ocean Circulation Division at Bedford Institute of Oceanography (Hendry, 1979). The speed is measured with a 10 cm Savonius rotor but direction is sensed by a small (17 x 9 cm) vane with a 1 sec time constant. Every eighth of a

revolution of the rotor, the compass and vane orientations are measured and combined to give a discrete current direction which is then converted to Cartescian velocity components (North and East). For the duration of the sampling interval, these components are summed to produce a true vector-average velocity measurement over a number of intermediate samples which is then proportional to current speed. Instantaneous direction is computed as the difference between compass and vane orientations which are recorded in 7-level binary (360°=128 divisions). Temperature output is the frequency of an oscillator circuit which includes a thermistor and two sets of calibrations are needed to get from frequency to temperature (Payne et al. 1976).

Data that were recorded by the Aanderaa tide gauges were translated to computer-compatible tape. The encoder numbers were converted to physical units by using a set of equations (Lively, 1984) found in programs maintained by the Hydrographic Department at Bedford Institute of Oceanography. An arbitrary low water datum is selected by reducing the entire time series by the lowest pressure encountered.

The Ottboro tide gauge data are digitized from the charts using a Gradicon digitize table. Data points are then converted to an arbitrary low water datum level as mentioned above. Both Aanderaa and Ottboro tide gauge data are converted to the CMSYST format enabling further analyses to be done.

Data Presentation

The report contains graphical and statistical representations of current meter data moored on cruise 80-021 and tide gauge data deployed by the Hydrographic Department at Bedford Institute of Oceanography. The time

period for the above data was from July 1980 to October 1980. The data are presented in the following order:

(a) Tidal tables which include record-mean tidal ellipses for the current velocity, tidal constituents for temperature, salinity from the current meters (Table 2), tidal constituents for pressure and temperature from the tide gauges (Table 3).

(b) Mooring summary for the current meters deployed, giving the statstics for the raw data, plus mooring information and any comments about problems with the record.

(c) Current velocity as a progressive vector (1-hour intervals) and stick plot filtered and subsampled at 6-hour intervals.

(d) Rate, true direction, temperature and salinity as a time series plot (interval used at the raw data stage).

(e) Current velocity (u and v component), temperature and salinity as a time series plot filtered and subsampled at 6-hour intervals.

(f) Current velocity as a joint distribution diagram (interval used at the raw data stage).

(g) Histogram of the rate (interval used at the raw data stage).

(h) Histogram of direction (interval used at the raw data stage).

(i) Histogram of the temperature (interval used at the raw data stage).

(j) Histogram of the salinity (interval used at the raw data stage).

Data from the tide gauges are presented in the following order:

(a) Mooring summary for the tide gauge deployed, giving the statistics for the raw data, plus mooring information and any comments about problems with the record.

(b) Pressure and temperature (where applicable) as a time series plot (1-hour interval).

(c) Pressure and temperature (where applicable) as a time series plot filtered and subsampled at 6-hour intervals.

(d) Histogram of the pressure (1-hour interval).

(e) Histogram of the temperature (1-hour interval).

All graphs were computer produced and plotted on an incremental plotter. Day numbers on the graphs are in Julian days. Current meter time series and stick plots, as well as tide gauge time series plots are presented in 90 day segments. The progressive vector diagrams for the current meter data are for the entire mooring period. The arrows on the progressive vector and stick diagrams represent true north. An angle section of 54° was used to resolve the current meter data. The filtered data at 6-hour intervals were created from 1-hour intervals using a Cartwright low-pass filter with 129 weights and a cutoff frequency of 0.036 cph (25% power is passed at 28.4 hours), (AOL, 1979). A performance chart (Fig. 2) gives the data return of each instrument moored for the entire experiment. The graphs and statistical diagrams for the current meters are ordered sequentially by consecutive station numbers and depth. The current meter presentations are followed by the graphs and statistical diagrams for the bottom pressure gauges. These are ordered sequentially by station number. Each set of diagrams for the experiment is preceeded by a mooring summary table (Tables 4-25) giving the accurate depth, latitude, longitude,

sounding instrument number, statistics and comments for each instrument.

Acknowledgements

The author would like to thank Dr. B. Petrie and Dr. D. Greenberg for their advice and for reading the manuscript. Special thanks to Mrs. E Rumley for her help with the statistical tables and to Mr. E. Verge for his effort in the editting of the current meter data.

References

AOL, 1979. Time Series Analysis System Program Documentation. Unpublished MS.

Garrett, Christopher and Brian Petrie, 1981. Dynamical Aspects of the Flow the Strait of Belle Isle. Journal of Phyiscal Oceanography, Volume 11, No. 3, March 1981.

Haslan, D.W., Rear-Admiral, C.B., O.B.E., 1981. Magnetic Variation 1980 and Annual Rates of Change. Chart 5375, Published at Taunton.

Hendry, R. 1979. Program Documentation for Processing VACM Current Meter Data. Unpublished MS.

Juszko, B.A., 1981. The Strait of Belle Isle: Physical and Biological Implications of the Flow. M.Sc Thesis, Dalhousie University, Department of Oceanography.

Lively, R.R., 1984. Current Meter, Meterological and Sea Level Observations for Cape Sable, Nova Scotia. Canadian Technical Report of Hydrography and Ocean Sciences No. 40.

Payne, Richard E., Alvin L. Bradshaw, Jerome P. Dean, Karl E. Schliecher, 1976. Accuracy of Temperature Measurements with the VACM. WHOI-76-94.

Perkin, Ronald G. and Edward Lynn Lewis, 1980. The Practical Salinity Scale 1978: Fitting the Data. IEEE Journal of Oceanic Engineering, Volume OE-5, No. 1 January 1980.

Toulany, Bechara, Brian Petrie and Chris Garrett, 1984. The Strait of Belle Isle: Theory vs Observations. 18th Annual CMOS Congress-11th Annual CGU Meeting. Canadian Meteorological and Oceanographic Society. Canadian Geophysial Union. Dalhousie University, Halifax, Nova Scotia, 29 May - 1 June 1984. Joint Program with Abstracts: 93-94.

TABLE 2

GENERAL TIDAL ANALYSIS FOR CURRENTS, TEMPERATURE, SALINITY

SITE (Mooring) (Depth)	CONSTITUENT	CENTERED AT DAY 213, 1980							
		CURRENT ELLIPSE				TEMPERATURE		SALINITY	
		MAJ. (ms^{-1})	MIN. (ms^{-1})	ORIEN. (°T)	PHASE / SENSE	AMP. (°C)	PHASE (GMT)	AMP. (°/oo)	PHASE (GMT)
(397,014m)	K1	0.261	0.007	50	345/C	0.127	192.58		
	O1	0.263	0.005	48	312/C	0.497	57.65		
	M2	0.513	0.011	47	167/A	0.643	111.93		
	S2	0.176	0.014	45	163/C	0.605	354.78		
	N2	0.136	0.064	51	137/C	1.114	335.03		
	MF	0.209	0.016	64	307/C	3.766	38.31		
	M4	0.018	0.001	55	217/C	0.286	217.92		
	MS4	0.016	0.005	183	146/A	0.212	166.34		
		CENTERED AT DAY 250, 1980							
(398,011m)	K1	0.298	0.004	55	360/A	0.203	131.29	0.028	4.06
	O1	0.232	0.005	51	323/A	0.153	72.63	0.012	226.42
	M2	0.509	0.038	50	164/C	0.095	250.10	0.025	214.06
	S2	0.195	0.027	51	192/C	0.056	324.41	0.021	304.86
	N2	0.119	0.020	53	156/C	0.026	201.46	0.011	252.75
	MF	0.060	0.009	41	126/A	0.656	199.57	0.075	37.46
	M4	0.010	0.005	89	113/C	0.036	292.53	0.004	158.83
	MS4	0.010	0.001	38	132/C	0.031	344.31	0.019	283.76
		CENTERED AT DAY 250, 1980							
(398,046m)	K1	0.234	0.016	61	350/C	0.475	96.56	0.070	280.56
	O1	0.197	0.022	61	313/C	0.435	52.10	0.075	230.48
	M2	0.476	0.045	59	148/C	0.371	310.95	0.052	133.63
	S2	0.163	0.009	59	177/C	0.082	89.36	0.026	312.63
	N2	0.101	0.006	60	129/A	0.163	274.13	0.027	105.60
	MF	0.043	0.015	55	161/C	0.910	193.47	0.125	25.13
	M4	0.011	0.000	13	185/A	0.092	260.38	0.012	104.25
	MS4	0.010	0.001	127	52/A	0.093	305.94	0.007	332.56

TABLE 2 - CONTINUED

SITE (Mooring) (Depth)	CONSTITUENT	CENTERED AT DAY 250, 1980							
		CURRENT ELLIPSE				TEMPERATURE		SALINITY	
		MAJ. (ms^{-1})	MIN. (ms^{-1})	ORIEN. (°T)	PHASE / SENSE	AMP. (°C)	PHASE (GMT)	AMP. (°/₀₀)	PHASE (GMT)
(399,020m)	K1	0.230	0.023	60	5/C	0.157	108.99	0.044	246.00
	O1	0.207	0.003	59	333/C	0.178	68.44	0.038	192.81
	M2	0.471	0.030	55	163/C	0.192	292.96	0.008	230.90
	S2	0.155	0.017	53	195/C	0.061	310.69	0.012	214.45
	N2	0.103	0.012	59	155/C	0.076	317.61	0.017	23.67
	MF	0.077	0.005	55	134/C	0.624	170.89	0.090	0.38
	M4	0.019	0.004	58	135/C	0.087	14.94	0.011	289.71
	MS4	0.014	0.009	35	171/C	0.052	4.66	0.043	250.37
(399,050m)		CENTERED AT DAY 250, 1980							
	K1	0.226	0.005	62	355/A	0.208	120.12	0.051	260.83
	O1	0.191	0.007	60	314/C	0.280	81.43	0.058	225.75
	M2	0.461	0.036	60	152/C	0.164	339.95	0.014	249.13
	S2	0.151	0.013	56	184/C	0.023	60.63	0.013	230.87
	N2	0.088	0.002	57	138/C	0.143	302.75	0.030	56.04
	MF	0.058	0.006	46	139/C	0.753	202.31	0.093	48.83
	M4	0.011	0.002	122	30/C	0.022	322.14	0.019	346.79
	MS4	0.011	0.007	98	52/C	0.048	333.84	0.029	261.35
(400,008m)		CENTERED AT DAY 250, 1980							
	K1	0.260	0.022	59	8/C	0.197	143.19	0.034	8.31
	O1	0.214	0.002	60	331/C	0.181	57.50	0.025	113.41
	M2	0.528	0.081	52	163/C	0.248	308.30	0.114	196.84
	S2	0.174	0.023	49	196/C	0.093	345.90	0.085	171.46
	N2	0.110	0.021	59	158/C	0.055	322.04	0.029	285.04
	MF	0.098	0.019	57	172/A	0.756	200.31	0.060	54.02
	M4	0.021	0.009	164	280/C	0.060	64.70	0.051	40.98
	MS4	0.009	0.006	113	272/C	0.025	80.70	0.034	309.50

TABLE 2 - CONTINUED

SITE (Mooring) (Depth)	CONSTITUENT	CENTERED AT DAY 250, 1980							
		CURRENT ELLIPSE				TEMPERATURE		SALINITY	
		MAJ. (ms^{-1})	MIN. (ms^{-1})	ORIEN. (°T)	PHASE/SENSE	AMP. (°C)	PHASE (GMT)	AMP. (°/₀₀)	PHASE (GMT)
(400,043m)	K1	0.255	0.001	50	4/C	0.358	199.99	0.035	348.22
	O1	0.225	0.018	48	325/C	0.363	166.81	0.043	352.63
	M2	0.474	0.005	49	161/C	0.396	21.26	0.084	225.19
	S2	0.163	0.004	52	188/A	0.068	44.57	0.022	236.21
	N2	0.100	0.001	49	157/A	0.034	339.38	0.018	13.48
	MF	0.063	0.012	39	201/C	0.737	235.92	0.086	72.84
	M4	0.010	0.004	103	67/C	0.105	346.82	0.003	297.51
	MS4	0.008	0.004	48	132/C	0.050	55.41	0.037	267.62
		CENTERED AT DAY 213, 1980							
(402,021m)	K1	0.286	0.029	52	2/C	0.324	280.86	0.095	120.97
	O1	0.254	0.020	49	320/C	0.264	271.24	0.574	70.73
	M2	0.578	0.182	42	151/C	1.159	61.67	3.451	201.21
	S2	0.230	0.014	39	211/A	0.811	295.18	1.246	105.46
	N2	0.170	0.017	24	212/A	0.902	243.99	3.112	37.74
	MF	0.104	0.027	38	327/A	4.200	99.57	1.043	259.97
	M4	0.046	0.004	35	99/C	0.859	116.34	0.480	123.05
	MS4	0.040	0.004	32	298/C	0.827	298.29	0.234	68.23
		*CENTERED AT DAY 250, 1980							
(402,051m)	K1	0.246	0.015	23	38/A	0.080	279.76	0.054	104.27
	O1	0.231	0.051	25	338/A	0.071	166.65	0.032	21.28
	M2	0.275	0.236	15	186/A	0.075	50.54	0.038	250.25
	S2	0.176	0.002	58	222/A	0.055	77.12	0.028	267.21
	N2	0.196	0.029	61	200/C	0.051	146.81	0.018	339.81
	MF	0.149	0.035	360	277/A	0.093	337.53	0.039	135.66
	M4	0.047	0.014	5	9/A	0.036	18.98	0.025	176.16
	MS4	0.041	0.013	120	249/C	0.023	92.59	0.007	241.49

*Current Ellipses Centered at Day 213, 1980

TABLE 2 - CONTINUED

SITE (Mooring) (Depth)	CONSTITUENT	*CENTERED AT DAY 250, 1980							
		CURRENT ELLIPSE				TEMPERATURE		SALINITY	
		MAJ. (ms^{-1})	MIN. (ms^{-1})	ORIEN. (°T)	PHASE / SENSE	AMP. (°C)	PHASE (GMT)	AMP. (°/₀₀)	PHASE (GMT)
(403,012m)	K1	0.387	0.009	43	10/A	0.441	13.22	0.100	161.58
	O1	0.332	0.006	44	334/A	0.317	355.05	0.053	149.88
	M2	0.703	0.025	45	164/C	0.463	168.40	0.131	325.76
	S2	0.244	0.001	47	198/C	0.117	210.19	0.023	15.13
	N2	0.146	0.004	53	156/C	0.157	137.96	0.049	345.94
	MF	0.084	0.003	44	281/A	0.785	160.11	0.111	13.24
	M4	0.053	0.006	131	94/C	0.069	106.28	0.051	304.46
	MS4	0.022	0.011	133	119/C	0.060	136.06	0.014	283.42
		CENTERED AT DAY 213, 1980							
(403,047m)	K1	0.343	0.033	53	5/A				
	O1	0.287	0.017	49	325/A				
	M2	0.629	0.030	58	159/A				
	S2	0.217	0.017	57	188/A				
	N2	0.141	0.022	60	146/A				
	MF	0.056	0.022	23	202/C				
	M4	0.019	0.008	174	300/A				
	MS4	0.018	0.005	134	14/A				
		CENTERED AT DAY 250, 1980							
(404,024m)	K1	0.305	0.000	69	9/A	0.301	353.89		
	O1	0.268	0.001	68	333/A	0.285	298.69		
	M2	0.609	0.007	70	163/A	0.553	193.40		
	S2	0.187	0.002	69	190/A	0.133	239.88		
	N2	0.107	0.001	69	158/A	0.159	173.12		
	MF	0.090	0.005	74	174/C	0.579	200.42		
	M4	0.040	0.008	67	173/A	0.176	118.75		
	MS4	0.039	0.009	71	222/A	0.176	153.72		

*Current Ellipses Centered at Day 237, 1980

TABLE 3

GENERAL TIDAL ANALYSIS FOR BOTTOM PRESSURE AND TEMPERATURE

SITE (Mooring) (Depth)	CENTERED AT DAY	CONSTITUENT	TEMPERATURE AMP. (°C)	TEMPERATURE PHASE (GMT)	PRESSURE AMP. (MBAR)	PRESSURE PHASE (GMT)
404,066m	250,1980	K1	0.070	314.37	10.201	236.14
		O1	0.090	270.24	7.972	223.56
		M2	0.025	307.96	38.287	43.92
		S2	0.075	276.65	12.974	56.11
		N2	0.033	260.67	8.712	25.15
		MF	0.391	340.83	4.599	159.62
		M4	0.089	118.00	1.216	294.48
		MS4	0.064	169.10	1.464	168.21
5,9.1m	238,1980	K1	0.287	207.06	11.376	172.57
		O1	0.070	252.46	6.781	131.07
		M2	0.130	157.78	32.116	320.28
		S2	0.034	143.79	15.076	346.58
		N2	0.121	28.30	7.896	318.71
		MF	1.213	90.94	6.957	165.88
		M4	0.052	330.34	1.365	321.33
		MS4	0.033	341.41	0.526	117.07
5,9.1m	262,1980	K1	0.069	164.96	12.788	182.33
		O1	0.104	218.30	5.467	139.08
		M2	0.032	27.93	34.395	317.17
		S2	0.058	352.01	16.074	343.22
		N2	0.137	261.38	7.282	289.62
		MF	0.454	225.48	2.763	216.57
		M4	0.016	76.81	1.219	294.67
		MS4	0.056	267.33	0.597	119.85
5,9.1m	276,1980	K1	0.234	229.49	10.706	196.55
		O1	0.074	31.04	6.595	141.80
		M2	0.203	158.98	38.476	310.45
		S2	0.154	168.69	16.056	335.09
		N2	0.130	252.48	16.886	341.52
		MF	0.981	58.22	2.523	244.12
		M4	0.098	259.64	2.266	298.23
		MS4	0.073	274.75	0.695	153.25

TABLE 3 - CONTINUED

SITE (Mooring) (Depth)	CENTERED AT DAY	CONSTITUENT	TEMPERATURE AMP. (°C)	TEMPERATURE PHASE (GMT)	PRESSURE AMP. (MBAR)	PRESSURE PHASE (GMT)
5,9.1m	288,1980	K1	0.098	268.91	10.447	177.29
		O1	0.065	244.08	5.130	132.21
		M2	0.107	325.97	34.130	318.42
		S2	0.068	27.65	16.080	342.56
		N2	0.095	313.78	8.099	285.32
		MF	1.800	.51	10.743	175.86
		M4	0.027	1.87	1.281	2.10
		MS4	0.021	337.73	0.895	54.01
6,18.1m	*279,1980	K1	0.049	115.34	12.428	178.64
		O1	0.079	30.48	6.170	123.65
		M2	0.026	252.69	33.570	309.94
		S2	0.007	267.93	14.880	337.04
		N2	0.022	13.88	8.755	296.28
		MF	0.306	46.12	3.187	224.56
		M4	0.002	300.65	0.927	312.35
		MS4	0.007	175.17	0.562	119.89
7,6.0m	276,1980	K1	0.318	208.60	8.884	171.29
		O1	0.049	63.33	3.327	94.74
		M2	0.157	115.71	26.942	308.32
		S2	0.070	168.55	12.961	339.15
		N2	0.035	176.36	6.840	229.32
		MF	0.799	229.82	2.752	148.12
		M4	0.023	45.55	1.104	314.33
		MS4	0.017	7.56	0.592	112.96
9,0m	242,1980	K1			10.558	209.23
		O1			7.056	188.80
		M2			30.319	19.42
		S2			10.954	27.91
		N2			7.745	1.81
		MF			3.833	54.96
		M4			1.460	285.76
		MS4			0.639	132.20

*Pressure Centered at Day 278, 1980

TABLE 3 - CONTINUED

SITE (Mooring) (Depth)	CENTERED AT DAY	CONSTITUENT	TEMPERATURE AMP. (°C)	TEMPERATURE PHASE (GMT)	PRESSURE AMP. (MBAR)	PRESSURE PHASE (GMT)
10,0m	228,1980	K1			10.127	240.08
		O1			9.258	224.42
		M2			38.764	49.30
		S2			12.855	63.76
		N2			8.364	29.49
		MF			2.355	139.58
		M4			2.024	310.52
		MS4			0.239	197.82
10,0m	264,1980	K1			11.097	246.38
		O1			9.004	215.59
		M2			40.393	42.77
		S2			14.121	50.30
		N2			12.770	34.65
		MF			7.632	46.83
		M4			2.246	313.92
		MS4			0.367	18.76
10,0m	286,1980	K1			13.307	252.30
		O1			9.558	231.47
		M2			42.408	50.60
		S2			11.090	71.05
		N2			9.712	14.15
		MF			15.249	131.75
		M4			0.326	259.49
		MS4			1.689	91.44
2633,0m	198,1980	K1			7.932	258.25
		O1			9.028	253.41
		M2			34.823	55.81
		S2			10.877	68.15
		N2			7.355	41.43
		MF			4.133	17.33
		M4			1.301	274.50
		MS4			0.934	193.09

TABLE 3 - CONTINUED

SITE (Mooring) (Depth)	CENTERED AT DAY	CONSTITUENT	TEMPERATURE AMP. (°C)	TEMPERATURE PHASE (GMT)	PRESSURE AMP. (MBAR)	PRESSURE PHASE (GMT)
2633,0m	287,1980	K1			9.227	267.61
		O1			7.875	262.39
		M2			34.868	59.02
		S2			11.949	68.10
		N2			8.472	43.91
		MF			6.999	155.42
		M4			1.838	306.56
		MS4			0.492	157.41

TABLE 4

MOORING SUMMARY

MOORING 397

DEPTH (M) 14

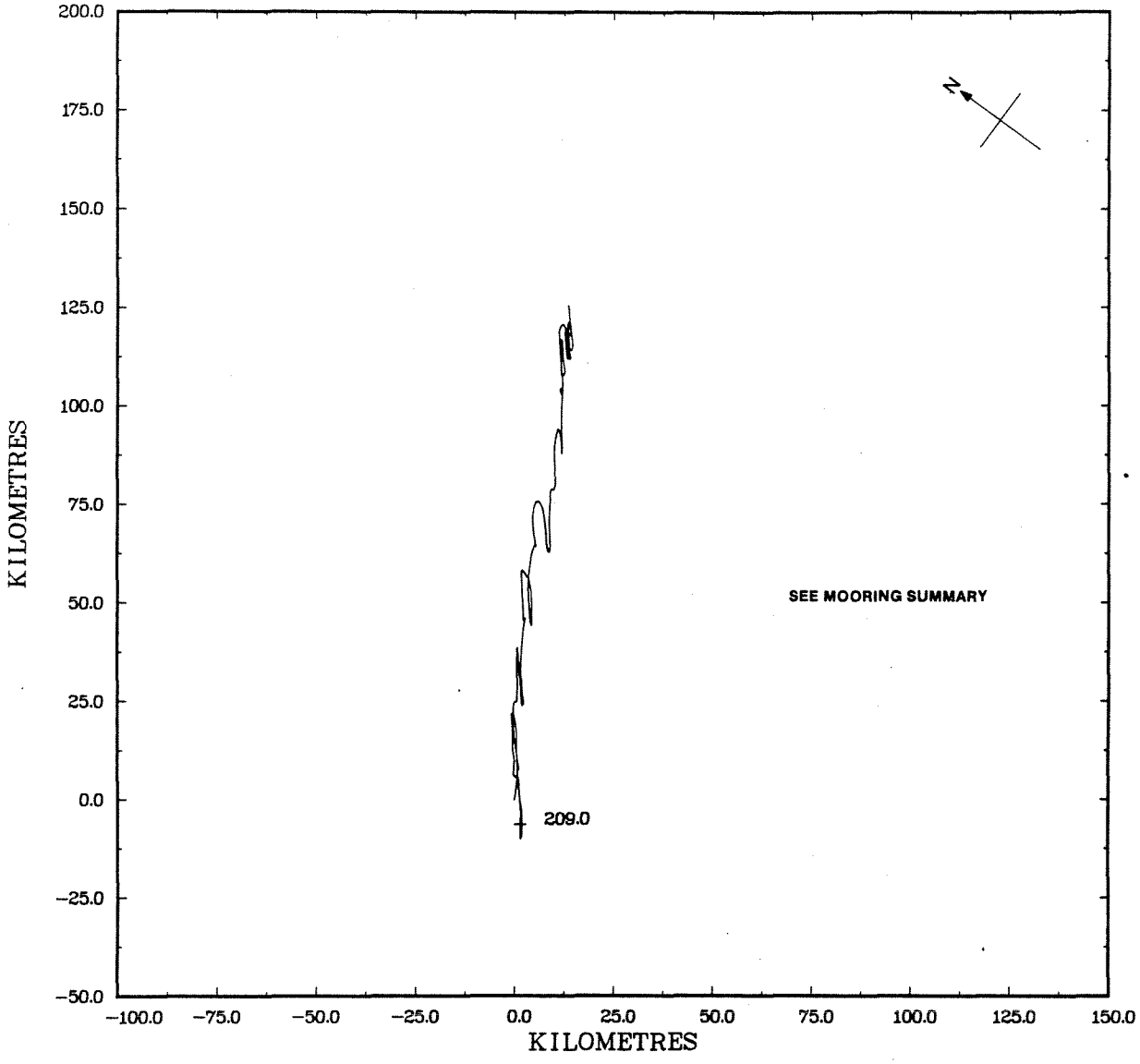
LATITUDE	51 21.05 N
LONGITUDE	56 43.00 W
WATER DEPTH (M)	50
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	8/ 8/ 80/
DURATION (DAYS)	11.69
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	438

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.24	-1.19	.07	1.83	
MAXIMUM	.24	1.26	1.26	13.47	
MEAN	.02	.16	.49	10.12	
STD. DEV.	.08	.55	.30	2.44	

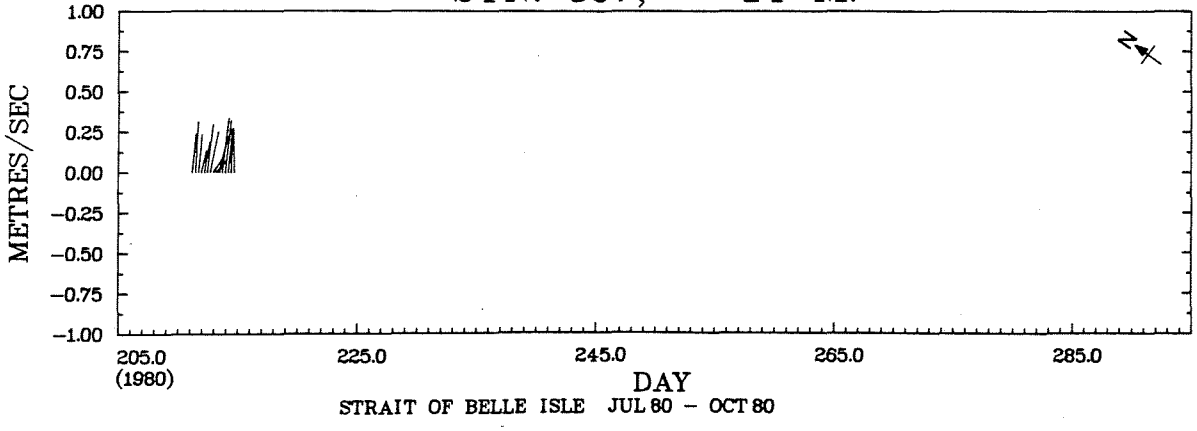
COMMENTS

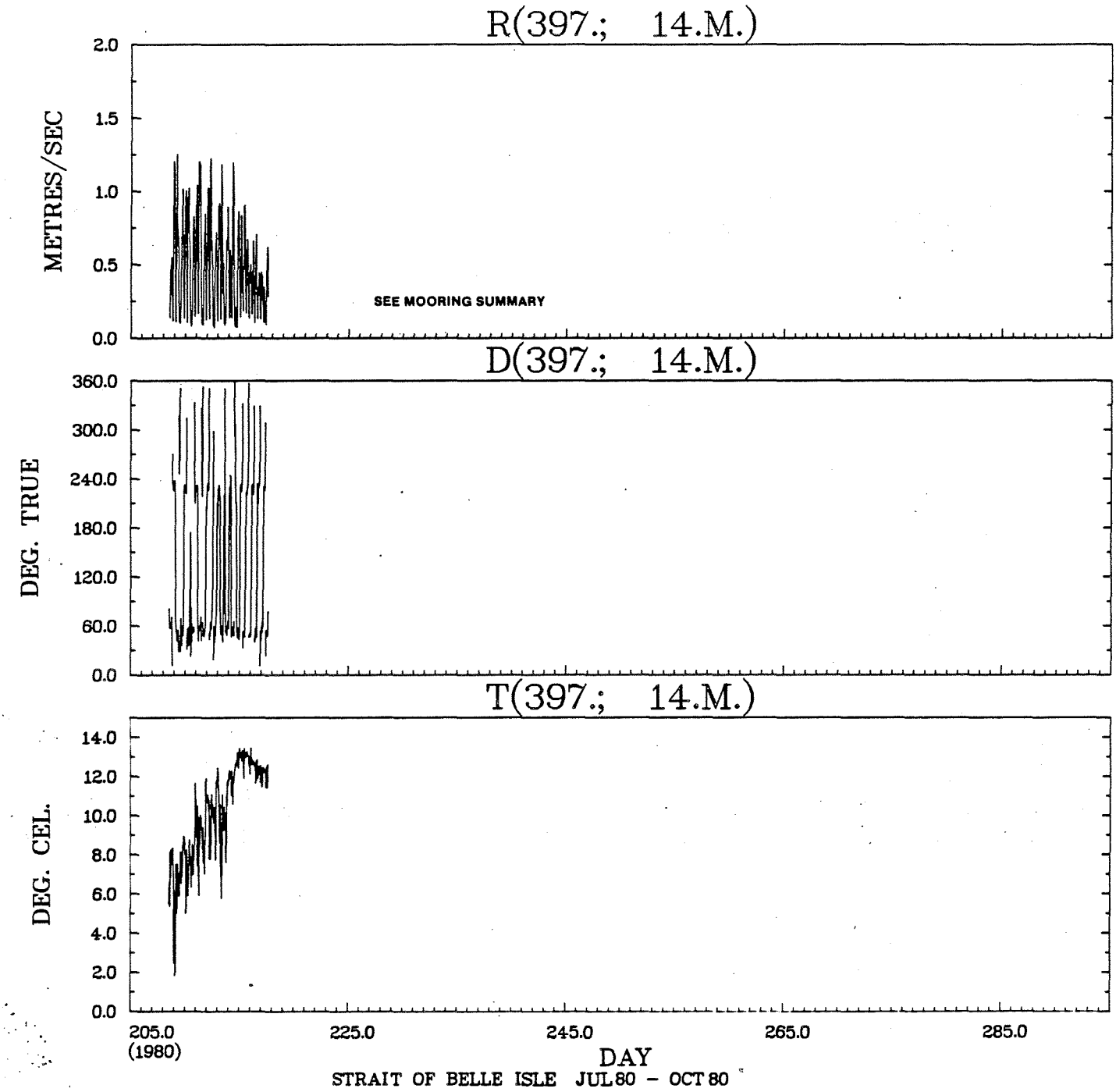
INSTURMENT BROKE LOOSE ON DAY 217 AND WAS PICKED UP BY A FISHERMAN IN AUGUST '80. SALINITY WAS NO GOOD.

STN. 397, 14 M.

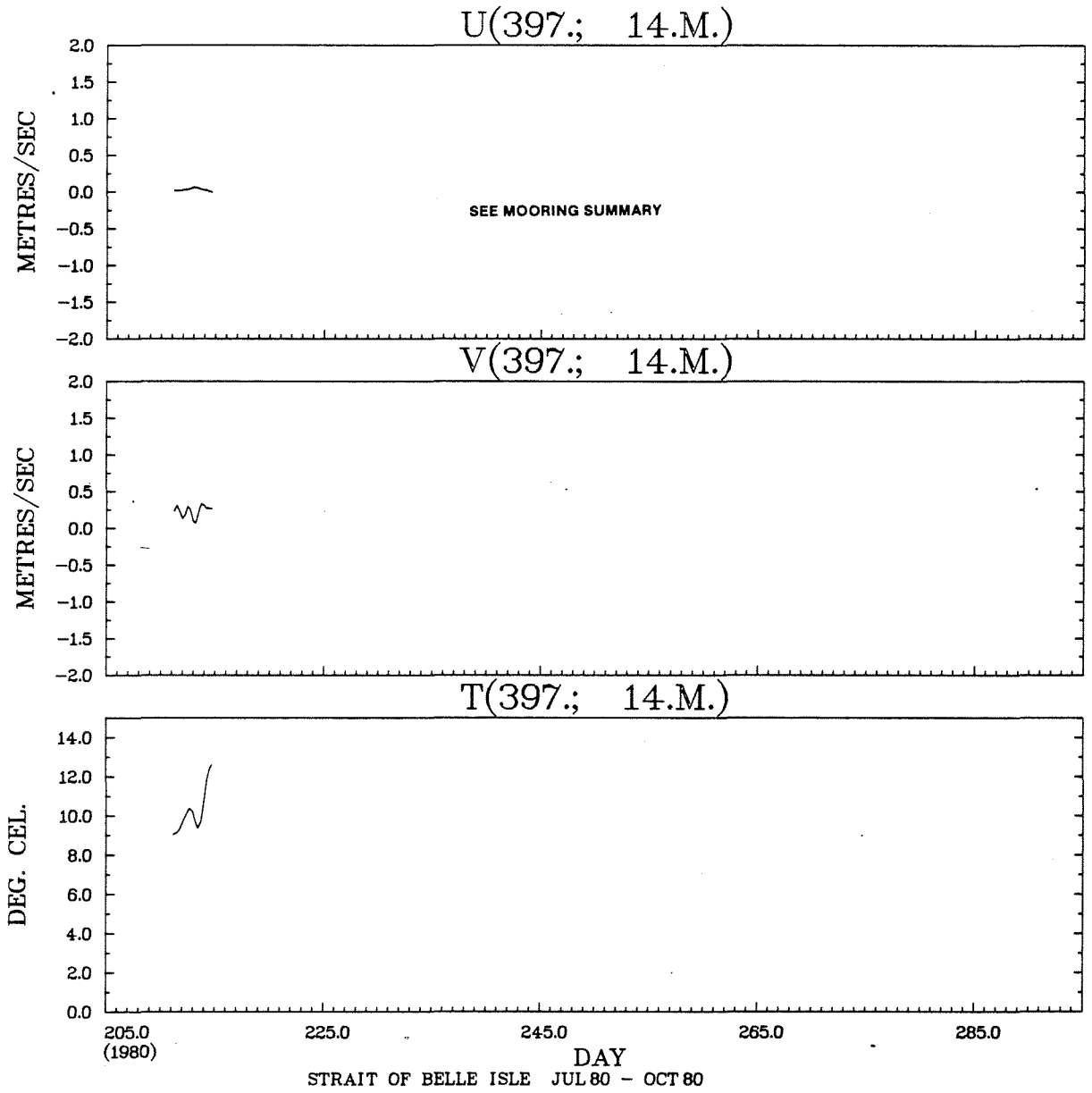


STN. 397, 14 M.





STRAIT OF BELLE ISLE JUL 80 - OCT 80


U(397.; 14.M.)
METRES/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
SEE MOORING SUMMARY
V(397.; 14.M.)
METRES/SEC
T(397.; 14.M.)
DEG. CEL.
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
205.0
(1980)
225.0
245.0
265.0
285.0
DAY
STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(397.; 14.M.) VS R(397.; 14.M.)

DEG. TRUE METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80		*												
1.40 TO 1.60		*												
1.20 TO 1.40	5	*		.9						.2				
1.00 TO 1.20	28	*		4.8						1.6				
.80 TO 1.00	41	*		5.0	.5					3.9				
.60 TO .80	78	*		12.1	.9					4.8				
.40 TO .60	93	*		11.2	3.2				.2	6.6				
.20 TO .40	101	*	.2	8.0	4.8	.2	.2		1.1	7.3	.9	.2		
-.00 TO .20	92	*	1.4	2.1	1.6	2.5	1.8	1.1	1.6	2.5	1.1	1.6	1.8	1.8
OUT OF RANGE	0	0												
SUB TOTAL	438	0	7	193	48	12	9	5	13	118	9	8	8	8

HISTOGRAM OF R(397.; 14.M.) METRES/SEC

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	.10	21	4.8	**********
.10	.20	71	16.2	**********
.20	.30	56	12.8	**********
.30	.40	45	10.3	**********
.40	.50	54	12.3	**********
.50	.60	39	8.9	**********
.60	.70	45	10.3	**********
.70	.80	33	7.5	**********
.80	.90	22	5.0	**********
.90	1.00	19	4.3	**********
1.00	1.10	15	3.4	**********
1.10	1.20	13	3.0	**********
1.20	1.30	5	1.1	*****
1.30	1.40	0	0.0	
1.40	1.50	0	0.0	
1.50	1.60	0	0.0	
1.60	1.70	0	0.0	
1.70	1.80	0	0.0	
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 438
OUTSIDE RANGE 0

HISTOGRAM OF D(397.; 14.M.) DEG. TRUE

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	0	0.0	
10.00	20.00	3	.7	**
20.00	30.00	4	.9	**
30.00	40.00	7	1.6	****
40.00	50.00	70	16.0	**********
50.00	60.00	116	26.5	**********
60.00	70.00	28	6.4	**********
70.00	80.00	17	3.9	*********
80.00	90.00	3	.7	**
90.00	100.00	6	1.4	***
100.00	110.00	2	.5	*
110.00	120.00	4	.9	**
120.00	130.00	2	.5	*
130.00	140.00	5	1.1	***
140.00	150.00	2	.5	*
150.00	160.00	2	.5	*
160.00	170.00	2	.5	*
170.00	180.00	1	.2	*
180.00	190.00	5	1.1	***
190.00	200.00	3	.7	**
200.00	210.00	5	1.1	***
210.00	220.00	16	3.7	********
220.00	230.00	57	13.0	**********
230.00	240.00	45	10.3	**********
240.00	250.00	6	1.4	***
250.00	260.00	2	.5	*
260.00	270.00	1	.2	*
270.00	280.00	5	1.1	***
280.00	290.00	1	.2	*
290.00	300.00	2	.5	*
300.00	310.00	2	.5	*
310.00	320.00	3	.7	**
320.00	330.00	3	.7	**
330.00	340.00	2	.5	*
340.00	350.00	0	0.0	
350.00	360.00	6	1.4	***

TOTAL NO. OF SAMPLES 438
OUTSIDE RANGE 0

HISTOGRAM OF T(397.; 14.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	0	0.0	
.50	1.00	0	0.0	
1.00	1.50	0	0.0	
1.50	2.00	1	.2	*
2.00	2.50	1	.2	*
2.50	3.00	0	0.0	
3.00	3.50	2	.5	**
3.50	4.00	0	0.0	
4.00	4.50	1	.2	*
4.50	5.00	2	.5	**
5.00	5.50	6	1.4	******
5.50	6.00	9	2.1	*********
6.00	6.50	8	1.8	********
6.50	7.00	18	4.1	**********
7.00	7.50	20	4.6	**********
7.50	8.00	30	6.8	**********
8.00	8.50	40	9.1	**********
8.50	9.00	20	4.6	**********
9.00	9.50	24	5.5	**********
9.50	10.00	22	5.0	**********
10.00	10.50	16	3.7	**********
10.50	11.00	22	5.0	**********
11.00	11.50	12	2.7	**********
11.50	12.00	40	9.1	**********
12.00	12.50	49	11.2	**********
12.50	13.00	57	13.0	**********
13.00	13.50	38	8.7	**********
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 438
OUTSIDE RANGE 0

TABLE 5

MOORING SUMMARY

MOORING	397
DEPTH (M)	50

LATITUDE	51 21.05N
LONGITUDE	56 43.60W
WATER DEPTH (M)	50
MOORING DATE/CRUISE	26/ 7/ 80/80021
RECOVERY DATE/CRUISE	LOST
DURATION (DAYS)	
SAMPLING INTERVAL	60. (MIN.)
NO. OF SAMPLES	

SENSOR	PRESSURE
UNITS	MBAR
MINIMUM	
MAXIMUM	
MEAN	
STD. DEV.	

COMMENTS

TOP INSTRUMENT BROKE LOOSE ON DAY 217, THIS INSTRUMENT WAS NEVER RECOVERED.

TABLE 6

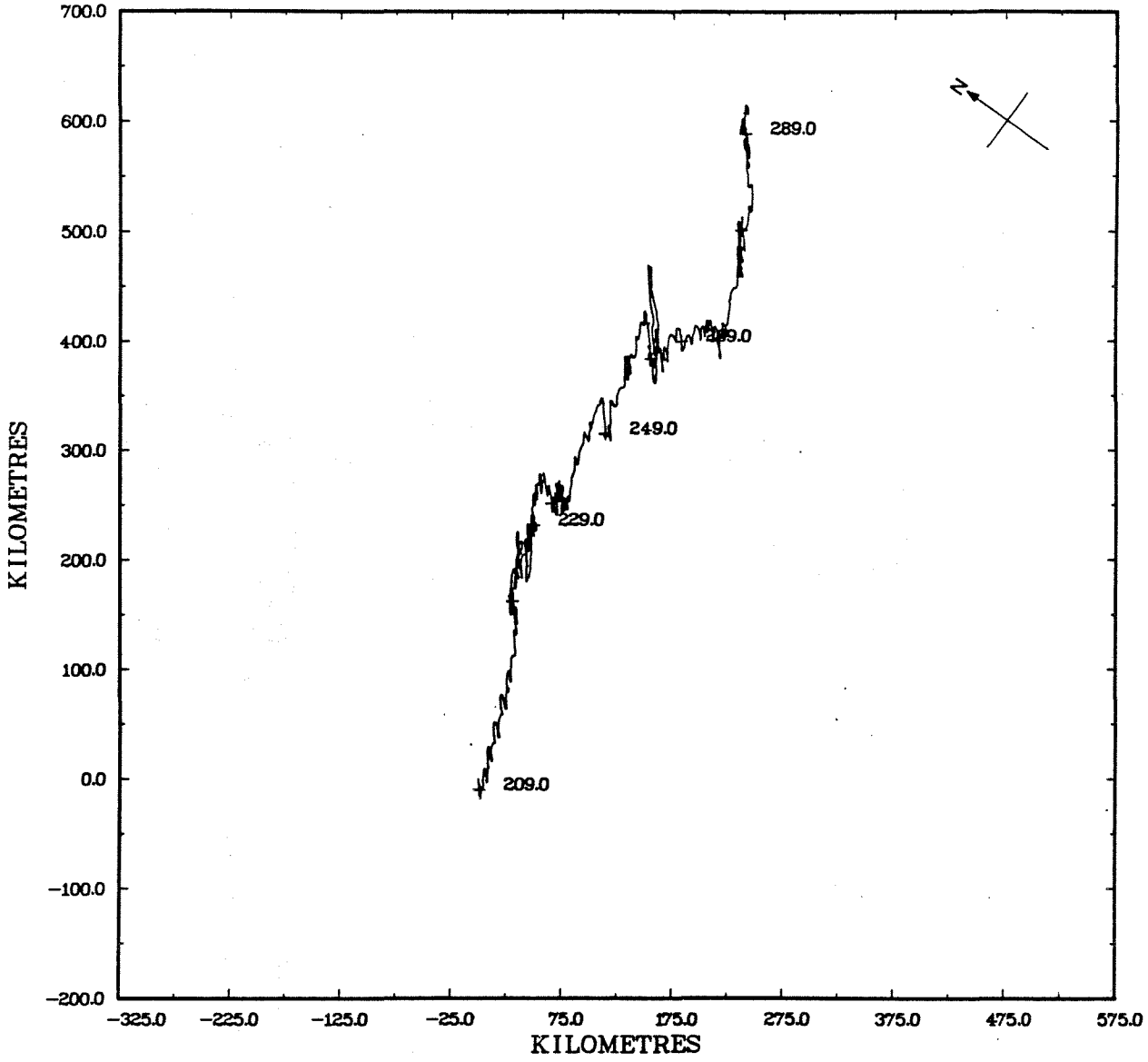
MOORING SUMMARY

MOORING 398
DEPTH (M) 11

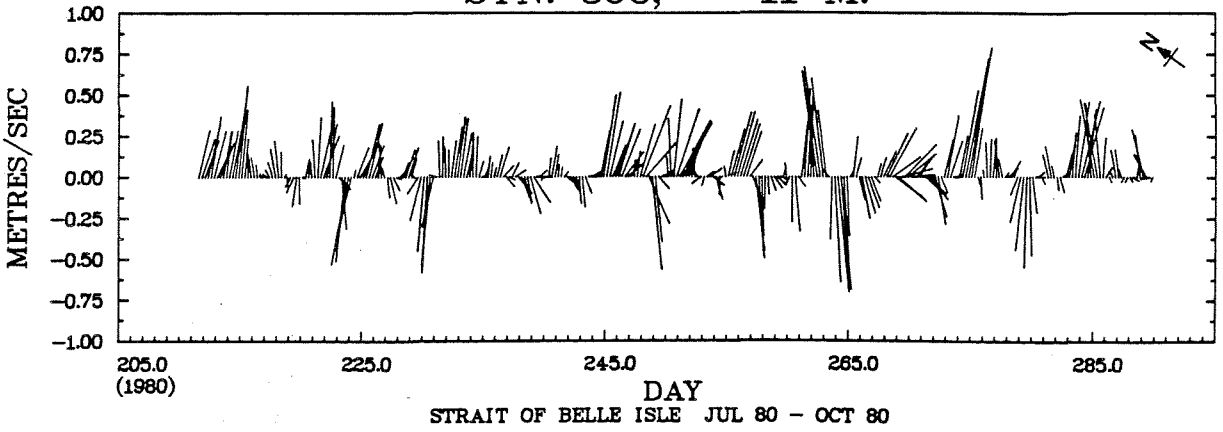
LATITUDE	51 21.50 N
LONGITUDE	56 43.60 W
WATER DEPTH (M)	76
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	83.87
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	4026

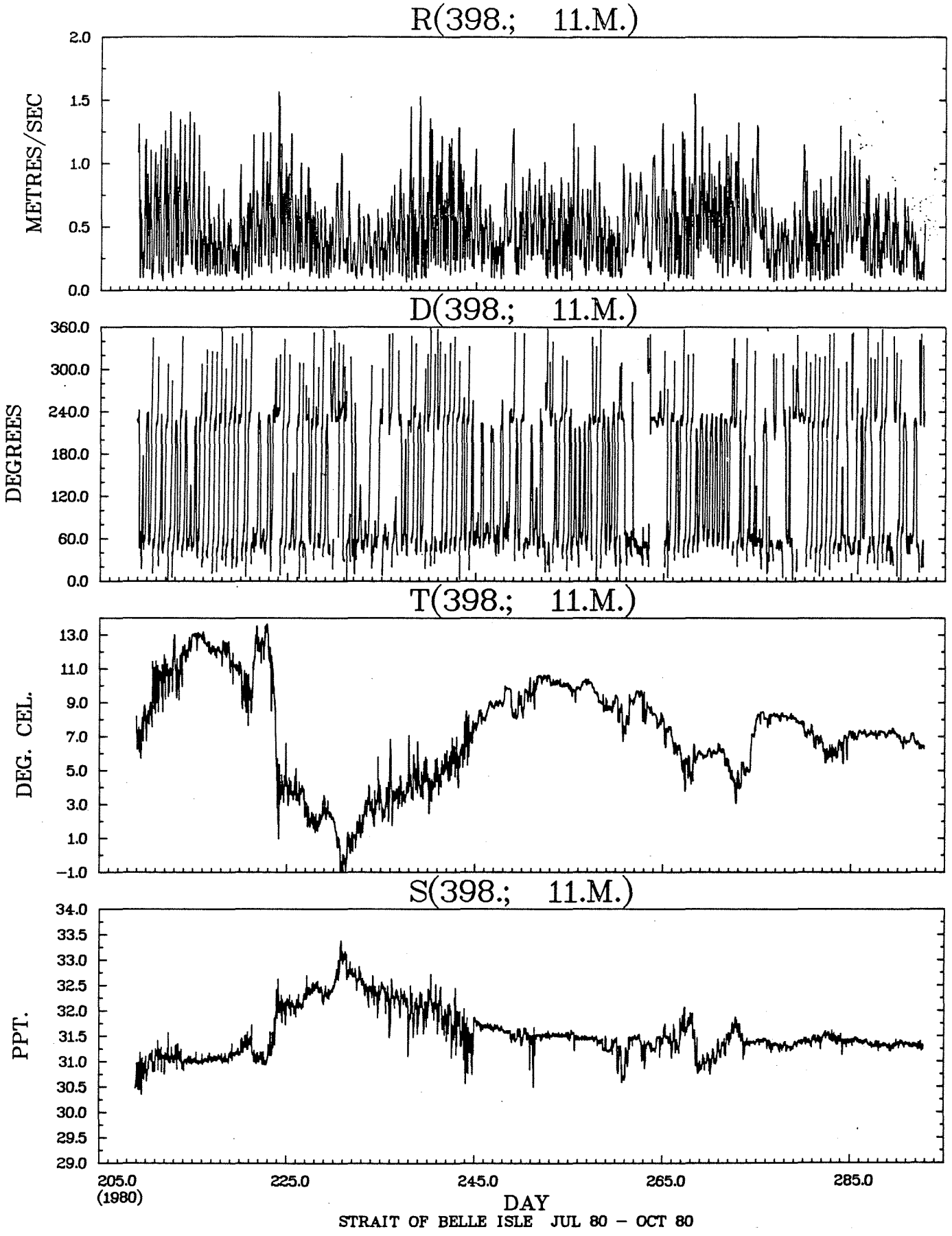
SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.46	-1.56	.06	-1.33	30.35
MAXIMUM	1.09	1.55	1.57	13.64	33.38
MEAN	.03	.08	.49	7.27	31.55
STD. DEV.	.12	.55	.28	2.98	.48

STN. 398, 11 M.

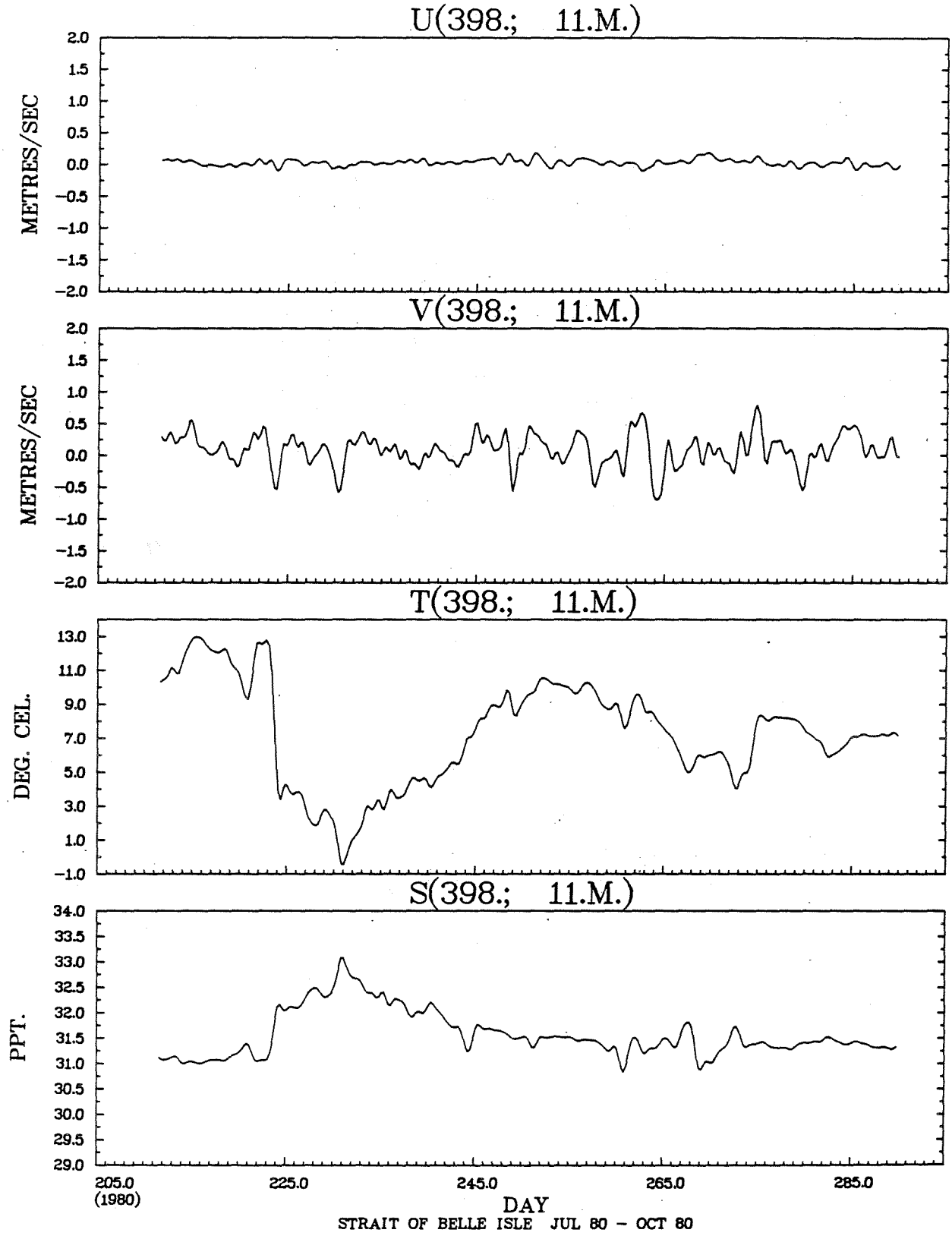


STN. 398, 11 M.





STRAIT OF BELLE ISLE JUL 80 – OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(398.; 11.M.) VS R(398.; 11.M.)

DEGREES / METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80		*												
1.40 TO 1.60	16	*		.1	.0					.2	.0			
1.20 TO 1.40	65	*		.7	.1					.8				
1.00 TO 1.20	162	*		1.7	.5	.0	.0			1.7	.0			
.80 TO 1.00	344	*		3.4	1.5					3.6	.0			
.60 TO .80	633	*	.0	6.9	2.7	.0			.1	5.5	.5			
.40 TO .60	993	*	.2	10.5	4.5	.4	.1	.0	.6	6.8	1.5	.0	.0	.0
.20 TO .40	1295	*	1.8	7.3	6.6	1.8	.9	1.1	2.3	6.6	2.7	.6	.3	.3
-.00 TO .20	518	*	.9	.8	1.1	1.4	1.3	1.2	.9	1.2	1.0	.8	1.4	.9
OUT OF RANGE	0	0												
SUB TOTAL	4026	0	122	1260	684	145	92	92	158	1064	230	58	72	49

HISTOGRAM OF R(398.; 11.M.) METRES/SEC

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	.10	45	1.1	*******
.10	.20	473	11.7	**********
.20	.30	642	15.9	**********
.30	.40	653	16.2	**********
.40	.50	533	13.2	**********
.50	.60	460	11.4	**********
.60	.70	337	8.4	**********
.70	.80	296	7.4	**********
.80	.90	201	5.0	**********
.90	1.00	143	3.6	**********
1.00	1.10	98	2.4	**********
1.10	1.20	64	1.6	**********
1.20	1.30	50	1.2	********
1.30	1.40	15	.4	***
1.40	1.50	9	.2	**
1.50	1.60	7	.2	*
1.60	1.70	0	0.0	
1.70	1.80	0	0.0	
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

HISTOGRAM OF D(398.; 11.M.) DEGREES

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	18	.4	***
10.00	20.00	31	.8	*****
20.00	30.00	73	1.8	**********
30.00	40.00	134	3.3	**********
40.00	50.00	428	10.6	**********
50.00	60.00	698	17.3	**********
60.00	70.00	412	10.2	**********
70.00	80.00	181	4.5	**********
80.00	90.00	91	2.3	**********
90.00	100.00	68	1.7	**********
100.00	110.00	43	1.1	*******
110.00	120.00	34	.8	*****
120.00	130.00	25	.6	****
130.00	140.00	33	.8	*****
140.00	150.00	34	.8	*****
150.00	160.00	34	.8	*****
160.00	170.00	27	.7	****
170.00	180.00	31	.8	*****
180.00	190.00	40	1.0	******
190.00	200.00	45	1.1	*******
200.00	210.00	73	1.8	**********
210.00	220.00	178	4.4	**********
220.00	230.00	456	11.3	**********
230.00	240.00	430	10.7	**********
240.00	250.00	144	3.6	**********
250.00	260.00	58	1.4	*********
260.00	270.00	28	.7	****
270.00	280.00	25	.6	****
280.00	290.00	20	.5	***
290.00	300.00	13	.3	**
300.00	310.00	29	.7	*****
310.00	320.00	23	.6	****
320.00	330.00	20	.5	***
330.00	340.00	11	.3	**
340.00	350.00	18	.4	***
350.00	360.00	20	.5	***

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

HISTOGRAM OF T(398.; 11.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	4	.1	*
-1.00	-.50	8	.2	**
-.50	0.00	21	.5	******
0.00	.50	16	.4	****
.50	1.00	28	.7	*******
1.00	1.50	47	1.2	**********
1.50	2.00	67	1.7	**********
2.00	2.50	98	2.4	**********
2.50	3.00	90	2.2	**********
3.00	3.50	116	2.9	**********
3.50	4.00	158	3.9	**********
4.00	4.50	128	3.2	**********
4.50	5.00	136	3.4	**********
5.00	5.50	131	3.3	**********
5.50	6.00	192	4.8	**********
6.00	6.50	241	6.0	**********
6.50	7.00	246	6.1	**********
7.00	7.50	373	9.3	**********
7.50	8.00	183	4.5	**********
8.00	8.50	358	8.9	**********
8.50	9.00	201	5.0	**********
9.00	9.50	190	4.7	**********
9.50	10.00	244	6.1	**********
10.00	10.50	219	5.4	**********
10.50	11.00	104	2.6	**********
11.00	11.50	89	2.2	**********
11.50	12.00	64	1.6	**********
12.00	12.50	124	3.1	**********
12.50	13.00	111	2.8	**********
13.00	13.50	33	.8	*********
13.50	14.00	6	.1	**
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

HISTOGRAM OF S(398.; 11.M.) PPT.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	0	0.0	
30.00	30.50	11	.3	*
30.50	31.00	256	6.4	**********
31.00	31.50	2179	54.1	**********
31.50	32.00	807	20.0	**********
32.00	32.50	593	14.7	**********
32.50	33.00	150	3.7	*******
33.00	33.50	30	.7	**
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

TABLE 7

MOORING SUMMARY

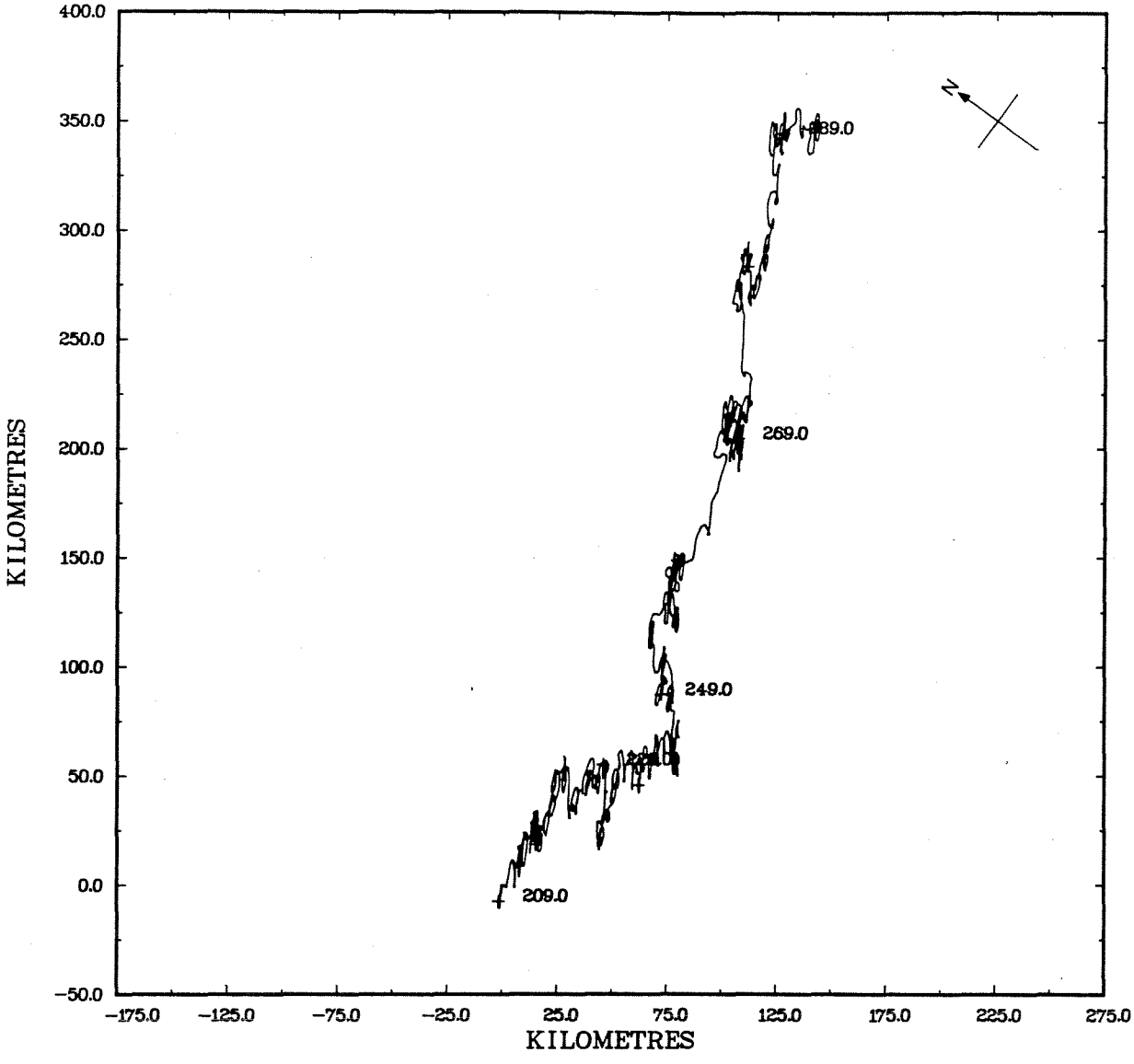
MOORING 398

DEPTH (M) 46

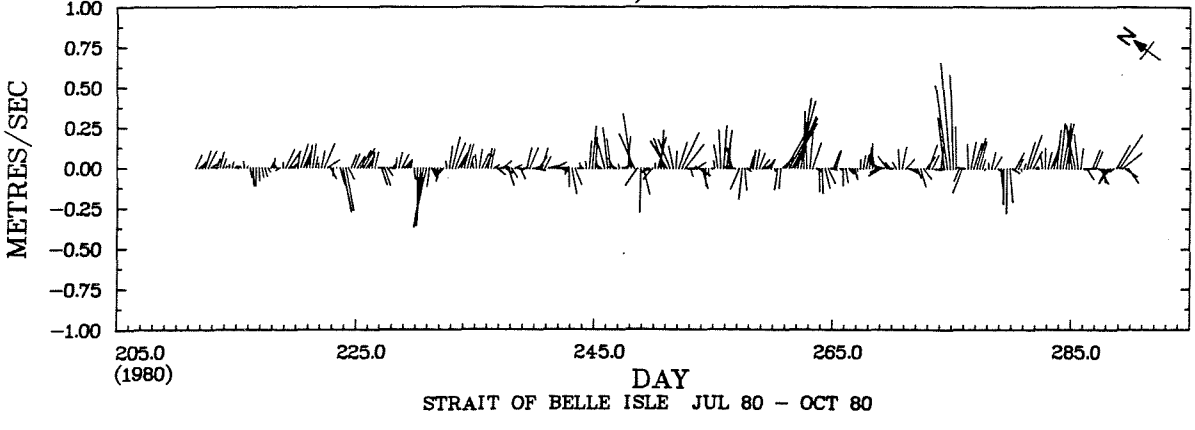
LATITUDE	51 21.50 N
LONGITUDE	56 43.60 W
WATER DEPTH (M)	76
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	83.87
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	4026

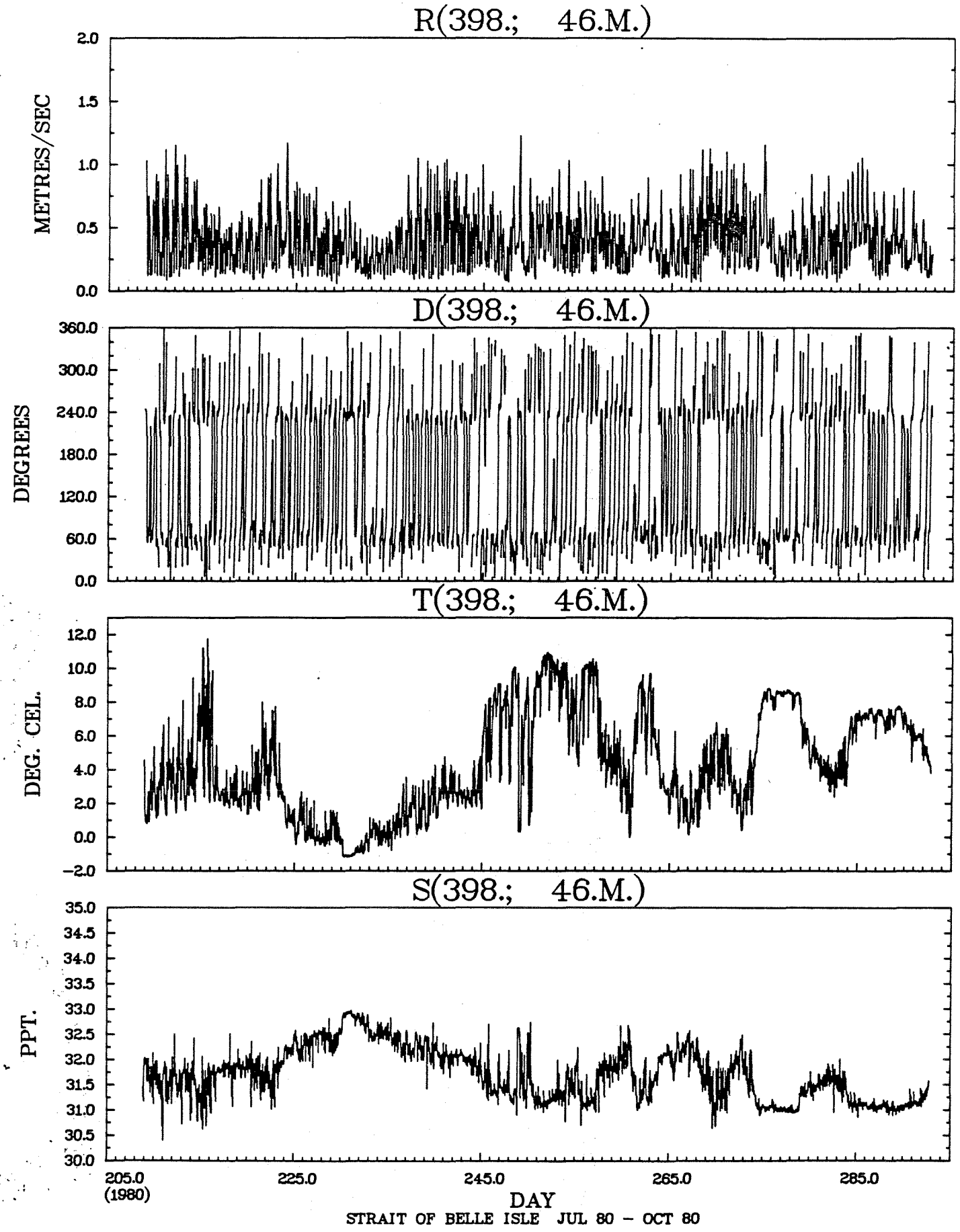
SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.38	-1.22	.06	-1.21	30.40
MAXIMUM	.37	1.15	1.23	11.75	32.97
MEAN	.02	.05	.41	4.31	31.73
STD. DEV.	.11	.45	.21	3.04	.51

STN. 398, 46 M.

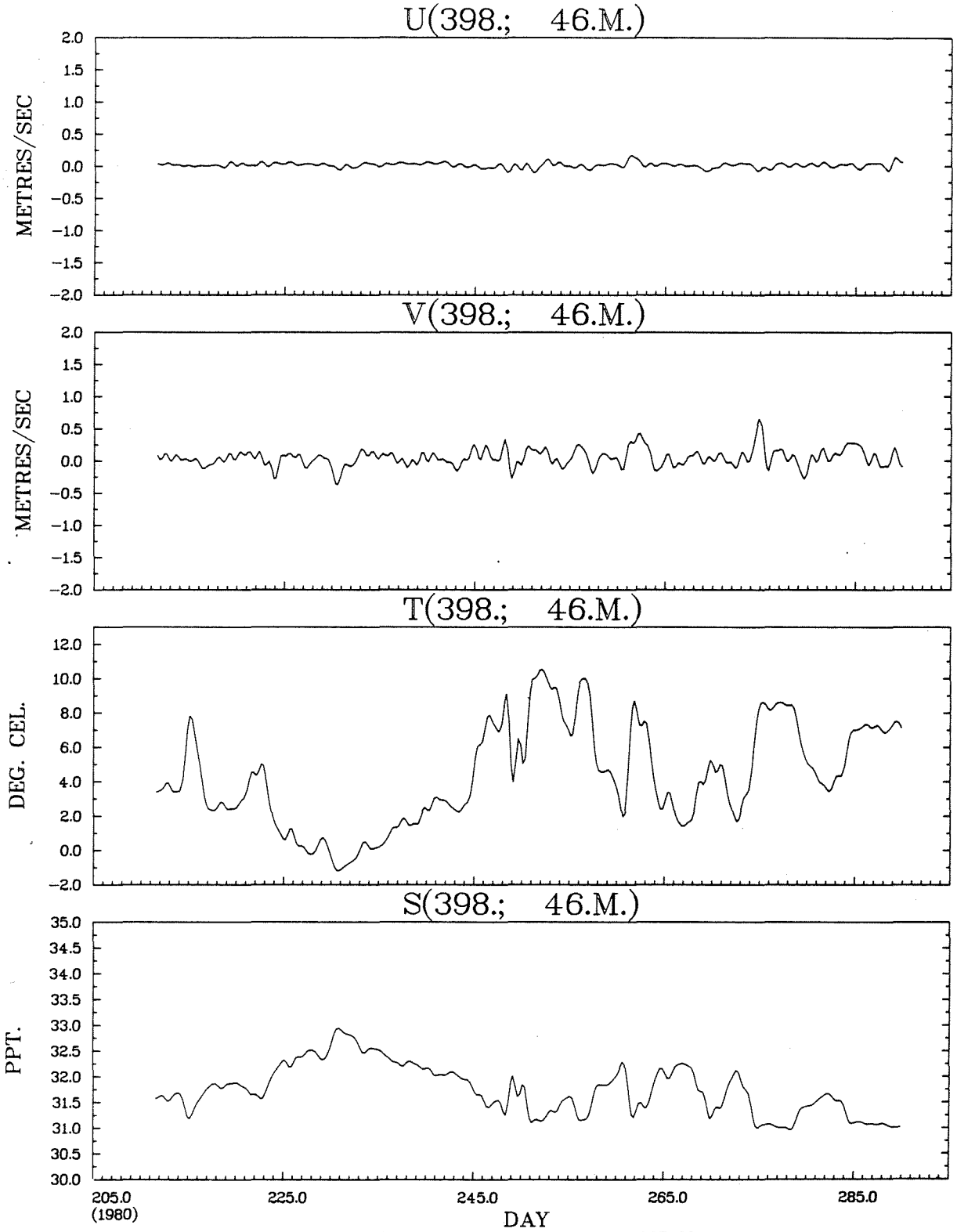


STN. 398, 46 M.





STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(398.; 46.M.) VS R(398.; 46.M.)

DEGREES / METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80		*												
1.40 TO 1.60		*												
1.20 TO 1.40	1	*								.0				
1.00 TO 1.20	46	*		.2	.1					.5	.2			
.80 TO 1.00	199	*		1.2	1.3					1.5	.9			
.60 TO .80	477	*		2.9	4.0					3.1	1.8			
.40 TO .60	1075	*	.1	7.5	8.3	.1				6.6	4.1	.0		.0
.20 TO .40	1547	*	1.7	7.3	9.3	1.9	.8	.8	1.3	8.0	5.2	.9	.7	.6
-.00 TO .20	681	*	1.1	1.6	1.7	1.5	1.5	1.7	1.5	1.8	1.5	1.0	1.1	.9
OUT OF RANGE	0	0												
SUB TOTAL	4026	0	114	838	994	139	92	101	113	865	557	77	73	63

HISTOGRAM OF R(398.; 46.M.) METRES/SEC

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	.10	30	.7	****
.10	.20	651	16.2	**********
.20	.30	793	19.7	**********
.30	.40	754	18.7	**********
.40	.50	596	14.8	**********
.50	.60	479	11.9	**********
.60	.70	284	7.1	**********
.70	.80	193	4.8	**********
.80	.90	122	3.0	**********
.90	1.00	77	1.9	**********
1.00	1.10	30	.7	****
1.10	1.20	16	.4	**
1.20	1.30	1	.0	*
1.30	1.40	0	0.0	
1.40	1.50	0	0.0	
1.50	1.60	0	0.0	
1.60	1.70	0	0.0	
1.70	1.80	0	0.0	
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

HISTOGRAM OF D(398.: 46.M.) DEGREES

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	24	.6	****
10.00	20.00	35	.9	******
20.00	30.00	55	1.4	**********
30.00	40.00	88	2.2	**********
40.00	50.00	221	5.5	**********
50.00	60.00	529	13.1	**********
60.00	70.00	577	14.3	**********
70.00	80.00	287	7.1	**********
80.00	90.00	130	3.2	**********
90.00	100.00	61	1.5	**********
100.00	110.00	34	.8	******
110.00	120.00	44	1.1	********
120.00	130.00	32	.8	******
130.00	140.00	33	.8	******
140.00	150.00	27	.7	*****
150.00	160.00	33	.8	******
160.00	170.00	31	.8	******
170.00	180.00	37	.9	*******
180.00	190.00	37	.9	*******
190.00	200.00	33	.8	******
200.00	210.00	43	1.1	********
210.00	220.00	107	2.7	**********
220.00	230.00	222	5.5	**********
230.00	240.00	536	13.3	**********
240.00	250.00	389	9.7	**********
250.00	260.00	118	2.9	**********
260.00	270.00	50	1.2	*********
270.00	280.00	31	.8	******
280.00	290.00	23	.6	****
290.00	300.00	23	.6	****
300.00	310.00	29	.7	*****
310.00	320.00	18	.4	***
320.00	330.00	26	.6	*****
330.00	340.00	18	.4	***
340.00	350.00	22	.5	****
350.00	360.00	23	.6	****

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

HISTOGRAM OF T(398.; 46.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	59	1.5	**********
-1.00	-.50	58	1.4	**********
-.50	0.00	156	3.9	**********
0.00	.50	180	4.5	**********
.50	1.00	165	4.1	**********
1.00	1.50	170	4.2	**********
1.50	2.00	196	4.9	**********
2.00	2.50	286	7.1	**********
2.50	3.00	356	8.8	**********
3.00	3.50	233	5.8	**********
3.50	4.00	202	5.0	**********
4.00	4.50	203	5.0	**********
4.50	5.00	190	4.7	**********
5.00	5.50	159	3.9	**********
5.50	6.00	128	3.2	**********
6.00	6.50	164	4.1	**********
6.50	7.00	149	3.7	**********
7.00	7.50	207	5.1	**********
7.50	8.00	154	3.8	**********
8.00	8.50	143	3.6	**********
8.50	9.00	181	4.5	**********
9.00	9.50	74	1.8	**********
9.50	10.00	90	2.2	**********
10.00	10.50	80	2.0	**********
10.50	11.00	40	1.0	**********
11.00	11.50	2	.0	*
11.50	12.00	1	.0	*
12.00	12.50	0	0.0	
12.50	13.00	0	0.0	
13.00	13.50	0	0.0	
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

HISTOGRAM OF S(398.; 46.M.) PPT.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	0	0.0	
30.00	30.50	1	.0	*
30.50	31.00	143	3.6	**********
31.00	31.50	1372	34.1	**********
31.50	32.00	1261	31.3	**********
32.00	32.50	925	23.0	**********
32.50	33.00	324	8.0	**********
33.00	33.50	0	0.0	
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 4026
OUTSIDE RANGE 0

TABLE 8

MOORING SUMMARY

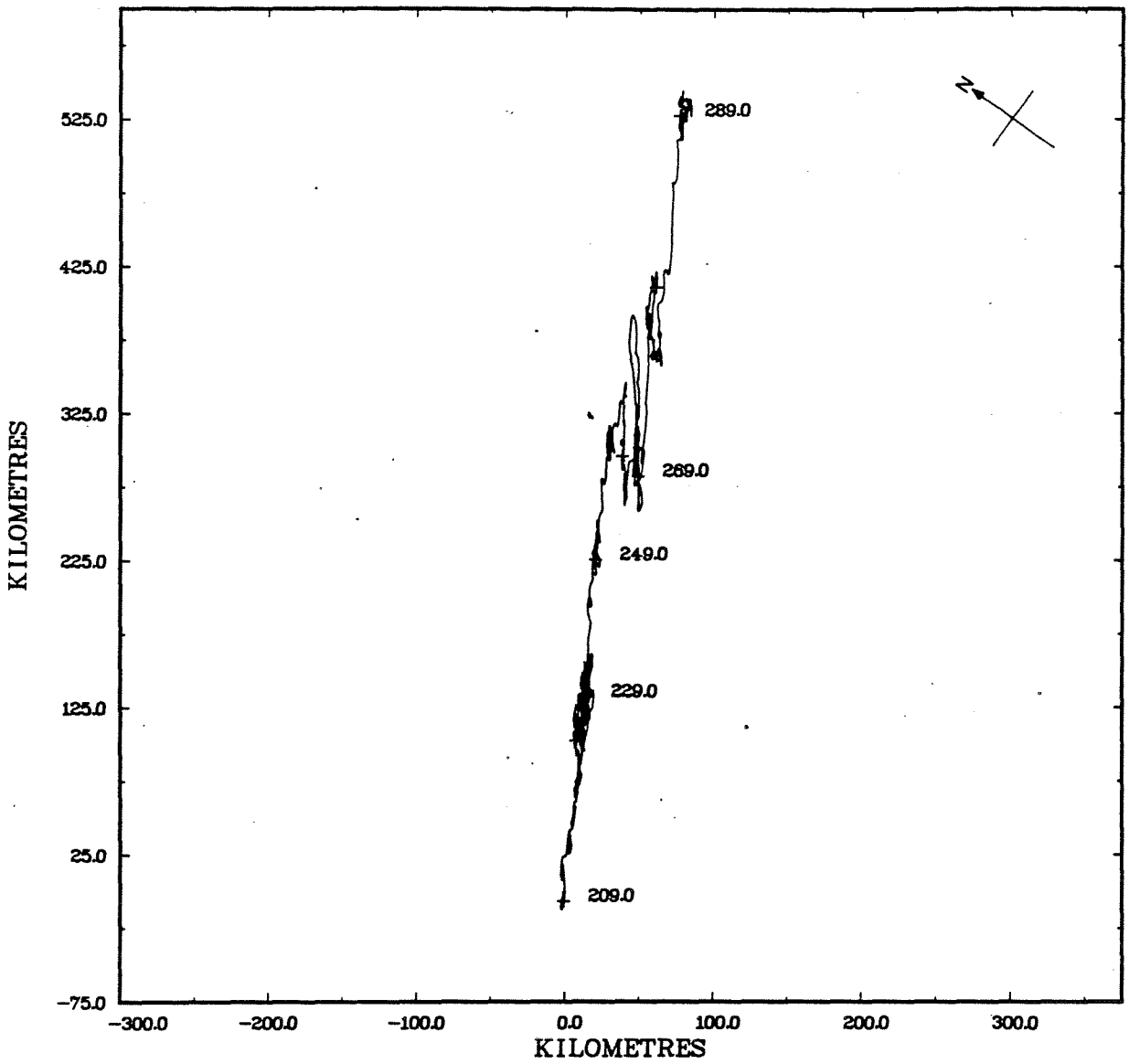
MOORING 399

DEPTH (M) 20

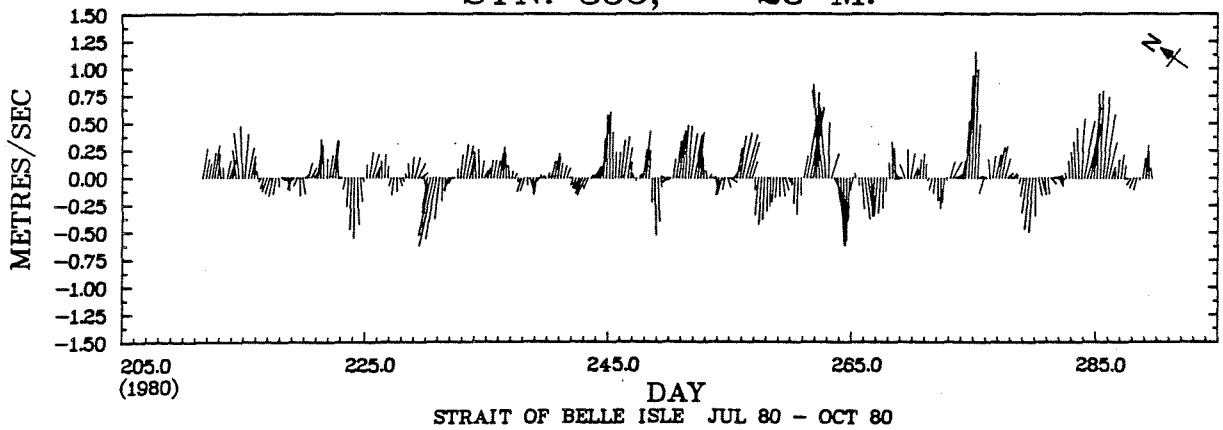
LATITUDE	51 22.15 N
LONGITUDE	56 44.40 W
WATER DEPTH (M)	94
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	83.56
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	4011

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.34	-1.66	.03	-1.12	29.92
MAXIMUM	.29	1.74	1.75	13.32	32.76
MEAN	.01	.07	.44	6.51	31.06
STD. DEV.	.09	.51	.28	3.07	.53

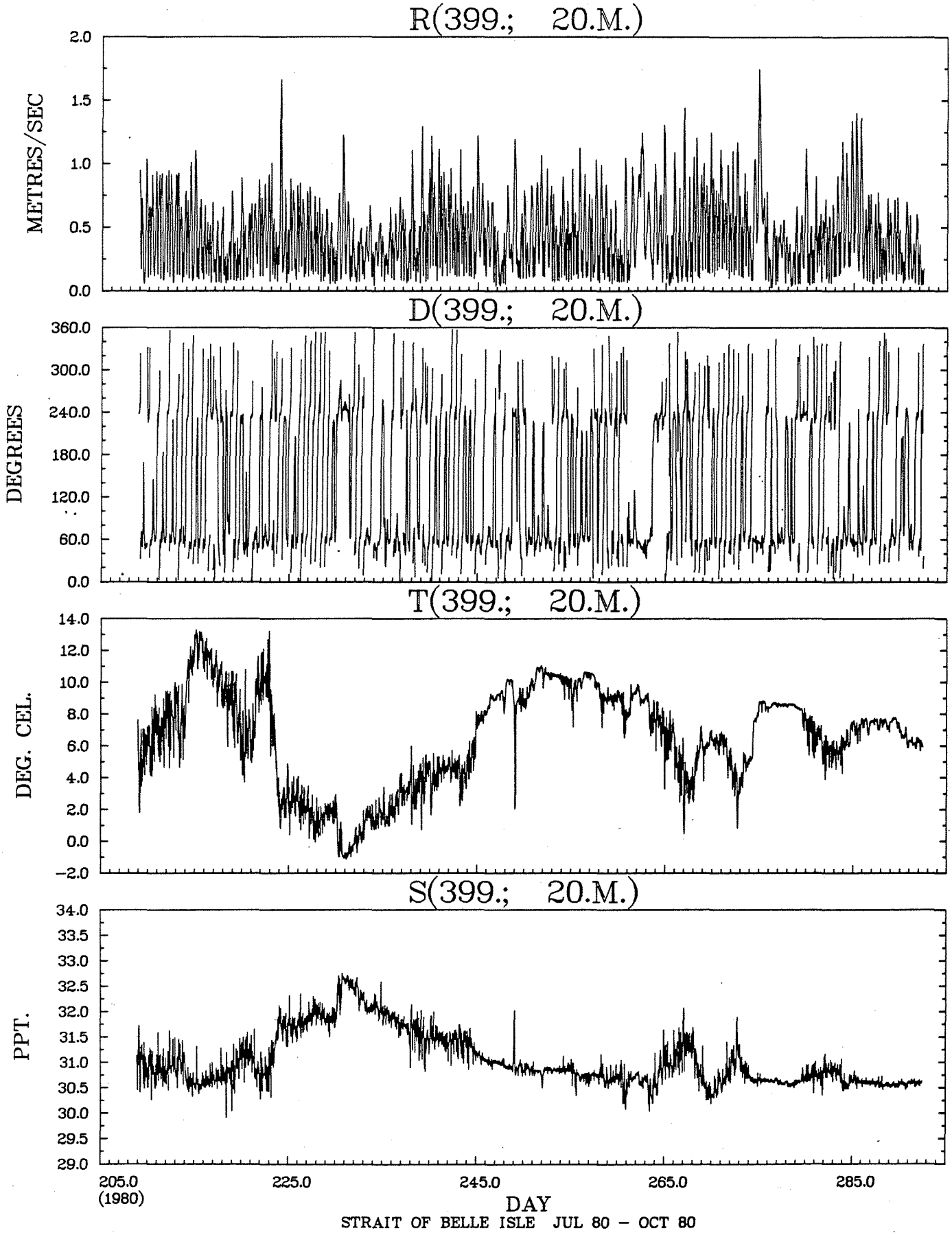
STN. 399, 20 M.



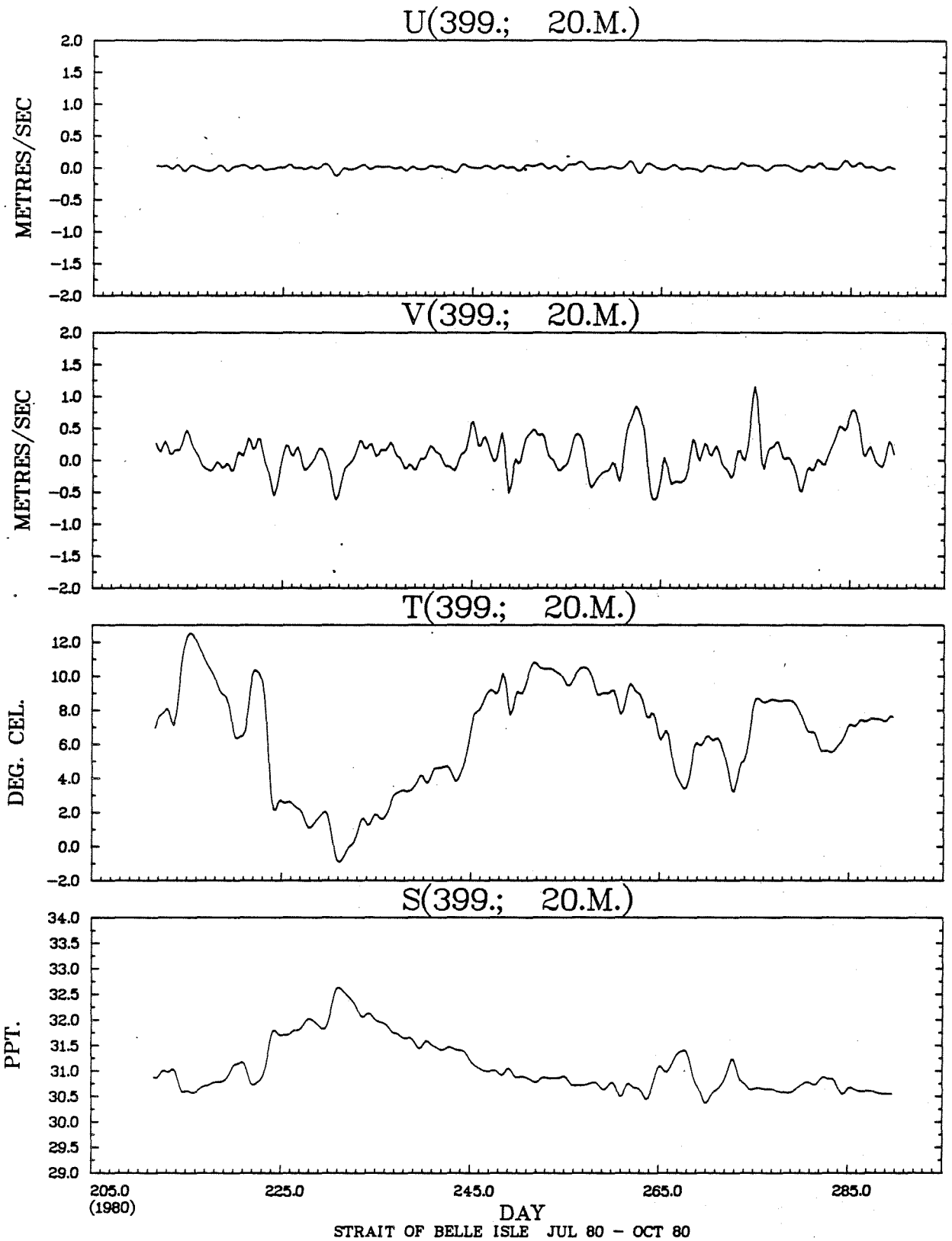
STN. 399, 20 M.



STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80


U(399.; 20.M.)
METRES/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
V(399.; 20.M.)
METRES/SEC
T(399.; 20.M.)
DEG. CEL.
12.0
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
S(399.; 20.M.)
PPT.
34.0
33.5
33.0
32.5
32.0
31.5
31.0
30.5
30.0
29.5
29.0
205.0
(1980)
225.0
245.0
265.0
285.0
DAY
STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(399.; 20.M.) VS R(399.; 20.M.)

DEGREES METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80	7	*		.1						.0				
1.40 TO 1.60	9	*		.1						.1	.0			
1.20 TO 1.40	34	*		.5						.2	.2			
1.00 TO 1.20	117	*		1.4	.1					.8	.5			
.80 TO 1.00	300	*		3.6	.7					2.1	1.0			
.60 TO .80	605	*		6.4	2.3					4.4	2.0			
.40 TO .60	839	*	.0	7.9	4.8				.1	6.0	2.1	.0		
.20 TO .40	1234	*	1.1	8.5	7.8	1.0	.2	.2	2.0	6.2	3.2	.5	.0	
-.00 TO .20	866	*	1.6	2.4	2.8	2.1	2.0	1.8	1.7	1.6	1.8	1.3	1.3	1.1
OUT OF RANGE	0	0												
SUB TOTAL	4011	0	109	1241	743	126	87	81	155	864	437	71	54	43

HISTOGRAM OF R(399.; 20.M.) METRES/SEC

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	.10	229	5.7	**********
.10	.20	637	15.9	**********
.20	.30	675	16.8	**********
.30	.40	559	13.9	**********
.40	.50	435	10.8	**********
.50	.60	404	10.1	**********
.60	.70	343	8.6	**********
.70	.80	262	6.5	**********
.80	.90	177	4.4	**********
.90	1.00	123	3.1	**********
1.00	1.10	71	1.8	**********
1.10	1.20	46	1.1	*******
1.20	1.30	21	.5	***
1.30	1.40	13	.3	**
1.40	1.50	5	.1	*
1.50	1.60	4	.1	*
1.60	1.70	6	.1	*
1.70	1.80	1	.0	*
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

HISTOGRAM OF D(399.; 20.M.) DEGREES

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	17	.4	**
10.00	20.00	26	.6	***
20.00	30.00	66	1.6	********
30.00	40.00	94	2.3	**********
40.00	50.00	328	8.2	**********
50.00	60.00	819	20.4	**********
60.00	70.00	494	12.3	**********
70.00	80.00	177	4.4	**********
80.00	90.00	72	1.8	********
90.00	100.00	59	1.5	*******
100.00	110.00	35	.9	****
110.00	120.00	32	.8	****
120.00	130.00	31	.8	****
130.00	140.00	27	.7	***
140.00	150.00	29	.7	****
150.00	160.00	30	.7	****
160.00	170.00	22	.5	***
170.00	180.00	29	.7	****
180.00	190.00	43	1.1	*****
190.00	200.00	44	1.1	*****
200.00	210.00	68	1.7	********
210.00	220.00	114	2.8	**********
220.00	230.00	255	6.4	**********
230.00	240.00	495	12.3	**********
240.00	250.00	269	6.7	**********
250.00	260.00	119	3.0	**********
260.00	270.00	49	1.2	******
270.00	280.00	33	.8	****
280.00	290.00	26	.6	***
290.00	300.00	12	.3	**
300.00	310.00	11	.3	**
310.00	320.00	23	.6	***
320.00	330.00	20	.5	***
330.00	340.00	20	.5	***
340.00	350.00	11	.3	**
350.00	360.00	12	.3	**

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

HISTOGRAM OF T(399.; 20.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	14	.3	****
-1.00	-.50	42	1.0	**********
-.50	0.00	36	.9	*********
0.00	.50	38	.9	**********
.50	1.00	57	1.4	**********
1.00	1.50	107	2.7	**********
1.50	2.00	135	3.4	**********
2.00	2.50	142	3.5	**********
2.50	3.00	100	2.5	**********
3.00	3.50	96	2.4	**********
3.50	4.00	112	2.8	**********
4.00	4.50	146	3.6	**********
4.50	5.00	178	4.4	**********
5.00	5.50	166	4.1	**********
5.50	6.00	186	4.6	**********
6.00	6.50	247	6.2	**********
6.50	7.00	221	5.5	**********
7.00	7.50	250	6.2	**********
7.50	8.00	265	6.6	**********
8.00	8.50	217	5.4	**********
8.50	9.00	347	8.7	**********
9.00	9.50	238	5.9	**********
9.50	10.00	162	4.0	**********
10.00	10.50	229	5.7	**********
10.50	11.00	141	3.5	**********
11.00	11.50	47	1.2	**********
11.50	12.00	39	1.0	**********
12.00	12.50	17	.4	*****
12.50	13.00	27	.7	*******
13.00	13.50	9	.2	***
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

HISTOGRAM OF S(399.; 20.M.) PPT.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	1	.0	*
30.00	30.50	150	3.7	*******
30.50	31.00	2322	57.9	**********
31.00	31.50	677	16.9	**********
31.50	32.00	579	14.4	**********
32.00	32.50	216	5.4	*********
32.50	33.00	66	1.6	***
33.00	33.50	0	0.0	
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

TABLE 9

MOORING SUMMARY

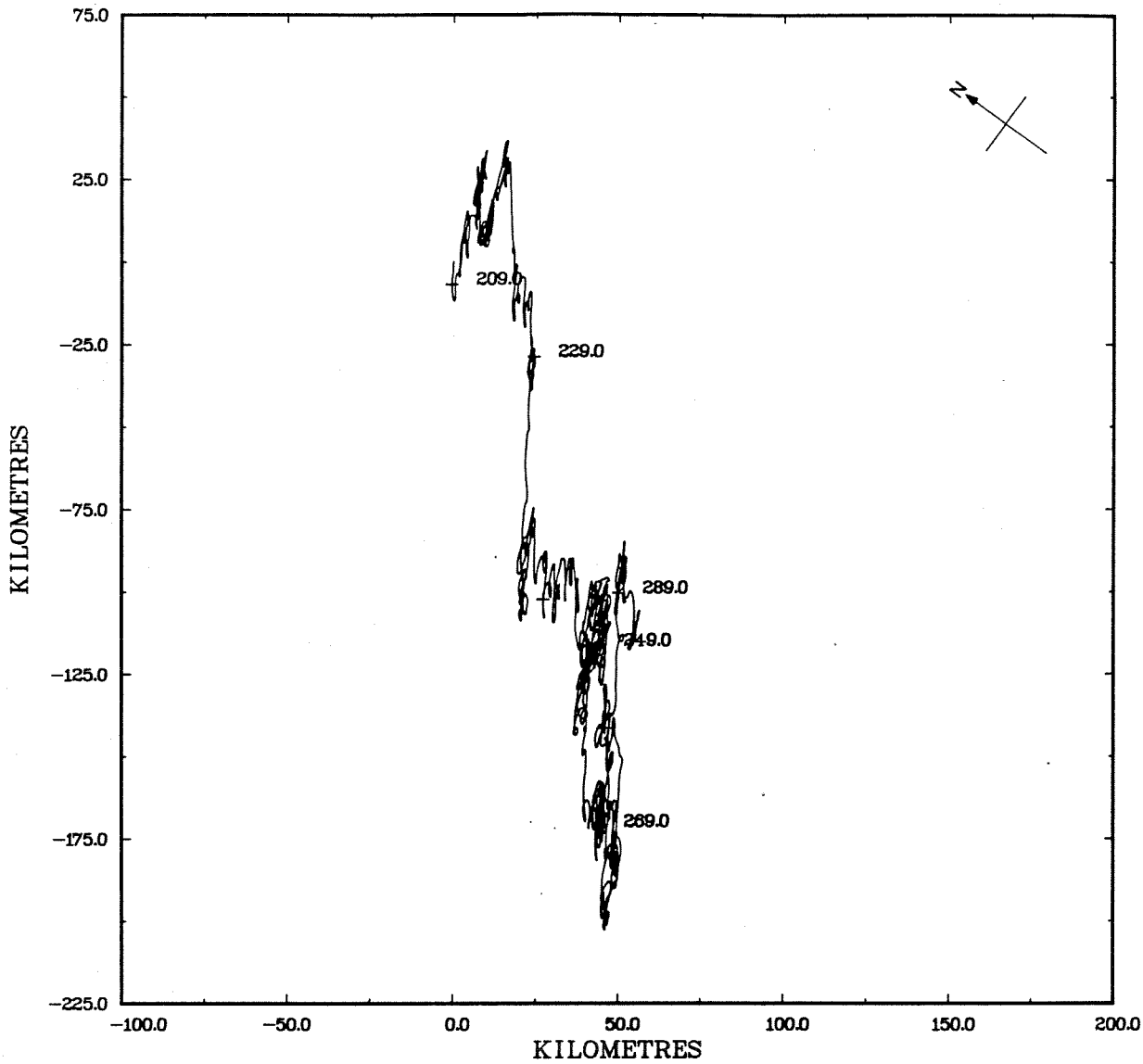
MOORING 399

DEPTH (M) 50

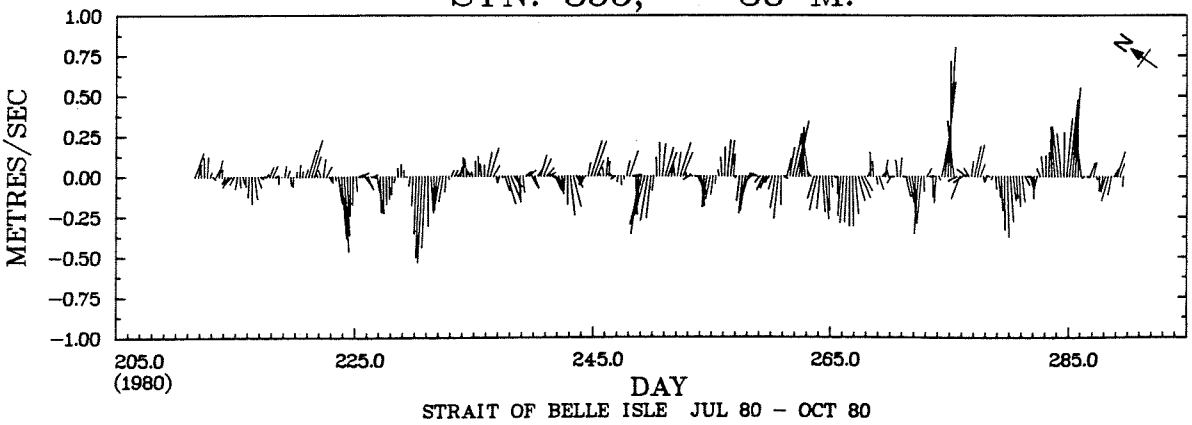
LATITUDE	51 22.15 N
LONGITUDE	56 44.40 W
WATER DEPTH (M)	94
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	83.56
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	4011

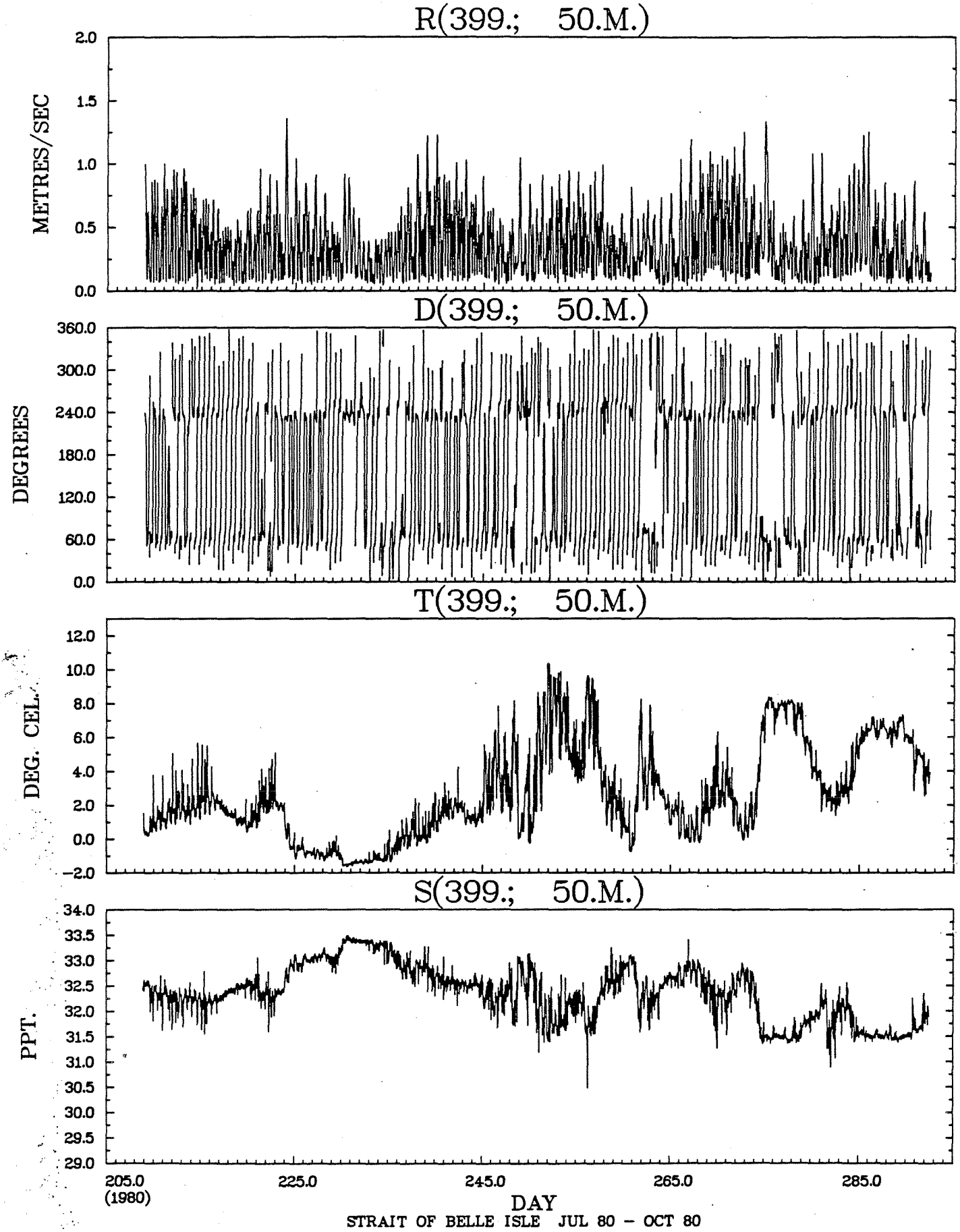
SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.28	-1.35	.02	-1.67	30.49
MAXIMUM	.27	1.33	1.36	10.36	33.49
MEAN	.01	-.02	.38	2.66	32.36
STD. DEV.	.09	.45	.25	2.74	.54

STN. 399, 50 M.

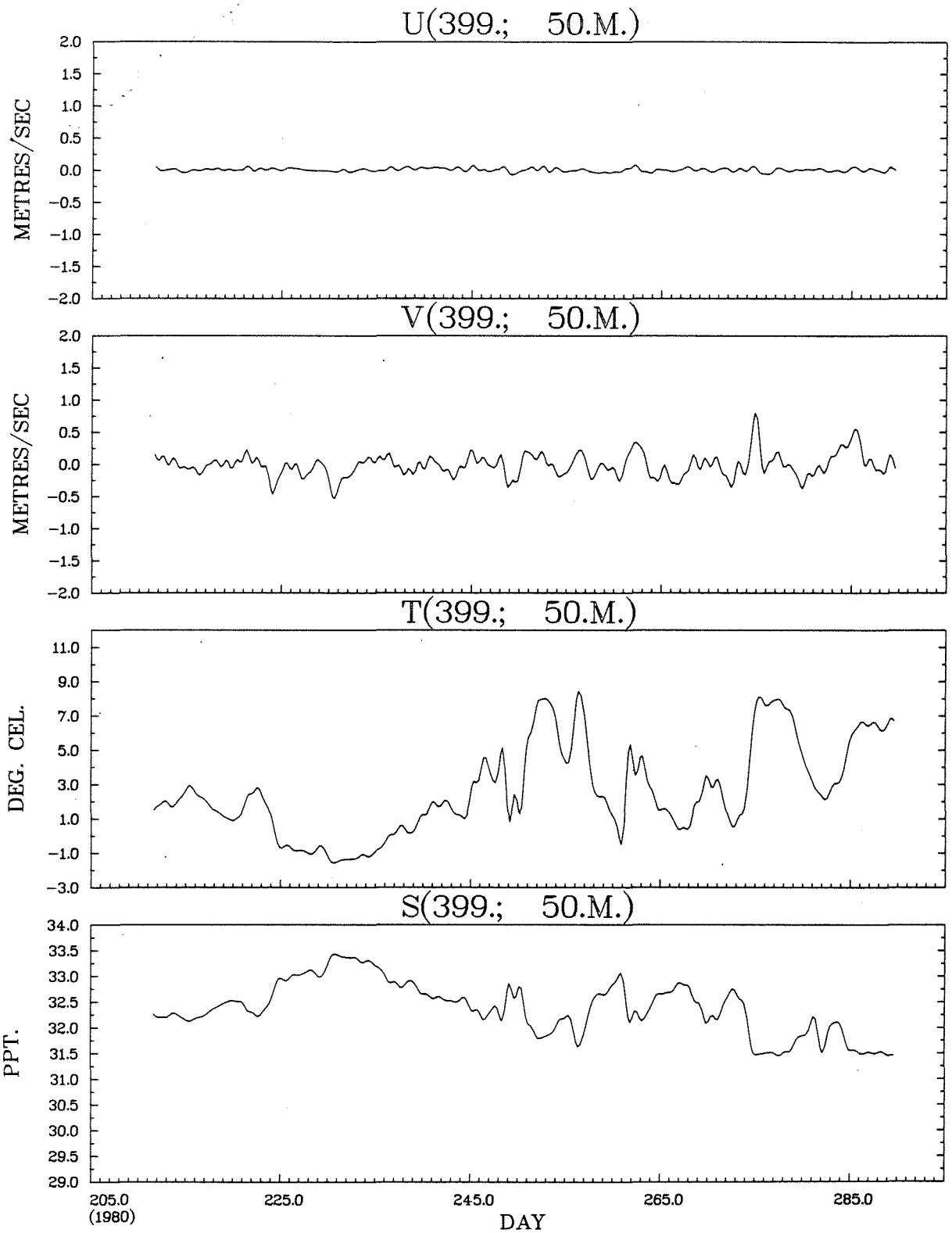


STN. 399, 50 M.





STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(399.; 50.M.) VS R(399.; 50.M.)

DEGREES / METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80		*												
1.40 TO 1.60		*												
1.20 TO 1.40	16	*		.2	.0					.2				
1.00 TO 1.20	60	*		.3	.2					.9	.2			
.80 TO 1.00	220	*		1.1	1.1					2.5	.7			
.60 TO .80	471	*		2.5	2.9					4.0	2.4			
.40 TO .60	841	*	.0	4.7	5.9	.0				5.3	5.0			
.20 TO .40	1283	*	.7	7.5	7.7	.9	.1	.2	.7	7.2	6.1	.6	.1	.2
-.00 TO .20	1120	*	1.6	2.5	3.5	2.5	2.1	2.0	2.1	3.5	2.8	1.9	1.7	1.7
OUT OF RANGE	0	0												
SUB TOTAL	4011	0	93	751	853	138	89	89	113	944	689	101	7	78

HISTOGRAM OF R(399.; 50.M.) METRES/SEC

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	.10	283	7.1	**********
.10	.20	837	20.9	**********
.20	.30	694	17.3	**********
.30	.40	589	14.7	**********
.40	.50	493	12.3	**********
.50	.60	348	8.7	**********
.60	.70	267	6.7	**********
.70	.80	204	5.1	**********
.80	.90	141	3.5	**********
.90	1.00	79	2.0	*********
1.00	1.10	47	1.2	******
1.10	1.20	13	.3	**
1.20	1.30	12	.3	**
1.30	1.40	4	.1	*
1.40	1.50	0	0.0	
1.50	1.60	0	0.0	
1.60	1.70	0	0.0	
1.70	1.80	0	0.0	
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

HISTOGRAM OF D(399.; 50.M.) DEGREES

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	20	.5	***
10.00	20.00	29	.7	*****
20.00	30.00	44	1.1	*******
30.00	40.00	64	1.6	**********
40.00	50.00	215	5.4	**********
50.00	60.00	472	11.8	**********
60.00	70.00	506	12.6	**********
70.00	80.00	240	6.0	**********
80.00	90.00	107	2.7	**********
90.00	100.00	55	1.4	********
100.00	110.00	45	1.1	*******
110.00	120.00	38	.9	******
120.00	130.00	30	.7	*****
130.00	140.00	28	.7	****
140.00	150.00	31	.8	*****
150.00	160.00	27	.7	****
160.00	170.00	32	.8	*****
170.00	180.00	30	.7	*****
180.00	190.00	33	.8	*****
190.00	200.00	31	.8	*****
200.00	210.00	49	1.2	*******
210.00	220.00	71	1.8	**********
220.00	230.00	229	5.7	**********
230.00	240.00	644	16.1	**********
240.00	250.00	442	11.0	**********
250.00	260.00	180	4.5	**********
260.00	270.00	67	1.7	**********
270.00	280.00	33	.8	*****
280.00	290.00	35	.9	*****
290.00	300.00	33	.8	*****
300.00	310.00	25	.6	****
310.00	320.00	22	.5	****
320.00	330.00	26	.6	****
330.00	340.00	27	.7	****
340.00	350.00	27	.7	****
350.00	360.00	24	.6	****

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

HISTOGRAM OF T(399.; 50.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	36	.9	********
-1.50	-1.00	258	6.4	**********
-1.00	-.50	221	5.5	**********
-.50	0.00	152	3.8	**********
0.00	.50	211	5.3	**********
.50	1.00	300	7.5	**********
1.00	1.50	365	9.1	**********
1.50	2.00	438	10.9	**********
2.00	2.50	341	8.5	**********
2.50	3.00	203	5.1	**********
3.00	3.50	185	4.6	**********
3.50	4.00	162	4.0	**********
4.00	4.50	137	3.4	**********
4.50	5.00	109	2.7	**********
5.00	5.50	93	2.3	**********
5.50	6.00	130	3.2	**********
6.00	6.50	190	4.7	**********
6.50	7.00	106	2.6	**********
7.00	7.50	88	2.2	**********
7.50	8.00	108	2.7	**********
8.00	8.50	112	2.8	**********
8.50	9.00	23	.6	*****
9.00	9.50	22	.5	*****
9.50	10.00	12	.3	***
10.00	10.50	9	.2	**
10.50	11.00	0	0.0	
11.00	11.50	0	0.0	
11.50	12.00	0	0.0	
12.00	12.50	0	0.0	
12.50	13.00	0	0.0	
13.00	13.50	0	0.0	
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

HISTOGRAM OF S(399.; 50.M.) PPT.

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	0	0.0	
30.00	30.50	1	.0	*
30.50	31.00	1	.0	*
31.00	31.50	284	7.1	**********
31.50	32.00	775	19.3	**********
32.00	32.50	1314	32.8	**********
32.50	33.00	1122	28.0	**********
33.00	33.50	514	12.8	**********
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 4011
OUTSIDE RANGE 0

TABLE 10

MOORING SUMMARY

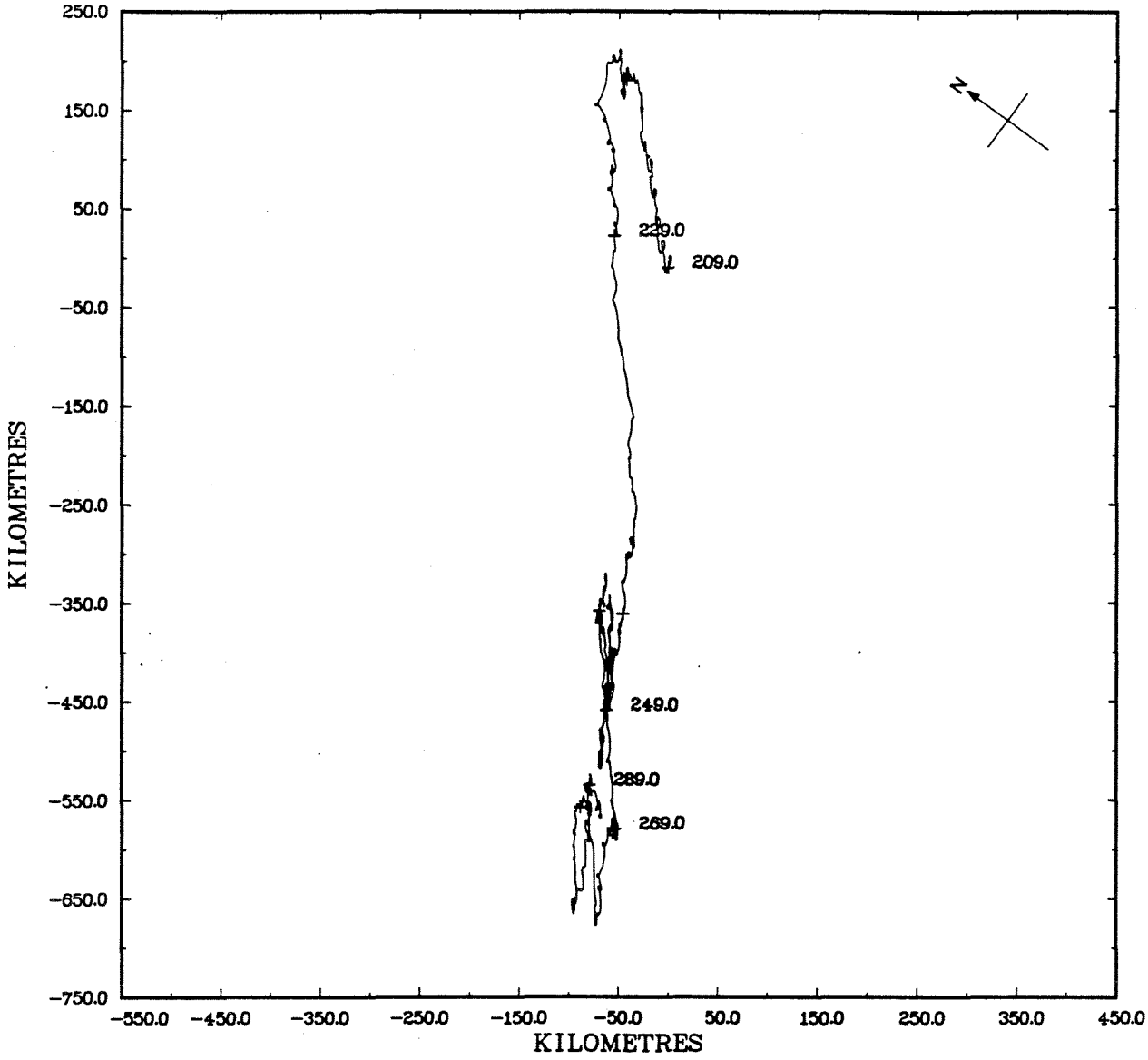
MOORING 400

DEPTH (M) 8

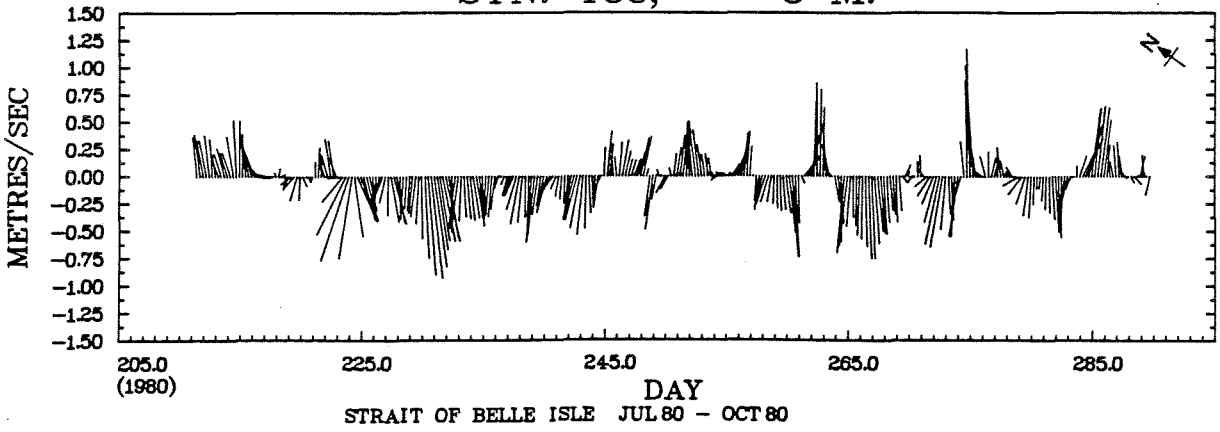
LATITUDE	51 23.70 N
LONGITUDE	56 46.40 W
WATER DEPTH (M)	87
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	83.56
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	4021

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.75	-1.92	.06	-.83	29.92
MAXIMUM	.54	1.65	1.99	13.36	33.18
MEAN	-.01	-.08	.53	7.07	31.19
STD. DEV.	.15	.60	.33	2.50	.46

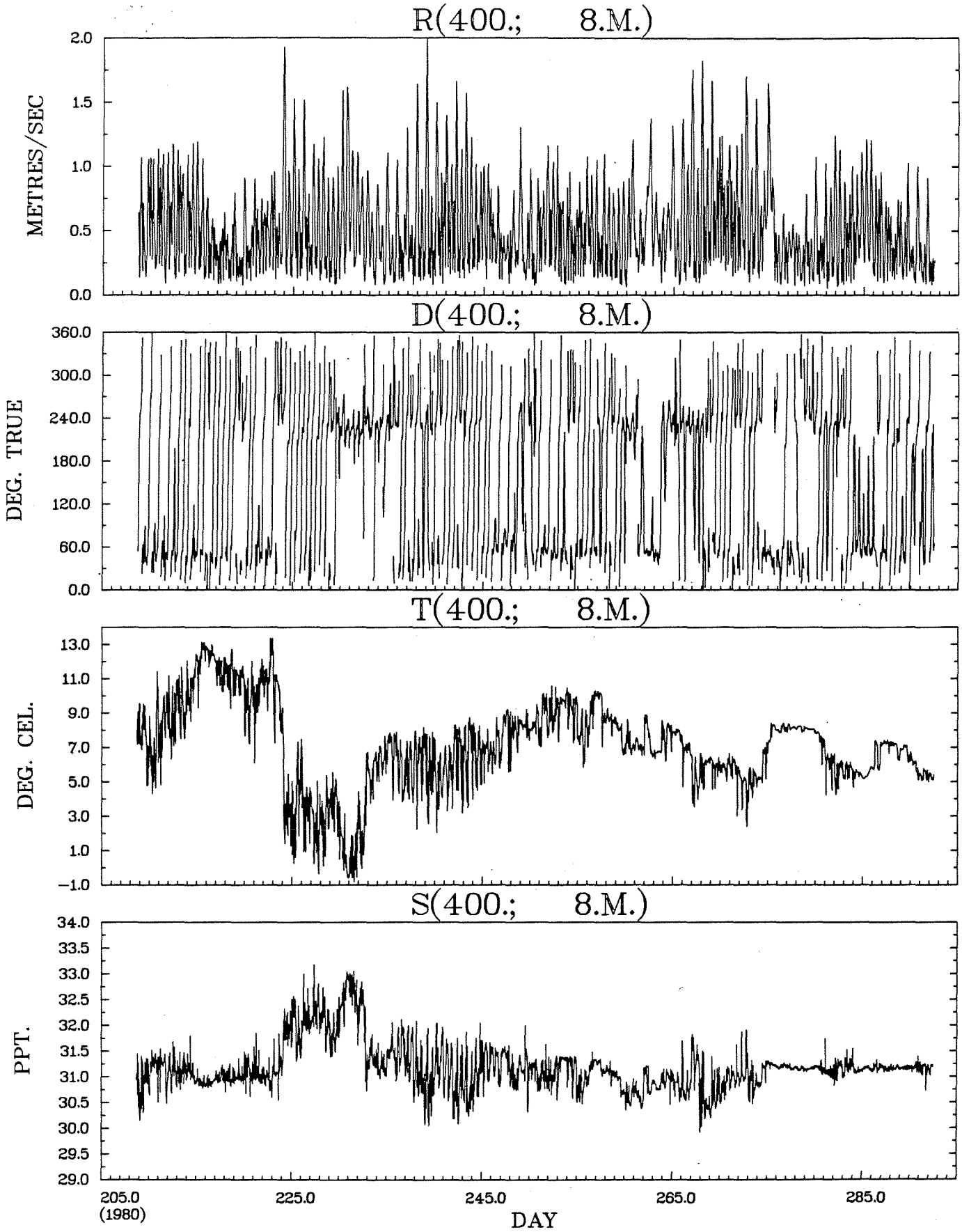
STN. 400, 8 M.



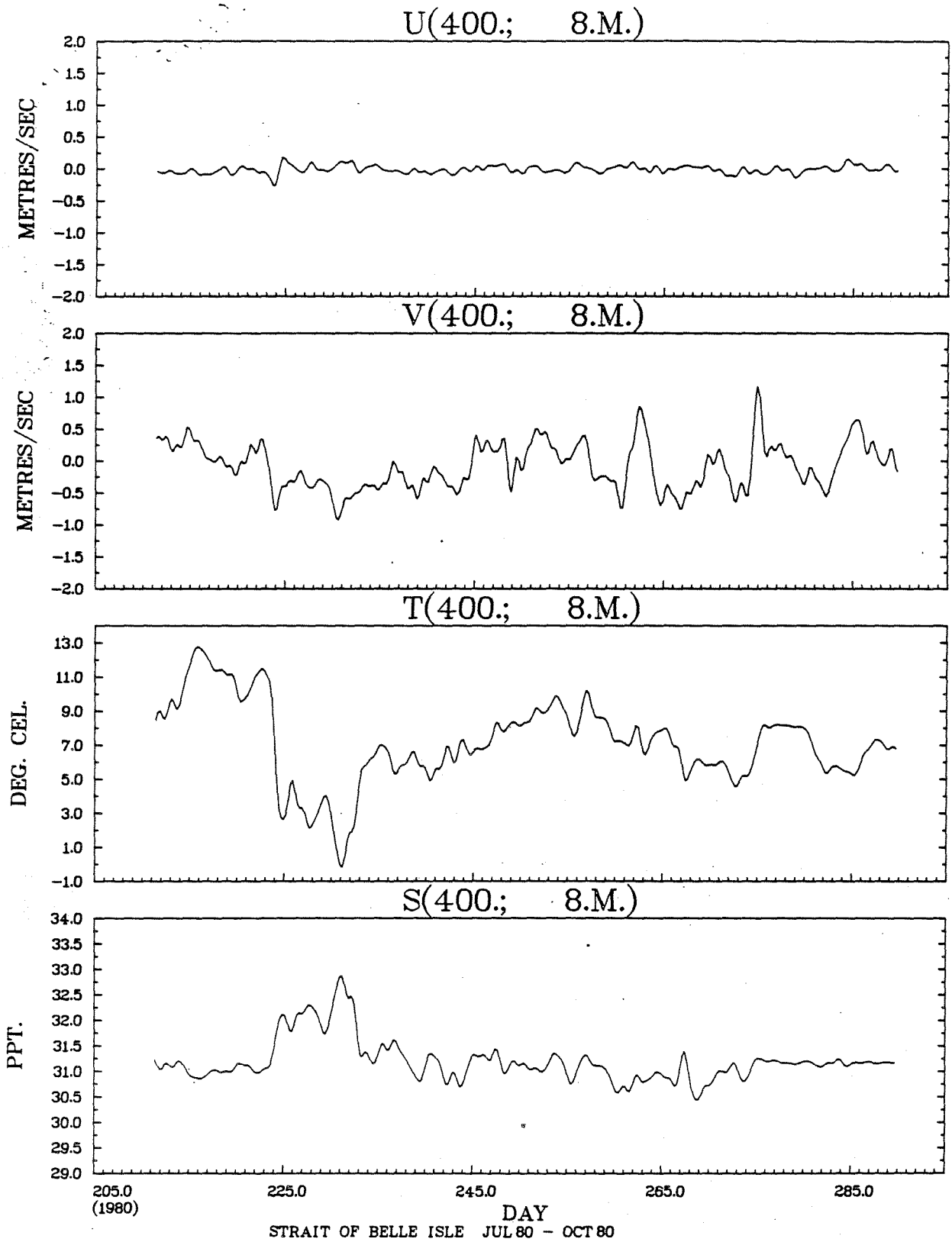
STN. 400, 8 M.



STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 – OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(400.; 8.M.) VS R(400.; 8.M.)

DEG. TRUE METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00	9	*								.0	.2			
1.60 TO 1.80	29	*		.1						.3	.3			
1.40 TO 1.60	53	*		.1						.9	.3			
1.20 TO 1.40	69	*		.2						1.0	.5			
1.00 TO 1.20	218	*		1.9	.0				.0	2.1	1.3			
.80 TO 1.00	453	*	.0	4.0	.3				.3	4.5	2.1			
.60 TO .80	571	*	.0	5.2	.8				.3	5.5	2.3	.0		
.40 TO .60	820	*	.6	7.0	2.4	.0	.0	.1	1.1	5.9	2.8	.3		.0
.20 TO .40	1260	*	2.3	7.7	4.7	1.6	1.0	.9	2.5	4.2	3.2	1.4	.9	.9
-.00 TO .20	539	*	1.4	1.1	1.2	1.4	1.0	1.2	.9	.7	.7	1.2	1.3	1.3
OUT OF RANGE	0	0												
SUB TOTAL	4021	0	175	1104	382	121	85	92	205	1011	551	120	87	88

HISTOGRAM OF R(400.; 8.M.) METRES/SEC

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	.10	56	1.4	********
.10	.20	483	12.0	**********
.20	.30	670	16.7	**********
.30	.40	590	14.7	**********
.40	.50	454	11.3	**********
.50	.60	366	9.1	**********
.60	.70	311	7.7	**********
.70	.80	260	6.5	**********
.80	.90	260	6.5	**********
.90	1.00	193	4.8	**********
1.00	1.10	127	3.2	**********
1.10	1.20	91	2.3	**********
1.20	1.30	42	1.0	******
1.30	1.40	27	.7	****
1.40	1.50	23	.6	****
1.50	1.60	30	.7	*****
1.60	1.70	22	.5	****
1.70	1.80	7	.2	*
1.80	1.90	5	.1	*
1.90	2.00	4	.1	*
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 4021
OUTSIDE RANGE 0

HISTOGRAM OF D(400.; 8.M.) DEG. TRUE

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	33	.8	*******
10.00	20.00	49	1.2	**********
20.00	30.00	93	2.3	**********
30.00	40.00	186	4.6	**********
40.00	50.00	425	10.6	**********
50.00	60.00	493	12.3	**********
60.00	70.00	208	5.2	**********
70.00	80.00	102	2.5	**********
80.00	90.00	72	1.8	**********
90.00	100.00	50	1.2	**********
100.00	110.00	38	.9	********
110.00	120.00	33	.8	*******
120.00	130.00	33	.8	*******
130.00	140.00	36	.9	********
140.00	150.00	16	.4	****
150.00	160.00	25	.6	*****
160.00	170.00	29	.7	******
170.00	180.00	38	.9	********
180.00	190.00	42	1.0	*********
190.00	200.00	57	1.4	**********
200.00	210.00	106	2.6	**********
210.00	220.00	191	4.8	**********
220.00	230.00	368	9.2	**********
230.00	240.00	452	11.2	**********
240.00	250.00	302	7.5	**********
250.00	260.00	164	4.1	**********
260.00	270.00	85	2.1	**********
270.00	280.00	50	1.2	**********
280.00	290.00	37	.9	********
290.00	300.00	33	.8	*******
300.00	310.00	35	.9	********
310.00	320.00	29	.7	******
320.00	330.00	23	.6	*****
330.00	340.00	38	.9	********
340.00	350.00	25	.6	*****
350.00	360.00	25	.6	*****

TOTAL NO. OF SAMPLES 4021
OUTSIDE RANGE 0

HISTOGRAM OF T(400.; 8.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	0	0.0	
-1.00	-.50	12	.3	***
-.50	0.00	20	.5	****
0.00	.50	18	.4	****
.50	1.00	32	.8	*******
1.00	1.50	33	.8	*******
1.50	2.00	36	.9	********
2.00	2.50	45	1.1	*********
2.50	3.00	39	1.0	********
3.00	3.50	73	1.8	**********
3.50	4.00	64	1.6	**********
4.00	4.50	112	2.8	**********
4.50	5.00	130	3.2	**********
5.00	5.50	304	7.6	**********
5.50	6.00	329	8.2	**********
6.00	6.50	331	8.2	**********
6.50	7.00	353	8.8	**********
7.00	7.50	389	9.7	**********
7.50	8.00	346	8.6	**********
8.00	8.50	435	10.8	**********
8.50	9.00	164	4.1	**********
9.00	9.50	115	2.9	**********
9.50	10.00	150	3.7	**********
10.00	10.50	126	3.1	**********
10.50	11.00	81	2.0	**********
11.00	11.50	85	2.1	**********
11.50	12.00	67	1.7	**********
12.00	12.50	72	1.8	**********
12.50	13.00	45	1.1	*********
13.00	13.50	15	.4	***
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 4021
OUTSIDE RANGE 0

HISTOGRAM OF S(400.; 8.M.) PPT.

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	1	.0	*
30.00	30.50	137	3.4	*******
30.50	31.00	1122	27.9	**********
31.00	31.50	2139	53.2	**********
31.50	32.00	336	8.4	**********
32.00	32.50	191	4.8	*********
32.50	33.00	90	2.2	*****
33.00	33.50	4	.1	*
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 4020
OUTSIDE RANGE 0

TABLE 11

MOORING SUMMARY

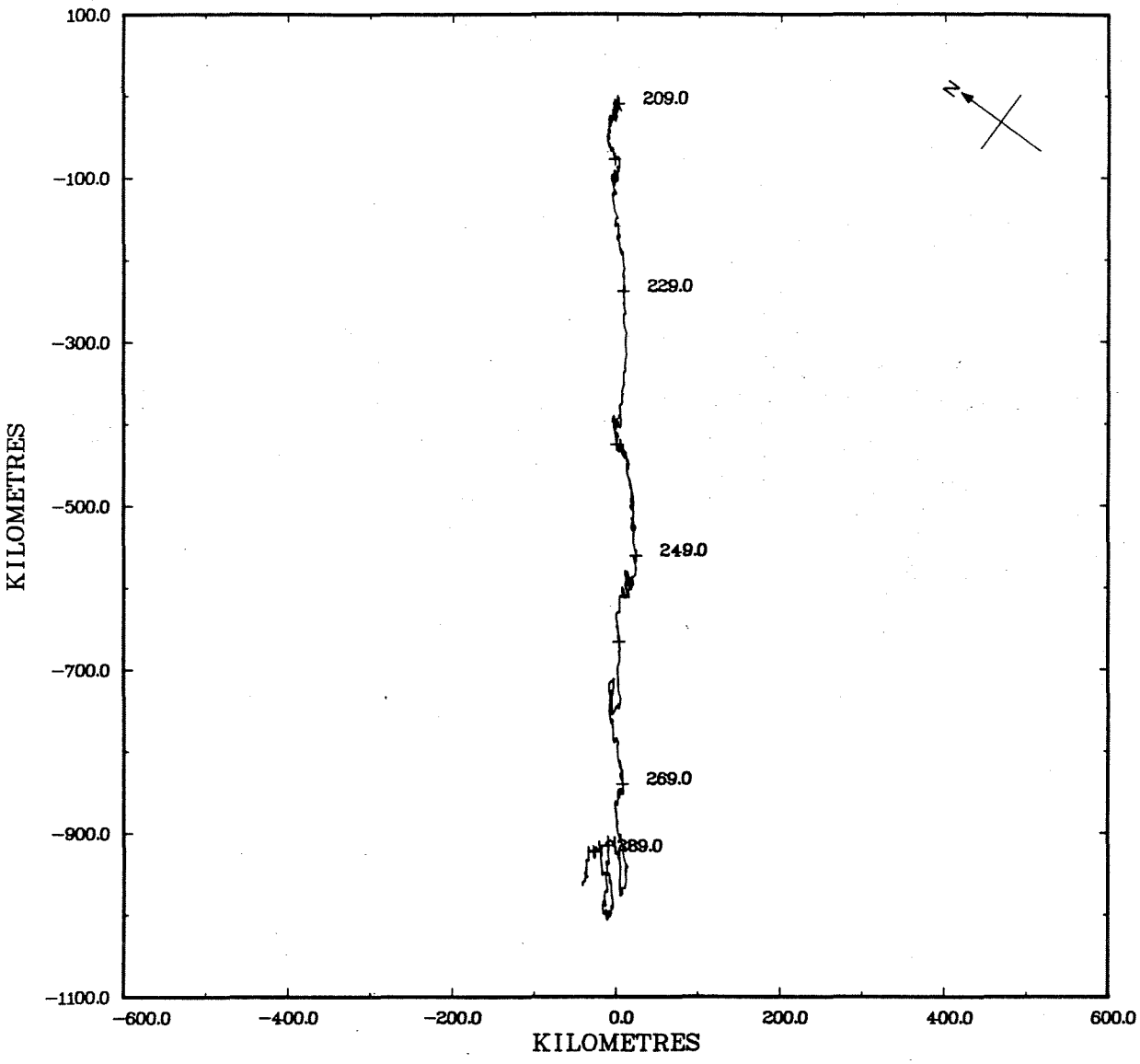
MOORING 400

DEPTH (M) 43

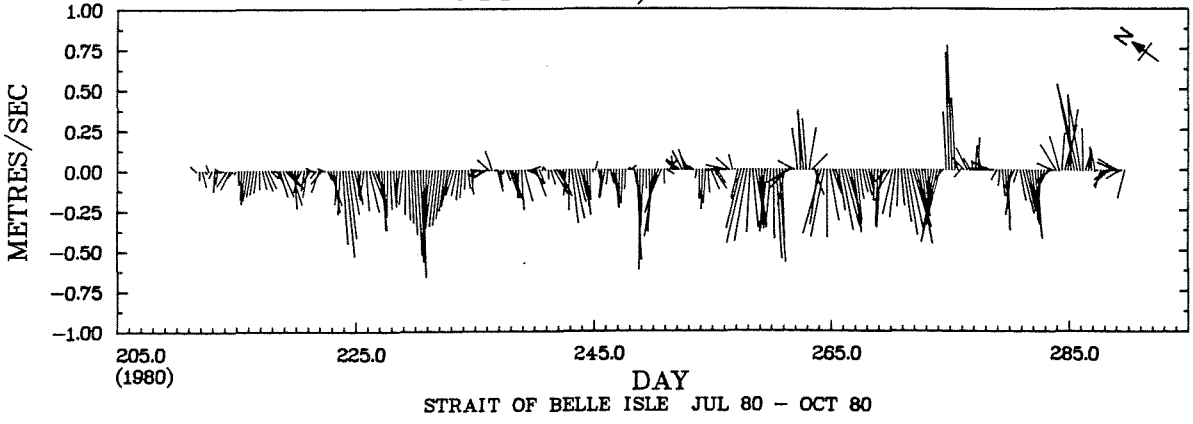
LATITUDE	51 23.70 N
LONGITUDE	56 46.40 W
WATER DEPTH (M)	87
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	83.54
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	4010

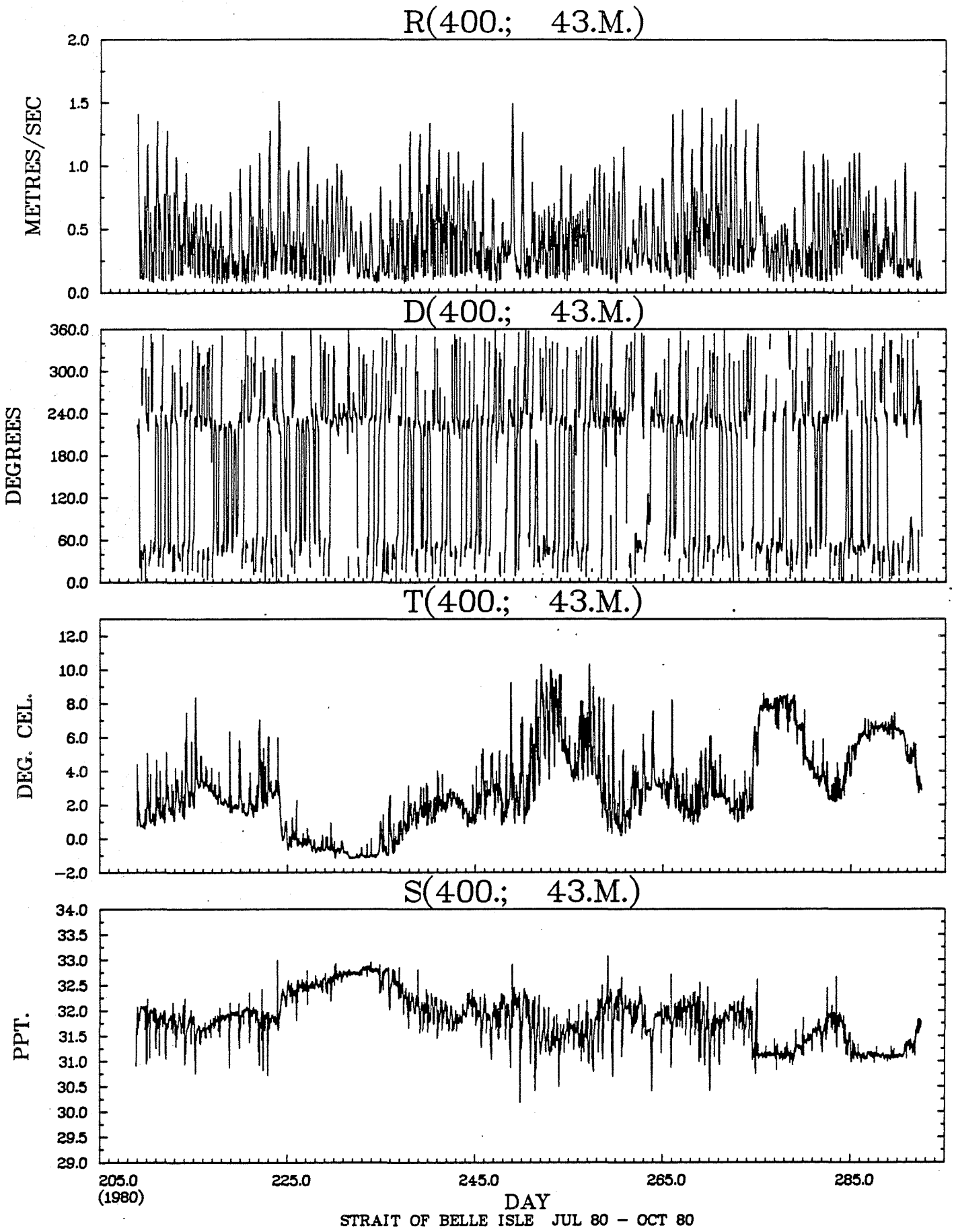
SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.36	-1.50	.06	-1.15	30.18
MAXIMUM	.45	1.34	1.53	10.32	33.08
MEAN	-.01	-.13	.43	3.03	31.84
STD. DEV.	.11	.48	.28	2.50	.48

STN. 400, 43 M.

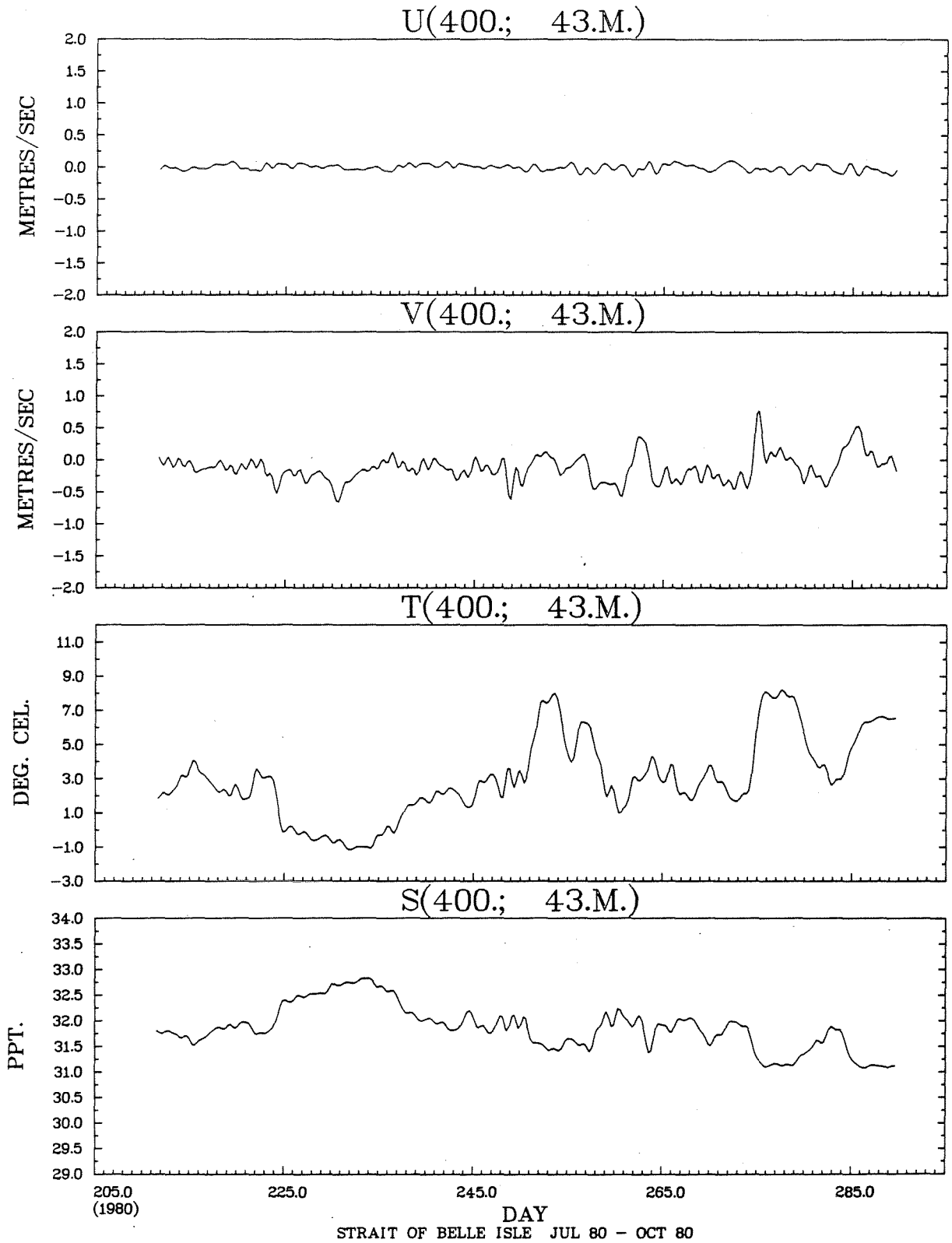


STN. 400, 43 M.





STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(400.; 43.M.) VS R(400.; 43.M.)

DEGREES / METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80		*												
1.40 TO 1.60	16	*								.4				
1.20 TO 1.40	47	*		.1						1.0				
1.00 TO 1.20	139	*		.3						3.0	.1			
.80 TO 1.00	249	*		.8	.0				.0	5.1	.3			
.60 TO .80	469	*		3.7	.2				.1	6.4	1.3			
.40 TO .60	794	*	.3	7.4	.8	.0			.3	8.4	2.5	.0		
.20 TO .40	1432	*	2.5	9.4	3.3	.5	.3	.4	1.9	8.6	5.4	1.6	.9	.8
-.00 TO .20	864	*	2.0	2.6	2.0	1.1	1.1	1.4	1.1	2.1	2.1	1.9	2.1	2.0
OUT OF RANGE	0	0												
SUB TOTAL	4010	0	190	978	254	65	58	71	144	1403	474	142	119	112

HISTOGRAM OF R(400.; 43.M.) METRES/SEC

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	.10	77	1.9	**********
.10	.20	787	19.6	**********
.20	.30	797	19.9	**********
.30	.40	635	15.8	**********
.40	.50	431	10.7	**********
.50	.60	363	9.1	**********
.60	.70	276	6.9	**********
.70	.80	193	4.8	**********
.80	.90	144	3.6	**********
.90	1.00	105	2.6	**********
1.00	1.10	87	2.2	**********
1.10	1.20	52	1.3	*******
1.20	1.30	31	.8	****
1.30	1.40	16	.4	**
1.40	1.50	14	.3	**
1.50	1.60	2	.0	*
1.60	1.70	0	0.0	
1.70	1.80	0	0.0	
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 4010
OUTSIDE RANGE 0

HISTOGRAM OF D(400.: 43.M.) DEGREES

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	52	1.3	*********
10.00	20.00	54	1.3	*********
20.00	30.00	84	2.1	**********
30.00	40.00	178	4.4	**********
40.00	50.00	462	11.5	**********
50.00	60.00	338	8.4	**********
60.00	70.00	137	3.4	**********
70.00	80.00	68	1.7	**********
80.00	90.00	49	1.2	*********
90.00	100.00	28	.7	*****
100.00	110.00	22	.5	****
110.00	120.00	15	.4	***
120.00	130.00	15	.4	***
130.00	140.00	20	.5	****
140.00	150.00	23	.6	****
150.00	160.00	19	.5	****
160.00	170.00	19	.5	****
170.00	180.00	33	.8	******
180.00	190.00	26	.6	*****
190.00	200.00	39	1.0	*******
200.00	210.00	79	2.0	**********
210.00	220.00	222	5.5	**********
220.00	230.00	582	14.5	**********
230.00	240.00	599	14.9	**********
240.00	250.00	275	6.9	**********
250.00	260.00	126	3.1	**********
260.00	270.00	73	1.8	**********
270.00	280.00	65	1.6	**********
280.00	290.00	43	1.1	********
290.00	300.00	34	.8	******
300.00	310.00	43	1.1	********
310.00	320.00	34	.8	******
320.00	330.00	42	1.0	*******
330.00	340.00	30	.7	*****
340.00	350.00	38	.9	*******
350.00	360.00	44	1.1	********

TOTAL NO. OF SAMPLES 4010
OUTSIDE RANGE 0

HISTOGRAM OF T(400.: 43.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	117	2.9	**********
-1.00	-.50	218	5.4	**********
-.50	0.00	161	4.0	**********
0.00	.50	101	2.5	**********
.50	1.00	157	3.9	**********
1.00	1.50	301	7.5	**********
1.50	2.00	428	10.7	**********
2.00	2.50	472	11.8	**********
2.50	3.00	357	8.9	**********
3.00	3.50	304	7.6	**********
3.50	4.00	214	5.3	**********
4.00	4.50	151	3.8	**********
4.50	5.00	145	3.6	**********
5.00	5.50	113	2.8	**********
5.50	6.00	104	2.6	**********
6.00	6.50	171	4.3	**********
6.50	7.00	166	4.1	**********
7.00	7.50	63	1.6	**********
7.50	8.00	94	2.3	**********
8.00	8.50	123	3.1	**********
8.50	9.00	19	.5	****
9.00	9.50	14	.3	***
9.50	10.00	13	.3	***
10.00	10.50	4	.1	*
10.50	11.00	0	0.0	
11.00	11.50	0	0.0	
11.50	12.00	0	0.0	
12.00	12.50	0	0.0	
12.50	13.00	0	0.0	
13.00	13.50	0	0.0	
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 4010
OUTSIDE RANGE 0

HISTOGRAM OF S(400.; 43.M.) PPT.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	0	0.0	
30.00	30.50	6	.1	*
30.50	31.00	45	1.1	***
31.00	31.50	936	23.3	**********
31.50	32.00	1639	40.9	**********
32.00	32.50	940	23.4	**********
32.50	33.00	443	11.0	**********
33.00	33.50	1	.0	*
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 4010
OUTSIDE RANGE 0

TABLE 12

MOORING SUMMARY

MOORING	401
DEPTH (M)	15
LATITUDE	51 24.55N
LONGITUDE	56 47.60W
WATER DEPTH (M)	15
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	LOST
DURATION (DAYS)	0
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	0

SENSOR UNITS	U(EAST) METRES/SEC	V(NORTH) METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM				
MAXIMUM				
MEAN				
STD. DEV.				

COMMENTS

MOORING WAS CUT OFF JUST ABOVE THE RELEASE, PROBABLY DONE BY FISHERMEN. INSTRUMENT WAS NEVER RECOVERED.

TABLE 13

MOORING SUMMARY

MOORING	401
DEPTH (M)	50
LATITUDE	51 24.55N
LONGITUDE	56 47.60W
WATER DEPTH (M)	50
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	LOST
DURATION (DAYS)	0
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	0

SENSOR UNITS	U(EAST) METRES/SEC	V(NORTH) METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM				
MAXIMUM				
MEAN				
STD. DEV.				

COMMENTS

MOORING WAS CUT OFF JUST ABOVE THE RELEASE, PROBABLY DONE BY FISHERMEN. INSTRUMENT WAS NEVER RECOVERED.

TABLE 14

MOORING SUMMARY

MOORING 402

DEPTH (M) 21

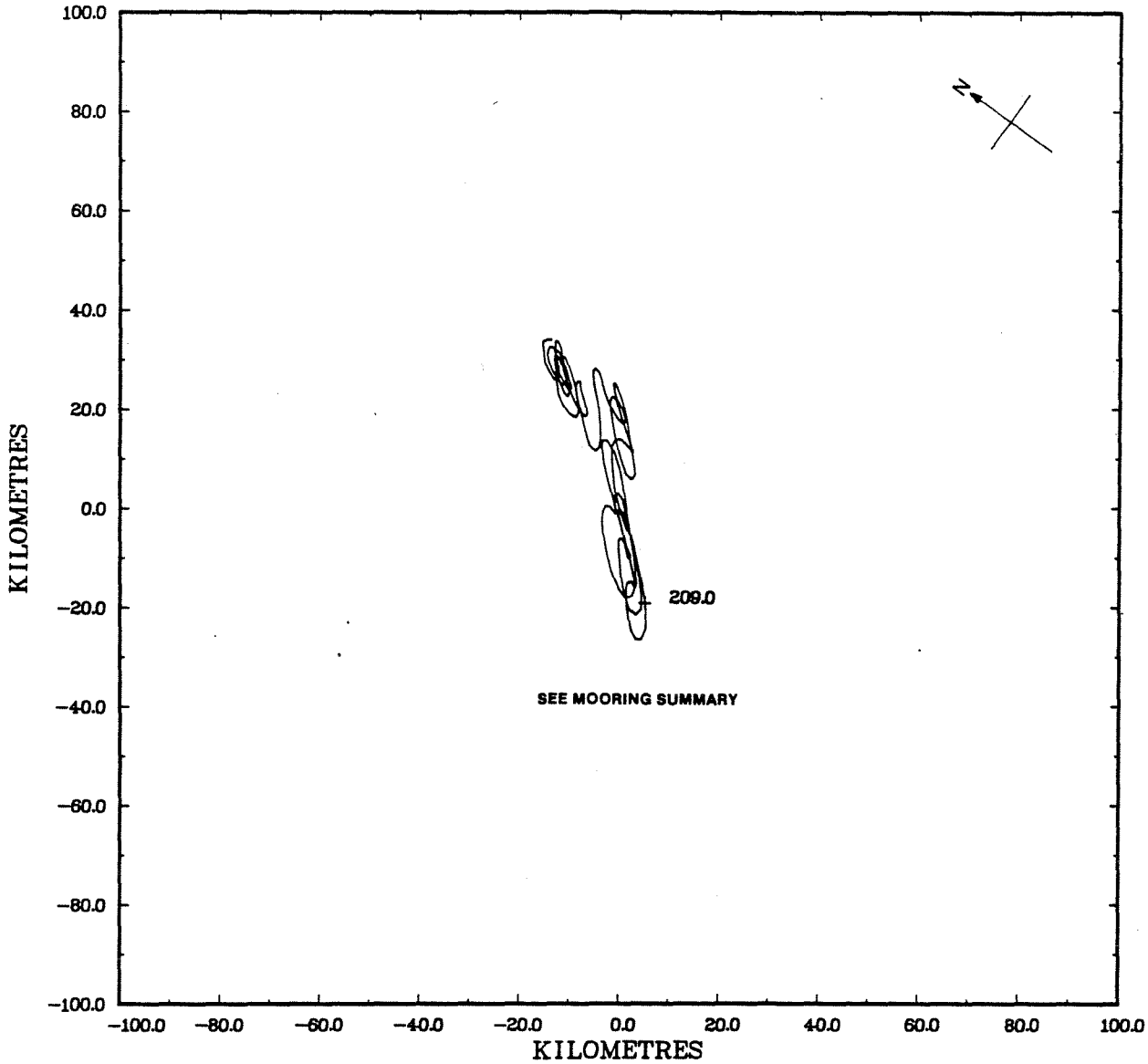
LATITUDE	51 25.30 N
LONGITUDE	56 48.40 W
WATER DEPTH (M)	56
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	/11/ 80/
DURATION (DAYS)	9.46
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	427

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.40	-1.55	.07	1.00	30.36
MAXIMUM	.44	1.19	1.60	12.93	32.11
MEAN	-.02	.04	.60	5.32	31.39
STD. DEV.	.19	.65	.33	2.83	.37

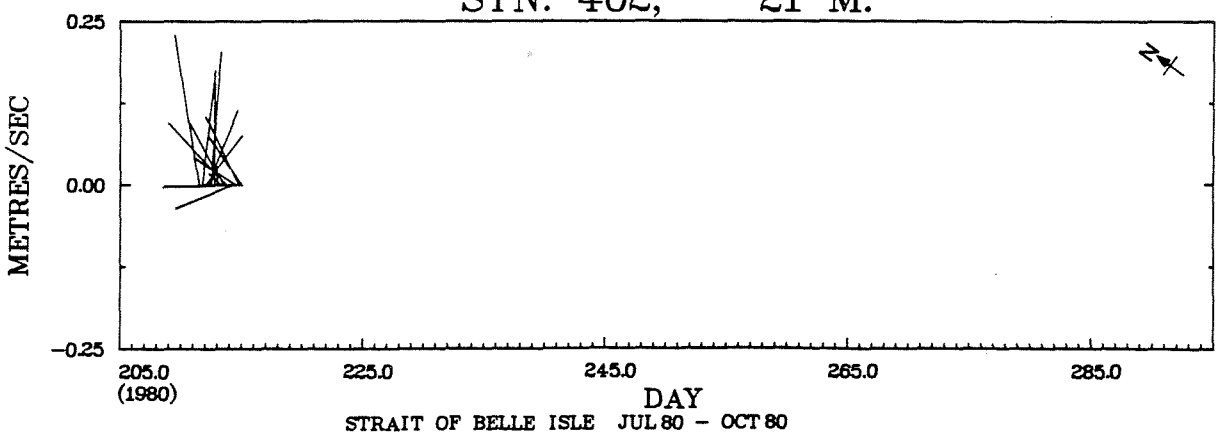
COMMENTS

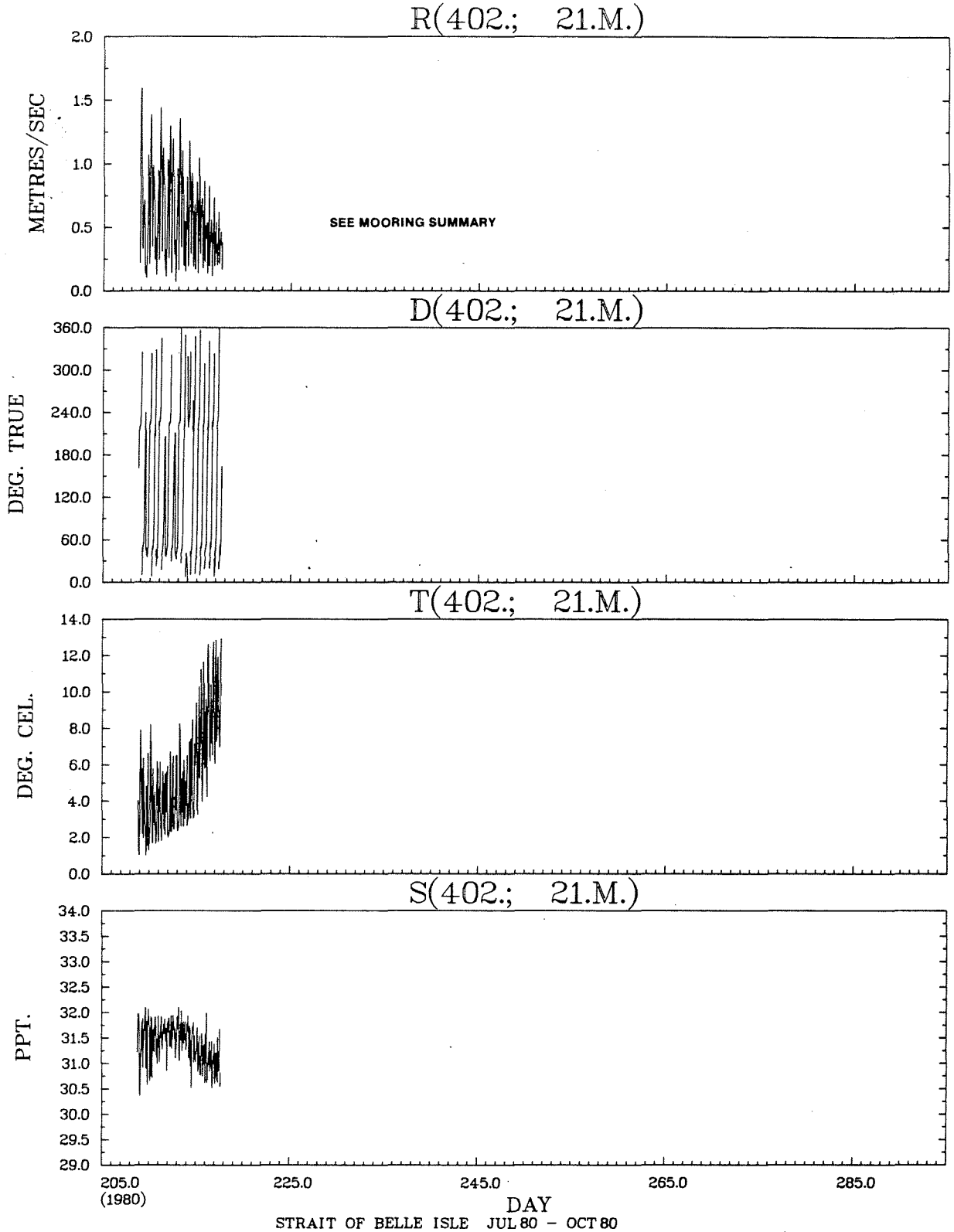
INSTRUMENT BROKE LOOSE ON DAY 217 AND WAS PICKED UP BY FISHERMEN IN NOVEMBER '80.

STN. 402, 21 M.

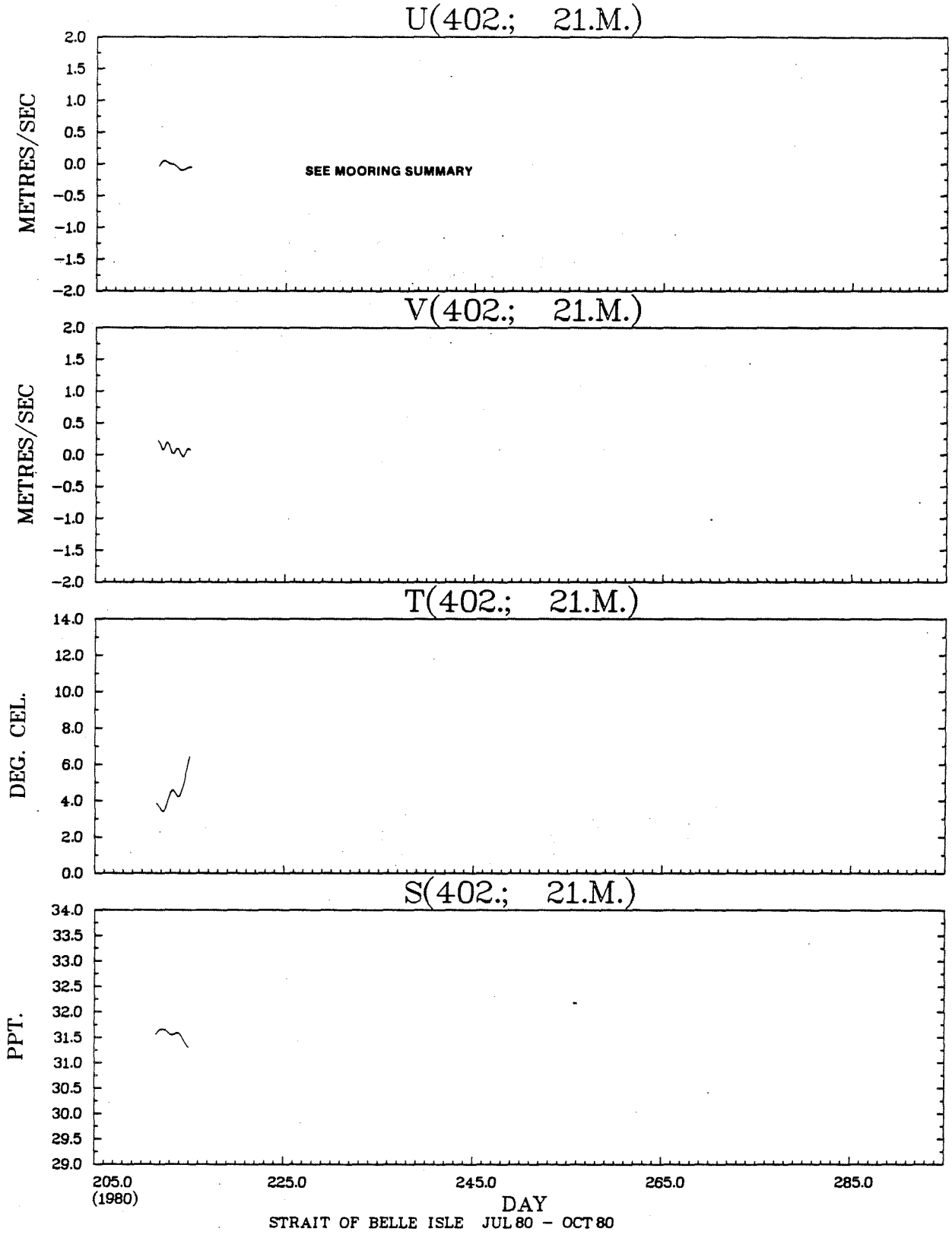


STN. 402, 21 M.





STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(402.; 21.M.) VS R(402.; 21.M.)

DEG. TRUE METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80		*												
1.40 TO 1.60	7	*								1.6				
1.20 TO 1.40	16	*								3.7				
1.00 TO 1.20	33	*		4.2						3.5				
.80 TO 1.00	59	*	.5	8.7					.2	4.2	.2			
.60 TO .80	67	*	2.1	8.7					.2	4.0	.7			
.40 TO .60	96	*	3.7	8.7	1.2				1.9	5.2	.7	.7		.5
.20 TO .40	108	*	3.5	4.0	3.0	1.9	.9	1.6	3.7	1.9	1.2	1.2	1.6	.7
-.00 TO .20	41	*		.7		.7	2.1	.9	1.2	.9	.5	.7	.9	.9
OUT OF RANGE	0	0												
SUB TOTAL	427	0	42	149	18	11	13	11	31	107	14	11	11	9

HISTOGRAM OF R(402.; 21.M.) METRES/SEC

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	.10	1	.2	*
.10	.20	40	9.4	**********
.20	.30	46	10.8	**********
.30	.40	62	14.5	**********
.40	.50	52	12.2	**********
.50	.60	44	10.3	**********
.60	.70	36	8.4	**********
.70	.80	31	7.3	**********
.80	.90	30	7.0	**********
.90	1.00	29	6.8	**********
1.00	1.10	18	4.2	**********
1.10	1.20	15	3.5	**********
1.20	1.30	9	2.1	*********
1.30	1.40	7	1.6	*******
1.40	1.50	3	.7	***
1.50	1.60	4	.9	****
1.60	1.70	0	0.0	
1.70	1.80	0	0.0	
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 427
OUTSIDE RANGE 0

HISTOGRAM OF D(402.; 21.M.) DEG. TRUE

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	4	.9	****
10.00	20.00	12	2.8	**********
20.00	30.00	26	6.1	**********
30.00	40.00	49	11.5	**********
40.00	50.00	73	17.1	**********
50.00	60.00	27	6.3	**********
60.00	70.00	11	2.6	**********
70.00	80.00	4	.9	****
80.00	90.00	3	.7	***
90.00	100.00	5	1.2	*****
100.00	110.00	1	.2	*
110.00	120.00	5	1.2	*****
120.00	130.00	2	.5	**
130.00	140.00	6	1.4	******
140.00	150.00	5	1.2	*****
150.00	160.00	4	.9	****
160.00	170.00	4	.9	****
170.00	180.00	3	.7	***
180.00	190.00	2	.5	**
190.00	200.00	11	2.6	**********
200.00	210.00	18	4.2	**********
210.00	220.00	39	9.1	**********
220.00	230.00	52	12.2	**********
230.00	240.00	16	3.7	**********
240.00	250.00	7	1.6	*******
250.00	260.00	6	1.4	******
260.00	270.00	1	.2	*
270.00	280.00	8	1.9	********
280.00	290.00	3	.7	***
290.00	300.00	0	0.0	
300.00	310.00	2	.5	**
310.00	320.00	2	.5	**
320.00	330.00	7	1.6	*******
330.00	340.00	2	.5	**
340.00	350.00	4	.9	****
350.00	360.00	3	.7	***

TOTAL NO. OF SAMPLES 427
OUTSIDE RANGE 0

HISTOGRAM OF T(402.; 21.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	0	0.0	
.50	1.00	1	.2	*
1.00	1.50	6	1.4	******
1.50	2.00	22	5.2	**********
2.00	2.50	47	11.0	**********
2.50	3.00	30	7.0	**********
3.00	3.50	34	8.0	**********
3.50	4.00	33	7.7	**********
4.00	4.50	27	6.3	**********
4.50	5.00	25	5.9	**********
5.00	5.50	21	4.9	**********
5.50	6.00	27	6.3	**********
6.00	6.50	24	5.6	**********
6.50	7.00	16	3.7	**********
7.00	7.50	22	5.2	**********
7.50	8.00	19	4.4	**********
8.00	8.50	11	2.6	**********
8.50	9.00	12	2.8	**********
9.00	9.50	12	2.8	**********
9.50	10.00	6	1.4	******
10.00	10.50	7	1.6	*******
10.50	11.00	1	.2	*
11.00	11.50	4	.9	****
11.50	12.00	10	2.3	**********
12.00	12.50	5	1.2	*****
12.50	13.00	5	1.2	*****
13.00	13.50	0	0.0	
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 427
OUTSIDE RANGE 0

HISTOGRAM OF S(402.; 21.M.) PPT.

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	0	0.0	
30.00	30.50	2	.5	*
30.50	31.00	65	15.2	**********
31.00	31.50	165	38.6	**********
31.50	32.00	190	44.5	**********
32.00	32.50	5	1.2	***
32.50	33.00	0	0.0	
33.00	33.50	0	0.0	
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 427
OUTSIDE RANGE 0

TABLE 15

MOORING SUMMARY

MOORING 402

DEPTH (M) 51

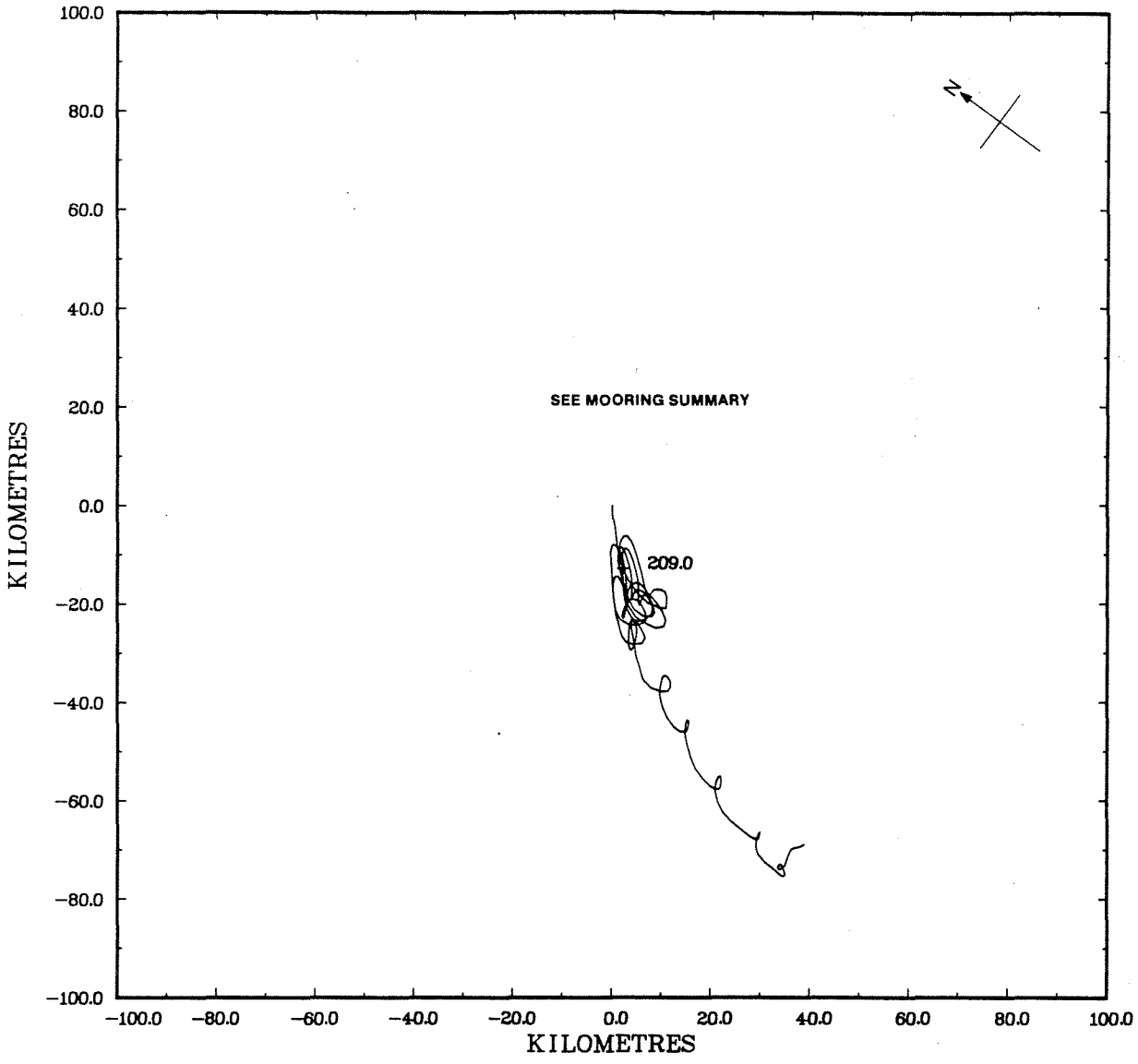
LATITUDE	51 25.30 N
LONGITUDE	56 48.40 W
WATER DEPTH (M)	56
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	/ 7/ 80/0
DURATION (DAYS)	152.79
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	7336

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.39	-1.03	.05	-1.39	31.02
MAXIMUM	.75	.75	1.05	6.31	32.89
MEAN	-.05	-.09	.46	1.62	32.06
STD. DEV.	.24	.45	.23	1.43	.31

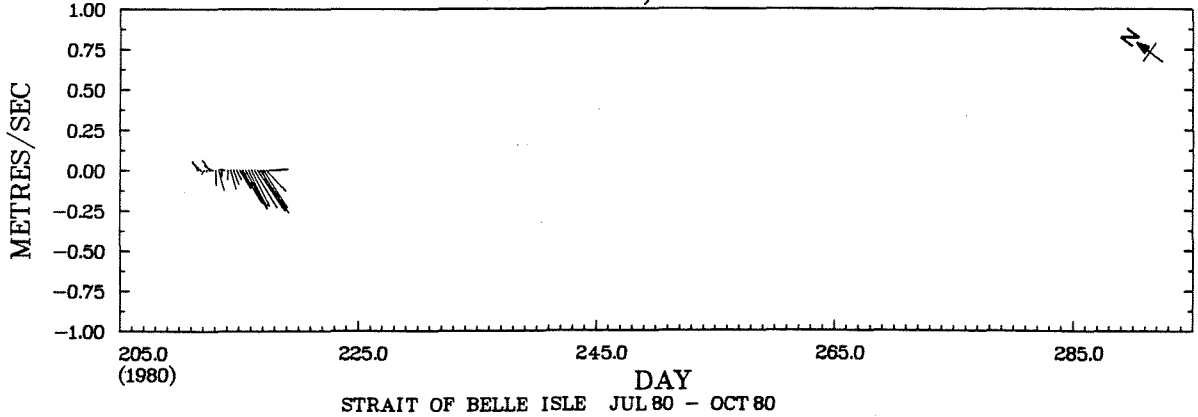
COMMENTS

INSTRUMENT SANK ON DAY 217 AND WAS RECOVERED BY FISHERMEN IN JULY '81.

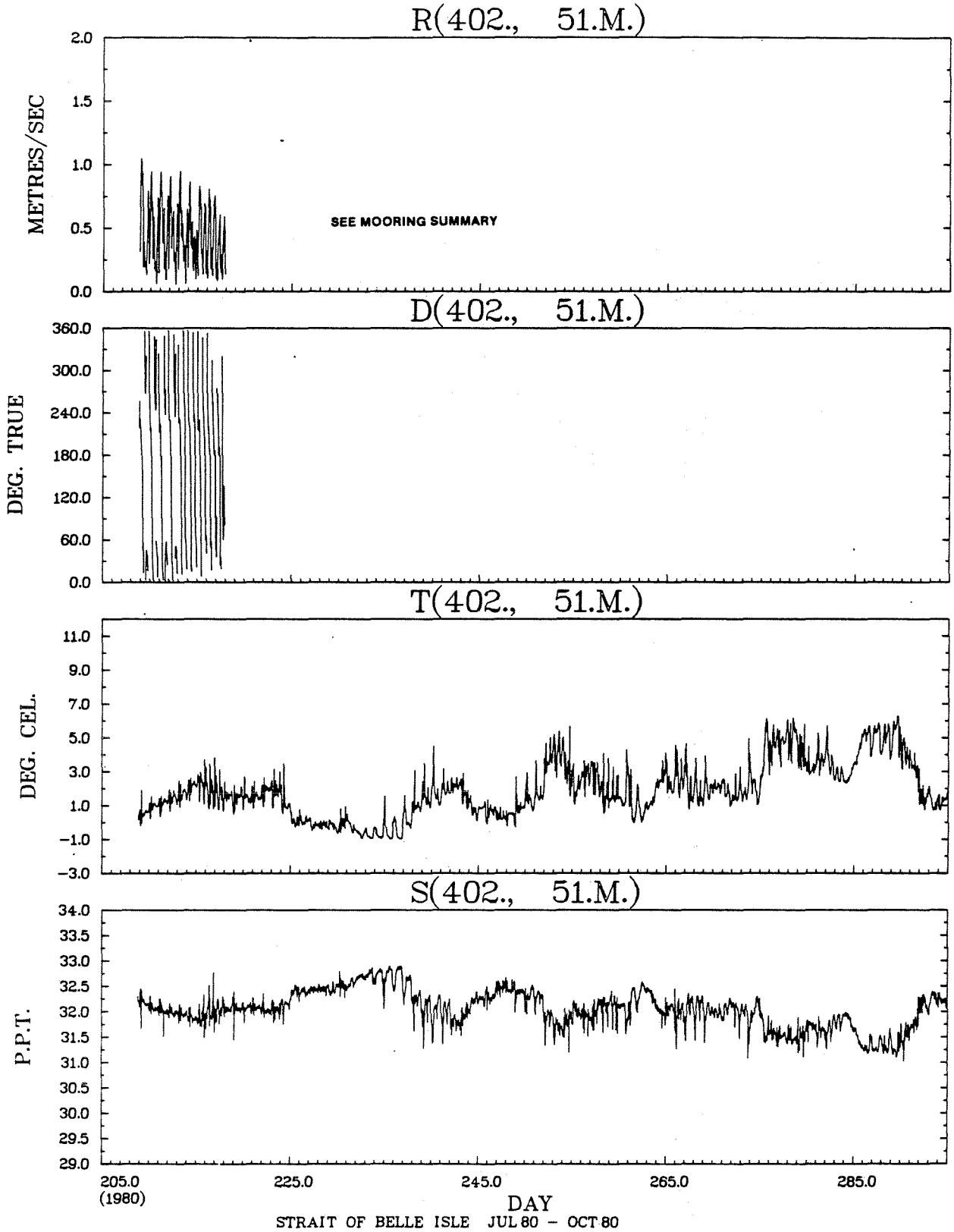
STN. 402, 51 M.



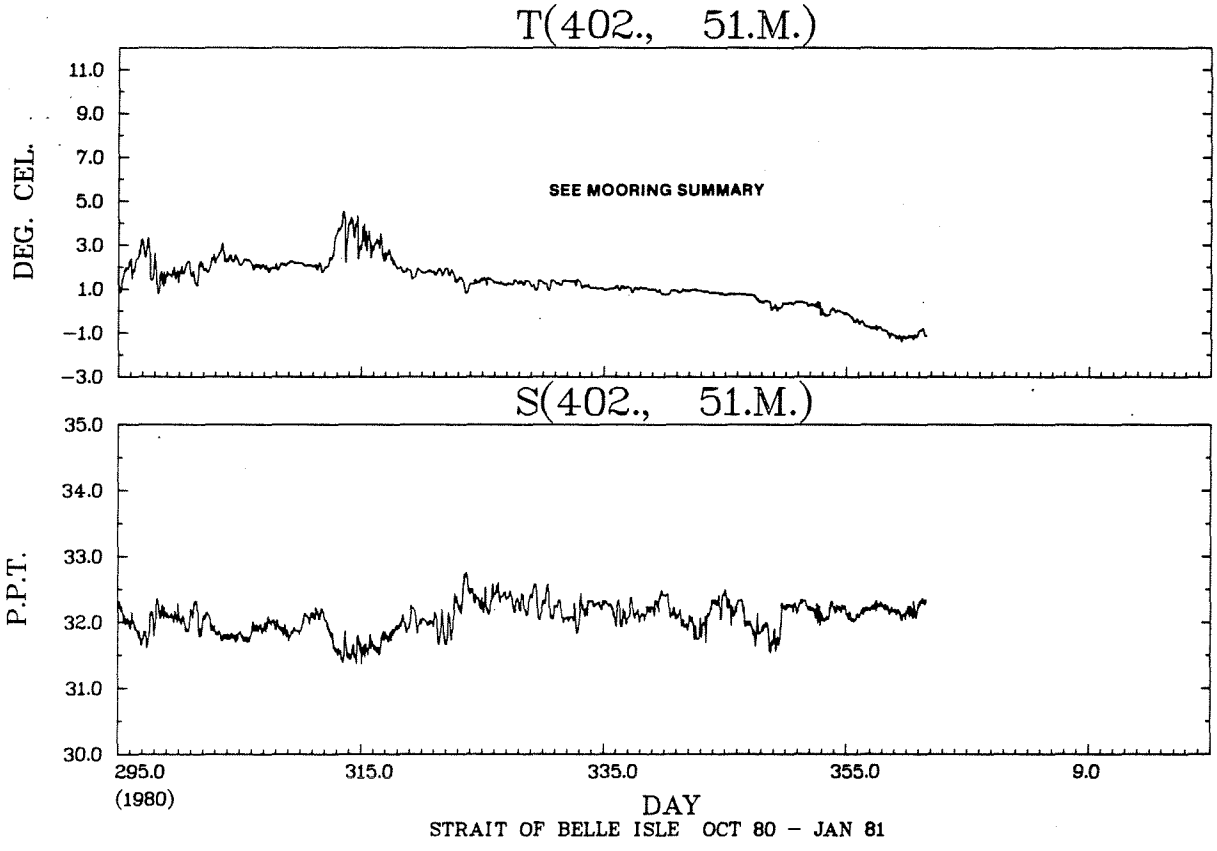
STN. 402, 51 M.

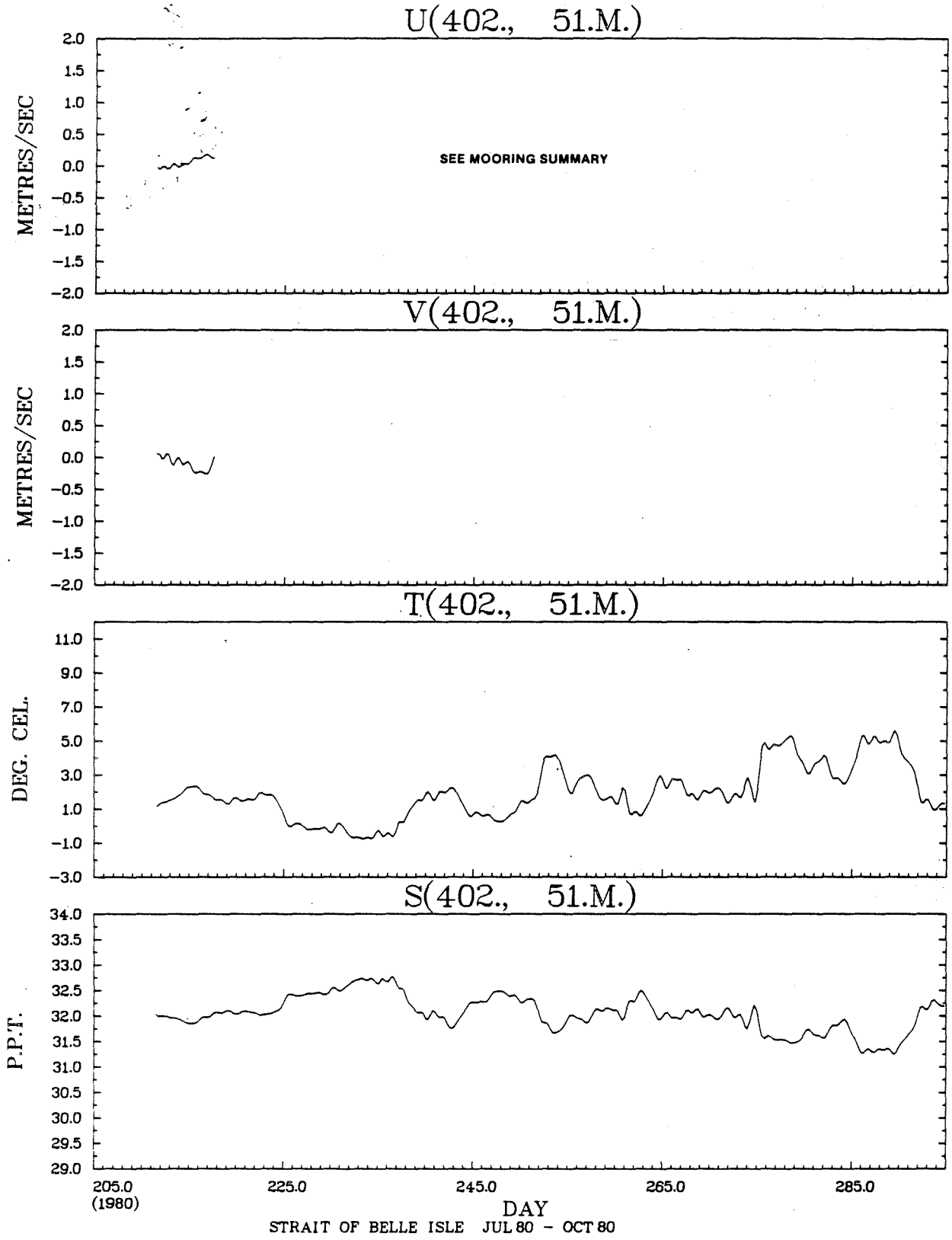


STRAIT OF BELLE ISLE JUL 80 - OCT 80

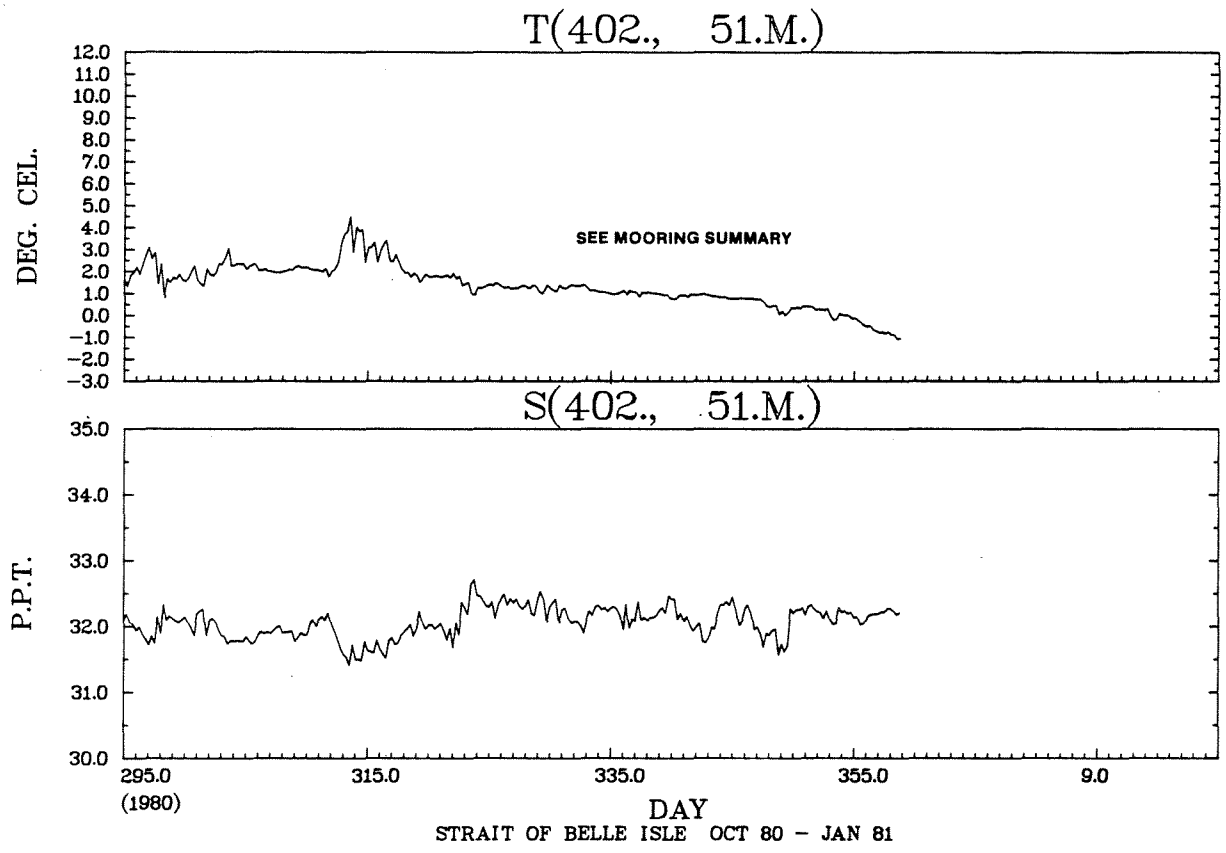


STRAIT OF BELLE ISLE JUL 80 - OCT 80


T(402., 51.M.)
DEG. CEL.
11.0
9.0
7.0
5.0
3.0
1.0
-1.0
-3.0
SEE MOORING SUMMARY
S(402., 51.M.)
P.P.T.
35.0
34.0
33.0
32.0
31.0
30.0
295.0
(1980)
315.0
335.0
355.0
9.0
DAY
STRAIT OF BELLE ISLE OCT 80 - JAN 81



STRAIT OF BELLE ISLE JUL 80 - OCT 80


T(402., 51.M.)
DEG. CEL.
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
−1.0
−2.0
−3.0
SEE MOORING SUMMARY
S(402., 51.M.)
P.P.T.
35.0
34.0
33.0
32.0
31.0
30.0
295.0
(1980)
315.0
335.0
355.0
9.0
DAY
STRAIT OF BELLE ISLE OCT 80 - JAN 81

JOINT DISTRIBUTION (PERCENT)

D(402., 51.M.) VS R(402., 51.M.)

DEG. TRUE METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00		*												
1.60 TO 1.80		*												
1.40 TO 1.60		*												
1.20 TO 1.40		*												
1.00 TO 1.20	4	*								.9				
.80 TO 1.00	37	*						.2	.9	7.3				
.60 TO .80	87	*	.9	6.2				2.3	3.9	6.4	.2			
.40 TO .60	106	*	3.9	4.8	1.6	1.6	2.1	2.1	2.7	3.7	1.8			
.20 TO .40	139	*	4.1	5.5	2.7	.9	.7	1.8	.9	1.6	7.1	2.1	1.4	3.0
-.00 TO .20	65	*	.9	1.8	1.4	1.1	.5	.7	.2	.7	1.6	2.1	3.0	.9
OUT OF RANGE	0	0												
SUB TOTAL	438	0	43	80	25	16	14	31	38	90	47	18	19	17

HISTOGRAM OF R(402., 51.M.) METRES/SEC

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	.10	11	2.5	**********
.10	.20	54	12.3	**********
.20	.30	69	15.8	**********
.30	.40	70	16.0	**********
.40	.50	56	12.8	**********
.50	.60	50	11.4	**********
.60	.70	50	11.4	**********
.70	.80	37	8.4	**********
.80	.90	23	5.3	**********
.90	1.00	14	3.2	**********
1.00	1.10	4	.9	****
1.10	1.20	0	0.0	
1.20	1.30	0	0.0	
1.30	1.40	0	0.0	
1.40	1.50	0	0.0	
1.50	1.60	0	0.0	
1.60	1.70	0	0.0	
1.70	1.80	0	0.0	
1.80	1.90	0	0.0	
1.90	2.00	0	0.0	
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 438
OUTSIDE RANGE 0

HISTOGRAM OF D(402., 51.M.) DEG. TRUE

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	7	1.6	*******
10.00	20.00	16	3.7	**********
20.00	30.00	20	4.6	**********
30.00	40.00	31	7.1	**********
40.00	50.00	23	5.3	**********
50.00	60.00	26	5.9	**********
60.00	70.00	11	2.5	**********
70.00	80.00	6	1.4	******
80.00	90.00	8	1.8	********
90.00	100.00	3	.7	***
100.00	110.00	3	.7	***
110.00	120.00	10	2.3	**********
120.00	130.00	4	.9	****
130.00	140.00	5	1.1	*****
140.00	150.00	5	1.1	*****
150.00	160.00	12	2.7	**********
160.00	170.00	8	1.8	********
170.00	180.00	11	2.5	**********
180.00	190.00	15	3.4	**********
190.00	200.00	12	2.7	**********
200.00	210.00	11	2.5	**********
210.00	220.00	25	5.7	**********
220.00	230.00	38	8.7	**********
230.00	240.00	27	6.2	**********
240.00	250.00	18	4.1	**********
250.00	260.00	18	4.1	**********
260.00	270.00	11	2.5	**********
270.00	280.00	7	1.6	*******
280.00	290.00	7	1.6	*******
290.00	300.00	4	.9	****
300.00	310.00	3	.7	***
310.00	320.00	10	2.3	**********
320.00	330.00	6	1.4	******
330.00	340.00	4	.9	****
340.00	350.00	4	.9	****
350.00	360.00	9	2.1	*********

TOTAL NO. OF SAMPLES 438
OUTSIDE RANGE 0

HISTOGRAM OF T(402., 51.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	133	1.8	*********
-1.00	-.50	326	4.4	**********
-.50	0.00	422	5.8	**********
0.00	.50	553	7.5	**********
.50	1.00	966	13.2	**********
1.00	1.50	1435	19.6	**********
1.50	2.00	1072	14.6	**********
2.00	2.50	918	12.5	**********
2.50	3.00	385	5.2	**********
3.00	3.50	371	5.1	**********
3.50	4.00	236	3.2	**********
4.00	4.50	155	2.1	**********
4.50	5.00	119	1.6	********
5.00	5.50	139	1.9	**********
5.50	6.00	91	1.2	*******
6.00	6.50	15	.2	*
6.50	7.00	0	0.0	
7.00	7.50	0	0.0	
7.50	8.00	0	0.0	
8.00	8.50	0	0.0	
8.50	9.00	0	0.0	
9.00	9.50	0	0.0	
9.50	10.00	0	0.0	
10.00	10.50	0	0.0	
10.50	11.00	0	0.0	
11.00	11.50	0	0.0	
11.50	12.00	0	0.0	
12.00	12.50	0	0.0	
12.50	13.00	0	0.0	
13.00	13.50	0	0.0	
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 7336
OUTSIDE RANGE 0

HISTOGRAM OF S(402., 51.M.) P.P.T.

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	0	0.0	
29.50	30.00	0	0.0	
30.00	30.50	0	0.0	
30.50	31.00	0	0.0	
31.00	31.50	400	5.5	**********
31.50	32.00	2466	33.6	**********
32.00	32.50	4028	54.9	**********
32.50	33.00	442	6.0	**********
33.00	33.50	0	0.0	
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 7336
OUTSIDE RANGE 0

TABLE 16

MOORING SUMMARY

MOORING 403

DEPTH (M) 12

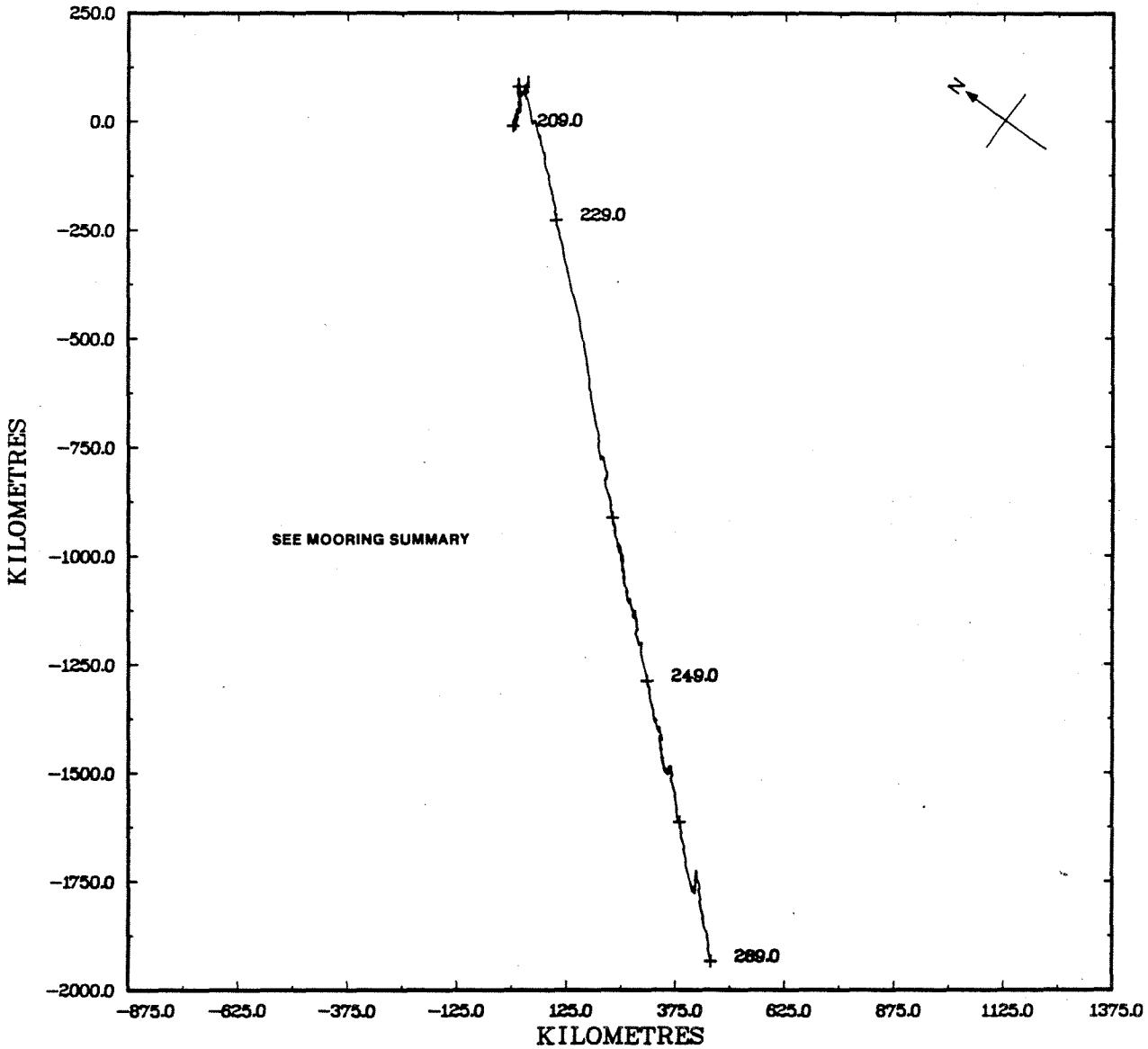
LATITUDE	51 26.80 N
LONGITUDE	56 50.25 W
WATER DEPTH (M)	80
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	82.96
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	3982

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.59	-2.37	.05	.57	29.20
MAXIMUM	.90	1.56	2.46	13.35	32.55
MEAN	.09	-.39	.73	6.17	30.81
STD. DEV.	.20	.77	.50	1.93	.50

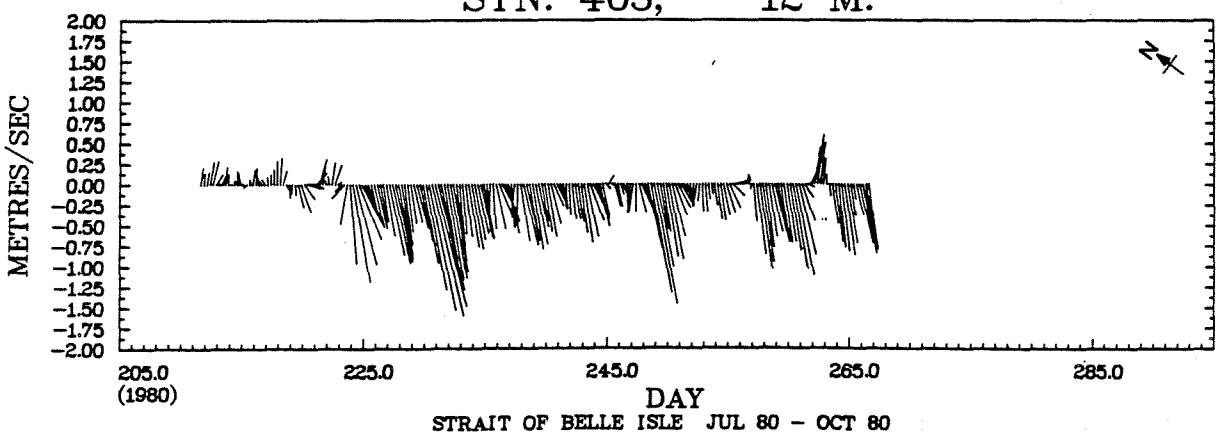
COMMENTS

LOST THE ROTOR ON DAY 266.

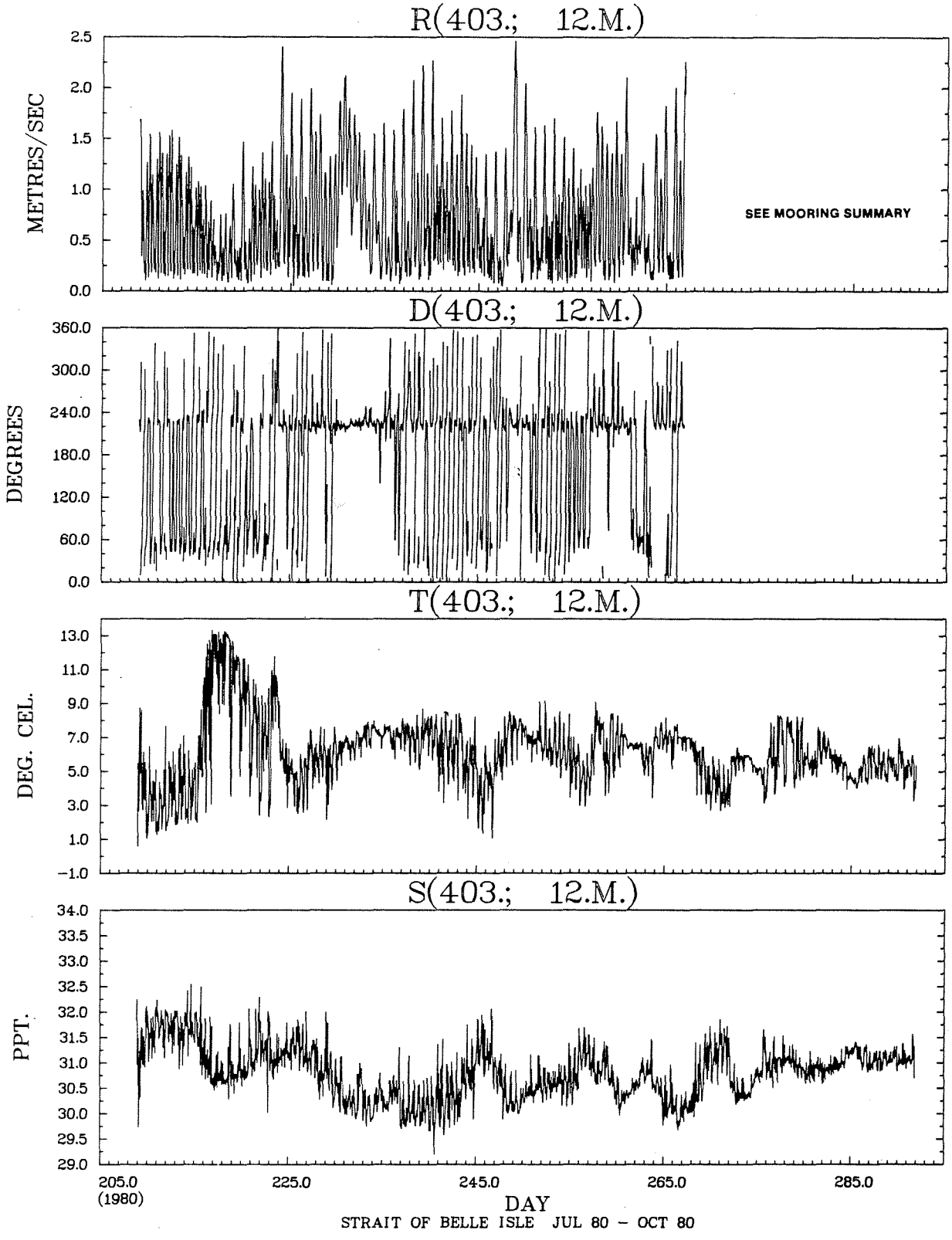
STN. 403, 12 M.



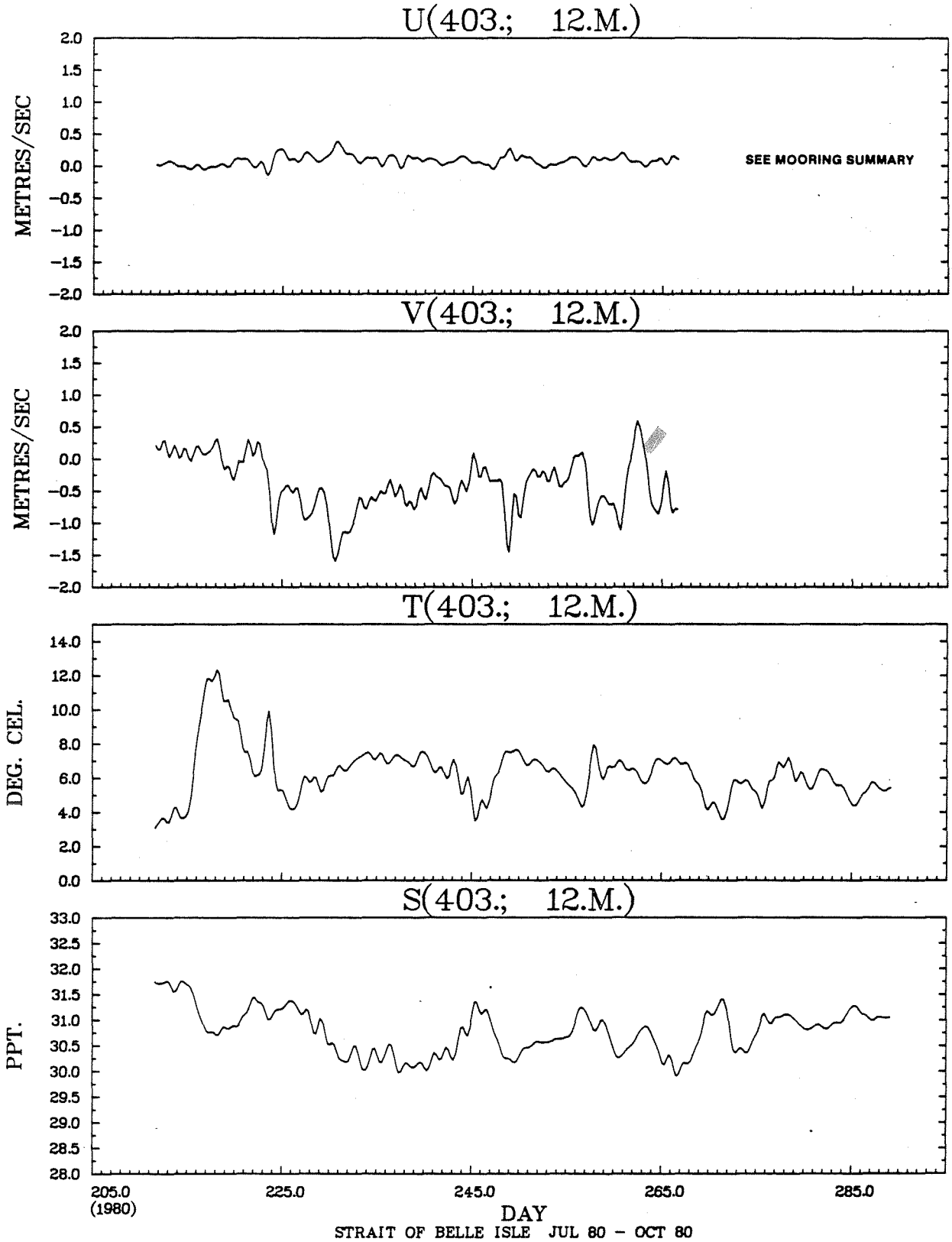
STN. 403, 12 M.



STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80



STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(403.; 12.M.) VS R(403.; 12.M.)

DEGREES / METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60	5	*								.2				
2.20 TO 2.40	15	*								.5				
2.00 TO 2.20	26	*								.9				
1.80 TO 2.00	49	*								1.8				
1.60 TO 1.80	90	*								3.2				
1.40 TO 1.60	144	*		.1					.0	5.0				
1.20 TO 1.40	221	*		.9	.1					6.9				
1.00 TO 1.20	247	*		1.7	.3	.0				6.9				
.80 TO 1.00	243	*	.1	2.0	.6	.1	.0		.1	5.7				
.60 TO .80	336	*	.3	2.4	1.6	.2	.1		.2	6.6	.7			.0
.40 TO .60	467	*	.8	3.1	2.5	.5	.4	.1	.8	6.5	1.7	.1	.0	.3
.20 TO .40	636	*	1.4	2.9	3.0	1.2	.8	.9	1.6	4.3	3.2	1.7	.9	.9
-.00 TO .20	307	*	.9	.8	1.0	1.0	1.1	1.3	.9	1.0	.8	.7	.8	.6
OUT OF RANGE	0	0												
SUB TOTAL	2786	0	97	391	254	86	64	63	103	1378	180	69	48	53

HISTOGRAM OF R(403.; 12.M.) METRES/SEC

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	.10	33	1.2	*********
.10	.20	274	9.8	**********
.20	.30	349	12.5	**********
.30	.40	287	10.3	**********
.40	.50	261	9.4	**********
.50	.60	206	7.4	**********
.60	.70	164	5.9	**********
.70	.80	172	6.2	**********
.80	.90	123	4.4	**********
.90	1.00	120	4.3	**********
1.00	1.10	132	4.7	**********
1.10	1.20	115	4.1	**********
1.20	1.30	111	4.0	**********
1.30	1.40	110	3.9	**********
1.40	1.50	63	2.3	**********
1.50	1.60	81	2.9	**********
1.60	1.70	49	1.8	**********
1.70	1.80	41	1.5	**********
1.80	1.90	25	.9	*******
1.90	2.00	24	.9	******
2.00	2.10	18	.6	*****
2.10	2.20	8	.3	**
2.20	2.30	10	.4	***
2.30	2.40	5	.2	**
2.40	2.50	5	.2	**

TOTAL NO. OF SAMPLES 2786
OUTSIDE RANGE 0

HISTOGRAM OF D(403.; 12.M.) DEGREES

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	27	1.0	****
10.00	20.00	27	1.0	****
20.00	30.00	43	1.5	******
30.00	40.00	76	2.7	**********
40.00	50.00	156	5.6	**********
50.00	60.00	159	5.7	**********
60.00	70.00	130	4.7	**********
70.00	80.00	78	2.8	**********
80.00	90.00	46	1.7	******
90.00	100.00	41	1.5	******
100.00	110.00	25	.9	****
110.00	120.00	20	.7	***
120.00	130.00	27	1.0	****
130.00	140.00	19	.7	***
140.00	150.00	18	.6	***
150.00	160.00	25	.9	****
160.00	170.00	9	.3	**
170.00	180.00	29	1.0	****
180.00	190.00	18	.6	***
190.00	200.00	27	1.0	****
200.00	210.00	58	2.1	********
210.00	220.00	350	12.6	**********
220.00	230.00	749	26.9	**********
230.00	240.00	279	10.0	**********
240.00	250.00	94	3.4	**********
250.00	260.00	53	1.9	*******
260.00	270.00	33	1.2	*****
270.00	280.00	28	1.0	****
280.00	290.00	22	.8	***
290.00	300.00	19	.7	***
300.00	310.00	16	.6	**
310.00	320.00	16	.6	**
320.00	330.00	16	.6	**
330.00	340.00	17	.6	***
340.00	350.00	11	.4	**
350.00	360.00	25	.9	****

TOTAL NO. OF SAMPLES 2786
OUTSIDE RANGE 0

HISTOGRAM OF T(403.; 12.M.) DEG. CEL.

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	0	0.0	
.50	1.00	1	.0	*
1.00	1.50	15	.4	***
1.50	2.00	33	.8	******
2.00	2.50	62	1.6	**********
2.50	3.00	57	1.4	**********
3.00	3.50	99	2.5	**********
3.50	4.00	160	4.0	**********
4.00	4.50	197	4.9	**********
4.50	5.00	333	8.4	**********
5.00	5.50	423	10.6	**********
5.50	6.00	560	14.1	**********
6.00	6.50	449	11.3	**********
6.50	7.00	470	11.8	**********
7.00	7.50	412	10.3	**********
7.50	8.00	291	7.3	**********
8.00	8.50	143	3.6	**********
8.50	9.00	29	.7	*****
9.00	9.50	41	1.0	*******
9.50	10.00	25	.6	*****
10.00	10.50	30	.8	*****
10.50	11.00	28	.7	*****
11.00	11.50	19	.5	****
11.50	12.00	29	.7	*****
12.00	12.50	23	.6	****
12.50	13.00	29	.7	*****
13.00	13.50	24	.6	****
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

TOTAL NO. OF SAMPLES 3982
OUTSIDE RANGE 0

HISTOGRAM OF S(403.; 12.M.) PPT.

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
29.00	29.50	1	.0	*
29.50	30.00	199	5.0	**********
30.00	30.50	948	23.8	**********
30.50	31.00	1427	35.8	**********
31.00	31.50	1050	26.4	**********
31.50	32.00	320	8.0	**********
32.00	32.50	36	.9	***
32.50	33.00	1	.0	*
33.00	33.50	0	0.0	
33.50	34.00	0	0.0	

TOTAL NO. OF SAMPLES 3982
OUTSIDE RANGE 0

TABLE 17

MOORING SUMMARY

MOORING 403

DEPTH (M) 47

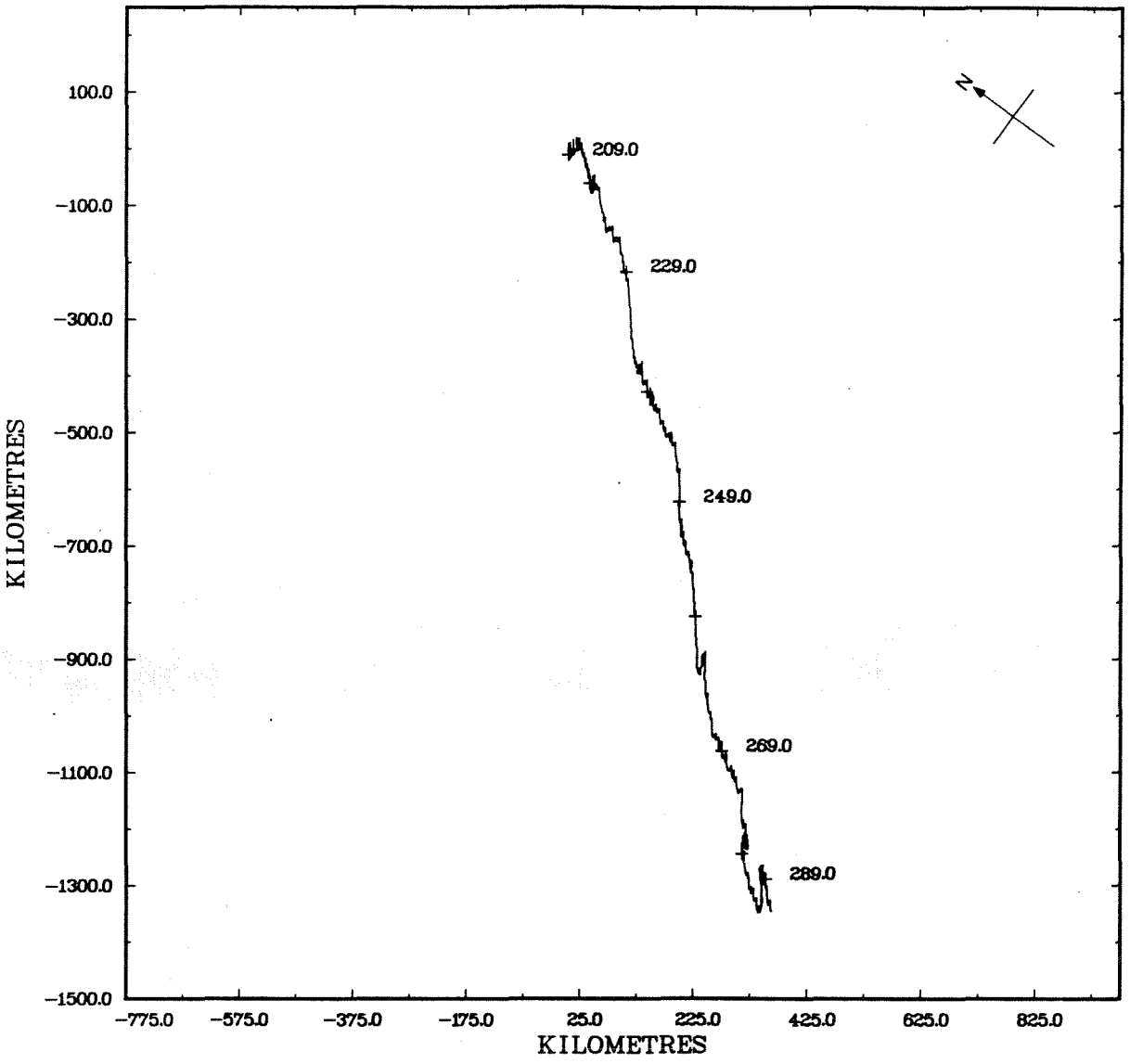
LATITUDE	51 26.80 N
LONGITUDE	56 50.25 W
WATER DEPTH (M)	80
MOORING DATE/CRUISE	26/ 7/ 80/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	82.98
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	3983

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	RATE METRES/SEC	TEMPERATURE DEG. CEL.	SALINITY PPT.
MINIMUM	-.35	-1.93	.06		
MAXIMUM	.59	1.36	1.95		
MEAN	.05	-.19	.56		
STD. DEV.	.12	.62	.36		

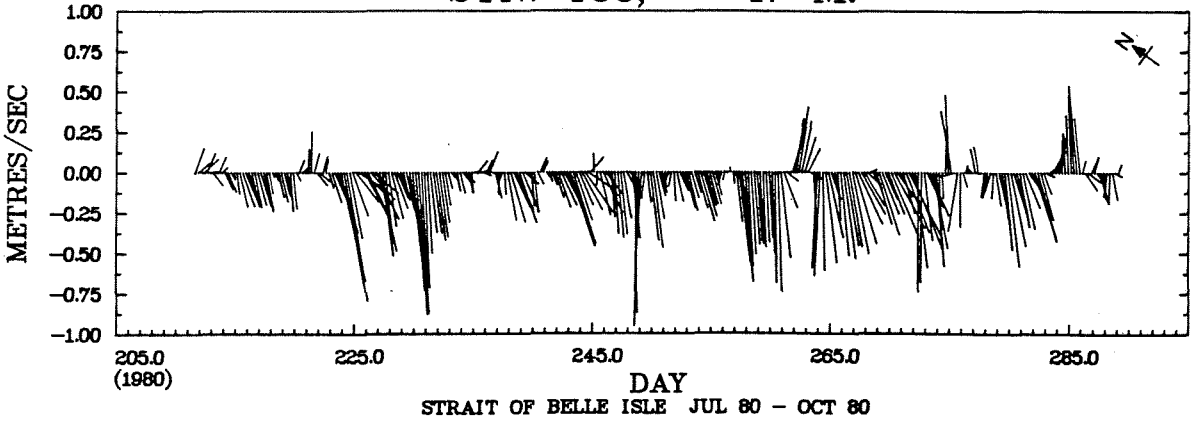
COMMENTS

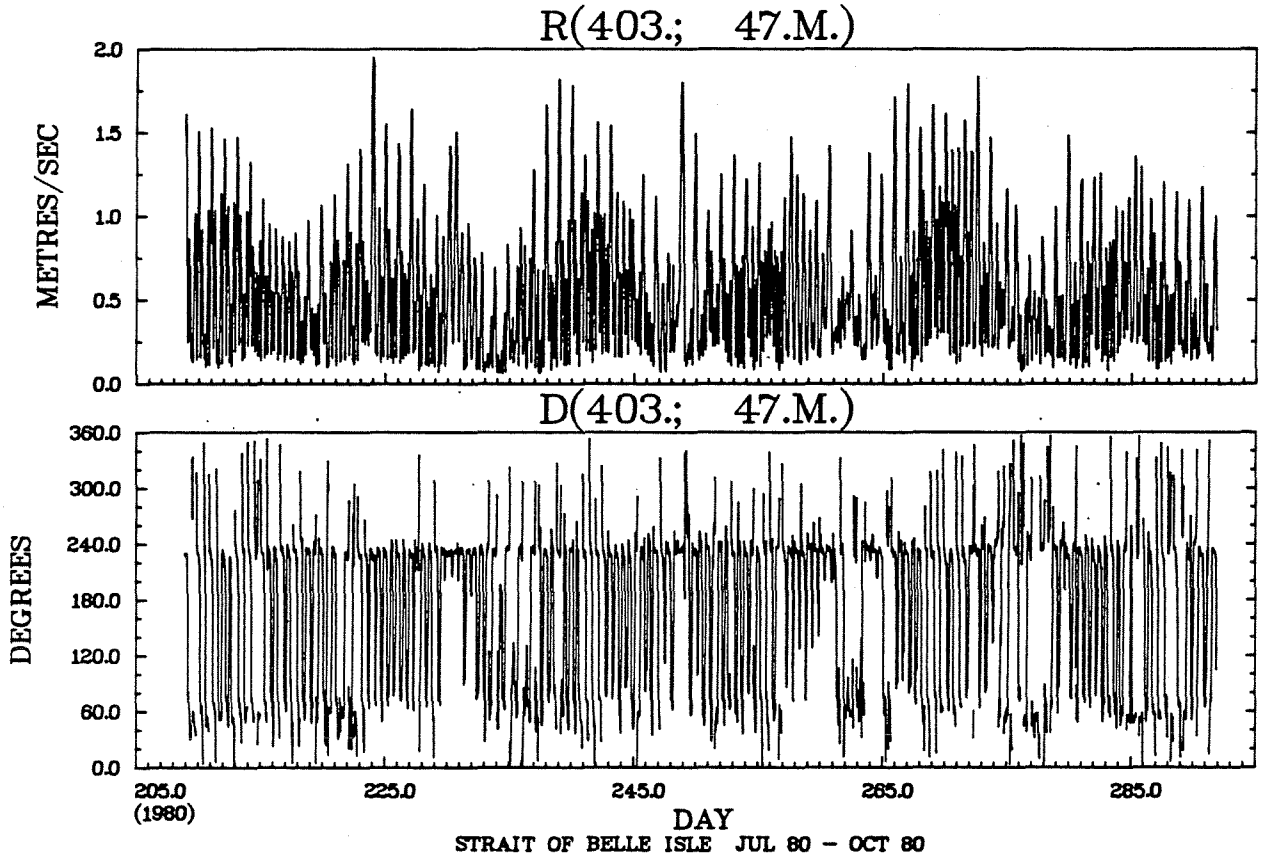
TEMPERATURE AND SALINITY WERE NO GOOD.

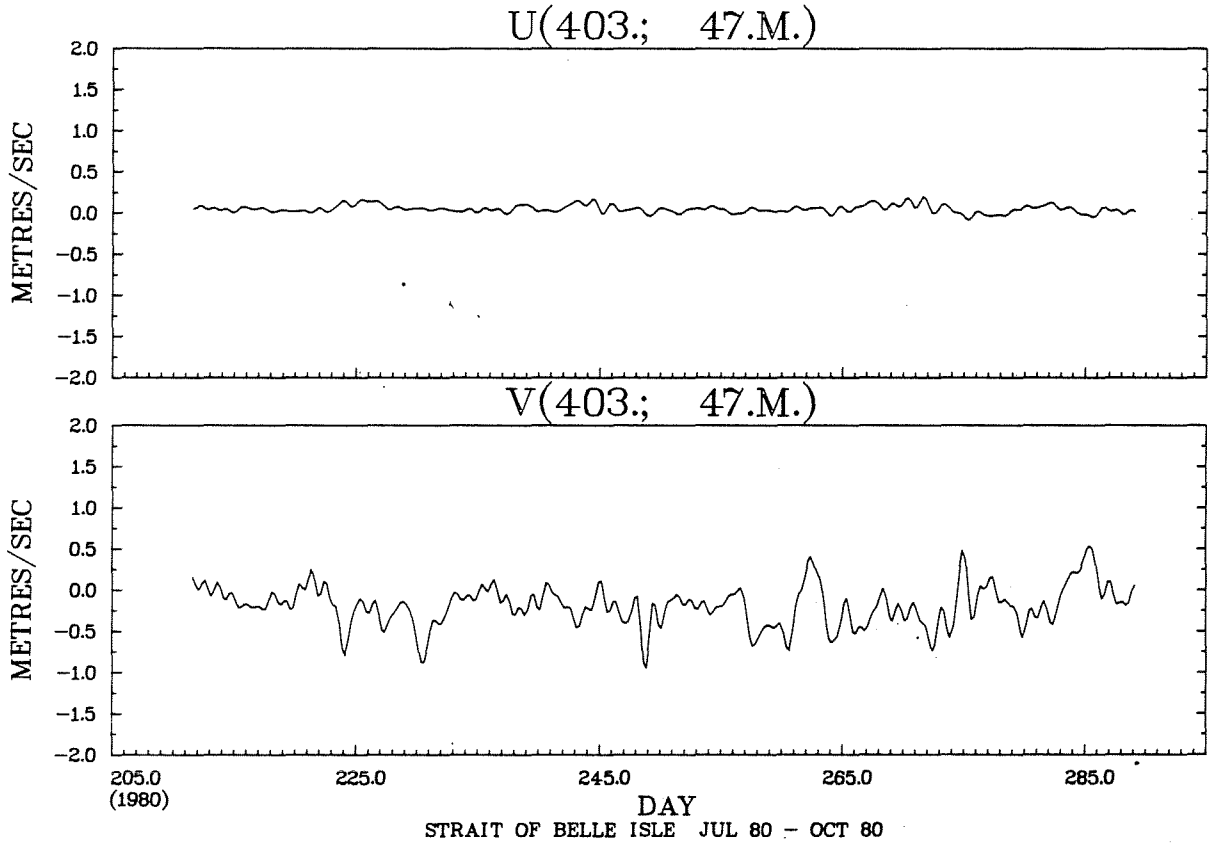
STN. 403, 47 M.



STN. 403, 47 M.




R(403.; 47.M.)
METRES/SEC
2.0
1.5
1.0
0.5
0.0
D(403.; 47.M.)
DEGREES
360.0
300.0
240.0
180.0
120.0
60.0
0.0
205.0
(1980)
225.0
245.0
265.0
285.0
DAY
STRAIT OF BELLE ISLE JUL 80 - OCT 80


U(403.; 47.M.)
METRES/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
V(403.; 47.M.)
METRES/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
205.0
(1980)
225.0
245.0
265.0
285.0
DAY
STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(403.; 47.M.) VS R(403.; 47.M.)

DEGREES / METRES/SEC	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00	8	*								.2				
1.60 TO 1.80	31	*								.8				
1.40 TO 1.60	84	*								2.1				
1.20 TO 1.40	146	*		.2						3.4				
1.00 TO 1.20	253	*		.8	.6					5.0				
.80 TO 1.00	401	*		1.7	1.5	.1				6.6	.3			
.60 TO .80	583	*	.1	2.6	3.4	.3				7.4	.9			
.40 TO .60	781	*	.1	4.3	5.2	.7	.1	.1	.2	6.8	2.2			
.20 TO .40	1137	*	1.1	3.3	4.5	2.7	1.3	1.0	2.1	7.4	3.9	.5	.4	.4
-.00 TO .20	559	*	.6	.8	1.2	1.4	1.4	1.6	1.9	1.6	1.4	.8	.7	.6
OUT OF RANGE	0	0												
SUB TOTAL	3983	0	73	548	655	204	111	105	170	1641	342	52	43	39

HISTOGRAM OF R(403.; 47.M.) METRES/SEC

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	.10	59	1.5	********
.10	.20	500	12.6	**********
.20	.30	667	16.7	**********
.30	.40	470	11.8	**********
.40	.50	413	10.4	**********
.50	.60	368	9.2	**********
.60	.70	326	8.2	**********
.70	.80	257	6.5	**********
.80	.90	214	5.4	**********
.90	1.00	187	4.7	**********
1.00	1.10	151	3.8	**********
1.10	1.20	102	2.6	**********
1.20	1.30	72	1.8	**********
1.30	1.40	74	1.9	**********
1.40	1.50	49	1.2	*******
1.50	1.60	35	.9	*****
1.60	1.70	18	.5	***
1.70	1.80	13	.3	**
1.80	1.90	5	.1	*
1.90	2.00	3	.1	*
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 3983
OUTSIDE RANGE 0

HISTOGRAM OF D(403.; 47.M.) DEGREES

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	21	.5	**
10.00	20.00	20	.5	**
20.00	30.00	32	.8	***
30.00	40.00	65	1.6	******
40.00	50.00	151	3.8	**********
50.00	60.00	332	8.3	**********
60.00	70.00	259	6.5	**********
70.00	80.00	218	5.5	**********
80.00	90.00	178	4.5	**********
90.00	100.00	85	2.1	********
100.00	110.00	73	1.8	*******
110.00	120.00	46	1.2	*****
120.00	130.00	40	1.0	****
130.00	140.00	43	1.1	****
140.00	150.00	28	.7	***
150.00	160.00	36	.9	****
160.00	170.00	33	.8	***
170.00	180.00	36	.9	****
180.00	190.00	53	1.3	*****
190.00	200.00	44	1.1	****
200.00	210.00	73	1.8	*******
210.00	220.00	105	2.6	**********
220.00	230.00	507	12.7	**********
230.00	240.00	1029	25.8	**********
240.00	250.00	229	5.7	**********
250.00	260.00	80	2.0	********
260.00	270.00	33	.8	***
270.00	280.00	14	.4	**
280.00	290.00	26	.7	***
290.00	300.00	12	.3	**
300.00	310.00	18	.5	**
310.00	320.00	15	.4	**
320.00	330.00	10	.3	*
330.00	340.00	16	.4	**
340.00	350.00	13	.3	**
350.00	360.00	10	.3	*

TOTAL NO. OF SAMPLES 3983
OUTSIDE RANGE 0

TABLE 18

MOORING SUMMARY

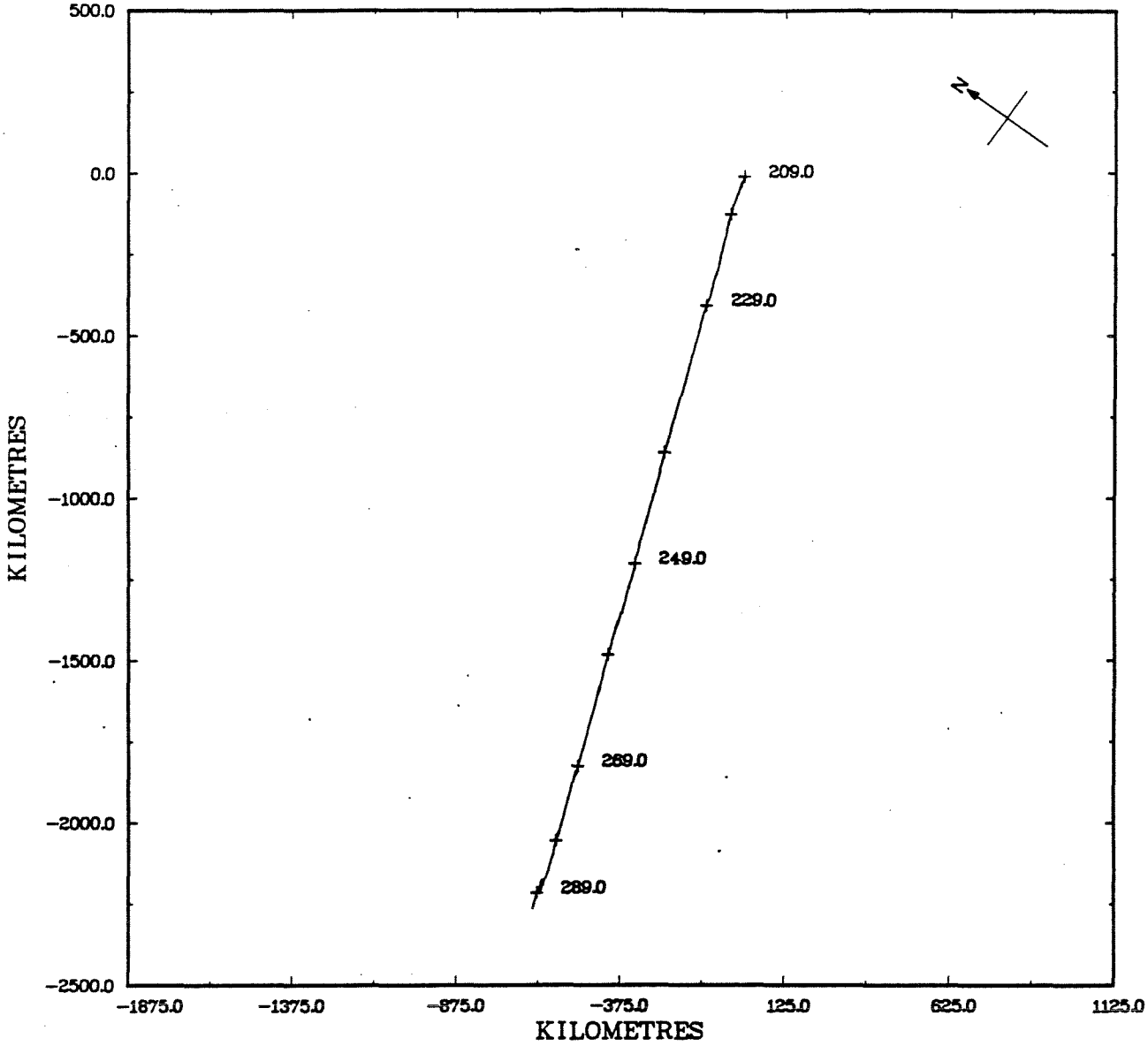
MOORING 404

DEPTH (M) 24

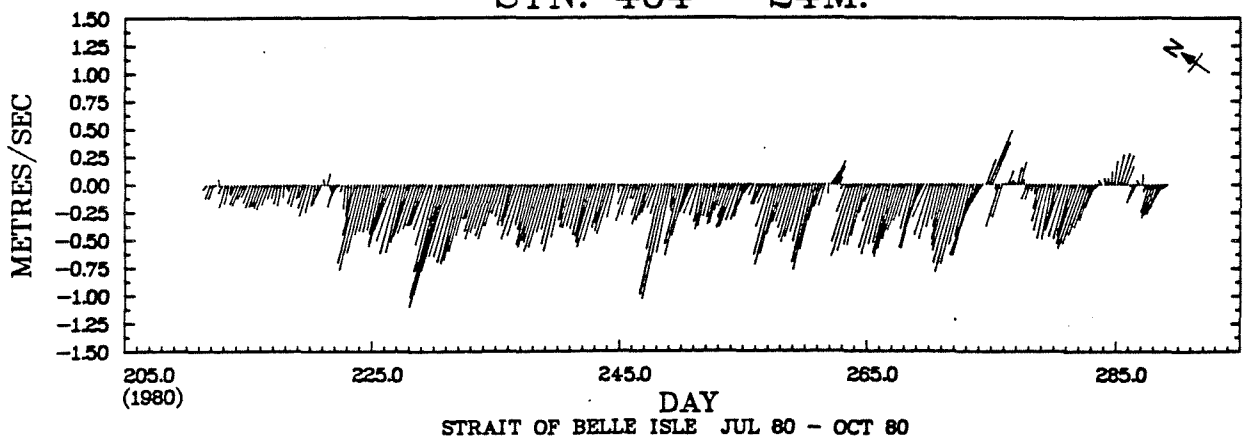
LATITUDE	51 27.60 N
LONGITUDE	56 51.00 W
WATER DEPTH (M)	66
MOORING DATE/CRUISE	26/ 7/1980/ 80021
RECOVERY DATE/CRUISE	18/ 9/ 80/ 80033
DURATION (DAYS)	82.90
SAMPLING INTERVAL	30. (MIN.)
NO. OF SAMPLES	3979

SENSOR UNITS	U(144°T) METRES/SEC	V(054°T) METRES/SEC	VECTOR SPEED METRES/SEC	TEMPERATURE DEG. CEL.
MINIMUM	-.70	-1.87	.02	.11
MAXIMUM	.65	1.49	1.95	11.84
MEAN	-.09	-.32	.57	4.72
STD. DEV.	.18	.60	.42	1.70

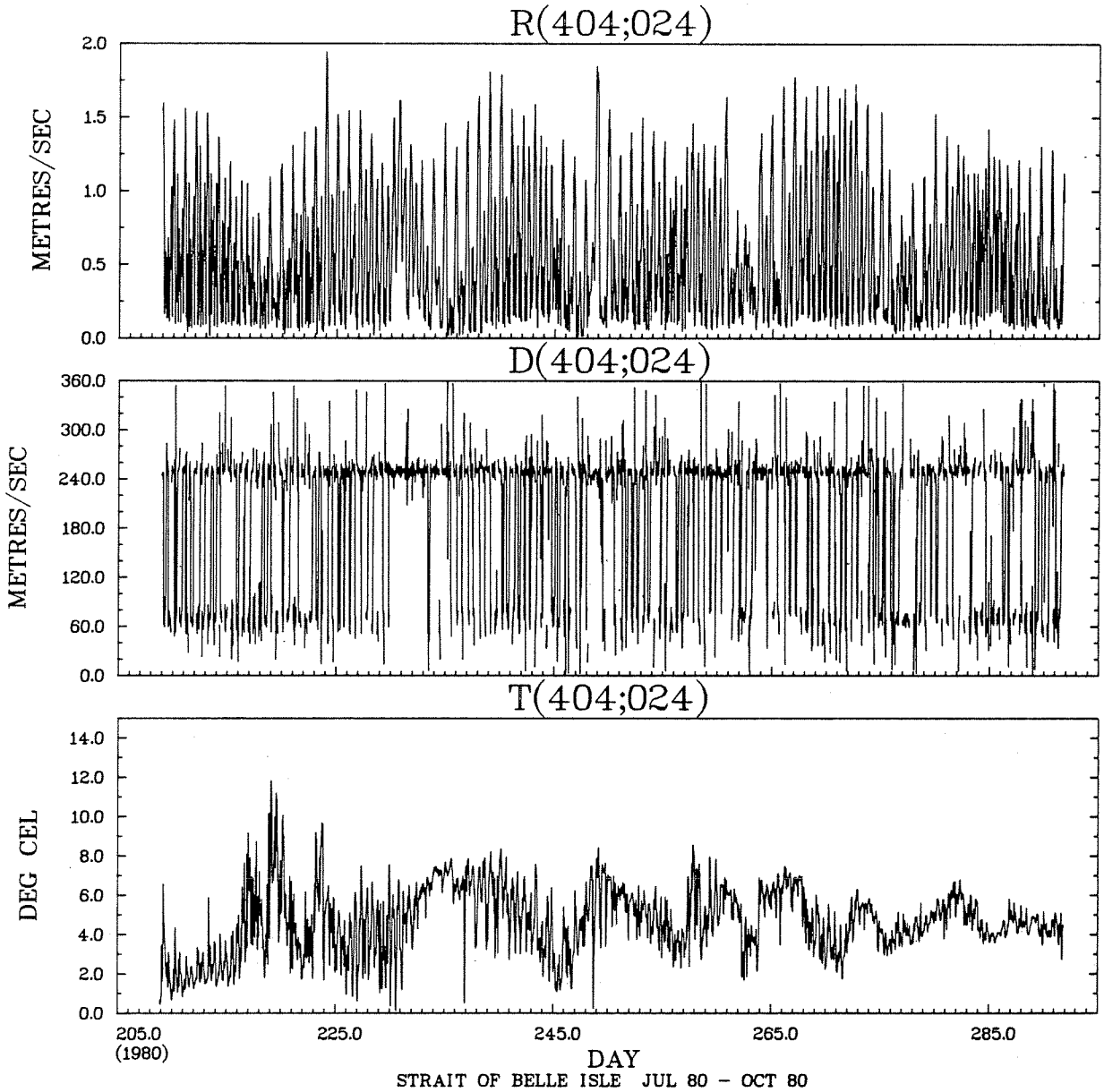
STN. 404 24M.

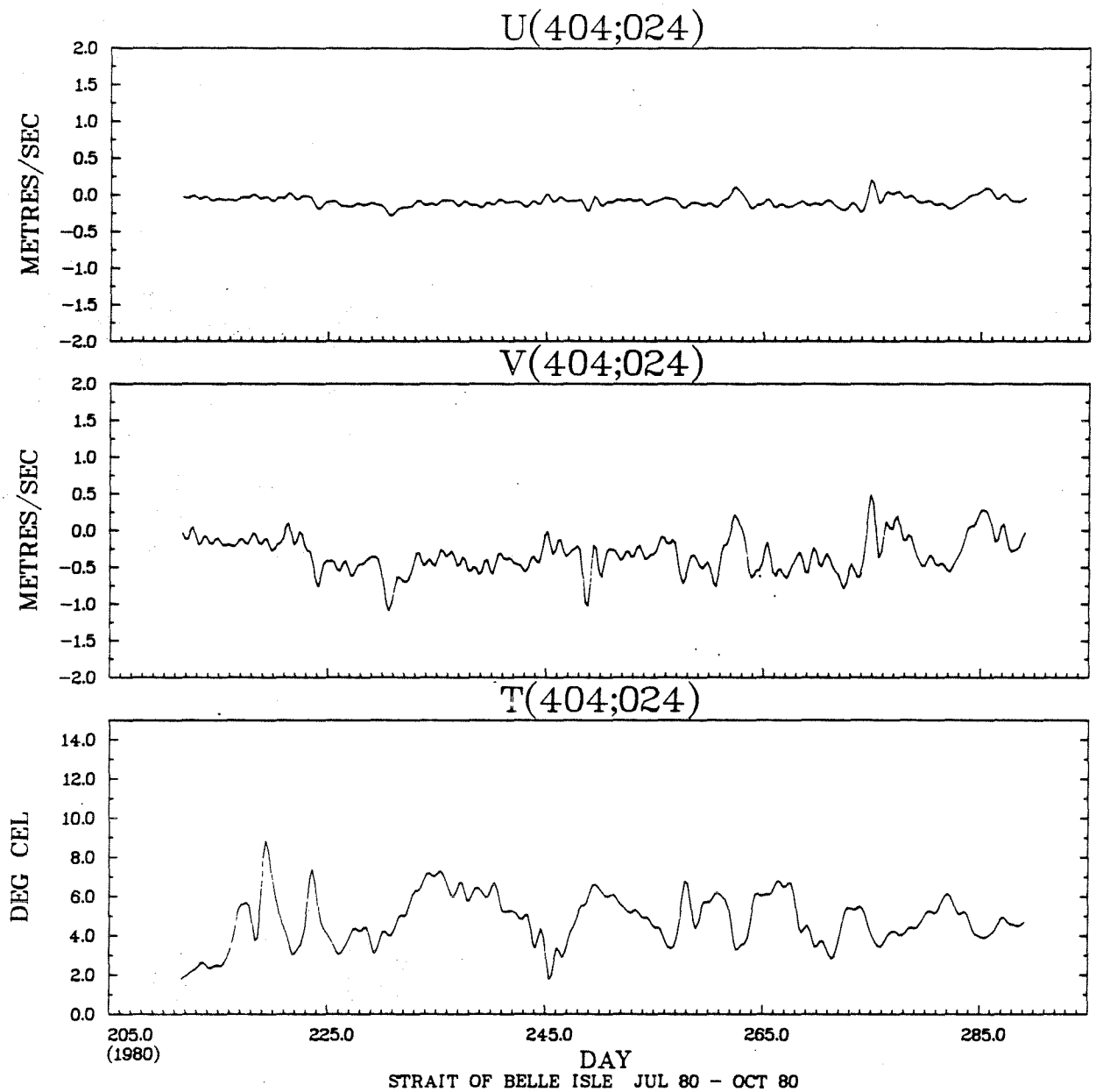


STN. 404 24M.



STRAIT OF BELLE ISLE JUL 80 - OCT 80


R(404;024)
METRES/SEC
2.0
1.5
1.0
0.5
0.0
D(404;024)
METRES/SEC
360.0
300.0
240.0
180.0
120.0
60.0
0.0
T(404;024)
DEG CEL
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
205.0
(1980)
225.0
245.0
265.0
285.0
DAY
STRAIT OF BELLE ISLE JUL 80 - OCT 80


U(404;024)
METRES/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
V(404;024)
METRES/SEC
T(404;024)
DEG CEL
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
205.0
(1980)
225.0
245.0
265.0
285.0
DAY
STRAIT OF BELLE ISLE JUL 80 - OCT 80

JOINT DISTRIBUTION (PERCENT)

D(404;024) VS R(404;024)

M/S \ DEGREES	SUB TOTAL	OUT OF RANGE	0.00 TO 30.00	30.00 TO 60.00	60.00 TO 90.00	90.00 TO 120.00	120.00 TO 150.00	150.00 TO 180.00	180.00 TO 210.00	210.00 TO 240.00	240.00 TO 270.00	270.00 TO 300.00	300.00 TO 330.00	330.00 TO 360.00
2.80 TO 3.00		*												
2.60 TO 2.80		*												
2.40 TO 2.60		*												
2.20 TO 2.40		*												
2.00 TO 2.20		*												
1.80 TO 2.00	7	*									.2			
1.60 TO 1.80	46	*								.0	1.1			
1.40 TO 1.60	131	*			.1						3.2			
1.20 TO 1.40	234	*		.1	.3					.1	5.5			
1.00 TO 1.20	329	*		.1	.7					.3	7.2	.0		
.80 TO 1.00	342	*		.2	1.0					.4	7.0	.1		
.60 TO .80	425	*		.1	2.3	.1				.5	7.7			
.40 TO .60	653	*		1.1	5.0	.2		.0		1.1	8.7	.3	.0	
.20 TO .40	941	*	.4	2.7	7.9	.7	.2	.2	.3	1.9	8.2	1.1	.1	.2
-.00 TO .20	871	*	.9	2.5	3.5	1.5	1.2	.8	1.1	2.7	4.1	1.9	.8	1.0
OUT OF RANGE	0	0												
SUB TOTAL	3979	0	50	268	821	94	55	38	53	275	2108	134	37	46

HISTOGRAM OF R(404;024) M/S

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	.10	256	6.4	**********
.10	.20	615	15.5	**********
.20	.30	526	13.2	**********
.30	.40	415	10.4	**********
.40	.50	379	9.5	**********
.50	.60	274	6.9	**********
.60	.70	234	5.9	**********
.70	.80	191	4.8	**********
.80	.90	166	4.2	**********
.90	1.00	176	4.4	**********
1.00	1.10	174	4.4	**********
1.10	1.20	155	3.9	**********
1.20	1.30	132	3.3	**********
1.30	1.40	102	2.6	**********
1.40	1.50	78	2.0	**********
1.50	1.60	53	1.3	********
1.60	1.70	28	.7	****
1.70	1.80	18	.5	***
1.80	1.90	6	.2	*
1.90	2.00	1	.0	*
2.00	2.10	0	0.0	
2.10	2.20	0	0.0	
2.20	2.30	0	0.0	
2.30	2.40	0	0.0	
2.40	2.50	0	0.0	

TOTAL NO. OF SAMPLES 3979
OUTSIDE RANGE 0

HISTOGRAM OF D(404;024) DEGREES

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	19	.5	**
10.00	20.00	22	.6	**
20.00	30.00	10	.3	*
30.00	40.00	49	1.2	*****
40.00	50.00	42	1.1	****
50.00	60.00	177	4.4	**********
60.00	70.00	296	7.4	**********
70.00	80.00	417	10.5	**********
80.00	90.00	108	2.7	**********
90.00	100.00	53	1.3	*****
100.00	110.00	23	.6	***
110.00	120.00	18	.5	**
120.00	130.00	25	.6	***
130.00	140.00	14	.4	**
140.00	150.00	16	.4	**
150.00	160.00	8	.2	*
160.00	170.00	14	.4	**
170.00	180.00	14	.4	**
180.00	190.00	19	.5	**
190.00	200.00	17	.4	**
200.00	210.00	17	.4	**
210.00	220.00	45	1.1	*****
220.00	230.00	48	1.2	*****
230.00	240.00	182	4.6	**********
240.00	250.00	858	21.6	**********
250.00	260.00	1098	27.6	**********
260.00	270.00	152	3.8	**********
270.00	280.00	78	2.0	********
280.00	290.00	32	.8	***
290.00	300.00	24	.6	***
300.00	310.00	18	.5	**
310.00	320.00	9	.2	*
320.00	330.00	10	.3	*
330.00	340.00	10	.3	*
340.00	350.00	15	.4	**
350.00	360.00	21	.5	**

TOTAL NO. OF SAMPLES 3979
OUTSIDE RANGE 0

HISTOGRAM OF T(404;024) DEG. C

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.50	0	0.0	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	6	.2	*
.50	1.00	23	.6	****
1.00	1.50	80	2.0	**********
1.50	2.00	150	3.8	**********
2.00	2.50	181	4.5	**********
2.50	3.00	195	4.9	**********
3.00	3.50	277	7.0	**********
3.50	4.00	385	9.7	**********
4.00	4.50	481	12.1	**********
4.50	5.00	505	12.7	**********
5.00	5.50	367	9.2	**********
5.50	6.00	376	9.4	**********
6.00	6.50	352	8.8	**********
6.50	7.00	273	6.9	**********
7.00	7.50	186	4.7	**********
7.50	8.00	74	1.9	**********
8.00	8.50	26	.7	*****
8.50	9.00	9	.2	**
9.00	9.50	8	.2	**
9.50	10.00	12	.3	**
10.00	10.50	4	.1	*
10.50	11.00	4	.1	*
11.00	11.50	2	.1	*
11.50	12.00	3	.1	*
12.00	12.50	0	0.0	
12.50	13.00	0	0.0	
13.00	13.50	0	0.0	
13.50	14.00	0	0.0	
14.00	14.50	0	0.0	
14.50	15.00	0	0.0	

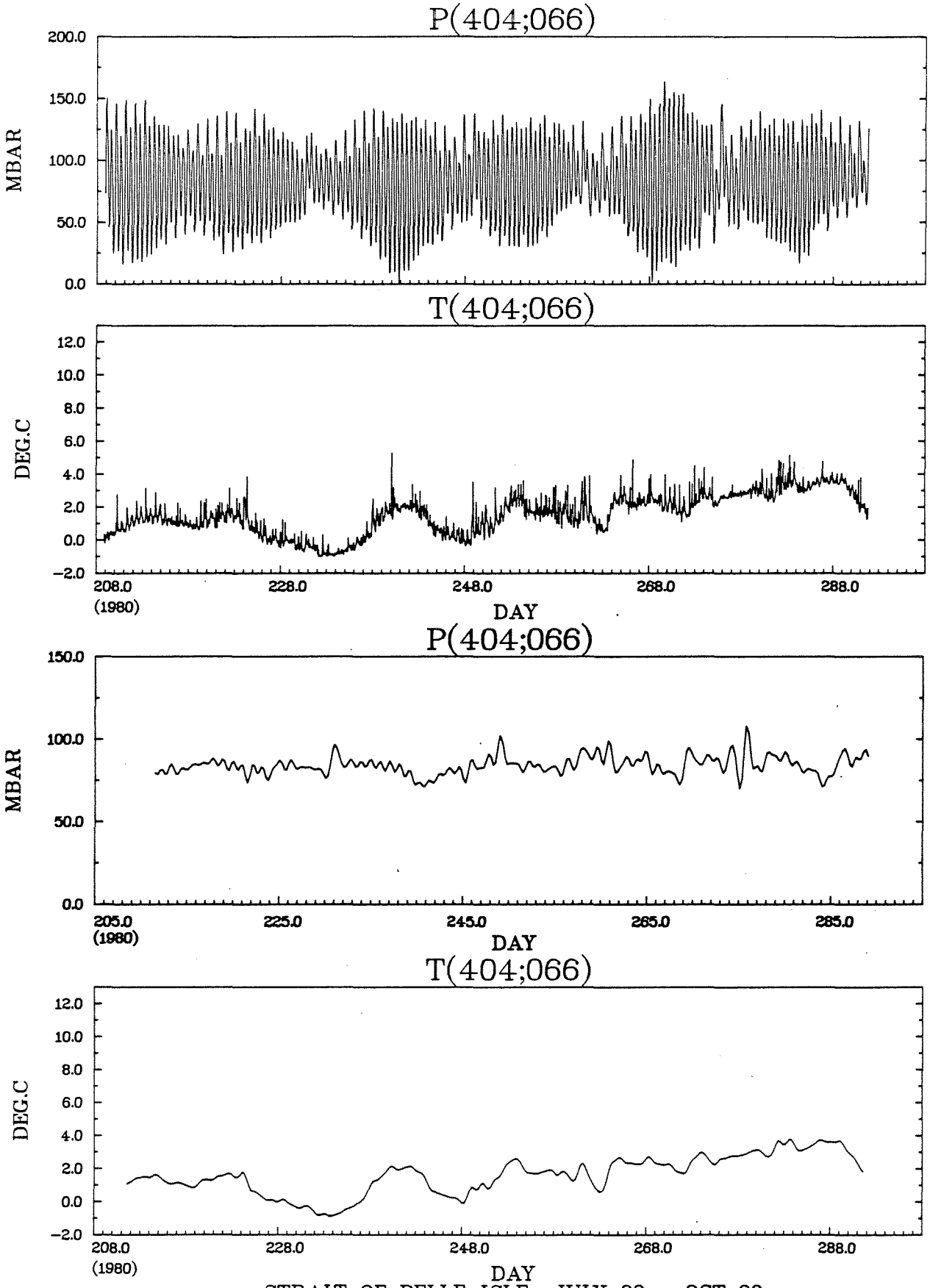
TOTAL NO. OF SAMPLES 3979
OUTSIDE RANGE 0

TABLE 19

MOORING SUMMARY

MOORING	404
DEPTH (M)	66
LATITUDE	51 27.60N
LONGITUDE	55 51.00W
WATER DEPTH (M)	66
MOORING DATE/CRUISE	26/ 7/1980/80021
RECOVERY DATE/CRUISE	17/10/1980/80033
DURATION (DAYS)	83
SAMPLING INTERVAL	60. (MIN.)
NO. OF SAMPLES	1991

SENSOR UNITS	PRESSURE MBAR	TEMPERATURE DEG. CEL.
MINIMUM	0.00	-1.01
MAXIMUM	164.00	5.29
MEAN	84.37	1.60
STD. DEV.	32.45	1.22



STRAIT OF BELLE ISLE JULY 80 – OCT 80

HISTOGRAM OF P(404;066) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	10	.5	****
12.50	25.00	36	1.8	**********
25.00	37.50	119	6.0	**********
37.50	50.00	167	8.4	**********
50.00	62.50	248	12.5	**********
62.50	75.00	235	11.8	**********
75.00	87.50	232	11.7	**********
87.50	100.00	204	10.2	**********
100.00	112.50	261	13.1	**********
112.50	125.00	230	11.6	**********
125.00	137.50	192	9.6	**********
137.50	150.00	46	2.3	**********
150.00	162.50	10	.5	****
162.50	175.00	1	.1	*
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 1991
OUTSIDE RANGE 0

HISTOGRAM OF T(404;066) DEG.C

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-1.50	-1.00	1	.1	*
-1.00	-.50	98	4.9	**********
-.50	0.00	139	7.0	**********
0.00	.50	158	7.9	**********
.50	1.00	241	12.1	**********
1.00	1.50	295	14.8	**********
1.50	2.00	280	14.1	**********
2.00	2.50	270	13.6	**********
2.50	3.00	235	11.8	**********
3.00	3.50	155	7.8	**********
3.50	4.00	99	5.0	**********
4.00	4.50	9	.5	***
4.50	5.00	9	.5	***
5.00	5.50	2	.1	*
5.50	6.00	0	0.0	
6.00	6.50	0	0.0	
6.50	7.00	0	0.0	
7.00	7.50	0	0.0	
7.50	8.00	0	0.0	
8.00	8.50	0	0.0	
8.50	9.00	0	0.0	
9.00	9.50	0	0.0	
9.50	10.00	0	0.0	

TOTAL NO. OF SAMPLES 1991
OUTSIDE RANGE 0

TABLE 20

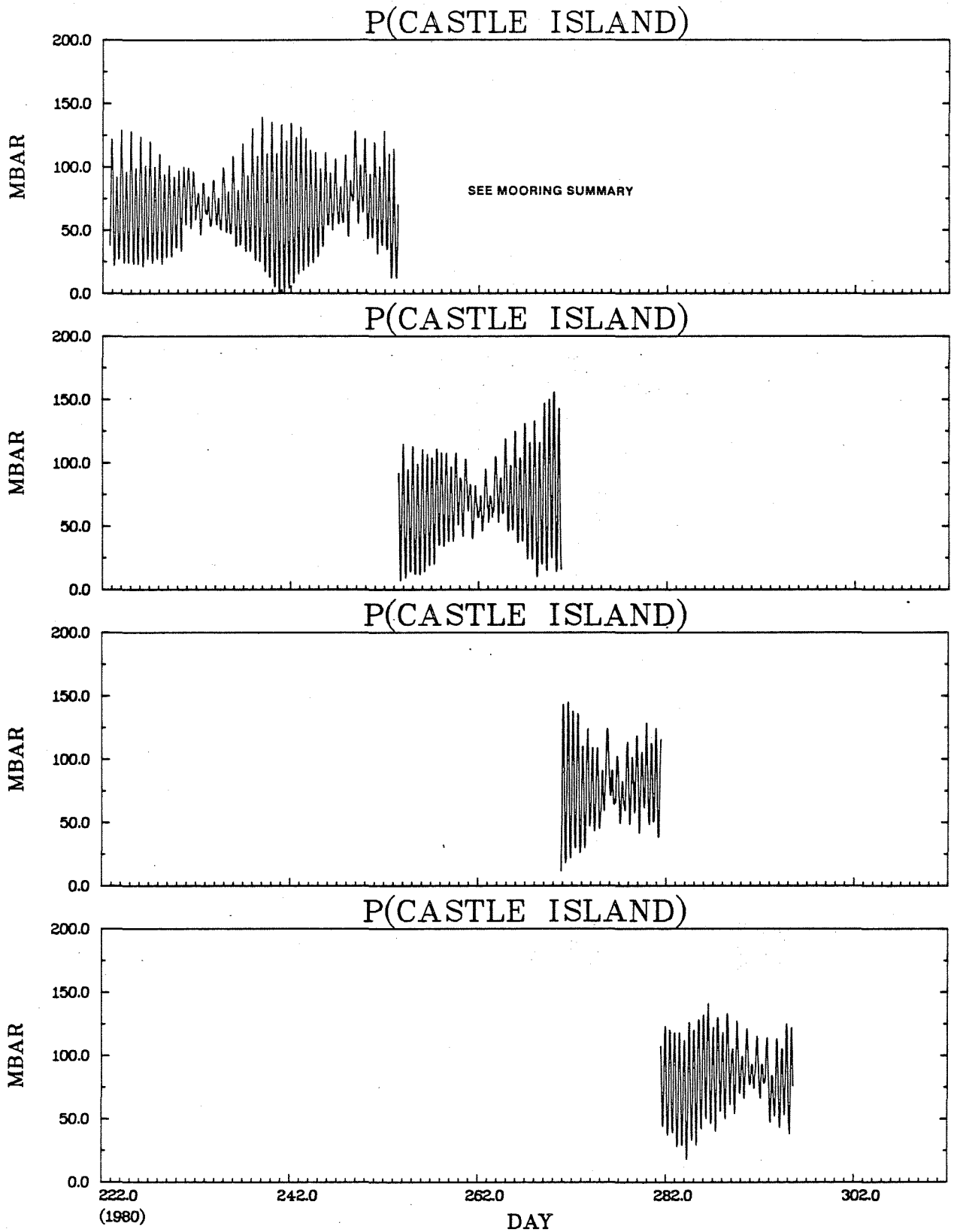
MOORING SUMMARY

MOORING 5
DEPTH (M) 9

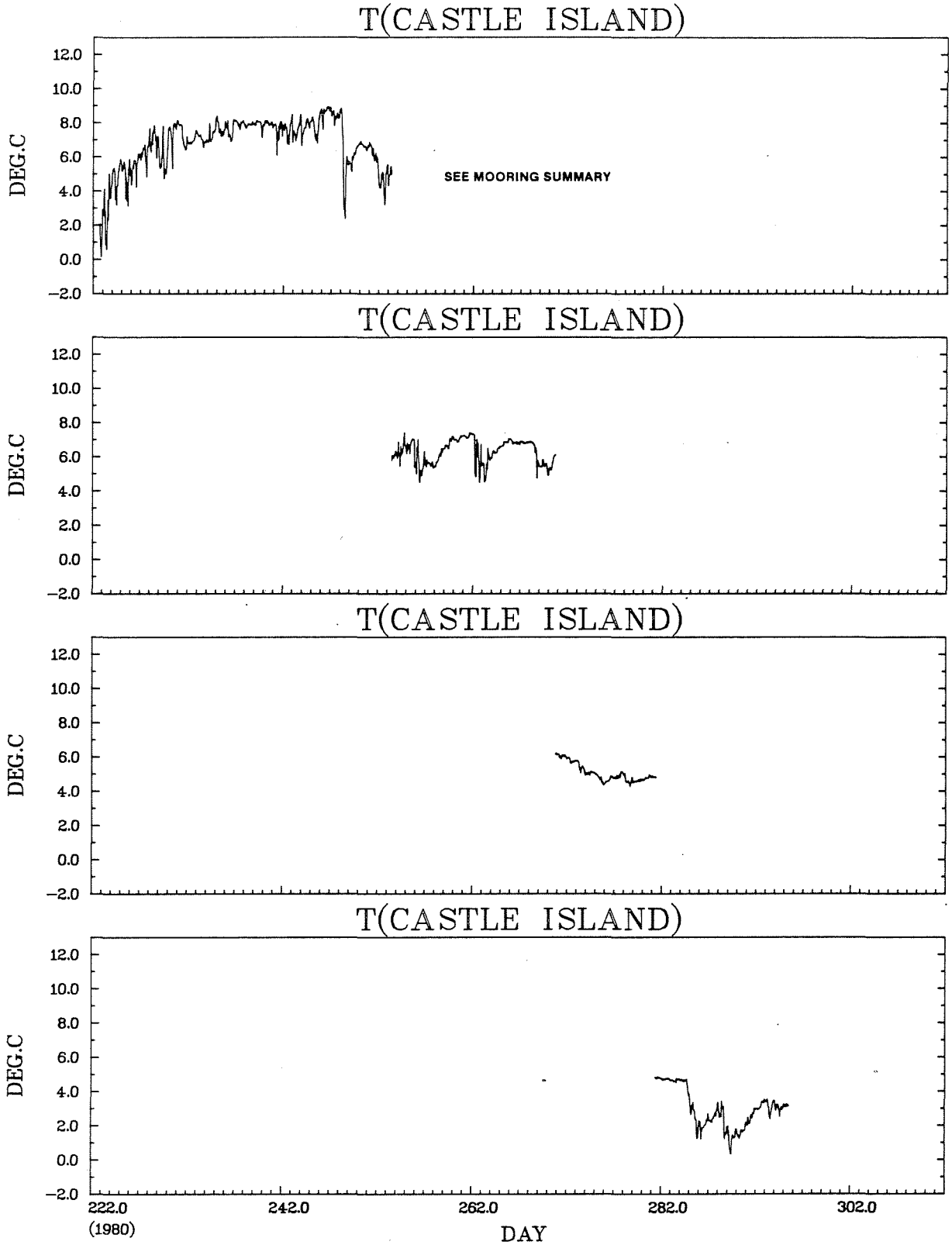
LATITUDE 51 54.00N
LONGITUDE 55 51.60W
WATER DEPTH (M) 9
MOORING DATE/CRUISE 9/ 8/1980/
RECOVERY DATE/CRUISE 21/10/1980/
DURATION (DAYS) 30.75 17.33 10.70 14.08
SAMPLING INTERVAL 60. (MIN.)
NO. OF SAMPLES 738 416 257 338

SENSOR UNITS	P(1ST) MBAR	P(2ND) MBAR	P(3RD) MBAR	P(4TH) MBAR	T(1ST) DEG. CEL.	T(2ND) DEG. CEL.	T(3RD) DEG. CEL.	T(4TH) DEG. CEL
MINIMUM	0.00	7.00	12.00	18.00	0.14	4.50	4.25	0.32
MAXIMUM	139.00	156.00	145.00	141.00	8.94	7.42	6.24	4.85
MEAN	69.93	71.39	79.39	83.87	6.76	6.31	5.06	3.01
STD. DEV.	29.08	30.68	27.80	26.57	1.53	0.70	0.53	1.14

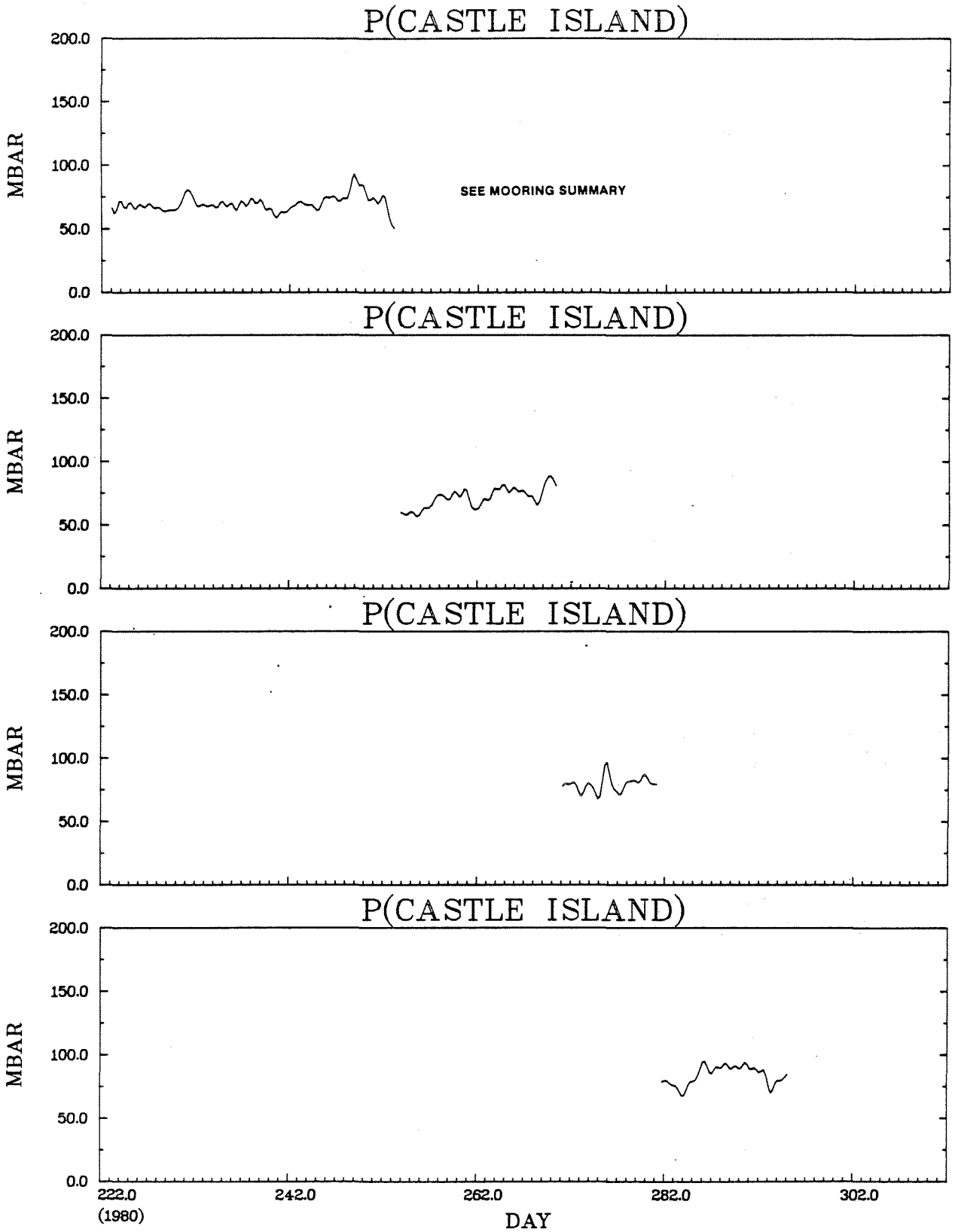
COMMENTS
THIS INSTRUMENT WAS MOVED FROM ITS ORIGINAL MOORING SITE
THREE TIMES FOR UNKNOWN REASONS.



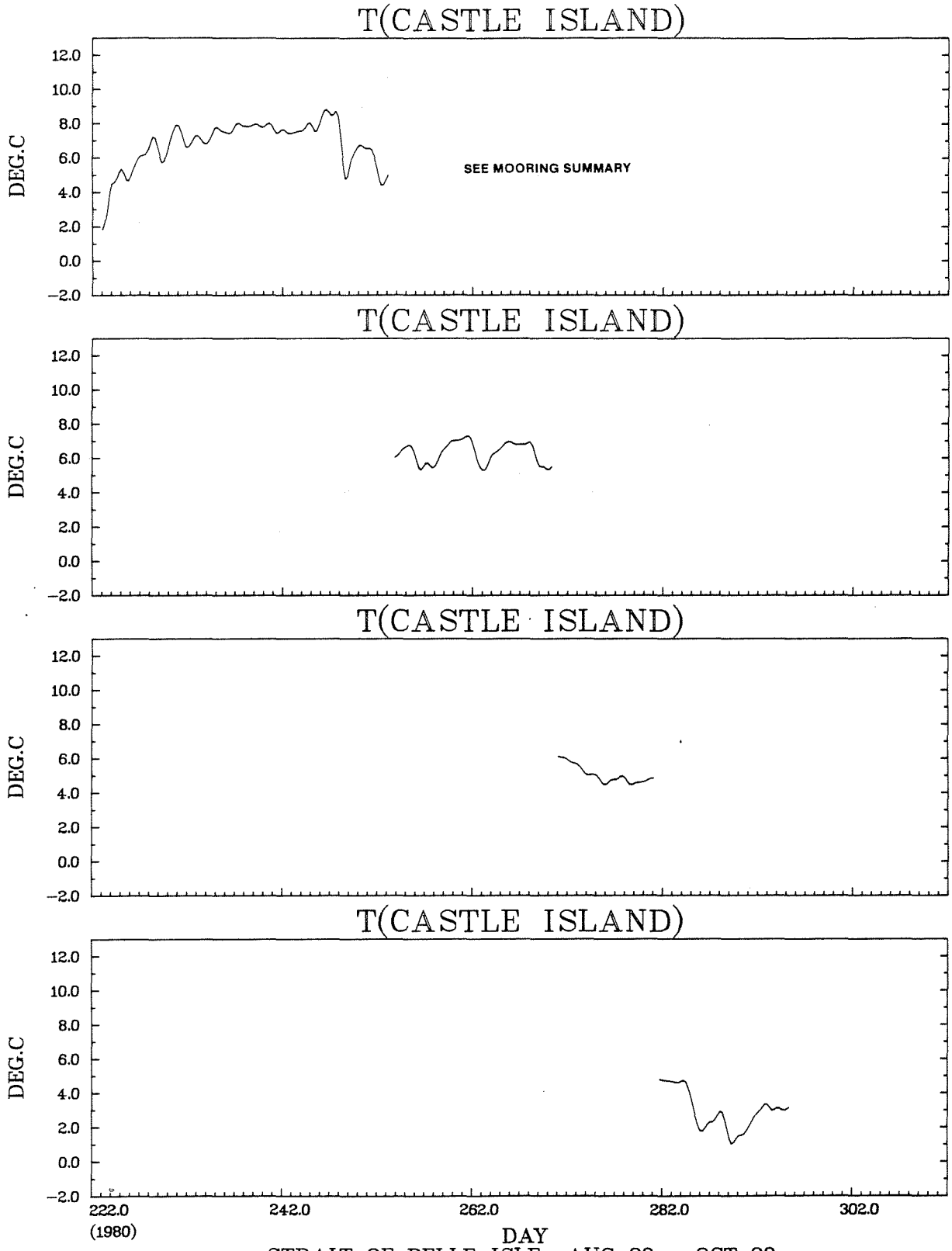
STRAIT OF BELLE ISLE AUG 80 – OCT 80



STRAIT OF BELLE ISLE AUG 80 – OCT 80



STRAIT OF BELLE ISLE AUG 80 – OCT 80



STRAIT OF BELLE ISLE AUG 80 - OCT 80

HISTOGRAM OF P(CASTLE ISLAND) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	13	1.8	*******
12.50	25.00	31	4.2	**********
25.00	37.50	73	9.9	**********
37.50	50.00	73	9.9	**********
50.00	62.50	106	14.4	**********
62.50	75.00	110	14.9	**********
75.00	87.50	113	15.3	**********
87.50	100.00	100	13.6	**********
100.00	112.50	64	8.7	**********
112.50	125.00	36	4.9	**********
125.00	137.50	18	2.4	*********
137.50	150.00	1	.1	*
150.00	162.50	0	0.0	
162.50	175.00	0	0.0	
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 738
OUTSIDE RANGE 0

HISTOGRAM OF P(CASTLE ISLAND) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	5	1.2	*****
12.50	25.00	27	6.5	**********
25.00	37.50	25	6.0	**********
37.50	50.00	45	10.8	**********
50.00	62.50	63	15.1	**********
62.50	75.00	65	15.6	**********
75.00	87.50	58	13.9	**********
87.50	100.00	47	11.3	**********
100.00	112.50	43	10.3	**********
112.50	125.00	18	4.3	**********
125.00	137.50	11	2.6	**********
137.50	150.00	6	1.4	******
150.00	162.50	3	.7	***
162.50	175.00	0	0.0	
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 416
OUTSIDE RANGE 0

HISTOGRAM OF P(CASTLE ISLAND) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	1	.4	*
12.50	25.00	5	1.9	*****
25.00	37.50	9	3.5	*********
37.50	50.00	23	8.9	**********
50.00	62.50	40	15.6	**********
62.50	75.00	38	14.8	**********
75.00	87.50	40	15.6	**********
87.50	100.00	38	14.8	**********
100.00	112.50	30	11.7	**********
112.50	125.00	19	7.4	**********
125.00	137.50	10	3.9	**********
137.50	150.00	4	1.6	****
150.00	162.50	0	0.0	
162.50	175.00	0	0.0	
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 257
OUTSIDE RANGE 0

HISTOGRAM OF P(CASTLE ISLAND) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	0	0.0	
12.50	25.00	2	.6	**
25.00	37.50	12	3.6	**********
37.50	50.00	25	7.4	**********
50.00	62.50	42	12.4	**********
62.50	75.00	42	12.4	**********
75.00	87.50	60	17.8	**********
87.50	100.00	45	13.3	**********
100.00	112.50	55	16.3	**********
112.50	125.00	38	11.2	**********
125.00	137.50	16	4.7	**********
137.50	150.00	1	.3	*
150.00	162.50	0	0.0	
162.50	175.00	0	0.0	
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 338
OUTSIDE RANGE 0

HISTOGRAM OF T(CASTLE ISLAND) DEG.C

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	2	.3	*
.50	1.00	5	.7	***
1.00	1.50	2	.3	*
1.50	2.00	1	.1	*
2.00	2.50	6	.8	***
2.50	3.00	8	1.1	****
3.00	3.50	6	.8	***
3.50	4.00	11	1.5	******
4.00	4.50	21	2.8	**********
4.50	5.00	21	2.8	**********
5.00	5.50	51	6.9	**********
5.50	6.00	58	7.9	**********
6.00	6.50	39	5.3	**********
6.50	7.00	114	15.4	**********
7.00	7.50	95	12.9	**********
7.50	8.00	161	21.8	**********
8.00	8.50	101	13.7	**********
8.50	9.00	36	4.9	**********
9.00	9.50	0	0.0	
9.50	10.00	0	0.0	

TOTAL NO. OF SAMPLES 738
OUTSIDE RANGE 0

HISTOGRAM OF T(CASTLE ISLAND) DEG.C

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	0	0.0	
.50	1.00	0	0.0	
1.00	1.50	0	0.0	
1.50	2.00	0	0.0	
2.00	2.50	0	0.0	
2.50	3.00	0	0.0	
3.00	3.50	0	0.0	
3.50	4.00	0	0.0	
4.00	4.50	0	0.0	
4.50	5.00	18	4.3	*********
5.00	5.50	52	12.5	**********
5.50	6.00	67	16.1	**********
6.00	6.50	74	17.8	**********
6.50	7.00	140	33.7	**********
7.00	7.50	65	15.6	**********
7.50	8.00	0	0.0	
8.00	8.50	0	0.0	
8.50	9.00	0	0.0	
9.00	9.50	0	0.0	
9.50	10.00	0	0.0	

TOTAL NO. OF SAMPLES 416
OUTSIDE RANGE 0

HISTOGRAM OF T(CASTLE ISLAND) DEG.C

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	0	0.0	
.50	1.00	0	0.0	
1.00	1.50	0	0.0	
1.50	2.00	0	0.0	
2.00	2.50	0	0.0	
2.50	3.00	0	0.0	
3.00	3.50	0	0.0	
3.50	4.00	0	0.0	
4.00	4.50	13	5.1	*******
4.50	5.00	136	52.9	**********
5.00	5.50	48	18.7	**********
5.50	6.00	38	14.8	**********
6.00	6.50	22	8.6	**********
6.50	7.00	0	0.0	
7.00	7.50	0	0.0	
7.50	8.00	0	0.0	
8.00	8.50	0	0.0	
8.50	9.00	0	0.0	
9.00	9.50	0	0.0	
9.50	10.00	0	0.0	

TOTAL NO. OF SAMPLES 257
OUTSIDE RANGE 0

HISTOGRAM OF T(CASTLE ISLAND) DEG.C

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	2	.6	**
.50	1.00	3	.9	***
1.00	1.50	28	8.3	**********
1.50	2.00	38	11.2	**********
2.00	2.50	48	14.2	**********
2.50	3.00	60	17.8	**********
3.00	3.50	69	20.4	**********
3.50	4.00	8	2.4	********
4.00	4.50	3	.9	***
4.50	5.00	79	23.4	**********
5.00	5.50	0	0.0	
5.50	6.00	0	0.0	
6.00	6.50	0	0.0	
6.50	7.00	0	0.0	
7.00	7.50	0	0.0	
7.50	8.00	0	0.0	
8.00	8.50	0	0.0	
8.50	9.00	0	0.0	
9.00	9.50	0	0.0	
9.50	10.00	0	0.0	

TOTAL NO. OF SAMPLES 338
OUTSIDE RANGE 0

TABLE 21

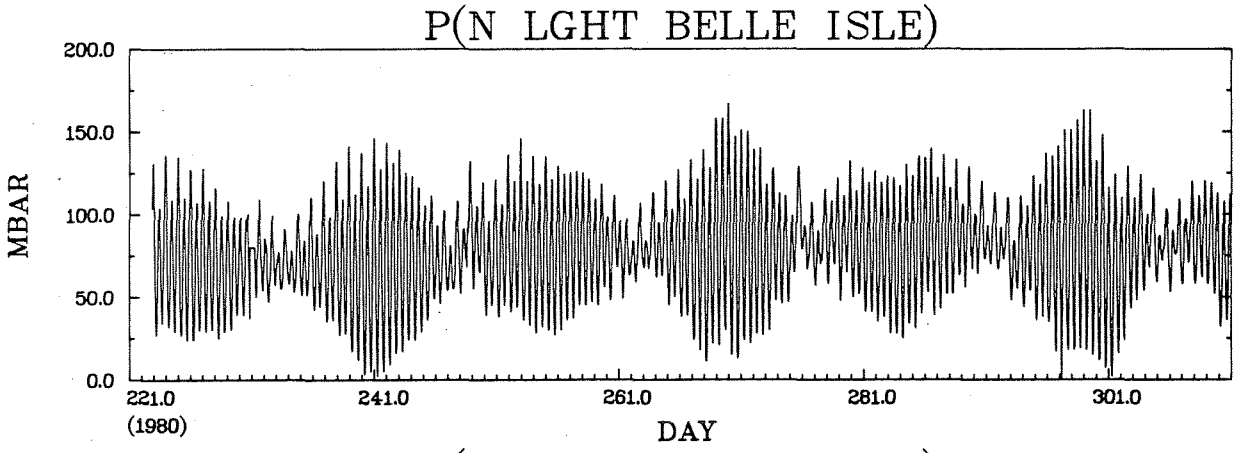
MOORING SUMMARY

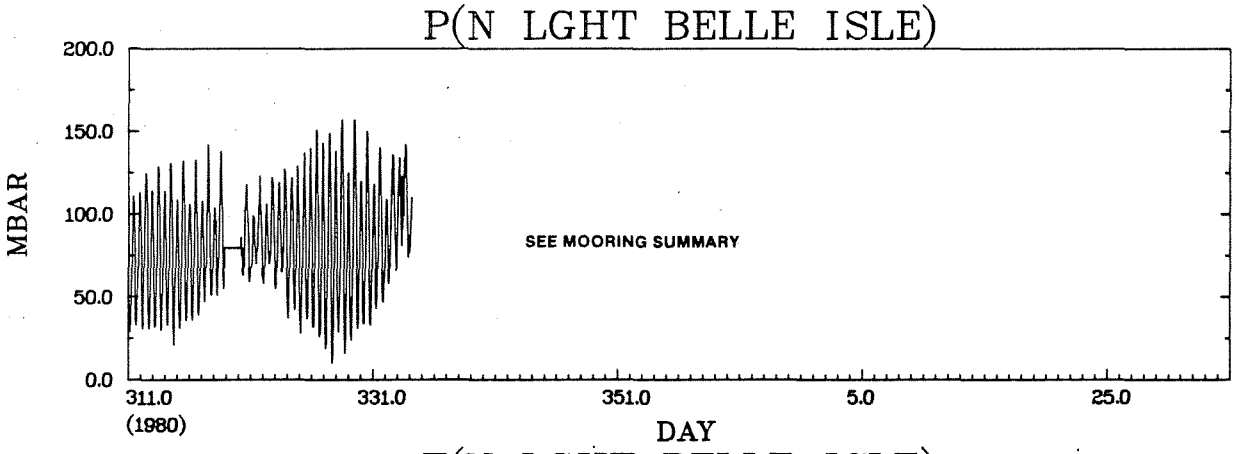
MOORING	6
DEPTH (M)	10
LATITUDE	52 1.20N
LONGTTUDE	55 16.80W
WATER DEPTH (M)	10
MOORING DATE/CRUISE	9/ 8/1980/
RECOVERY DATE/CRUISE	01/12/1980/
DURATION (DAYS)	111.33
SAMPLING INTERVAL	60. (MIN.)
NO. OF SAMPLES	2672

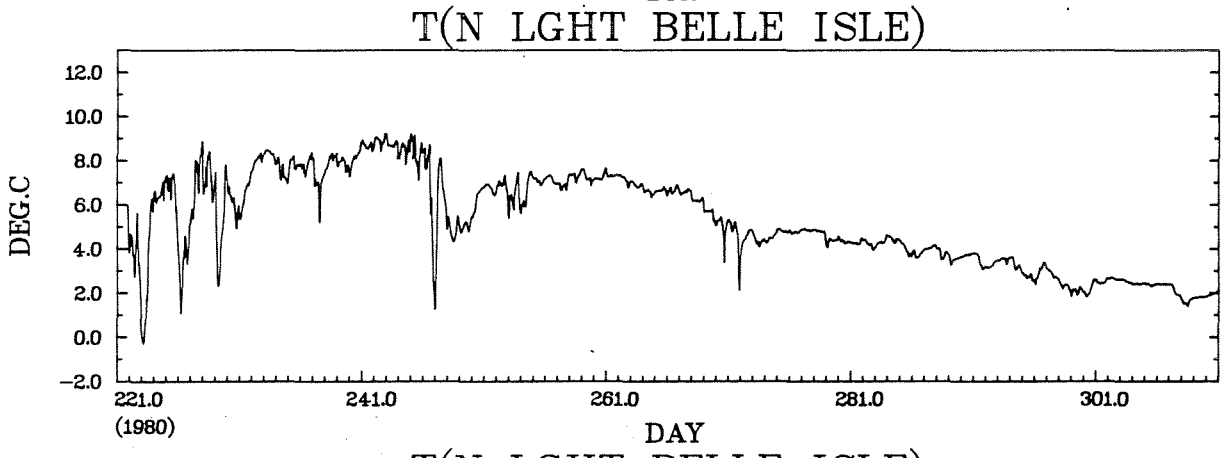
SENSOR UNITS	PRESSURE MBAR	TEMPERATURE DEG. CEL.
MINIMUM	0.00	-0.28
MAXIMUM	167.00	9.22
MEAN	80.21	4.41
STD. DEV.	30.73	2.46

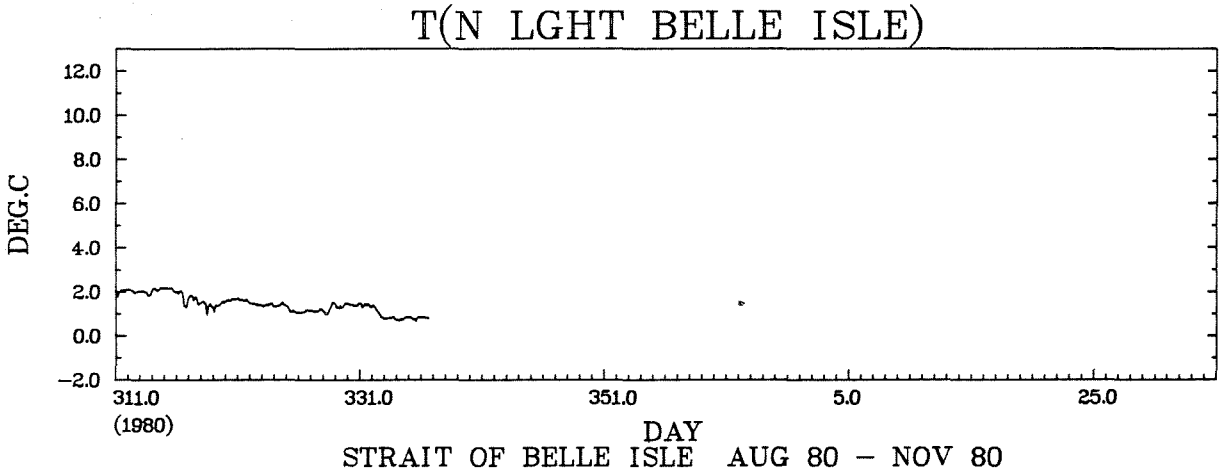
COMMENTS

INSTRUMENT FAILED TO RECORD PRESSURE BETWEEN DAYS 219 AND 220, THE MEAN VALUE WAS USED DURING THIS PERIOD.

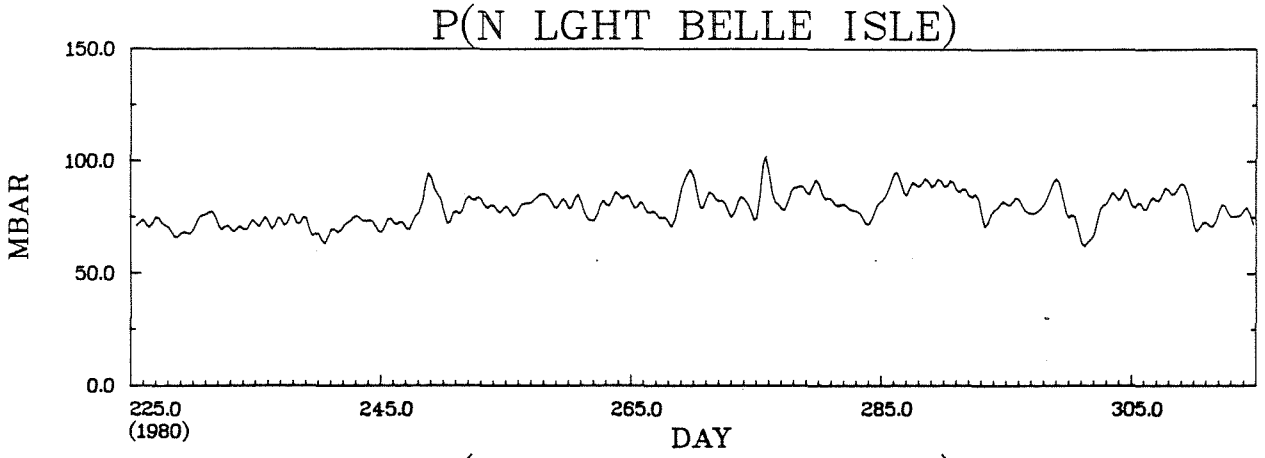


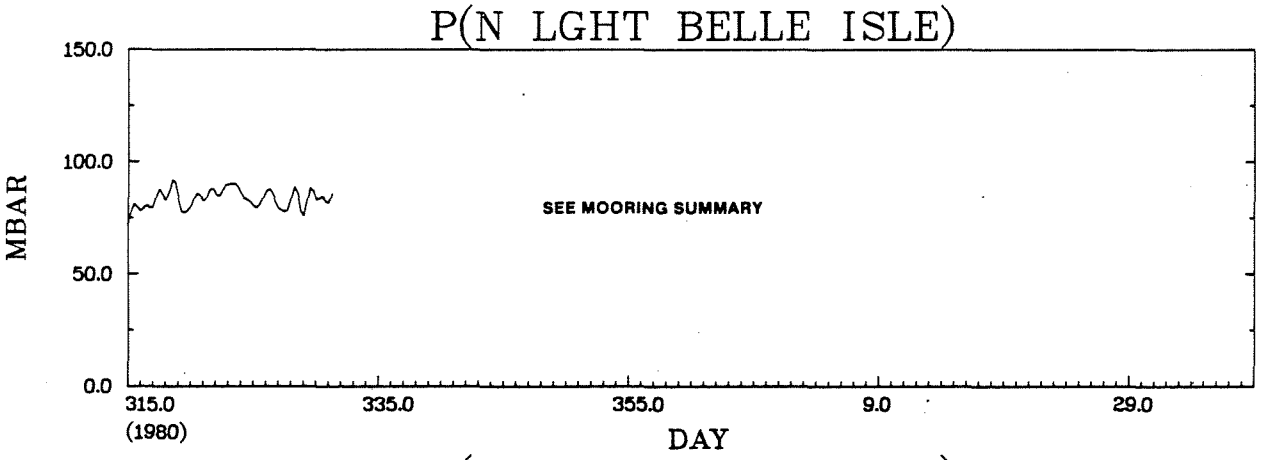


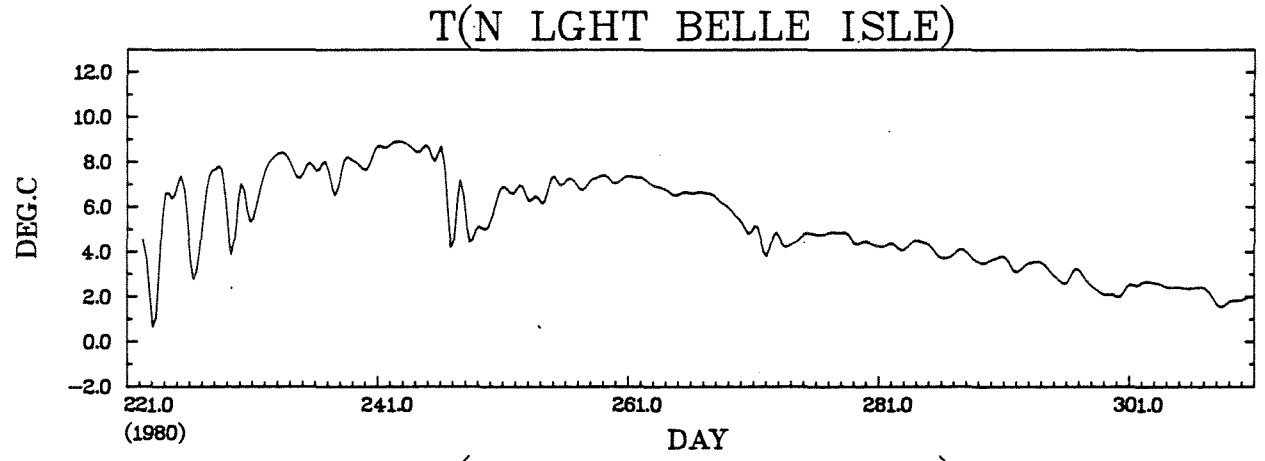


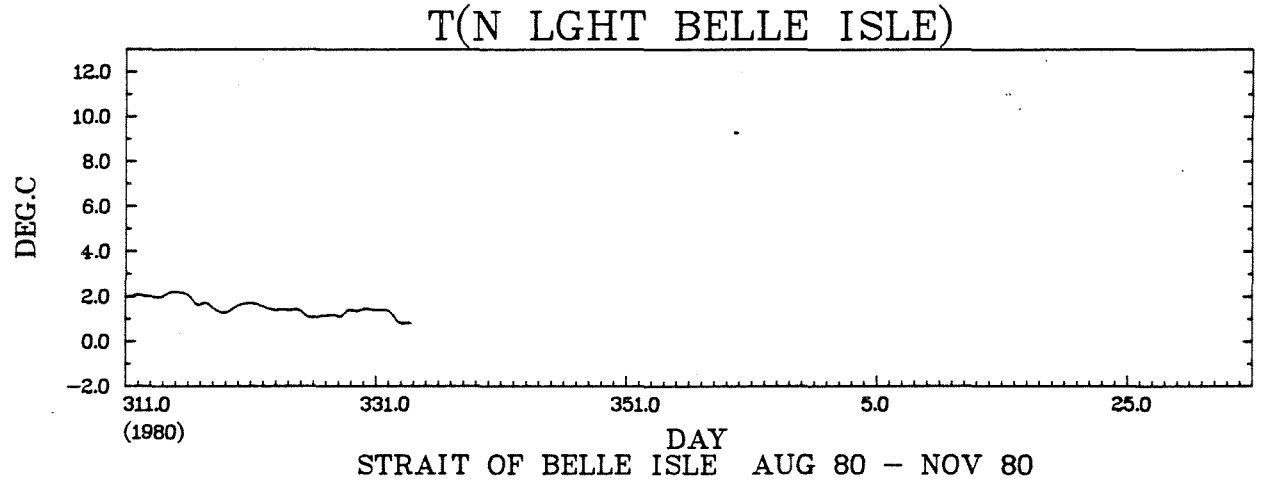


STRAIT OF BELLE ISLE AUG 80 – NOV 80









STRAIT OF BELLE ISLE AUG 80 – NOV 80

HISTOGRAM OF P(N LGHT BELLE ISLE) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	18	.7	****
12.50	25.00	56	2.1	**********
25.00	37.50	175	6.5	**********
37.50	50.00	214	8.0	**********
50.00	62.50	333	12.5	**********
62.50	75.00	365	13.7	**********
75.00	87.50	403	15.1	**********
87.50	100.00	337	12.6	**********
100.00	112.50	335	12.5	**********
112.50	125.00	237	8.9	**********
125.00	137.50	130	4.9	**********
137.50	150.00	46	1.7	**********
150.00	162.50	20	.7	****
162.50	175.00	3	.1	*
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 2672
OUTSIDE RANGE 0

HISTOGRAM OF T(N LGHT BELLE ISLE)DEG.C

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	4	.1	**
0.00	.50	5	.2	**
.50	1.00	102	3.7	**********
1.00	1.50	292	10.6	**********
1.50	2.00	215	7.8	**********
2.00	2.50	284	10.3	**********
2.50	3.00	115	4.2	**********
3.00	3.50	100	3.6	**********
3.50	4.00	156	5.7	**********
4.00	4.50	229	8.3	**********
4.50	5.00	184	6.7	**********
5.00	5.50	80	2.9	**********
5.50	6.00	64	2.3	**********
6.00	6.50	102	3.7	**********
6.50	7.00	238	8.6	**********
7.00	7.50	238	8.6	**********
7.50	8.00	110	4.0	**********
8.00	8.50	134	4.9	**********
8.50	9.00	86	3.1	**********
9.00	9.50	15	.5	*****
9.50	10.00	0	0.0	

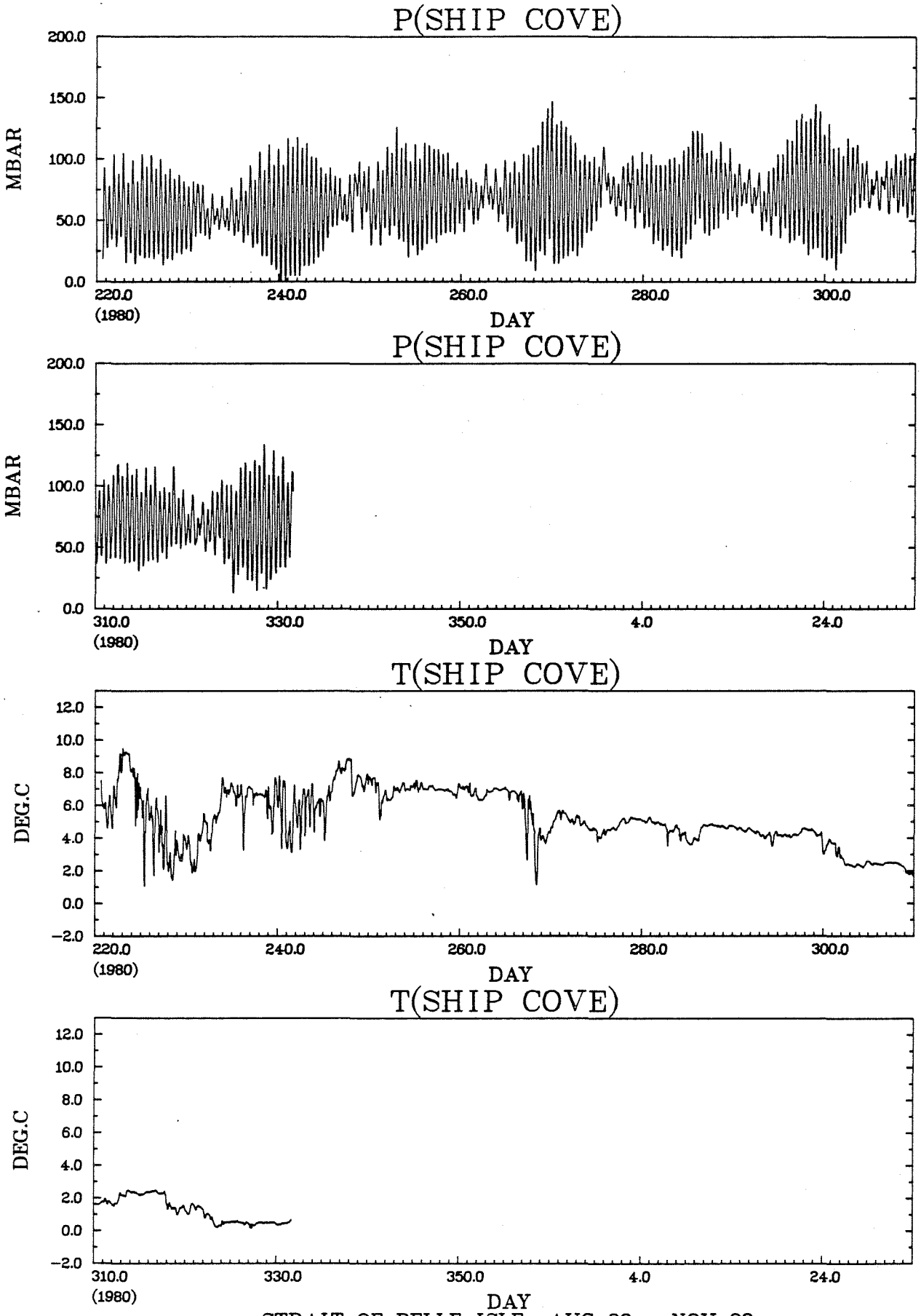
TOTAL NO. OF SAMPLES 2753
OUTSIDE RANGE 0

TABLE 22

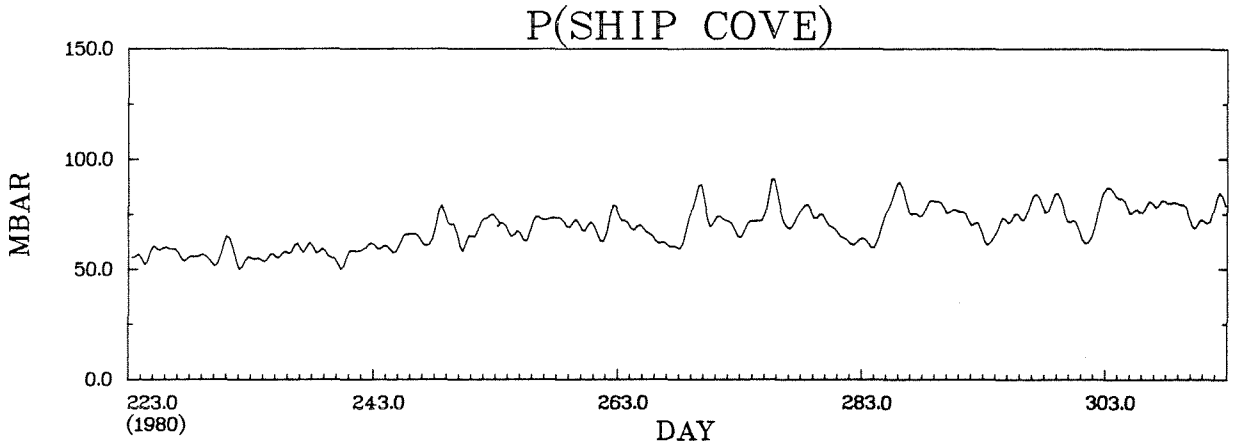
MOORING SUMMARY

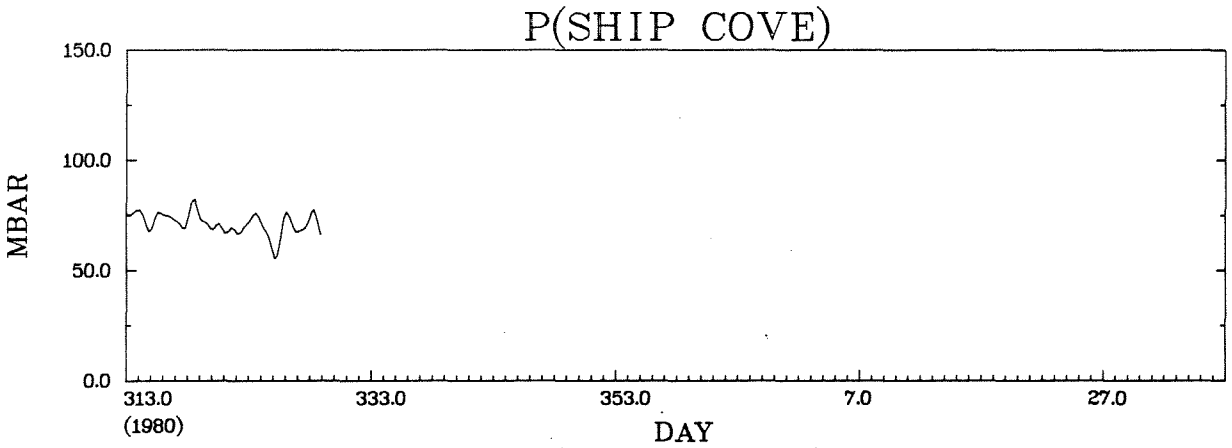
MOORING	7
DEPTH (M)	6
LATITUDE	51 37.80N
LONGITUDE	55 37.80W
WATER DEPTH (M)	6
MOORING DATE/CRUISE	7/ 8/1980/
RECOVERY DATE/CRUISE	26/11/1980/
DURATION (DAYS)	111.00
SAMPLING INTERVAL	60. (MIN.)
NO. OF SAMPLES	2664

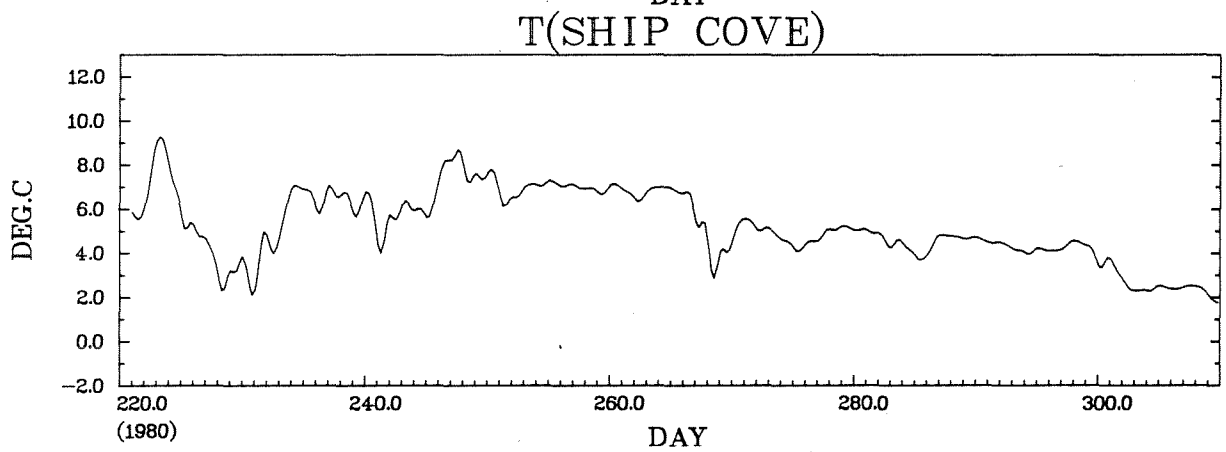
SENSOR UNITS	PRESSURE MBAR	TEMPERATURE DEG. CEL.
MINIMUM	0.00	0.13
MAXIMUM	147.00	9.50
MEAN	68.96	4.45
STD. DEV.	25.83	2.22

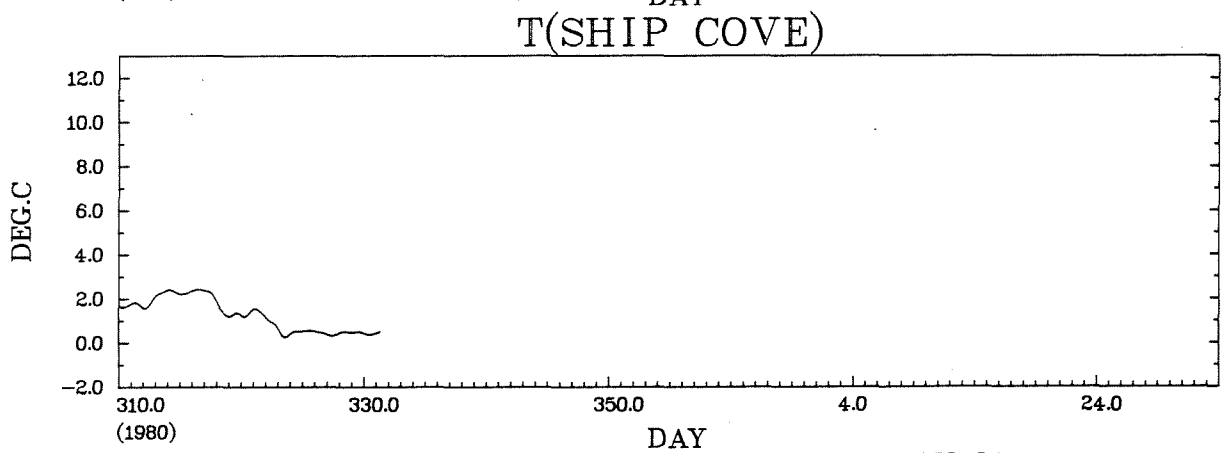


STRAIT OF BELLE ISLE AUG 80 – NOV 80









STRAIT OF BELLE ISLE AUG 80 – NOV 80

HISTOGRAM OF P(SHIP COVE) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	16	.6	****
12.50	25.00	90	3.4	**********
25.00	37.50	215	8.1	**********
37.50	50.00	335	12.6	**********
50.00	62.50	436	16.4	**********
62.50	75.00	437	16.4	**********
75.00	87.50	448	16.8	**********
87.50	100.00	362	13.6	**********
100.00	112.50	219	8.2	**********
112.50	125.00	70	2.6	**********
125.00	137.50	30	1.1	******
137.50	150.00	6	.2	**
150.00	162.50	0	0.0	
162.50	175.00	0	0.0	
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 2664
OUTSIDE RANGE 0

HISTOGRAM OF T(SHIP COVE) DEG.C

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-1.50	-1.00	0	0.0	
-1.00	-.50	0	0.0	
-.50	0.00	0	0.0	
0.00	.50	138	5.2	**********
.50	1.00	86	3.2	**********
1.00	1.50	85	3.2	**********
1.50	2.00	128	4.8	**********
2.00	2.50	280	10.5	**********
2.50	3.00	72	2.7	**********
3.00	3.50	42	1.6	**********
3.50	4.00	137	5.1	**********
4.00	4.50	294	11.0	**********
4.50	5.00	338	12.7	**********
5.00	5.50	164	6.2	**********
5.50	6.00	98	3.7	**********
6.00	6.50	125	4.7	**********
6.50	7.00	309	11.6	**********
7.00	7.50	219	8.2	**********
7.50	8.00	71	2.7	**********
8.00	8.50	35	1.3	*********
8.50	9.00	24	.9	******
9.00	9.50	18	.7	*****
9.50	10.00	1	.0	*

TOTAL NO. OF SAMPLES 2664
OUTSIDE RANGE 0

TABLE 23

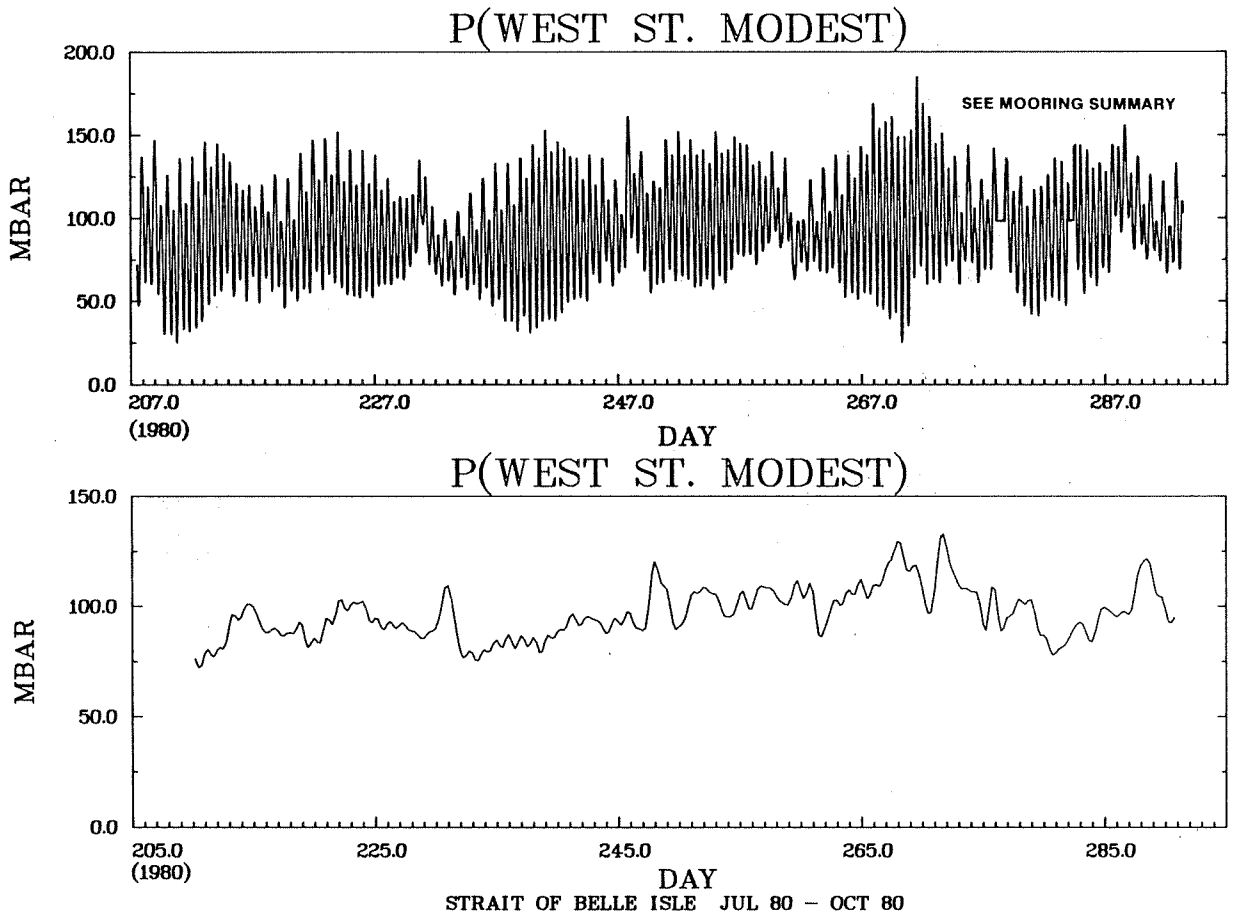
MOORING SUMMARY

MOORING	9
DEPTH (M)	0
LATITUDE	51 35.76N
LONGITUDE	56 42.00W
WATER DEPTH (M)	
MOORING DATE/CRUISE	25/ 7/1980/
RECOVERY DATE/CRUISE	19/10/1980/
DURATION (DAYS)	85.75
SAMPLING INTERVAL	60. (MIN.)
NO. OF SAMPLES	2062

SENSOR UNITS	PRESSURE MBAR
MINIMUM	25.00
MAXIMUM	190.00
MEAN	96.20
STD. DEV.	27.70

COMMENTS

PRESSURE DATA COULD NOT BE READ FOR DAYS 278 TO 279 AND DAYS 284 TO 285, THE MEAN VALUE WAS USED DURING THESE TIME PERIODS.



STRAIT OF BELLE ISLE JUL 80 – OCT 80

HISTOGRAM OF P(WEST ST. MODEST) MBAR

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	0	0.0	
12.50	25.00	0	0.0	
25.00	37.50	15	.7	****
37.50	50.00	54	2.6	**********
50.00	62.50	157	7.6	**********
62.50	75.00	268	13.0	**********
75.00	87.50	346	16.8	**********
87.50	100.00	304	14.7	**********
100.00	112.50	317	15.4	**********
112.50	125.00	255	12.4	**********
125.00	137.50	194	9.4	**********
137.50	150.00	101	4.9	**********
150.00	162.50	34	1.6	*********
162.50	175.00	9	.4	***
175.00	187.50	7	.3	**
187.50	200.00	1	.0	*

TOTAL NO. OF SAMPLES 2062
OUTSIDE RANGE 0

TABLE 24

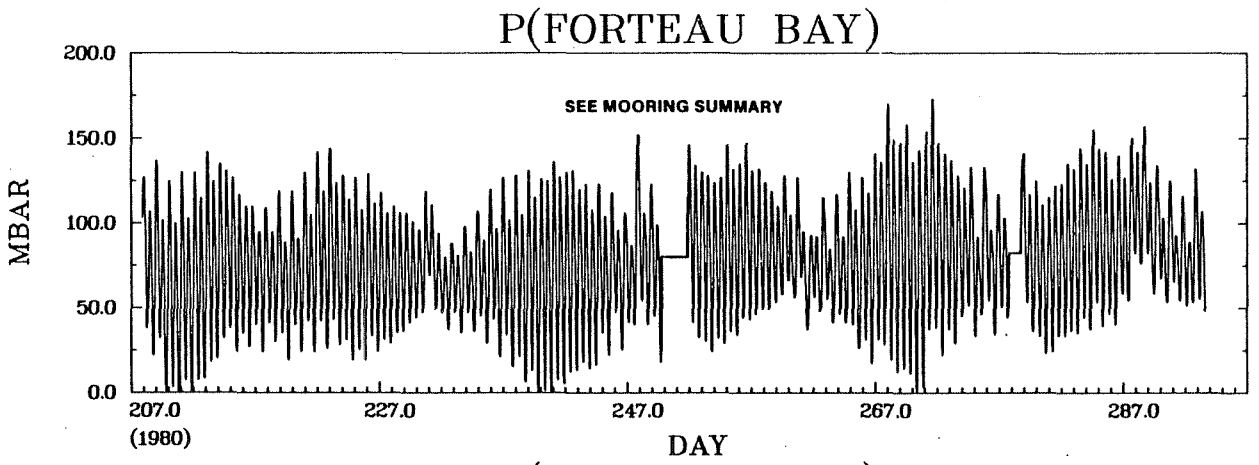
MOORING SUMMARY

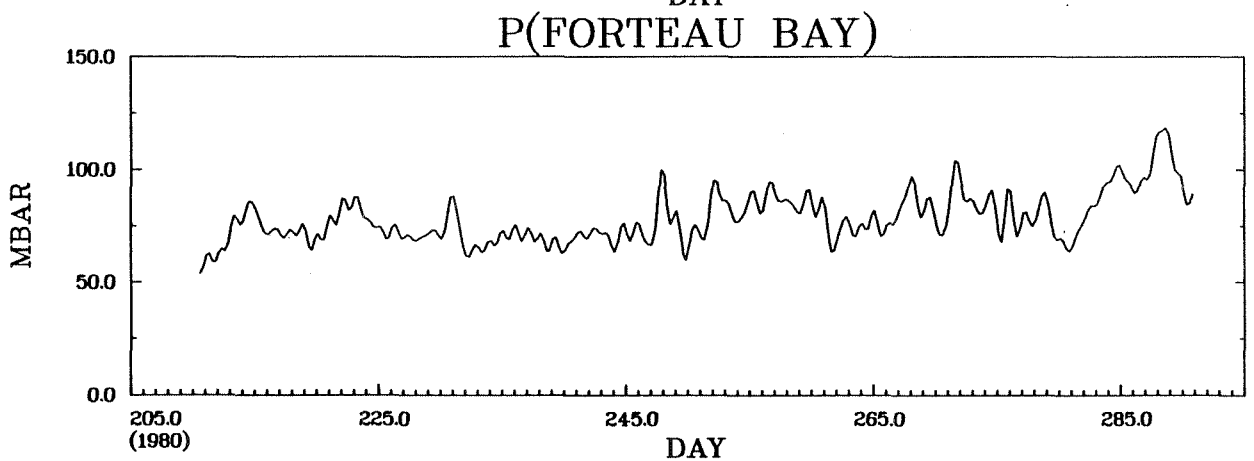
MOORING	10
DEPTH (M)	0
LATITUDE	51 28.20N
LONGITUDE	56 57.00W
WATER DEPTH (M)	
MOORING DATE/CRUISE	25/ 7/1980/
RECOVERY DATE/CRUISE	19/10/1980/
DURATION (DAYS)	85.92
SAMPLING INTERVAL	60. (MIN.)
NO. OF SAMPLES	2057

SENSOR UNITS	PRESSURE MBAR
MINIMUM	-7.00
MAXIMUM	169.00
MEAN	78.33
STD. DEV.	33.50

COMMENTS

PRESSURE DATA COULD NOT BE READ BETWEEN DAYS 250 AND 252, 278 AND 279, THE MEAN VALUE WAS USED DURING THESE TIME PERIODS.





STRAIT OF BELLE ISLE JUL 80 – OCT 80

HISTOGRAM OF P(FORTEAU BAY) MBAR

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	35	1.7	**********
12.50	25.00	66	3.2	**********
25.00	37.50	151	7.3	**********
37.50	50.00	212	10.3	**********
50.00	62.50	241	11.7	**********
62.50	75.00	259	12.6	**********
75.00	87.50	277	13.5	**********
87.50	100.00	217	10.5	**********
100.00	112.50	234	11.4	**********
112.50	125.00	166	8.1	**********
125.00	137.50	138	6.7	**********
137.50	150.00	43	2.1	**********
150.00	162.50	14	.7	*****
162.50	175.00	5	.2	**
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 2058
OUTSIDE RANGE 0

TABLE 25

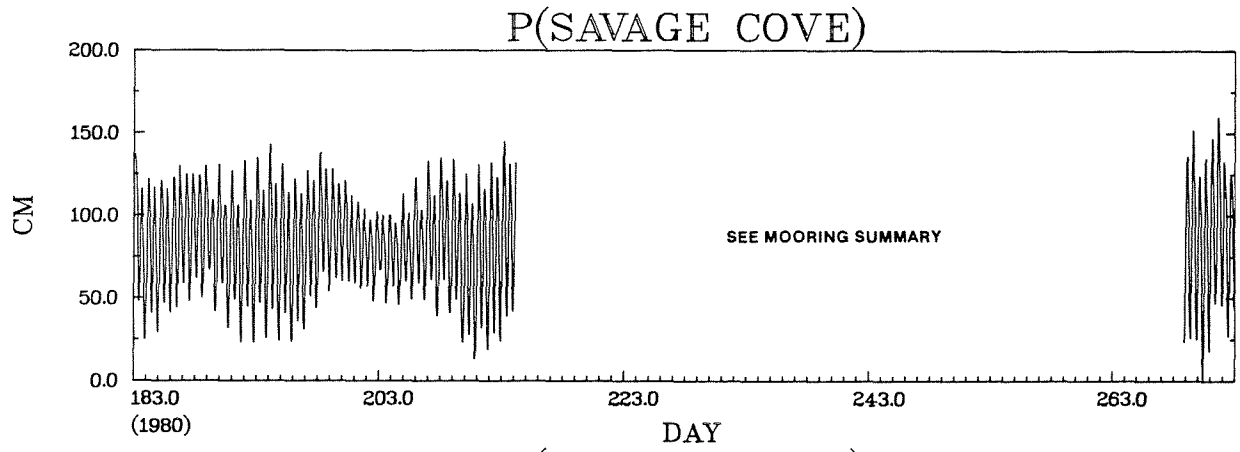
MOORING SUMMARY

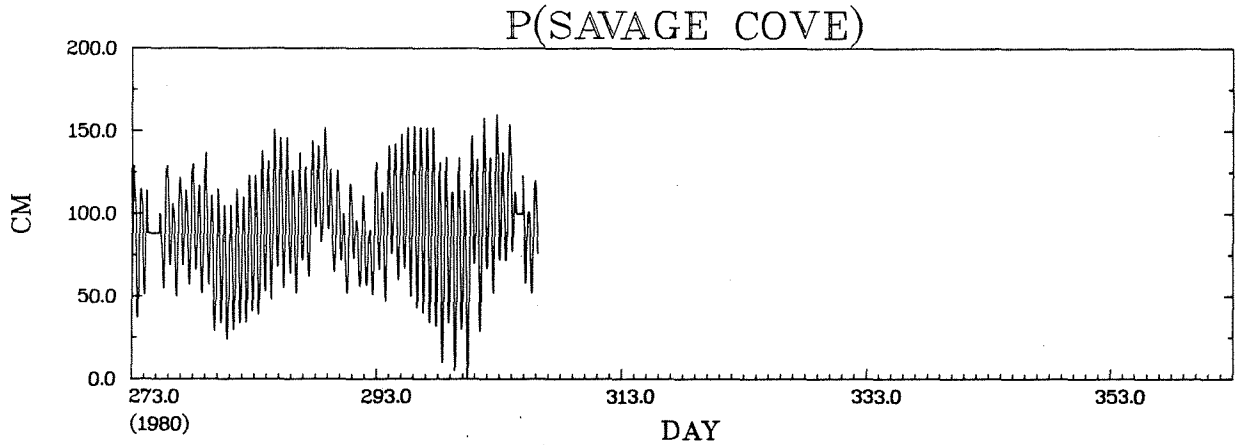
MOORING	2633
DEPTH (M)	0
LATITUDE	51 36.30N
LONGITUDE	55 39.30W
WATER DEPTH (M)	
MOORING DATE/CRUISE	1/ 7/1980/
RECOVERY DATE/CRUISE	1/11/1980/
DURATION (DAYS)	123.00
SAMPLING INTERVAL	60. (MIN.)
NO. OF SAMPLES	2952

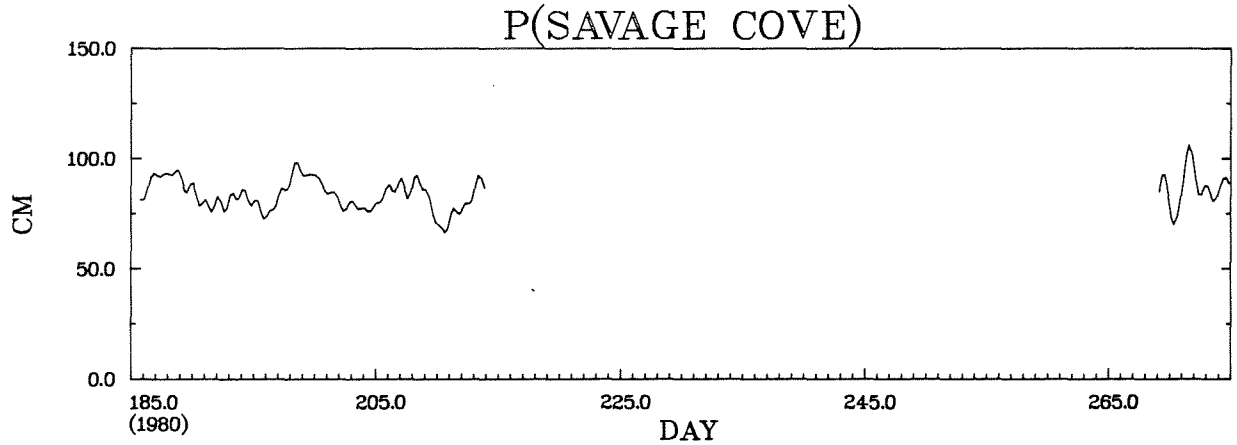
SENSOR	PRESSURE
UNITS	CM
MINIMUM	-8.00
MAXIMUM	160.00
MEAN	87.40
STD. DEV.	31.39

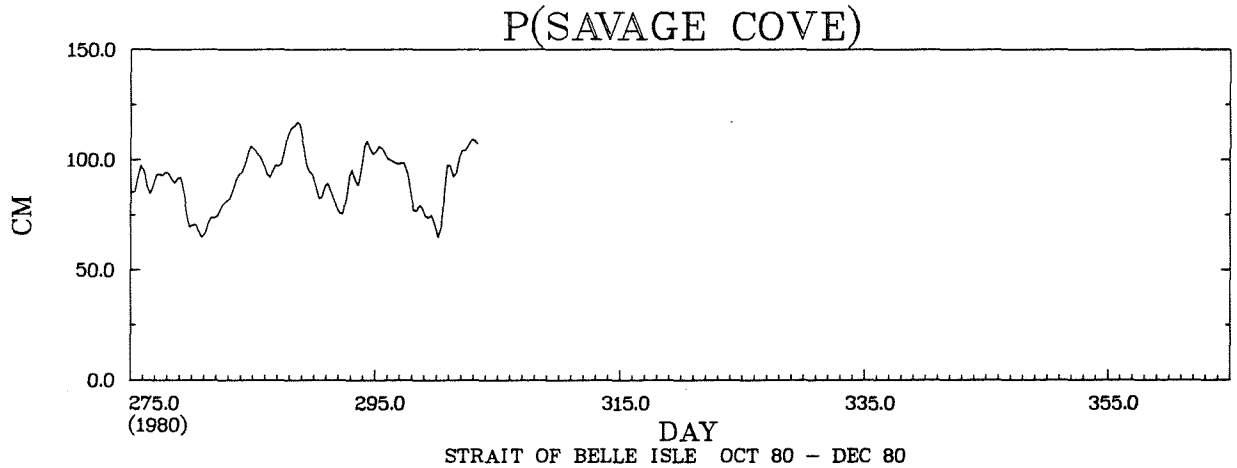
COMMENTS

THIS DATA IS FROM A MEDS PERMANENT GAUGE. THE GAUGE PUT IN BY BIO DID NOT WORK DUE TO INSTRUMENT FAILURE. THE PERMANENT GAUGE DID NOT RECORD DATA FROM DAY 214 TO DAY 269.









STRAIT OF BELLE ISLE OCT 80 – DEC 80

HISTOGRAM OF P(SAVAGE COVE) CM

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	12.50	9	.3	***
12.50	25.00	15	.5	*****
25.00	37.50	78	2.6	**********
37.50	50.00	105	3.6	**********
50.00	62.50	187	6.3	**********
62.50	75.00	197	6.7	**********
75.00	87.50	193	6.5	**********
87.50	100.00	221	7.5	**********
100.00	112.50	233	7.9	**********
112.50	125.00	202	6.8	**********
125.00	137.50	131	4.4	**********
137.50	150.00	50	1.7	**********
150.00	162.50	20	.7	*******
162.50	175.00	0	0.0	
175.00	187.50	0	0.0	
187.50	200.00	0	0.0	

TOTAL NO. OF SAMPLES 2952
OUTSIDE RANGE 1311