Catalog of OCSEAP Data (Alaska Outer Continental Shelf Environmental Assessment Program)

Part-4 SELECTED EXAMPLES OF GRAPHIC PRODUCTS AND DATA SUMMARIES DEVELOPED FROM OCSEAP DATA FILES

Compiled by: National Oceanographic Data Center (NODC)
Washington, D.C.
September, 1980

U.S. DEPARTMENT OF COMMERCE / National Oceanic and Atmospheric Administration / Environmental Data and Information Service

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INTRODUCTION

THIS DATA CATALOG CONTAINS EXAMPLES OF DATA PRODUCTS DEVELOPED FOR THE ALASKAN OUTER CONTINENTAL SHELF ENVIRONMENTAL ASSESSMENT PROGRAM (OCSEAP). OCSEAP HAS BEEN INITIATED BY THE BUREAU OF LAND MANAGEMENT (BLM) IN RESPONSE TO NATIONAL NEEDS FOR MARINE ENVIRONMENTAL STUDIES TO HELP ASSESS THE IMPACT OF OUTER CONTINENTAL SHELF OIL AND GAS DEVELOPMENT ON THE ENVIRONMENT. STUDY PROGRAMS FOR THE DESIGNATED LEASE AREAS OF ALASKA PLUS NON-SITE SPECIFIC STUDIES ARE BEING CONDUCTED FOR BLM BY THE OCSEAP OFFICES OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA). THE ENVIRONMENTAL DATA AND INFORMATION SERVICE (EDIS) OF NOAA DEVELOPS DATA FORMATS (KNOWN AS FILE TYPES) AND PROCESSES AND STORES THE DIGITAL DATA FROM THESE FORMATS TO PROVIDE A VIABLE OCSEAP DATA BASE FOR MARINE BIOLOGICAL, CHEMICAL, PHYSICAL AND GEOLOGICAL/GEOPHYSICAL DATA.

PURPOSE OF THE CATALOG

THE PURPOSE OF THE OCSEAP DATA CATALOG SERIES IS TO INFORM THOSE INTERESTED IN THE ALASKAN OUTER CONTINENTAL SHELF AREAS OF THE NATURE AND DISTRIBUTION OF MARINE ENVIRONMENTAL DATA AVAILABLE IN DIGITAL FORM FOR THESE OFFSHORE AREAS. ONE OF THE OCSEAP OBJECTIVES IS THE SUBMISSION BY OCSEAP INVESTIGATORS OF THEIR MARINE ENVIRONMENTAL DATA COLLECTIONS TO A CENTRAL REPOSITORY IN 'STANDARD' DIGITAL DATA FORMATS. THROUGH THESE FORMATS, THE DATA ARE MADE AVAILABLE FOR RAPID RETRIEVAL AND ANALYTICAL USES BY BLM, OCSEAP MANAGEMENT AND INVESTIGATORS, AND OTHER INTERESTED INDIVIDUALS. A DIGITAL DATA BASE ALSO PROVIDES A COMPREHENSIVE, MULTIDISCIPLINARY DATA SOURCE FOR STATISTICAL PRESENTATIONS AND GRAPHIC PRODUCTS OF CURRENT MARINE ENVIRONMENTAL DATA FOR BOTH THE PRESENT AND THE FUTURE USER COMMUNITY.

DATA SOURCES

OCSEAP DATA ARE ACTUALLY STORED IN SEVERAL FACILITIES INCLUDING TWO OF THE EDIS DATA CENTERS OF NOAA. THE NATIONAL OCEANOGRAPHIC DATA CENTER (NODC) IN WASHINGTON, DC STORES ALL PHYSICAL, CHEMICAL AND BIOLOGICAL OCEANOGRAPHIC DATA SUBMITTED BY INVESTIGATORS AND THE NATIONAL GEOPHYSICAL AND SOLAR TERRESTRIAL DATA CENTER (NGSDC) IN BOULDER, CO STORES ALL GEOLOGICAL AND GEOPHYSICAL DATA INCLUDING A LARGE QUANTITY OF ANALOG DATA RECORDS. A THIRD GROUP, PART OF THE NATIONAL INSTITUTE OF DENTAL RESEARCH (NIDR) OF THE NATIONAL INSTITUTES OF HEALTH (NIH) IN BETHESDA, MD STORES MICROBIOLOGICAL DATA COLLECTED BY OCSEAP INVESTIGATORS.

IN ADDITION TO THE ABOVE FACILITIES, THREE OTHER GROUPS HAVE BEEN FUNDED BY OCSEAP TO PRE-PROCESS AND ARCHIVE DATA AND PROVIDE ANALYTICAL SUPPORT TO INVESTIGATORS FOR SELECTED TYPES OF MARINE ENVIRONMENTAL DATA. ONE OF THE GROUPS, MANAGED BY THE NODC

Anchorage Liaison Officer, is located at the Arctic Environmental Information and Data Center (AEIDC) in Anchorage, AK, At this facility, processing and archiving of trophic data for marine birds, fish and mammals are emphasized, In addition, up-to-date copies of most biological files that are final processed at the NODC, are maintained on magnetic tape and diskettes for easier, more convenient access by many Alaskan investigators and the BLM personnel in Anchorage,

A second group, located at the University of Rhode Island, is the Data Projects Group, where most of the marine bird file types are pre-processed and related statistical and graphic products generated in response to specific investigator needs, This group also has designed and implemented a computer terminal key entry system for investigators to directly enter and edit their data for marine bird surveys prior to submission to NODC for final processing,

The third group is the Pacific Marine Environmental Laboratory (PMEL) of NOAA's Environmental Research Laboratory (ERL), located in Seattle., WA. This group processes and stores a large portion of the physical oceanographic data for OCSEAP, primarily salinity/temperature/depth (STD) casts and current meter data.

TYPES OF DATA PRODUCTS

This part of the OCSEAP Data Catalog series displays the variety of graphic and tabular products that have been developed from the OCSEAP digital data base primarily for the BLM, OCSEAP offices, or OCSEAP investigators, Most products are referred to in terms of digital data formats or file types, Those products that do not utilize specific file types are noted in the discussion of the examples,

The file types currently used by OCSEAP investigators are summarized below in discipline groups, Other file types developed by NODC for other marine environmental projects may be applicableto some of the pRoDUCTS BUT GENERALLY ARE NOT REFERENCED IN THIS CATALOG,

ARRANGEMENT OF THE CATALOG

The Catalog is divided into two sections with sub-sections for the different facilities and types of data, Section I contains products available from the EDIS offices that process and store OCSEAP data as part of their responsibility for maintaining a marine environmental data base. For OCSEAP data, this involves the NODC and NGSDC components of EDIS as noted above, The National Climatic Center (NCC) also stores climatological data that are appropriate for Alaskan areas; one of their major OCSEAP products is presented as a separate series of publications; the 1977 Atlas of the Outer Continental Shelf Waters and Coastal Regions of Alaska (Volumes I, II and 111),

SECTION II CONTAINS PRODUCTS DEVELOPED BY THOSE FACILITIES THAT PROCESS SELECTED DATA TYPES AND PROVIDE ANALYTICAL SUPPORT TO SPECIFIC OCSEAP INVESTIGATORS IN THE FORM OF STATISTICAL SUMMARIES AND GRAPHIC PRODUCTS. THESE FACILITIES INCLUDE THE GROUPS AT THE ARCTIC ENVIRONMENTAL INFORMATION DATA CENTER, THE PACIFIC MARINE ENVIRONMENTAL LABORATORY, THE DATA PROJECTS GROUP OF THE UNIVERSITY OF RHODE ISLAND, AND THE NATIONAL INSTITUTES OF HEALTH. THE OCSEAP PRODUCTS GENERATED BY THESE FACILITIES GENERALLY ARE NOT ROUTINELY AVAILABLE TO ALL OCSEAP INVESTIGATORS OR TO THE PUBLIC, BUT OFTEN CAN BE MADE AVAILABLE TO SPECIFIC INVESTIGATORS PROVIDING THE NECESSARY FINANCIAL ARRANGEMENTS AND NEGOTIATIONS WITH OCSEAP MANAGEMENT HAVE BEEN MADE.

PRODUCT PRESENTATIONS

AS THE CONTRIBUTORS TO THIS CATALOG HAVE DIFFERENT COMPUTER SYSTEMS AND SOFTWARE, OFTEN PROCESS DIFFERENT DATA TYPES, AND HAVE SOMEWHAT DIFFERENT ROLES WITHIN OCSEAP, THE STYLE OF THEIR PRODUCT PRESENTATIONS VARY SLIGHTLY. FOR EXAMPLE, DIFFERENT COASTLINE MAPPING PACKAGES MAY HAVE BEEN DEVELOPED BY THE VARIOUS GROUPS. FOR NODC, NGSDC AND THE DATA PROJECTS GROUP, THE MAP PACKAGE IS ESSENTIALLY THE SAME AND ALLOWS FOR A RELATIVELY LARGE NUMBER OF CHART PROJECTIONS AND SCALES RANGING FROM VERY SMALL CHARTS TO LARGE CHARTS THAT MAY EXCEED SEVEN FEET IN LENGTH AND UP TO FIVE FEET IN HEIGHT, DEPENDING ON PLOTTER CHARACTERISTICS. EITHER THE DETAILED LAND MASS FILE (KNOWN AS WORLD DATA BASE II) OR THE EARLIER MORE GENERAL 'WORLD DATA BASE I' FILE CAN BE EMPLOYED WHEN GENERATING MOST GEOGRAPHIC PLOTS. WDB II IS USED FOR MOST LEASE AREA PLOTS AND DETAILED SMALL REGIONAL PRESENTATIONS BY NODC, WHILE THE WDB I IS OFTEN ADEQUATE (AND MUCH MORE ECONOMICAL) FOR MOST DATA INVENTORY PLOTS, SUCH AS STATION LOCATIONS OR DATA SUMMARIES OVER LARGE AREAS. OTHER MAP PACKAGES ARE AVAILABLE FROM PMEL AND NIH AND MAPPING PACKAGES ARE PLANNED FOR THE ANCHORAGE FACILITY IN THE NEAR FUTURE.

SUPPLEMENTS TO THE PRODUCTS SHOWN IN THIS PART OF THE CATALOG WILL BE ISSUED AND DISTRIBUTED AS NEW PRODUCTS ARE DEVELOPED OR IMPROVEMENTS MADE TO THE EXISTING PRODUCTS BY THE DIFFERENT FACILITIES.

DATA AVAILABILITY

THE EDIS DATA CENTERS (AND THE OTHER FACILITIES IN SOME CASES) WILL PROVIDE DATA LISTINGS OF INDIVIDUAL DATA SETS, AS WELL AS MAGNETIC TAPE COPIES FOR ANY DATA SET LISTED IN PART 2 OF THE DATA CATALOG. ONLY DATA THAT HAVE BEEN QUALITY CONTROLLED AND 'FINAL PROCESSED' BY THE DATA CENTERS ARE GENERALLY AVAILABLE FOR THE DATA PRODUCTS DISPLAYED IN SECTION I OF THIS CATALOG, ALTHOUGH SOME DATA STILL IN PROCESSING CAN BE MADE AVAILABLE OR INCORPORATED IN MULTIPLE DATA SET PRODUCTS UPON REQUEST.

THE DATA TYPES AVAILABLE FOR PRODUCTS ARE SUMMARIZED BELOW IN DISCIPLINE GROUPS, MOST OF THE FILE TYPES LISTED BELOW ARE USED OR REFERENCED IN AT LEAST ONE OF THE PRODUCT EXAMPLES, THE FACILITIES THAT STORE THE DATA OR A SUBSET OF THE DATA FOR EACH FILE TYPE ARE DESIGNATED BY THE FOLLOWING CODES IN THE TABLE BELOW; '

1 - NODC/EDIS
2- NGSDC/EDIS
3- NODC/AEIDC
4 - PMEL/ERL
5- DPG/URI
6 - NIDR/NIH

THE RANGES OF SURVEY DATES FOR OCSEAP DATA AVAILABLE AT THE TIME OF PUBLICATION ALSO ARE INCLUDED FOR EACH FILE TYPE, ALONG WITH THE LEASE AREAS FOR WHICH DATA HAVE BEEN RECEIVED, CODED AS FOLLOWS:

1- NEGOA
2 - LOWER COOK INLET
3 - KODIAK SHELF
4 -ST, GEORGE BASIN
5 - BEAUFORT SEA
6 -BRISTOL BASIN
7 - NORTON SOUND
8 - ALEUTIAN SHELF
9 - CHUKCHI SEA

THESE RANGES OF DATES, WILL, OF COURSE, CHANGE AS NEW DATA ARE RECEIVED AND PROCESSED BYTHE DATA CENTERS, DATES, LEASE AREAS AND DISTRIBUTIONS ARE NOT NECESSARILY INCLUSIVE AND REFERENCE TO PARTS 1 AND 2 OF THE OCSEAP DATA CATALOG IS RECOMMENDED WHEN REQUESTING DATA PRODUCTS FOR SPECIFIC TIME PERIODS OR AREAS,

FILE TYPES	FORMAT NAME	DATA SOURCES	SURVEY YEARS	LEASE AREAS
	PHYSICAL OCEANOGRAPHY			
015 -	CURRENT METERS	1,4	1974-78	1,3,4,5,6,8,9
017 -	PRESSURE GAUGE	1,4	1975-78	1,4,6,9
022 -	STD/CTD DATA	1,4	1974-79	ALL
056 -	LAGRANGIAN DRIFTERS	1	1975-77	1,3,4,5,6,9
101 -	WIND DATA	1	1975-78	1,5
	MARINE CHEMISTRY			
021 -	TRACE METALS	1,3	1975-77	1,2,3,4,6,8
043 -	HYDROCARBONS I (LIGHT)	1,3	1975-78	1,2,3,4,6,7,8,9
044 -	HYDROCARBONS II (HEAVY)	1	1976-78	1,2,4,5,6
061 -	TRACE ELEMENTS	1	1974-76	ALL

File Types	Format Name	Data Sources	Survey Years	Lease Areas
	Marine Geology/Geophysics			
072 -	Beach Profiles	2	1975	1
073 -	Grain Size Analysis	2	1975-77	1,4,5,6,7,9
401 -	Epicenter Data	2	1967-79	1,2,3,6,8
	Marine Biology			
023 -	Fish Resource Assessment	1,3	1948-77	All
024/124-	Zooplankton (Data submitted in 024 converted by NODC to 124)	1,3	1974-79	All
025 -	Mammal Specimen	1,3	1975-79	1,2,3,4,5,6,7,9
026 -	Mammal Sighting II	1,3	1975-76	4,5,6,7,8,9
027 -	Mammal Sighting I	1,3	1971-78	All
028 -	Phytoplankton	1,3	1964-79	1,2,3,4,5,6,8
029 -	Primary Productivity	1,3	1958-78	1,2,3,4,5,6,7,8
030 -	Internodal Data	1,3	1974-78	All
31 -	Marine Bird Specimen	1,3,5	1969-78	3,4,5,6
032 -	Benthic Organisms	1,3	1971-78	1,2,3,4,5,6,7,8
033 -	Marine Bird Sighting-Shipaircraft	1,5	1975-78	All
034 -	Marine Bird Census-Land	1,5	1975-77	4,5,7,9
035 -	Marine Bird Colony I	1	1975-77	1,4,7,9
037 -	Feeding Flock	1	1975-77	1,3,4,6,8
038 -	Migratory Bird Sea Watch	1,5	1977-78	5
040 -	Marine Bird Habitat	1,3	1975-78	1,2,3,4,6,8
057 -	Herring Spawning	1	1976-77	4,6,7,8,9
123 -	Fish/Shellfish Resource Assessment (Includes data converted from 023)	1,3	1948-77	All
125 -	Marine Bird Colony II	1,5	No data received to date	
	Microbiology & Pathology			
013 -	Fish Pathology	1	1975-78	3,4,6
063 -	Marine Invertebrate Pathology	1	1976	7,9
402 -	Microbiology	6	1975-78	1,2,3,4,5,8

SERVICING OF DATA REQUESTS

OCSEAP FUNDS FOR DATA PRODUCTS HAVE BEEN ALLOCATED FOR AN ANTICIPATED DEMAND TO EACH OF THE FACILITIES DISCUSSED ABOVE, REQUESTS FROM OCSEAP INVESTIGATORS THEREFORE MUST BE FORWARDED THROUGH A CENTRAL PRODUCT COORDINATOR TO SCREEN THE REQUEST, ESTABLISH PRIORITIES AND OBTAIN SOME ESTIMATE OF THE COST OF THE REQUEST TO EITHER OCSEAP OR THE REQUESTOR,

REQUESTS FOR PRODUCTS REQUIRING EXTENSIVE MODIFICATIONS TO THOSE DESCRIBED IN THIS CATALOG WILL RECONSIDERED AS NEW PRODUCTS AND COSTS FOR PROGRAM DEVELOPMENT MUST BE INCLUDED IN THE TOTAL COST OF MOST REQUESTS OF THIS TYPE, SINCE LABOR AND COMPUTER FUNDS FOR NEW PRODUCT DEVELOPMENT ARE GENERALLY FIXED WITHIN EACH FISCAL YEAR, REQUESTS INVOLVING NEW PROGRAMMING AND PRODUCT MODIFICATION WILL BE COMPLETED ON A TIME-AVAILABLE BASIS BY EACH FACILITY IN ORDER TO MINIMIZE COST IMPACT ON HIGHER PRIORITY OR ROUTINE REQUESTS,

FOR NODC AND NGSDC PRODUCTS FROM THE EDIS DATA CENTERS; OCSEAP INVESTIGATOR REQUESTS SHOULD BE FORWARDED OR CLEARED THROUGH THE OCSEAP DATA PRODUCTS COORDINATOR, REQUESTS SHOULD BE SUBMITTED ON THE APPROPRIATE OCSEAP DATA INVESTIGATOR REQUEST FORM (COPY ENCLOSED), REQUESTS FOR DATA OR DATA PRODUCTS FROM THE OTHER FACILITIES MUST RECEIVE PRIOR APPROVAL FROM THE APPROPRIATE OCSEAP CONTRACT MONITOR (PROJECT TRACKER) BEFORE submitting A SPECIFIC REQUEST,

NON-OCSEAP USERS SHOULD ADDRESS THEIR EDIS DATA PRODUCT NEEDS TO THE FOLLOWING:

NATIONAL OCEANOGRAPHIC DATA CENTER (CODE D76)
ENVIRONMENTAL DATA & INFORMATION SERVICE/NOAA
2001 WISCONSIN AVENUE, NW
WASHINGTON, DC 20235

NATIONAL GEOPHYSICAL & SOLAR-TERRESTRIAL DATA CENTER (CODE D62)
ENVIRONMENTAL DATA & INFORMATION SERVICE/NOAA
30TH STREET & MARINE AVENUE
BOULDER, CO 80303

REQUESTS ARE FILLED AT A CHARGE EQUAL TO THE COST OF SERVICING THE REQUEST, SUBMISSION OF THE APPROPRIATE OCSEAP REQUEST FORM IS RECOMMENDED, ANY REQUESTS BY NON-OCSEAP INVESTIGATORS TO THE OTHER FACILITIES MAY BE NEGOTIATED BETWEEN THE REQUESTOR AND FACILITY PERSONNEL, THE ADDRESSES AND TYPES OF PRODUCTS AVAILABLE FROM THESE FACILITIES ARE AS FOLLOWS:

ARCTIC ENVIRONMENTAL INFORMATION & DATA CENTER NODC ALASKA LIAISON OFFICER 707 A STREET ANCHORAGE, AK 99501	MARINE BIOLOGICAL DATA, PARTICULARLY SUMMARIES AND STATISTICS OF TROPHIC AND TAXONOMIC DATA.
PACIFIC MARINE ENVIRONMENTAL LABORATORY ENVIRONMENTAL RESEARCH LABORATORIES/NOAA 3711 15TH AVENUE, NE SEATTLE, WA 98105	PHYSICAL OCEANOGRAPHIC DATA – ALL OCSEAP DATA HELD BY PMEL ARE AVAILABLE AT NODC AND INITIALLY SHOULD BE REQUESTED FROM NODC OR THROUGH THE OCSEAP DATA PRODUCTS COORDINATOR.
DATA PROJECTS GROUP PASTORE LABORATORY UNIVERSITY OF RHODE ISLAND KINGSTON, RI 02881	MARINE BIRD DATA, PARTICULARLY BIRD CENSUS INFORMATION – PRODUCTS FOR OTHER DATA TYPES MAY BE MADE AVAILABLE ON AN INDIVIDUAL REQUEST BASIS.
NATIONAL INSTITUTES OF HEALTH (NIDR) 9000 ROCKVILLE PIKE BETHESDA, MD 20014	MICROBIOLOGY DATA – DATA AND PRODUCTS ARE AVAILABLE ONLY FROM THIS FACILITY.

OTHER PARTS OF THE CATALOG

THE OTHER THREE PARTS OF THE OCSEAP CATALOG SERIES INCLUDE THE DISPLAY OF GEOGRAPHIC LOCATIONS OF ALL STATIONS FOR EACH FILE TYPE AND LEASE AREA (PART 1), THE QUANTITY AND SOURCE OF STATIONS FOR EACH DATA TYPE, DATA SET, AND LEASE AREA (PART 2), AND A DETAILED DESCRIPTION OF THE DATA PARAMETERS CONTAINED IN EACH FILE TYPE (PART 3).

THE MOST RECENT DISTRIBUTION AND UPDATE OF PART 1 IS DATED APRIL 1980 AND INCLUDES ALL DATA RECEIVED BY THE DATA CENTERS TO NOVEMBER 1979. PART 2 WAS LAST DISTRIBUTED IN JULY 1979 AND INCLUDES ALL DATA RECEIVED THROUGH MARCH 1979. COPIES OF SUBSETS OF PART 3 WERE DISTRIBUTED IN AUGUST 1979 TO ALL RELEVANT OCSEAP INVESTIGATORS AND OCSEAP DATA MANAGEMENT PERSONNEL. DATA FORMATS AND RELATED CODES ARE AUTOMATICALLY UPDATED AND MODIFIED AS THE NEEDS OF INVESTIGATORS EVOLVE. UPDATES ARE PERIODICALLY SENT TO ALL INDIVIDUALS AS SPECIFIED BY FORMAT DISTRIBUTION LISTS MAINTAINED BY NODC. PART 3, THEREFORE, IS SELDOM PRINTED OR DISTRIBUTED IN ITS ENTIRETY, ALTHOUGH A CATALOG COMPRISING ALL FORMATS AND RELATED CODES IS AVAILABLE UPON REQUEST AT ANY TIME. THE CURRENT COMPLETE VERSION OF THE CATALOG INCLUDES ABOUT 55 DATA FORMATS (30 OF WHICH ARE USED BY OCSEAP INVESTIGATORS) AND OVER 300 CODE GROUPS.

SECTION I – ESS PRODUCTS

THIS SECTION CONSISTS OF PRODUCTS DEVELOPED BY THE NODC AND NGSDC COMPONENTS OF THE ENVIRONMENTAL DATA AND INFORMATION SERVICE IN SUPPORT OF OCSEAP. THE PRODUCTS HAVE BEEN DIVIDED INTO DISCIPLINE GROUPS, ALTHOUGH IN MANY CASES A PRODUCT IS APPROPRIATE FOR MORE THAN ONE TYPE OF DATA. SOME PRODUCTS, THEREFORE, ARE REPEATED WITH SLIGHT VARIATIONS IN DIFFERENT DISCIPLINE EXAMPLES. THE FILE TYPES FOR WHICH A PARTICULAR PRODUCT CAN BE GENERATED ARE INCLUDED FOR EACH FIGURE WHERE APPROPRIATE. ALL PRODUCTS, OF COURSE, ARE DEPENDENT ON THE AVAILABILITY OF THE DATA PARAMETERS NEEDED TO GENERATE THE INDIVIDUAL PRODUCTS. IT IS IMPORTANT TO NOTE THAT AS DIFFERENT OCSEAP STUDIES HAVE BEEN DESIGNED TO RESOLVE DIFFERENT MARINE ENVIRONMENTAL PROBLEMS, THE RANGE AND CONTENTS OF DATA SUBMITTED FOR A FILE TYPE BY INDIVIDUAL INVESTIGATORS MAY VARY SIGNIFICANTLY. SOME PRODUCTS, THEREFORE, NEED TO BE DEVELOPED ON THE BASIS OF INDIVIDUAL DATA SUBMISSIONS OR SUBMISSIONS BY SPECIFIC INVESTIGATORS. FOR EXAMPLE, A MARINE MAMMAL INVESTIGATOR MAY ONLY BE REPORTING DISTRIBUTIONS OF SELECTED SPECIES RATHER THAN ALL MAMMALS SIGHTED AT A SPECIFIC LOCATION OR TROPHIC RESULTS FOR A FISHERIES SURVEY MAY ONLY BE REPORTED FOR A SUBSAMPLE OF THE TOTAL FISH CAUGHT RATHER THAN FOR ALL SAMPLES. SIMILARLY, DATA FOR TRACE METALS OR HYDROCARBONS MAY NOT INCLUDE ALL POTENTIAL ELEMENTS OR COMPOUNDS EXPECTED IN A SAMPLE OR MAY NOT HAVE SUFFICIENT DEPTHS OR SPATIAL DISTRIBUTION TO GENERATE THE VERTICAL PROFILES OR HORIZONTAL CONTOUR PRODUCTS DESCRIBED IN THIS CATALOG.

THE NODC CONTOUR PRODUCTS IN THIS SECTION OF THE CATALOG UTILIZE THE NODC GENERAL PURPOSE PLOT PROGRAM. THIS PROGRAM HAS THE OPTION OF PRE-SELECTING CONTOUR INTERVALS (WHERE SOME IDEA OF THE DATA RANGE AND DISTRIBUTION ARE KNOWN OR ALLOWING THE PROGRAM TO SELECT THE INTERVALS BASED ON THE RANGE OF THE DATA. THE PROGRAM ALSO IS DESIGNED TO CHANGE CONTOUR INTERVALS IN AREAS OF STRONG GRADIENTS. CONTOURS ARE DEVELOPED IN TERMS OF "NEIGHBORHOODS" SO THAT POOR DATA DISTRIBUTION MAY RESULT IN CELLS OF CONTOURS THAT DO NOT ALWAYS CONNECT THROUGHOUT THE AREA OF INTEREST (AND GEOGRAPHS SHOULD NOT BE CONNECTED). THE LAND MASS FILE (WDB I) IS USED TO DETERMINE TO THE NEAREST ONE-DEGREE AREA THE POINT WHERE EACH CONTOUR SHOULD BE STOPPED. A MORE REFINED VERSION IS BEING DEVELOPED TO ELIMINATE MOST AREAS WHERE CONTOURS STILL EXTEND UNREALISTICALLY OVER LAND AND LARGE ISLANDS.

THE REVIEW OF PARTS 1 AND 2 OF THE CATALOG SHOULD HELP PROVIDE THE INITIAL INFORMATION CONCERNING POTENTIAL PRODUCT AVAILABILITY. FURTHER INVENTORIES AND EVALUATIONS BY THE DATA CENTERS WILL USUALLY BE NECESSARY TO VERIFY THAT A SPECIFIC PRODUCT CAN BE MADE AVAILABLE.

SECTION I-A - PHYSICAL OCEANOGRAPHY (NODC)

THE PRESENTATIONS ON THE FOLLOWING PAGES REPRESENT A SELECTION OF STANDARD OCEAN STATION DATA (NANSEN CASTS AND STD) AND BT AND XBT PRODUCTS THAT HAVE BEEN APPLIED TO OCSEAP DATA FILE TYPES TOGETHER WITH SEVERAL NEW PRODUCTS BEING DEVELOPED IN SUPPORT OF OCSEAP INVESTIGATORS AND PROGRAM PERSONNEL.

FOR OCSEAP DATA, PHYSICAL OCEANOGRAPHIC DATA FILE TYPES CONSIST SOLELY OF FILE TYPE 022 - STD/CTD DATA. MOST DATA IN THIS FORMAT ARE SUBMITTED AT ONE-METER INTERVALS BY OCSEAP INVESTIGATORS. ANY PRODUCT GENERATED BY NODC USING FILE TYPE 022 MUST BE REDUCED TO 1000 DEPTH LEVELS OR LESS TO BE USED DIRECTLY WITH AVAILABLE NODC COMPUTER SOFTWARE. ALTHOUGH DATA COLLECTED FOR OUTER CONTINENTAL SHELF STUDIES OFTEN DO NOT EXCEED 500 METERS, SOME DATA HAVE BEEN SUBMITTED THAT EXTEND TO 4000 METERS OR DEEPER. CONSEQUENTLY, DATA REDUCTION IS IMPLEMENTED FOR SOME PRODUCTS USING THE FOLLOWING SCHEME:

0 - 200 METERS		ONE-METER INTERVALS
200 - 500 METERS	-	FIVE-METER INTERVALS
500 - 1000 METERS	-	TEN-METER INTERVALS
1000 - 2000 METERS	-	TWENTY-METER INTERVALS
2000 - 8000 METERS	-	FIFTY-METER INTERVALS

THE LAST MEASURED DEPTH IS ALWAYS RETAINED IF IT IS NOT ONE OF THE SELECTED INTERVAL DEPTHS.

ONE OF THE MORE EXTENSIVE OCSEAP SURVEYS HAS BEEN SELECTED TO DISPLAY MANY OF THE STD/CTD PRODUCT EXAMPLES IN THIS SECTION. IN MOST CASES, ANY OF THE OCSEAP STD/CTD DATA RECEIVED BY THE DATA CENTER ARE APPLICABLE, ALTHOUGH SPECIFIC PRODUCTS WILL, OF COURSE, BE DEPENDENT ON DATA ADEQUACY AND DISTRIBUTION.

THE PRODUCTS INCLUDED IN THIS SECTION ARE AS FOLLOWS:

FIGURE I-A- 1 - TEMPERATURE/SALINITY/ SIGMA-T VS DEPTH PROFILES
I-A- 2 - TEMPERATURE/SALINITY (T/S) DIAGRAM
I-A- 3 - VERTICAL SECTION PLOT
I-A- 4 - HORIZONTAL CONTOUR PLOT
I-A- 5 - BOTTOM TEMPERATURE PLOT
I-A- 6 - HORIZONTAL ARRAY SUMMARY
I-A- 7 - DEPTH OF ISOPLETH CONTOURS
I-A- 8 - STABILITY INDEX PROFILE
I-A- 9 - MIDLINE DISPLAY
I-A-10 - EXCEEDENCE DIAGRAM
I-A-11 - MULTIPLE DEPTH HISTOGRAM

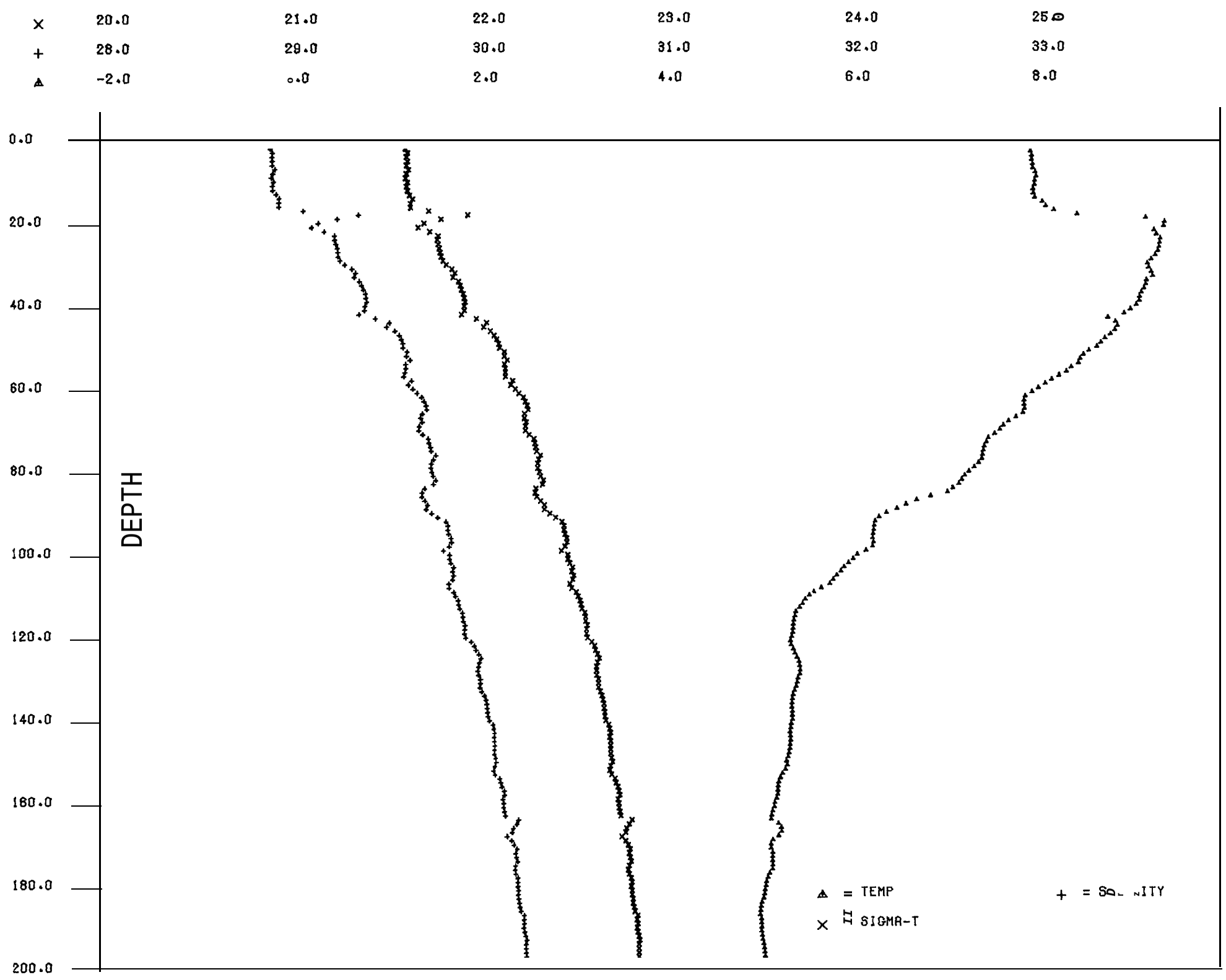


Figure I-A-1

Temperature/Salinity/Sigma-t vs Depth Profiles

File Type 022 - STD/CTD Data

This figure displays all values of temperature, salinity and Sigma-t (density) for an entire cast or for any specified maximum depth. Horizontal and vertical scales and data ranges are pre-set. Parameter values generally are selected to allow suitable interval groups for the three parameters.

Symbol size may be modified and more than one cast per plot can be displayed in the same figure. This presentation also may be used to display data from chemical or biological files containing multiple depth values at a specific station or geographic position. Several examples are included in other sections of the NODC portion of the catalog.

This example uses a station from a survey submitted by Royer of the University of Alaska (RU 289). The survey is identified as File ID 814IMS or NODC Track Number 592.

Figure I-A-2

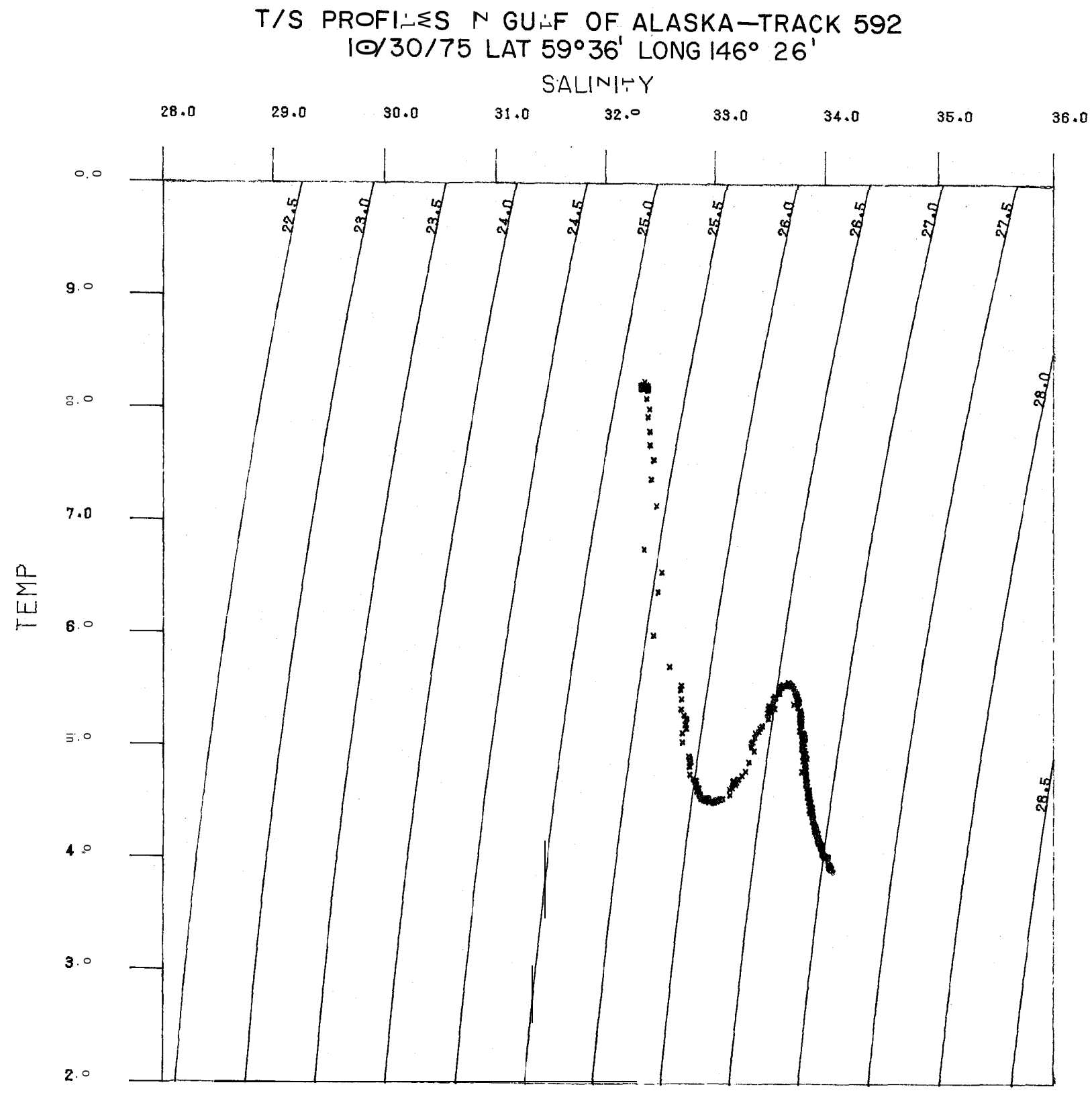
Temperature/Salinity (T/S) Diagram

File Type 022 - STD/CTD Data

This presentation displays all values of temperature against all values of salinity for a specific STD/CTD cast. T/S diagrams are particularly useful for identifying water mass characteristics and unique subsurface structures that may not be noticeable when comparing vertical profiles such as those shown in Figure I-A-1.

Selection of horizontal and vertical ranges are based on the minimum and maximum values for the station. Several T/S curves may be plotted on the same display. Segments or the entire cast may be selected for plotting. Since this presentation includes Sigma-t curves, it is unique to ocean station data (Nansen casts or STDs) and is therefore not applicable to other file types. X-Y plots of two parameters are of course available for many other file types, some of which are displayed in other sections of the catalog.

This example uses a station from a survey submitted by Royer of the University of Alaska (RU 289). The survey is identified as File ID 814IMS or Track Number 592.



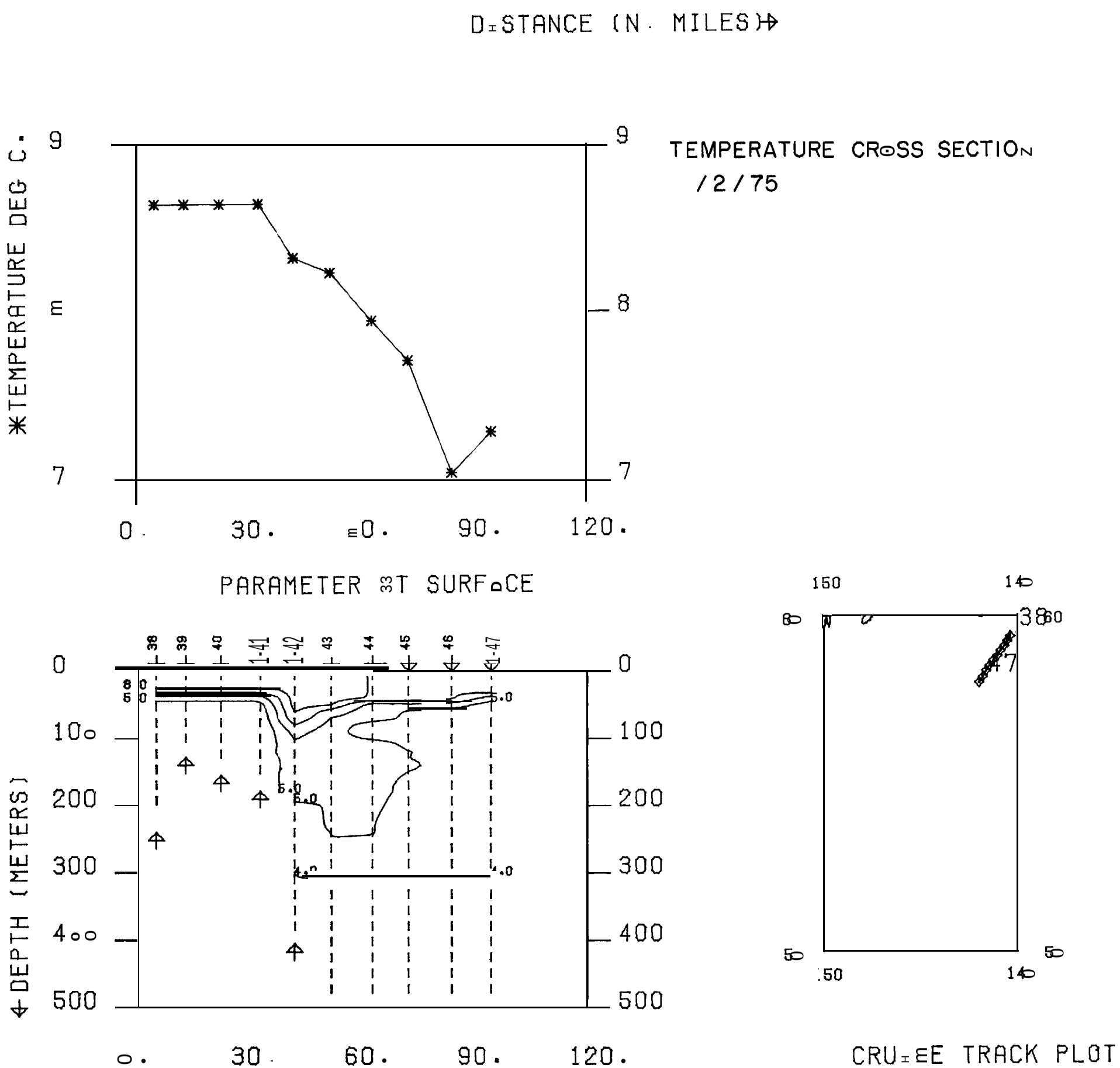


Figure I-A-3

Vertical Section P ot

File Type o22 - STD/CTD Data

This presentation consists of several figures that display STD/CTD data parameters in a vertical section. A track plot of the data stations is included as part of the presentation. Vertical contour products for other types of data are shown in other sections of the NODC portion of the catalog using this format.

This particular presentation displays measured values as a function of the distance along a track for surface values and one or two specified depth sections. In this example only the surface values and the 500-meter cross-section are shown. The bottom depths are shown on the cross-section with arrows at each station. Temperature, salinity or Sigma-t values may be displayed. The accompanying track plot is generated on a Mercator projection and is designed to cover one or more ten-degree areas.

The usual method for generating this type of display is to review the station distribution for the surveys of interest and then select a series of stations that approximate a transect or cross-section. Station numbers need not be in any particular sequence as each station is selected individually. Although not required, it is recommended that all stations for a section be selected from the same survey. Up to 50 stations may be used for each plot; plot size may be increased to avoid over-crowding of stations.

This example uses a series of stations from a survey submitted by Royer of the University of Alaska (RU 289). The survey is identified as File ID 814IMS or NODC Track Number 592.

Figure I-A-4

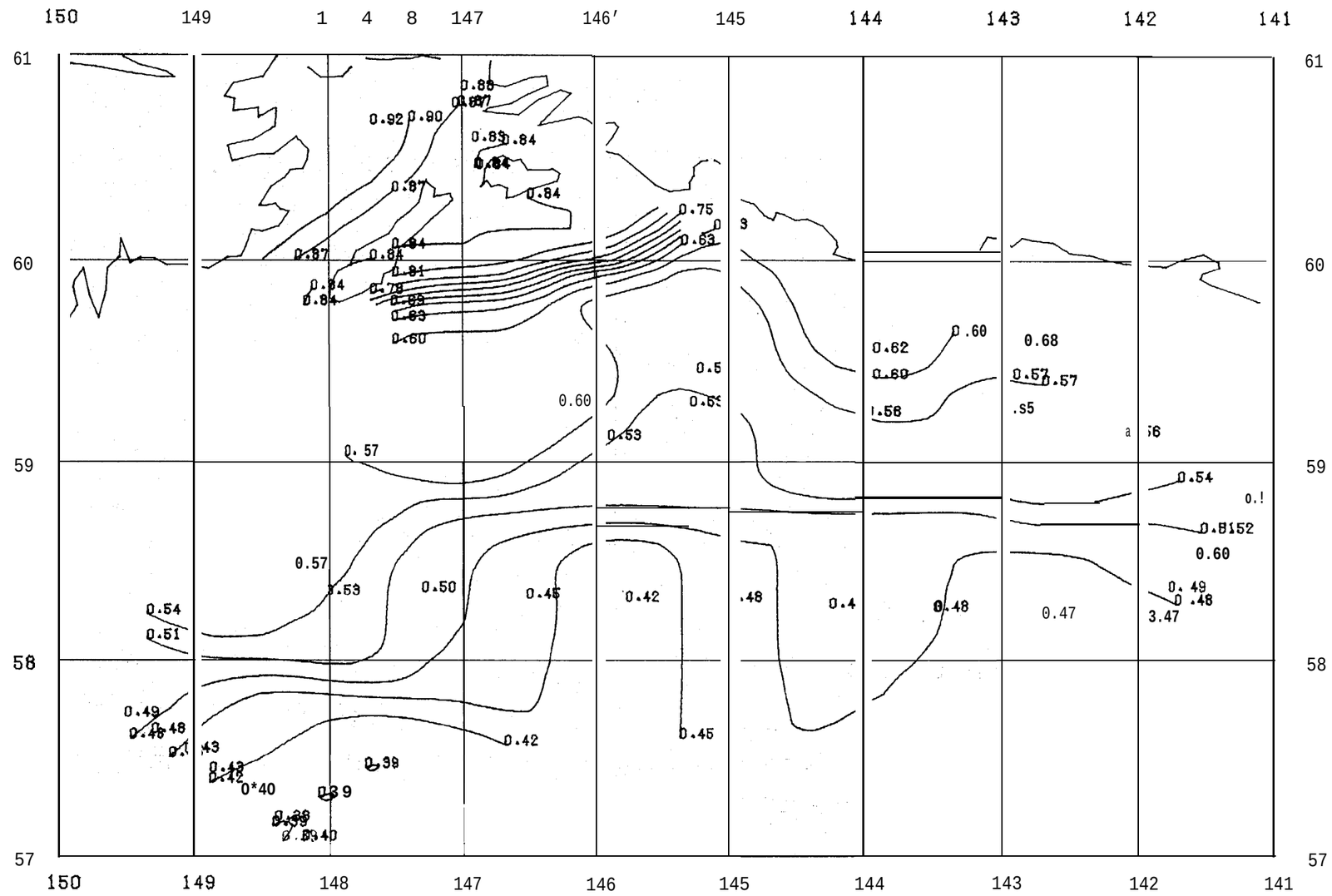
Horizontal Contour Plot

File Type 022 - STD/CTD Data

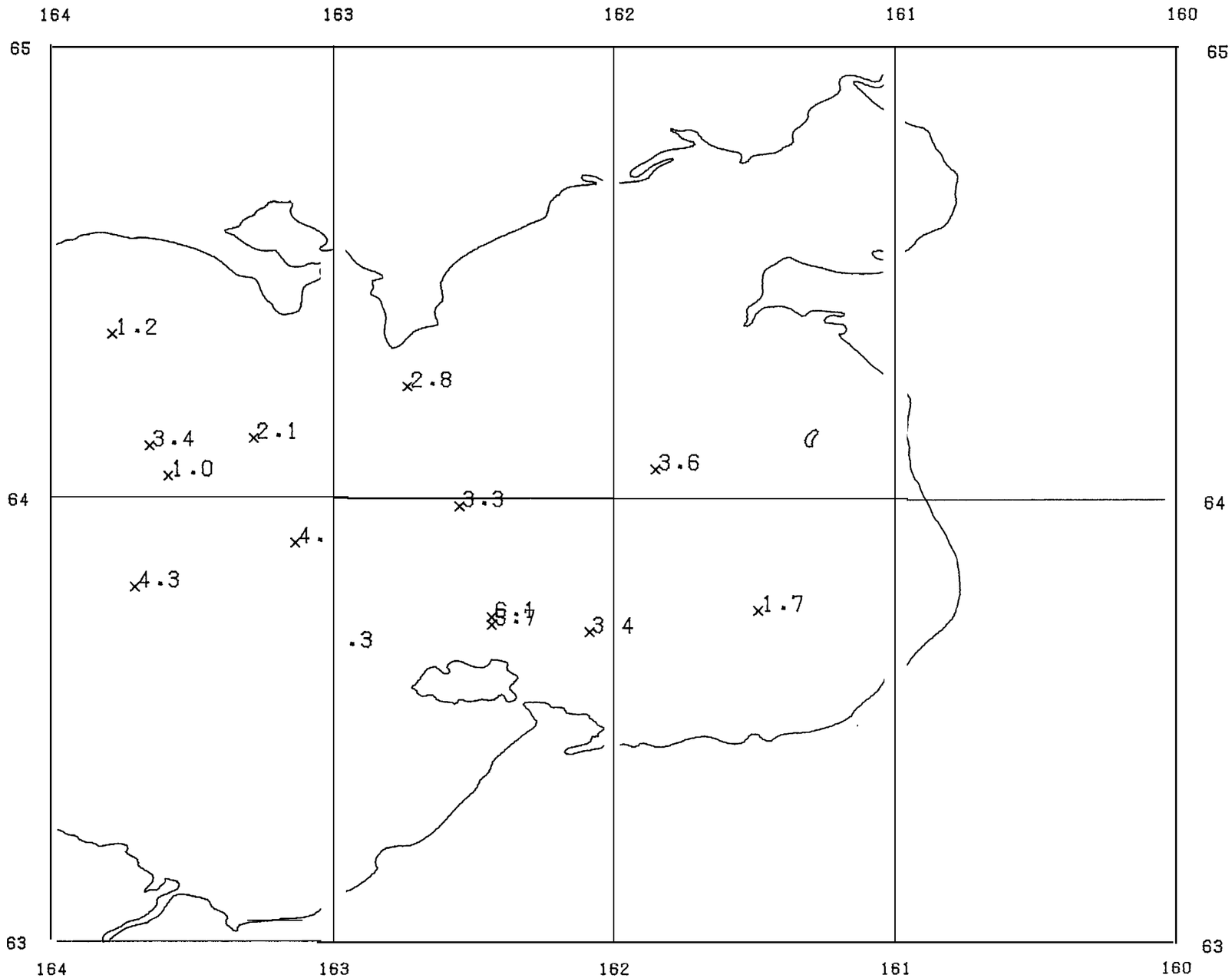
This presentation is a special case of a generalized horizontal contour plot which displays dynamic height anomaly characteristics. Other contour examples are shown in several of the following NODC sections of the catalog.

Dynamic height anomalies are computed from STD/CTD stations using a pre-selected reference level (level of no net motion). For this example, a reference level of 300 meters was selected. Contours therefore are limited to those areas where bottom depths exceed 300 meters. The contour interval (.03) was computed automatically based on the range of data values; pre-selected intervals can be included as part of the contour program. Station locations and individual dynamic height values may be included in the display (as shown in the example) or omitted.

This product uses the World Data Base I land mass file to provide a comparison between this file and the more detailed WDB II shown for most geographic area examples. This example uses data from a survey submitted by Royer of the University of Alaska (RU 289). The survey is identified as File ID 814IMS or NODC Track Number 592.



INTEGRATED DYNAMIC HEIGHT IN GULF OF ALASKA - SEPT - OCT 1975



#POINTS PLOTTED=14 TRACK 121 AUGUST 1974
BOTTOM TEMPERATURES – NORTON SOUND

Figure I-A-5

Bottom Temperature Plot

File Type 022 - STD/CTD Data

This presentation is a plot of near-bottom temperature values for any STD/CTD casts. The presentation is similar to annotated station location plots used for any other type of OCSEAP data. The unique feature of this particular product is that data values representing the deepest measurement of each cast are displayed rather than values at a specific level.

All 'bottom-depth' values must fall within a specified range of the ocean bottom (generally 5 to 10 meters). Stations that do not reach this 'near-bottom' depth or for which bottom depth values are not reported at the station are not plotted. It is recommended that 'bottom-temperature' products not be generated for differences of more than 10 meters between the deepest cast and the ocean bottom, although any range can be employed.

Data can be retrieved for individual tracks, multiple tracks, specified geographic limits, months, seasons, years and for different chart projections.

This particular presentation is applicable only to File Type 022 data. With some modifications, similar presentations can be generated using other file types where bottom depth information have been included in the data submissions and the format is designed for multiple depth measurements at a single station.

This example uses stations from a survey submitted by Schumacher of PMEL (RU 141). The survey is identified as File ID SU77B4 or NODC Track Number 2387.

Figure I-A-6

Horizontal Array Summary

File Type 022 - STD/CTD Data

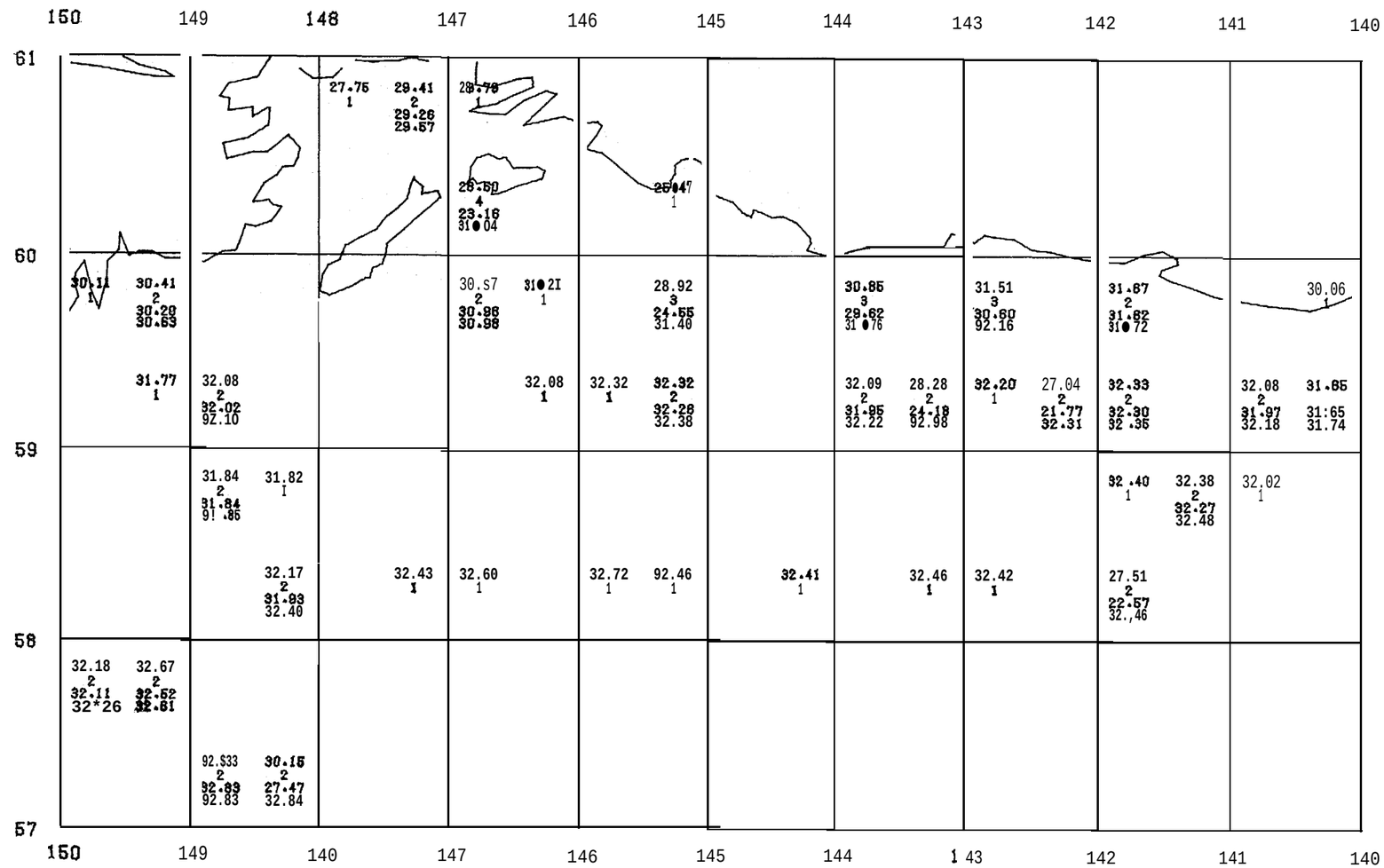
This presentation is one of the NODC ocean station data products that have been adapted to File Type 022 data for OCSEAP and other project requests. The values shown in each square-are the mean values, number of observations, and minimum and maximum values in that order. Each square may summarize data for ½ degree, 1, 2, 5, or 10 degree areas.

Options include presentations by months, seasons and years at any selected depth. Summaries can be presented for temperature, salinity or Sigma-t. Any reasonable chart size or geographic limits may be specified. Since the example includes only data from one cruise, the statistics presented are quite limited within each one-degree area.

This summary currently applies only to File Type 022 data in addition to the file for ocean station data for which it was originally designed. This display, with modifications to allow for different parameter values and precision, may be applicable to other types of data such as chemical or biological data types.

This example uses all stations in a defined geographic area for a survey submitted by Royer Of the University of Alaska (RU 289). The survey is identified as File ID 814IMS or NODC Track Number 592.

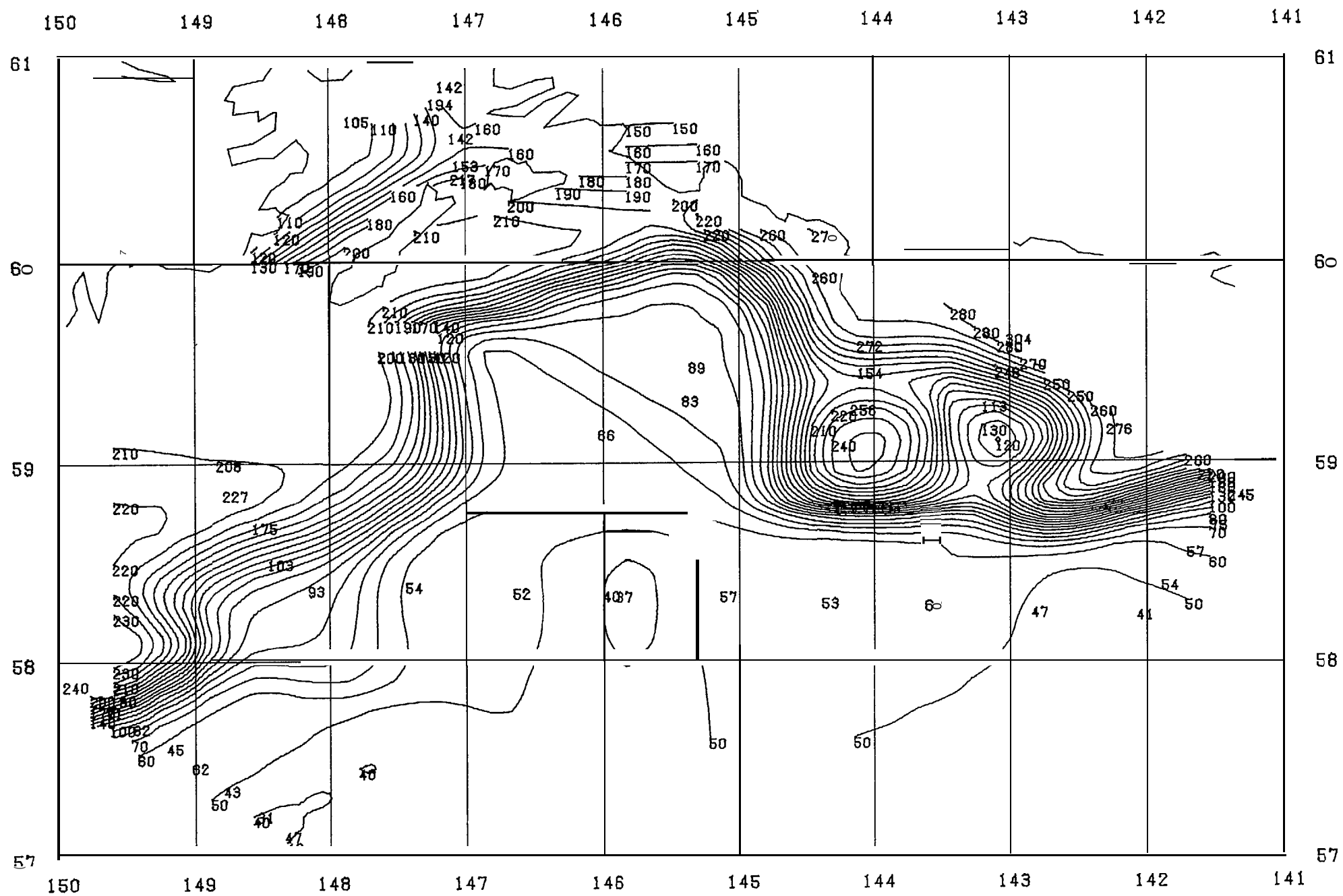
QUARTER DEGREE HORIZONTAL ARRAY FOR SALINITY



STATISTICS PLOTTED : AVG. SALINITY, NO. OF STATIONS, MIN. SALINITY, MAX. SALINITY

SALINITY
0 METER DEPTH

MONTHS OCT TO NOV
73 STATIONS WERE PLOTTED



CONTOUR OF DEPTH OF 5 DEGREE SOTHERM GULF OF ALASKA OCT-NOV 975

Figure I-A-7

Depth of Isotherm Contours

File Type 022 - STD/CTD Data

This presentation is a slight variation of the general NODC plot program for horizontal contouring. Instead of contours defining high or low features at a specified depth, contours in this figure indicate the variation in depth at which a specific parameter value occurs (the 5° isotherm in this example).

This product is particularly useful for studying the vertical variation of temperature or salinity over an area or for mapping a depth where certain species are known to be associated.

Although this display is designed for File Type 022 data and the NODC ocean station file, any file type with multiple depth entries at a series of stations may be applicable where measurements are distributed adequately within the area of interest and interpolation of depths are valid.

This example uses a portion of a survey submitted by Royer of the University of Alaska (RU 289). This survey is identified as File ID 814-IMS or NODC Track Number 592.

Figure I-A-8

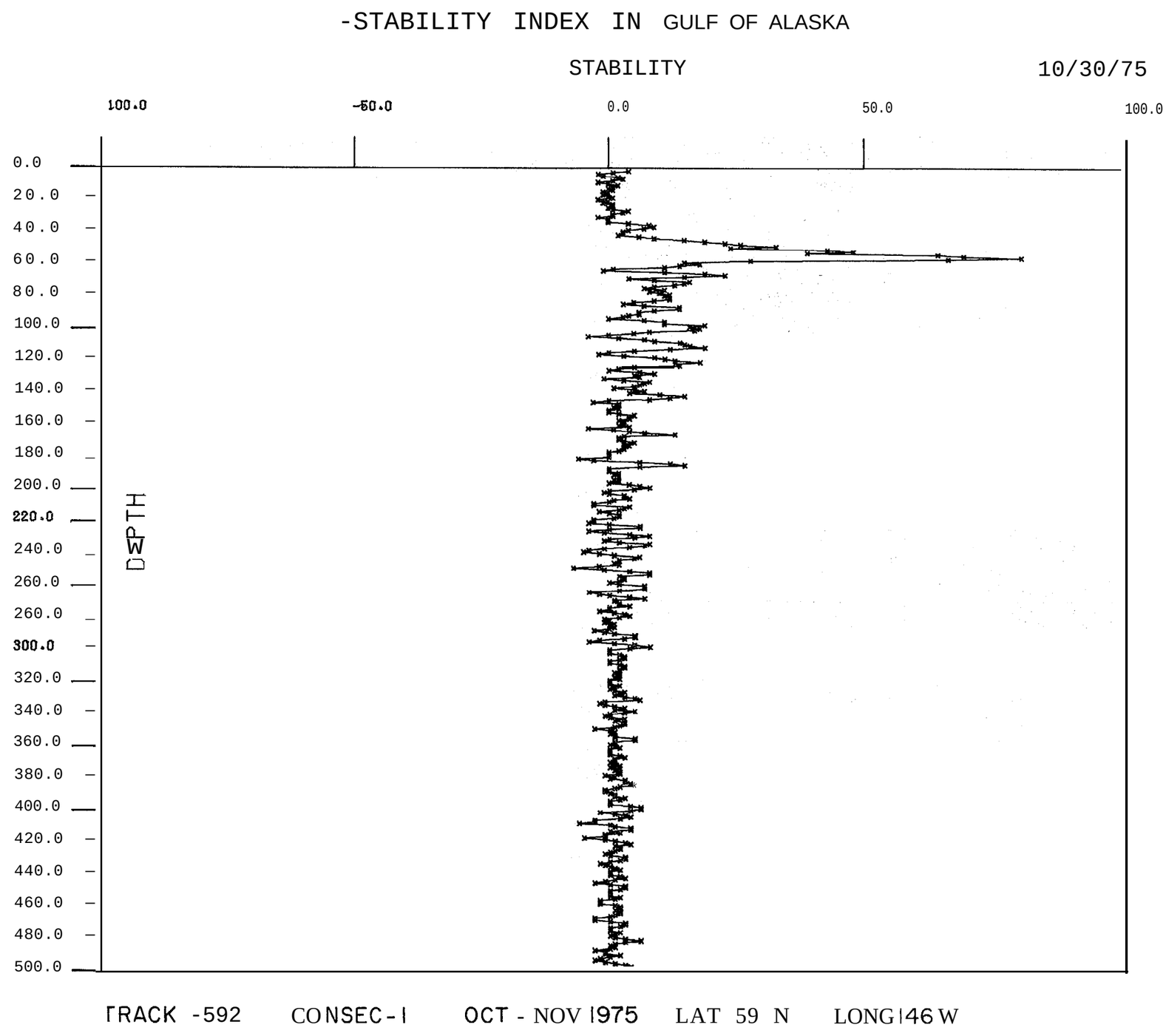
Stability Index Profile

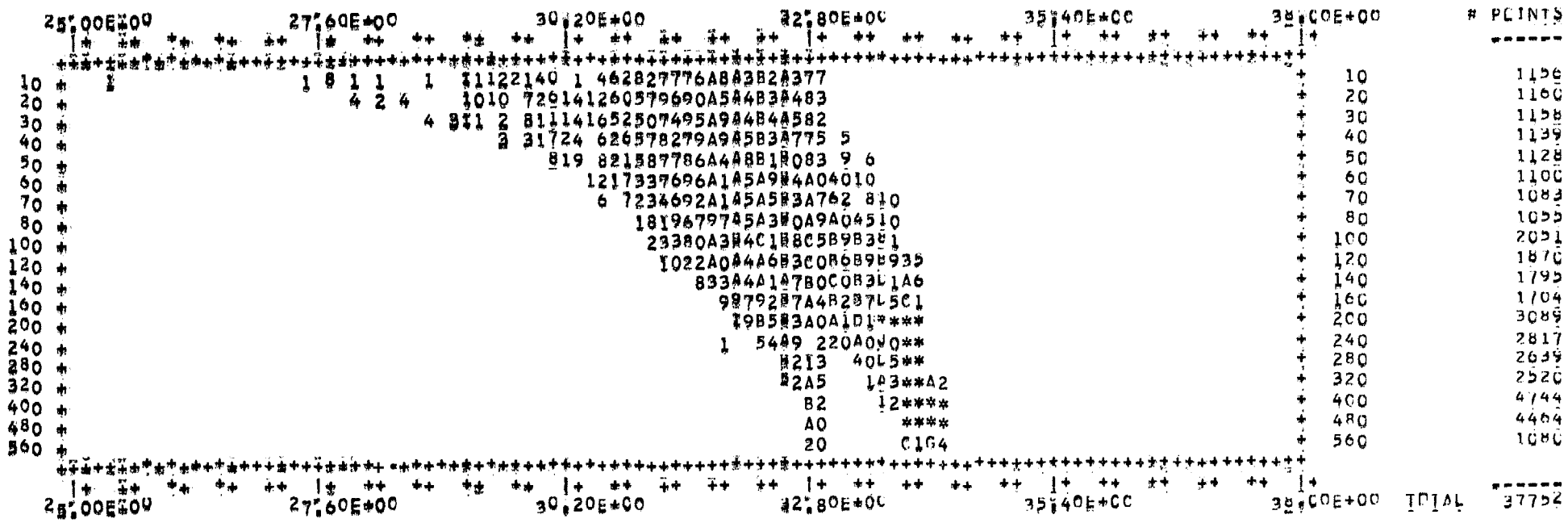
File Type 022 - STD/CTD Data

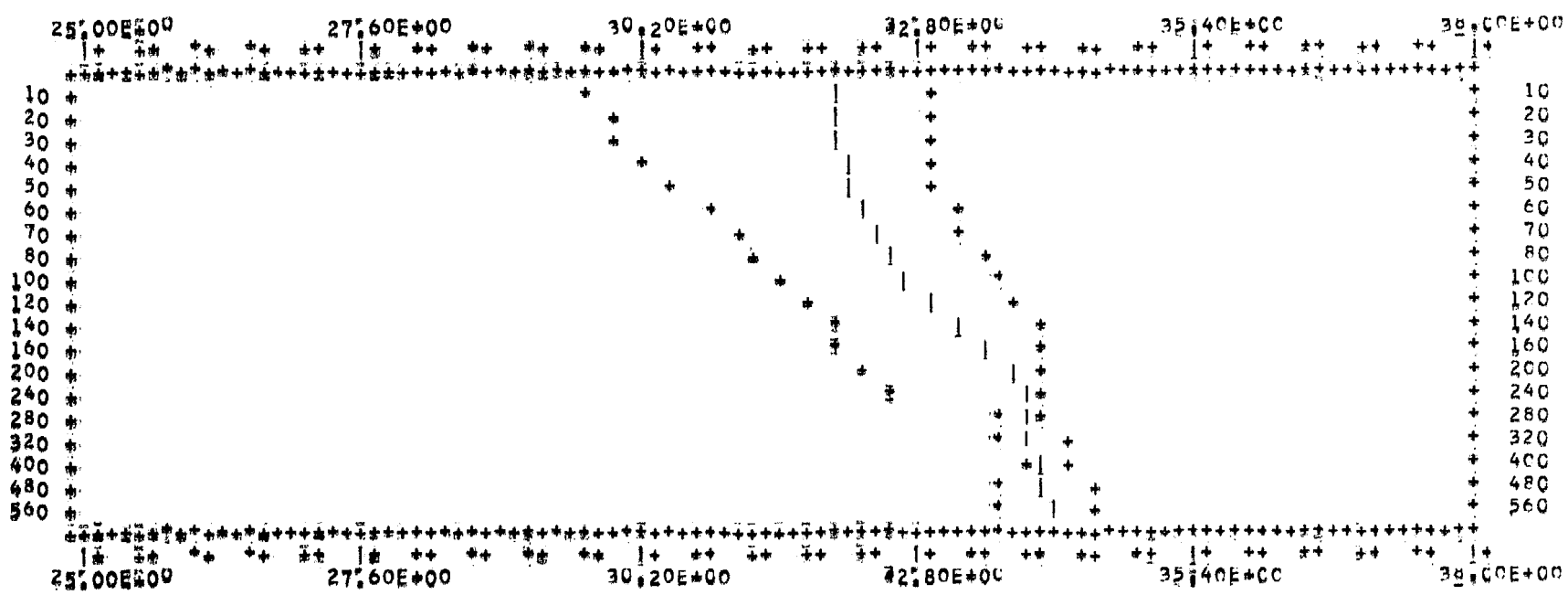
This presentation uses a standard parameter vs parameter display to illustrate water column stability. The index used in the example (ranging from -100 to +100) was developed by NODC personnel and is derived by computing a 5-point least squares estimate for each density of Sigma-t value. Based on that computation, the rate of change of density with depth is computed and multiplied by 1000. A least-square fit is used to moderate the effect of a single anomalous point. Negative values are an indication of instabilities.

This approach may be used with either File Type 022 data or the NODC ocean station file. In addition to single station or segments of a station, stability displays may be generated on average values based on groups of stations, entire surveys, or data within a geographic area or specified time period.

This example uses a single station (the upper 500 meters) from a survey submitted by Royer of the University of Alaska (RU 289). This survey is identified as File ID 814IMS or NODC Track Number 592.







SALINITY SUMMARY FOR GULF OF ALASKA
MONTHS OCT - NOV 1975
SUMMARY OF 115 RECORDS

Figure I-A-9

Midline Display

File Type 022 - STD/CTD Data

This presentation displays one of the File Type 022 parameters (temperature, salinity or Sigma-t) as a frequency distribution vs depth. This product is generated as a computer print-out rather than from a plotter. The number of observed points in each parameter / depth 'cell' is printed as a two-character value as shown in the upper figure. Cells include both depth intervals and parameter ranges, which can be modified for each request.

In cells with more than 99 observations, the first character indicates hundreds of values (A = 100, B = 200, ...J = 900, ** = 1000 or more) The second character indicates the integer range. For example, 29 = 29, A = 110 to 119, G3 = 730 to 739 observations, etc.

Both parameter and depth scales may be changed for this product. Depth scales may be for selected intervals or may be quasi-logarithmic (as shown in the example with 10 meter cells up to 80 meters, 20 meter cells to 160 meters, 40 meter cells to 320 meters and 80 meter cells to 560 meters). The 'logarithmic' presentation may be most relevant with Nansen cast data or stations where the number of observations decrease with depth in contrast to STD/CTD casts which generally have values reported for each meter regardless of depth.

A midline plot and envelope of all data also may be presented as shown in the lower figure. The envelope indicates the minimum and maximum values for each cell and the midline represents the average value.

This product is designed for File Type 022 data and the NODC ocean station files. Other file types with depth dependent parameters may be presented in this form but would require some additional programming and manipulation of the data.

Data may be selected by geographic area, month, season, specific years, cruises, stations, etc. The example summarizes an entire survey submitted by Royer of the University of Alaska (RU 289). This survey is identified as File ID 814IMS or NODC Track Number 592. As this cruise extended over a large area of the Gulf of Alaska, the range of salinity values is quite large with several salinity regimes evident at subsurface levels.

F gure I-A-10

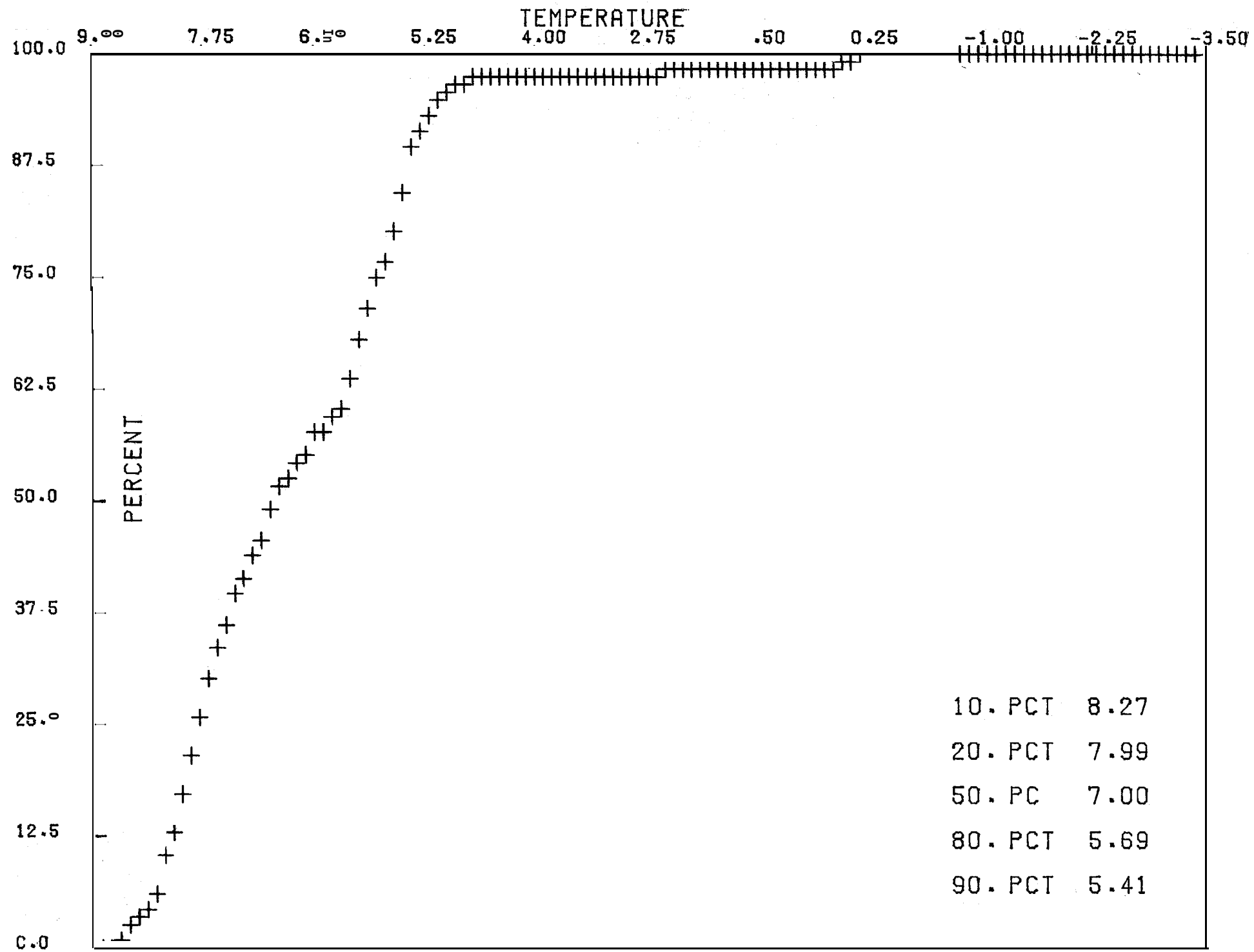
Exceedence Diagram

File Type 022 - STD/CTD Data

This presentation summarizes the percent of any File Type 022 parameter (temperature, salinity or Sigma-t) that exceeds a specific value. Both horizontal and vertical parameter ranges and increments may be pre-set or computed automatically. Points along the curve are plotted for specified intervals such as 0.5°, 1°, etc.

This product may display data values for a specific survey or surveys, month, season, geographic area, selected depth or depth interval. This product was designed for the NODC ocean station file but may be adapted to other file types where the percentage of time that a particular parameter exceeds specific va ues is relevant.

This example uses all data from a survey submitted by Royer of the University of Alaska (RU 289). This survey is identified as File ID 814IMS or NODC Track Number 592.



SURFACE CUMULATIVE FREQUENCY DISTRIBUTION N GULF OF ALASKA
TRACK-592 OCT-NOV 975

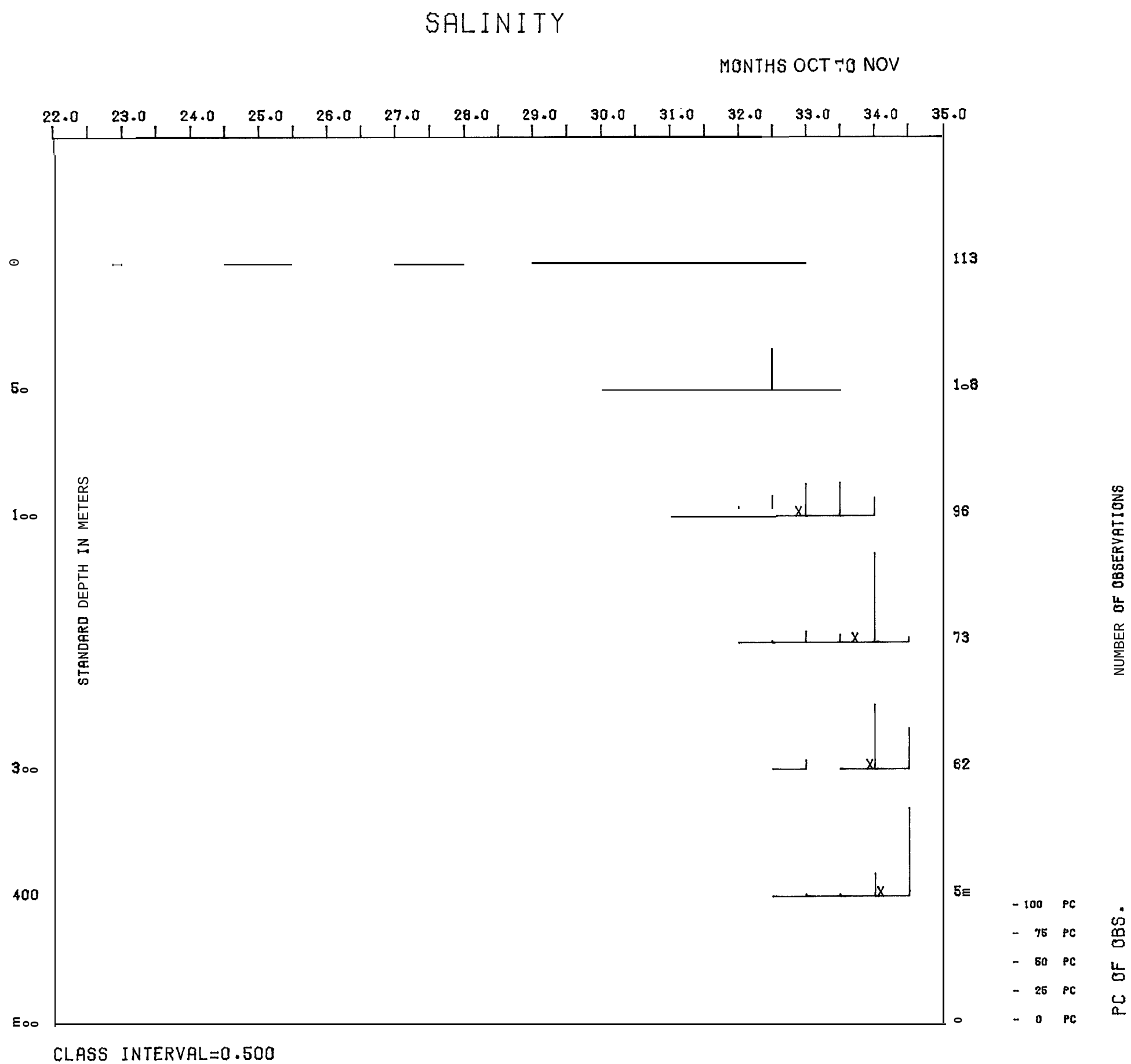


Figure I-A-11

Multiple Depth Histogram

File Type 022 - STD/CTD Data

This presentation is another of the NODC ocean station data products that have been adapted to File Type 022 data for OCSEAP. Histograms may be generated for any reasonable number of depths, geographic areas, and individual months or seasons for one or more years. This figure is particularly useful for summarizing a large number of observations made over long periods of time.

The multiple depth histograms are scaled by percentage to allow for a larger number of depth intervals to be plotted without overlapping or compressing individual graphs too much. Since this product was developed for archival ocean station data, a supplementary histogram also is available to indicate the distribution of data by years.

The example indicates the distribution of salinity classes for selected depth intervals. The average value at each depth is indicated by the 'X'. Histograms of temperature and Sigma-t also can be generated.

This product is available only for File Type 022 data in addition to the ocean station file. Extensive modifications would be necessary to make this presentation applicable to other file types.

This example uses all data for a survey submitted by Royer of the University of Alaska (RU 289). The survey is identified as File ID 814-IMS or NODC Track Number 592.

SECTION I-B - OCEAN DYNAMICS (NODC)

THIS SECTION INDICATES A VARIETY OF NODC METHODS FOR DISPLAYING WATER, WIND AND ICE MOVEMENT. FOR OCSEAP FILE TYPES 015, 017 AND 101 (CURRENT METERS, PRESSURE AND WIND GAUGES) ARE USED TO DISPLAY THESE PRODUCTS. REPORTING DATA INTERVALS FOR THESE FILE TYPES VARY WITH DATA TYPE AND INVESTIGATOR. CURRENT METER DATA GENERALLY ARE REPORTED FOR EVERY 20 MINUTES WITH SOME METER HISTORIES EXTENDING OVER 6 MONTHS OR MORE. PRESSURE DATA GENERALLY ARE REPORTED FOR 15 MINUTE INTERVALS AND ALSO MAY EXTEND OVER SEVERAL MONTHS OR MORE. WIND DATA MAY BE FOR SHORTER PERIODS OF TIME (A MONTH OR LESS) AND GENERALLY ARE REPORTED AT HOURLY INTERVALS

SOME EXAMPLES CONCERN INDIVIDUAL DATA POINT PRESENTATIONS WHILE OTHERS PRESENT SUMMARY INFORMATION. THE PRODUCTS INCLUDED IN THIS SECTION ARE AS FOLLOWS:

FIGURE I-B-1 - TIME SERIES COMPONENTS AND RESULTANTS
I-B-2 - TIME SERIES - RESULTANT SPEED OR DIRECTION
I-B-3 - ROTARY DISPLAY
I-B-4 - TRANSPORT ROSE
I-B-5 - PROGRESSIVE VECTOR DIAGRAM
I-B-6 - PRESSURE HISTOGRAM
I-B-7 - SUCCESSIVE VECTOR DISPLAY
I-B-8 - WATER OR ICE MOVEMENT SUMMARY

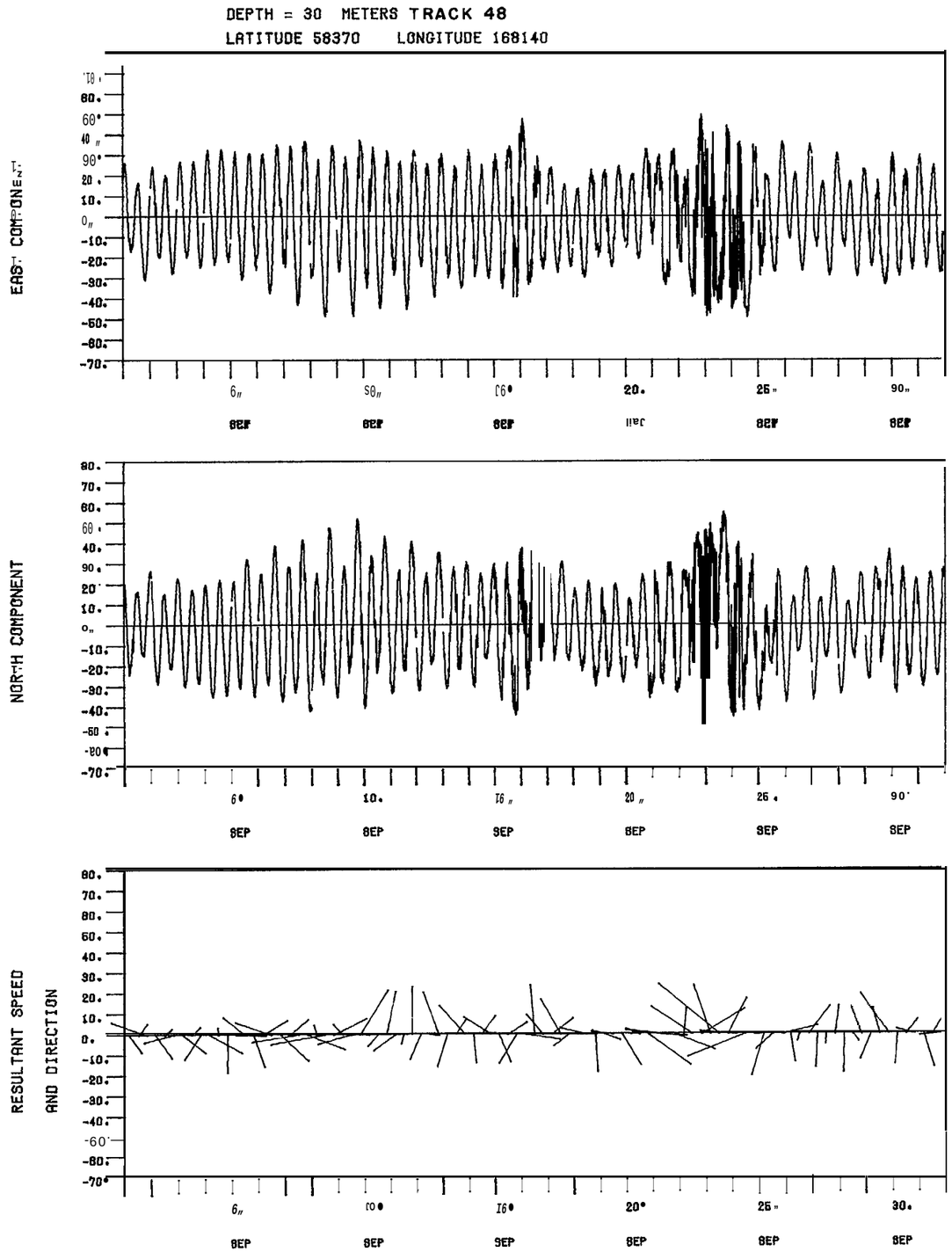


Figure I-B-1

Time Series - Components and Resultants

File Type 015 - Current Meters

This presentation consists of three figures-north-south and east-west components and a resultant speed and direction plot. For the example, every reported value is plotted for a specified time period (the month of September). Data may be plotted for other time periods (day, week, total meter history, etc.). Specified meter depths or data within a depth interval also may be selected.

Vectors for the resultant plots generally are averaged over some pre-selected number of points or time period rather than plotting resultants for each point which may result in overplotting of some vectors. In the example, resultants are determined for 8-hour intervals where data are reported every 20 minutes.

Scales may vary for both the X and Y axes within the physical limits of the plotter. Lengths of plots may be extended to six feet or more where meter histories of several months are required; the general presentation is a monthly plot as shown in the example for September 1975. This presentation also is applicable to File Type 101 for wind observations which are reported for fixed near-surface stations.

This example uses data submitted by Coachman of the University of Washington and Schumacher of PMEL (RU 141). The data are identified as File ID BERING or NODC Track Number 49.

Figure -B-2

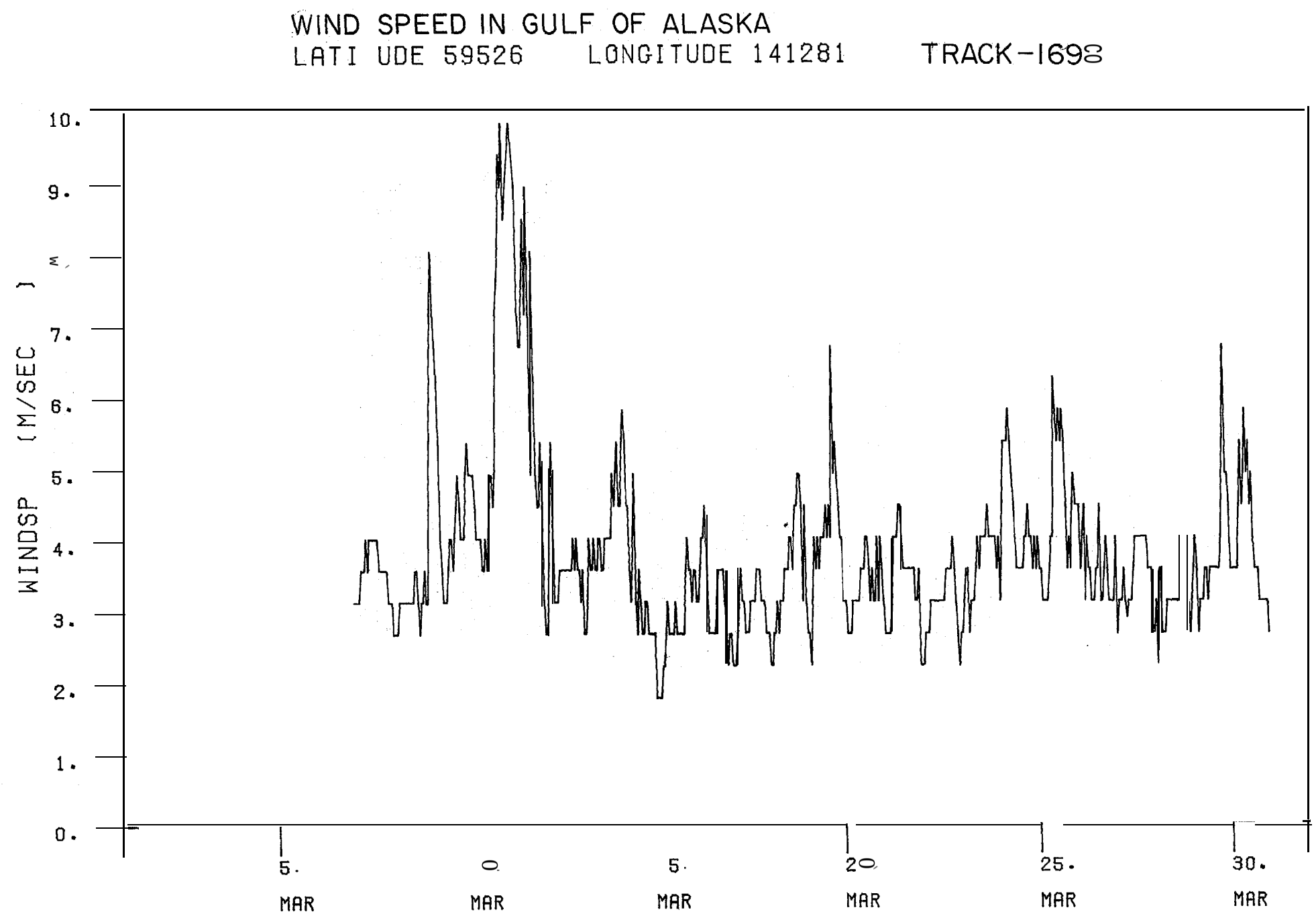
T me Series - Resu tant Speed or Direction

File Type 101 - Wind Data

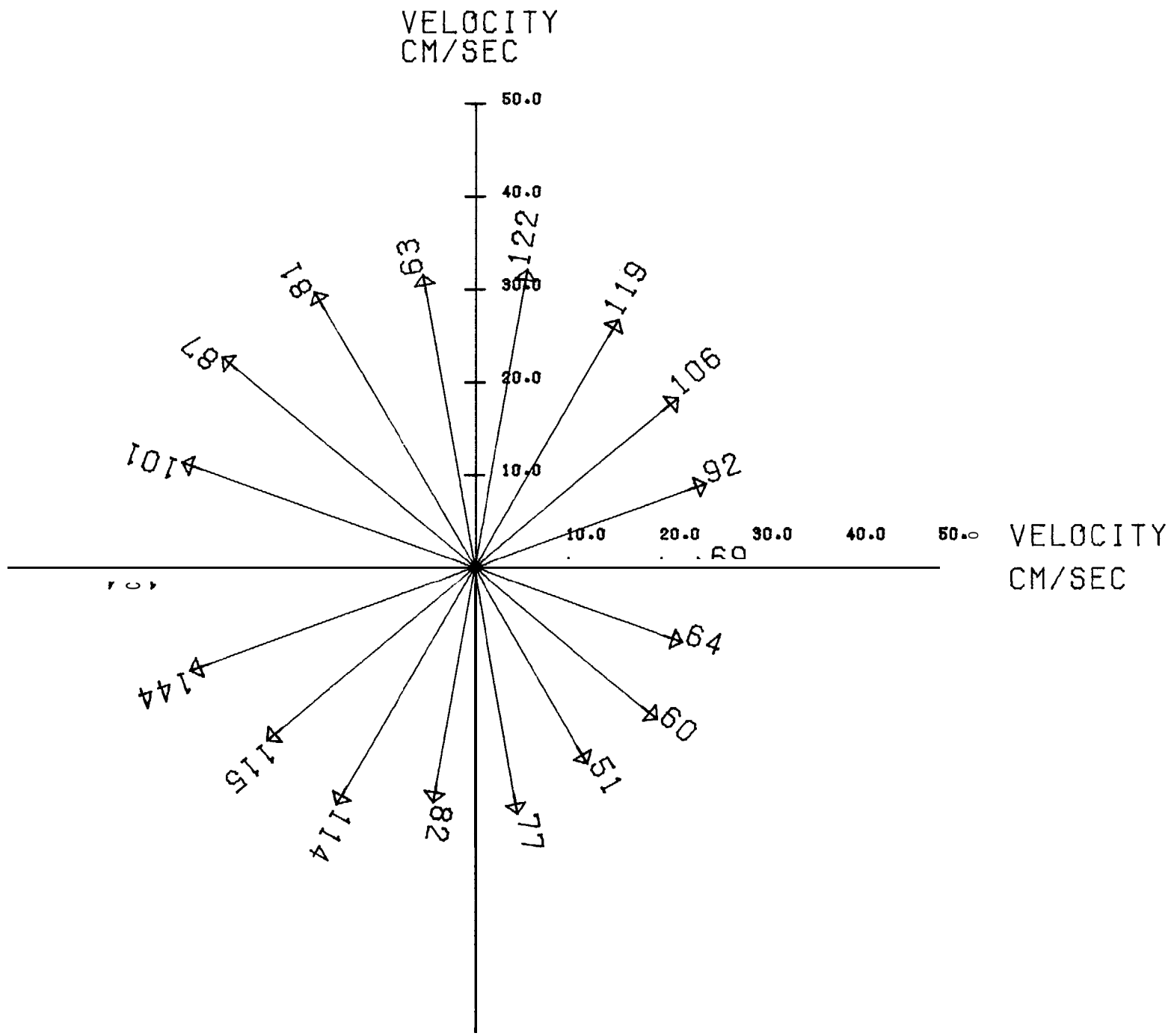
This presentation consists of a single plot displaying either speed or direction for each observations of a time series record. All data points are plotted and are derived from reported component values. This presentation also is applicable to File Type 015-Current Meter Data.

The scale for the X and Y axes may be varied and the plot extended for any time period, although the general presentations are monthly records. Any height (wind measurements) or depth (current measurements) may be selected where these data have been reported and submitted to the Data Center.

This example uses data for March 1977 submitted by Reynolds from PMEL (RU 367). The data set is identified as File ID RMSM03 or NODC Track Number 1697.



SUMMARIZED CURRENT VECTORS



9/7 TO 9/30 MAXIMUM CURRENT OBSERVED 71. AT 332°

TOTAL OBSERVATIONS = 1671 LAT 58 37 LONG 168 14 METER DEPTH=30

Figure 5-3

Rotary Display

File Type 5 - Current Meters

This presentation summarizes time series data for different current directions for any number of intervals as long as the number is evenly divisible into 360. The number of observations within each interval are indicated at the end of each arrow and the lengths of the arrows are proportional to the mean speed for that direction. Arrows may also be plotted proportionally to the number of observations in each direction with the mean speed plotted at the end of arrow.

The total observations, the time period analyzed, and the maximum current speed value and its direction, are noted at the bottom of the figure.

The speed scale can be adjusted for individual displays. This presentation also can be used to display wind data reported in File Type 101. The example displays the results of a current meter deployed at a depth of 30 meters for September 1975 at 20° direction intervals.

This example uses data submitted by Coachman of the University of Washington and Schumacher of PMEL (RU 141). The data set is identified as File ID BERING or NODC Track Number 48.

Figure I-B-4

Transport Rose

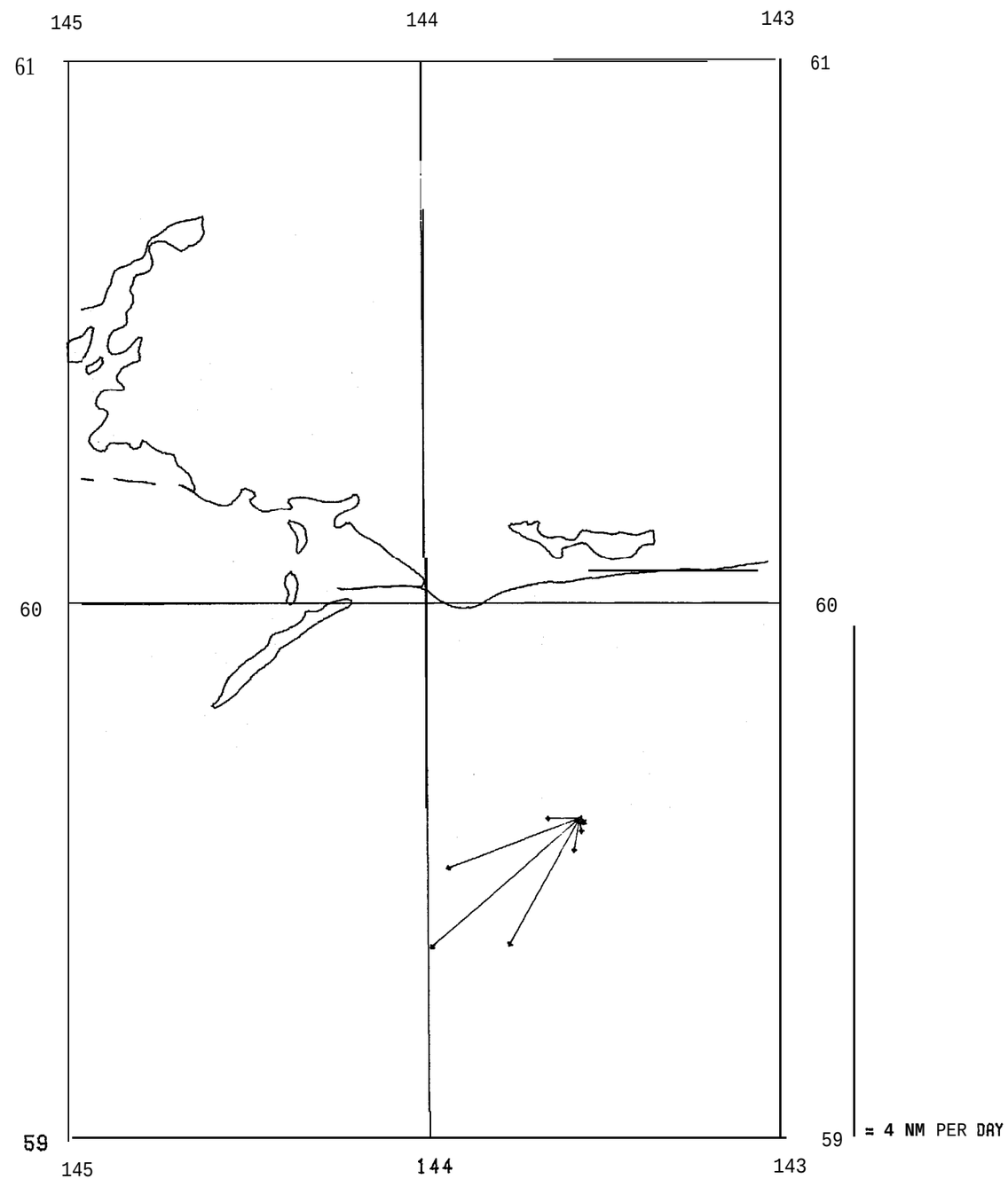
File Type 015 - Current Meters

This presentation summarizes transport in direction interval classes (the example includes 18 intervals or 0°- 20′, 21°-400, etc.). The presentation generally is for single meters for specified time periods, such as month or season. The roses are centered at the geographic position of the meter. Vector lengths are proportional to persistence multiplied by the current speed for each class. The transport scale in nautical miles per day, is included at the right side of each figure.

Any number of current direction classes can be generated as long as the number is evenly divisible into 360. Although generally presented for single meters and specified time periods, roses may represent meter groupings for a depth interval or all measurements within specified areas, months or seasons. Multiple roses may be presented on the same geographic area plot. Vector lengths maybemodified for cases where crowding ofmeters occurs or where weak currents occur and individual roses are extremely small. Similar presentations may be generated for wind data as reported in File Type 101.

This presentation indicates transport derived from a single meter at a depth of 30 meters for April 1976. The example uses data submitted by Schumacher of PMEL (RU 138). The data set is identified as File ID 62-G or NODC Track Number 145.

MONTH APR
DEPTH 30 M CURRENT ROSES IN NEGOA



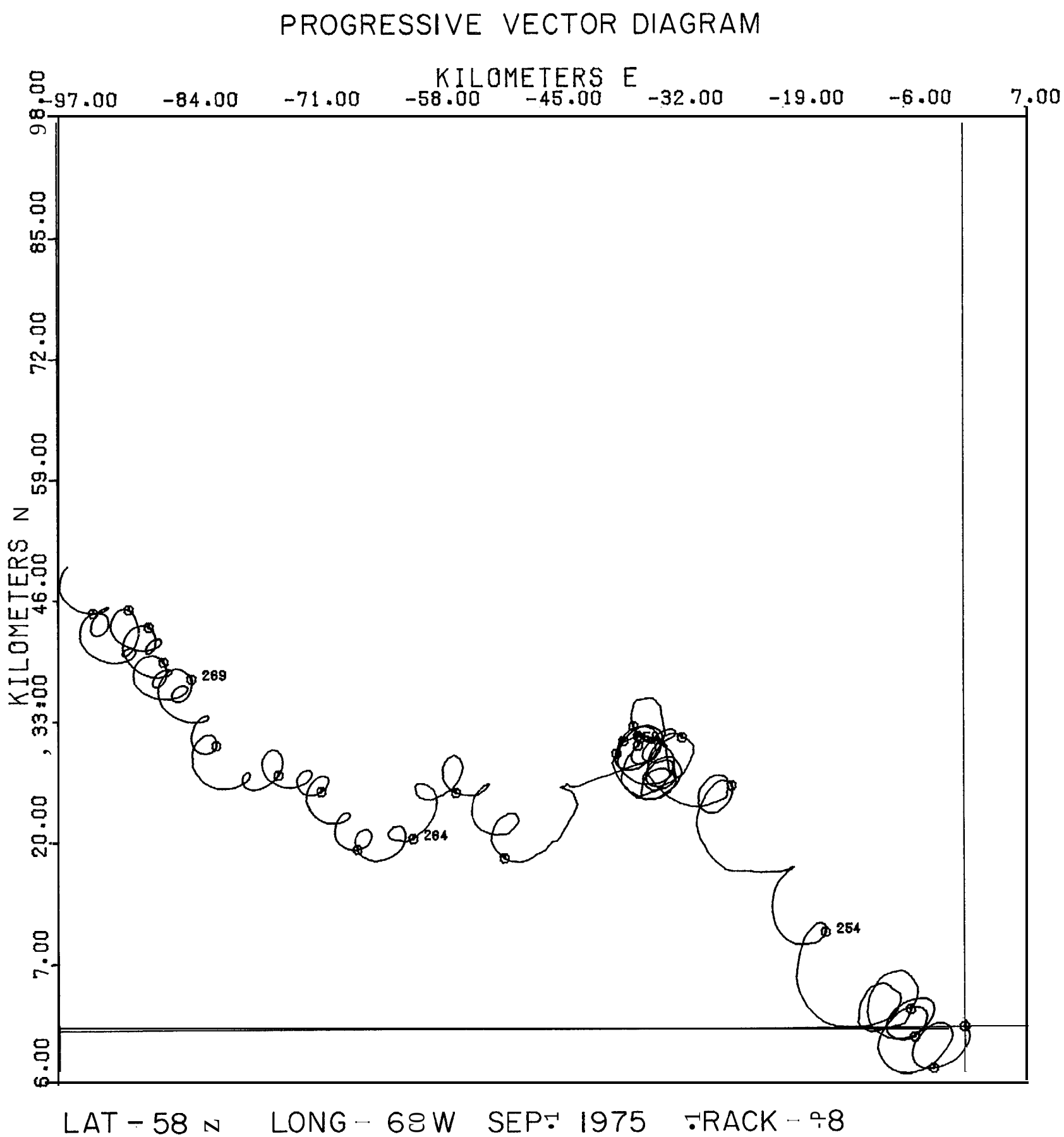


Figure I-B-5

Progressive Vector Diagram

File Type o 5 – Current Meters

This presentation displays any number of time series measurements for a single meter location and depth with resultant speed and directions as connecting vectors. Scales for the X and Y axes may be pre-selected or computed automatically; vectors are scaled accordingly. Plots may be generated for any time period (day, month, meter history, etc.).

The origin axes are plotted to help display the displacement of the origin over time. In the example, the series of circular patterns indicates the presence of tidal currents and the displacement from the initial to the last date indicates a net current movement to the west-northwest. Beginning date and intermed ate dates at five - day increments (Julian days) are noted in the example; other date options are available. The hemisphere convention used for this product is North and East. In the example, therefore, West is expressed as negative East or minus (-).

This product also is applicable for displaying Wind Data-File Type 101. This example uses data submitted by Coachman of the University of Washington and Schumacher of PMEL (RU 141). The data set is identified as File ID BERING or NODC Track Number 48.

Figure -B-6

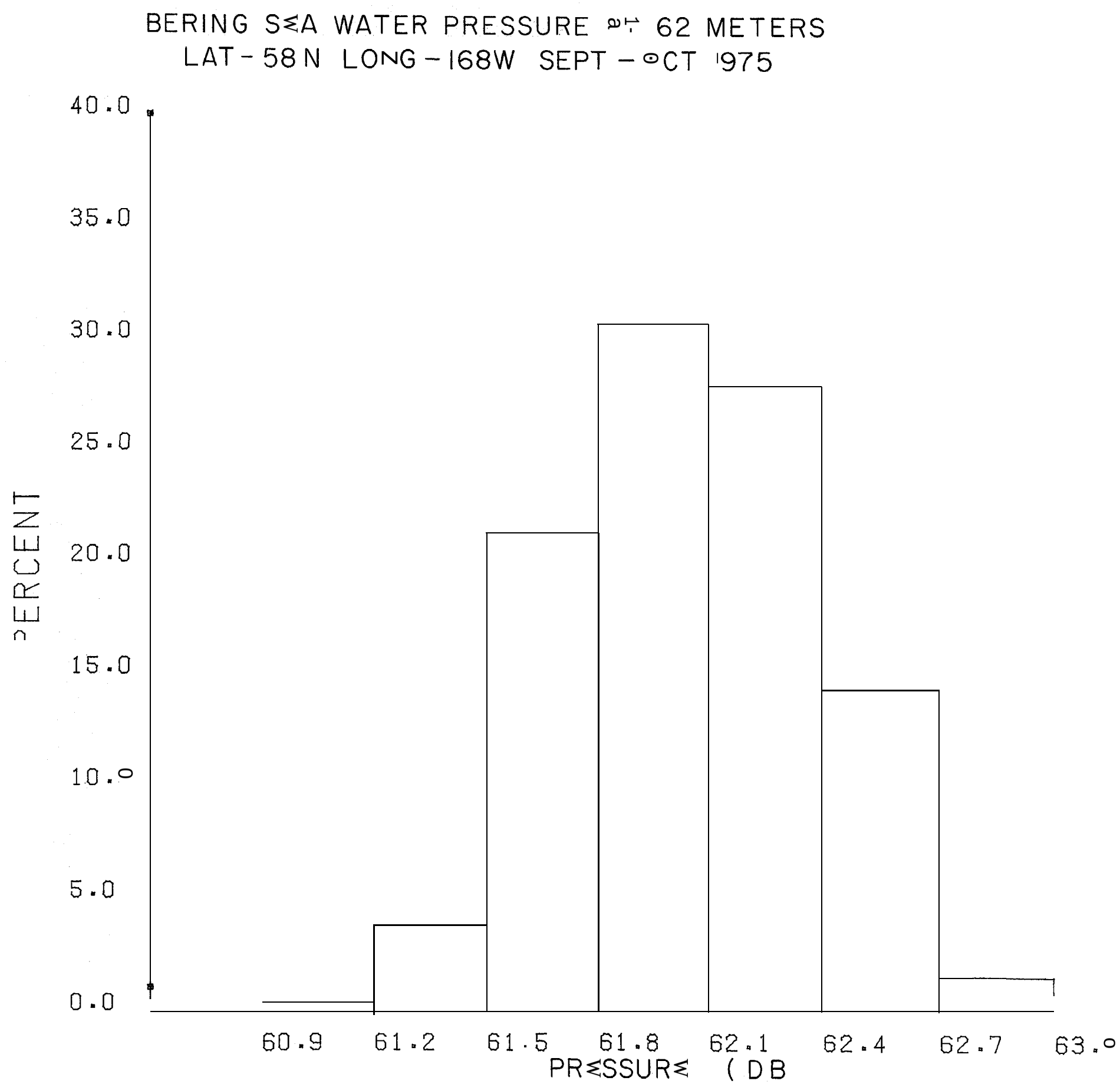
Pressure Histogram

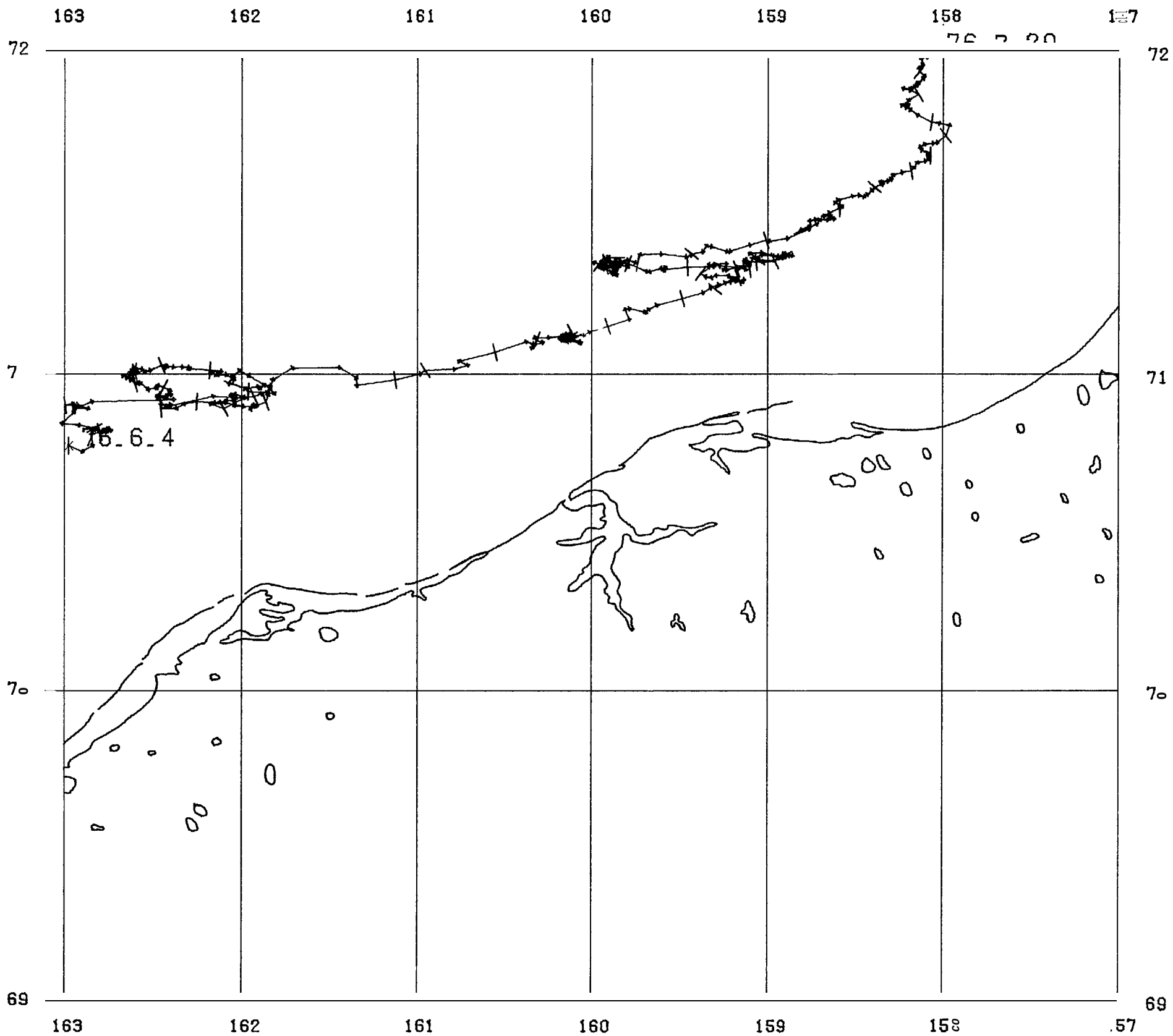
File Type 017 - Pressure Gauge

This presentation displays pressure data collected in the Bering Sea in the form of a histogram. Class intervals and the expected range of the data may be provided by the requestor. The number of intervals may vary and is essentially unlimited. The histogram displays the proportion of the observations that fall into each interval.

While the example includes all data from a single pressure gauge, histograms can be generated for multiple data sets or gauges or specified time periods. Histograms also may be generated for other time series file types-current meter and wind data (File Types 015 and 101, respectively). They also may be generated for station or transect-oriented files where an independent parameter such as depth or species is identified.

This example uses data collected by Coachman of the University of Washington and Schumacher of PMEL (RU 141). The data are identified as File ID BERING or NODC Track Number 49.





LAGRANGIAN ICE DRIFT TRACKS BUOY ID 1147 DROGUE DEPTH 16

Figure I-B-7

Success ve Vector Display

Fi e Type 056 - Lagrangian Current Measurements

This presentation displays water movement (or ice) as reported by a drifting buoy or a buoy affixed to ice or other drifting objects. For OCSEAP files, this movement is determined by signals transmitted between the buoy and a passing satellite at intervals as frequent as 90 minutes. Ship or aircraft sightings may also be reported in this file type. The displacement between successive reported positions is indicated by individual vectors with changes in days indicated where perpendicular lines cross some of the vectors. The begin and end dates also are plotted and a vector scale provided.

Data may be plotted for one or more buoys on each figure and for any combination of months or years as well as geographic areas or entire buoy histories. With program modification, data may be filtered to indicate daily displacement or other specified time intervals where the reporting frequency permits this interpolation. Any map size or projection within the physical limits of the plotter may be used.

In the example, the movement generally is west to east over the period June 4, 1976 to July 29, 1976, the date at which the buoy leaves the specified geographic area. The depth of the drogue attached to the buoy is 16 meters as noted in the legend.

This product is applicable only to File Type 056 data, but may be used for other than satellite sightings of drifting buoys. This example displays a portion of a data set submitted by the Polar Science Center of the University of Washington (RU 98). The data set is identified as File ID 761102 or NODC Track Number 1147.

Figure I-B-8

Water or Ice Movement Summary

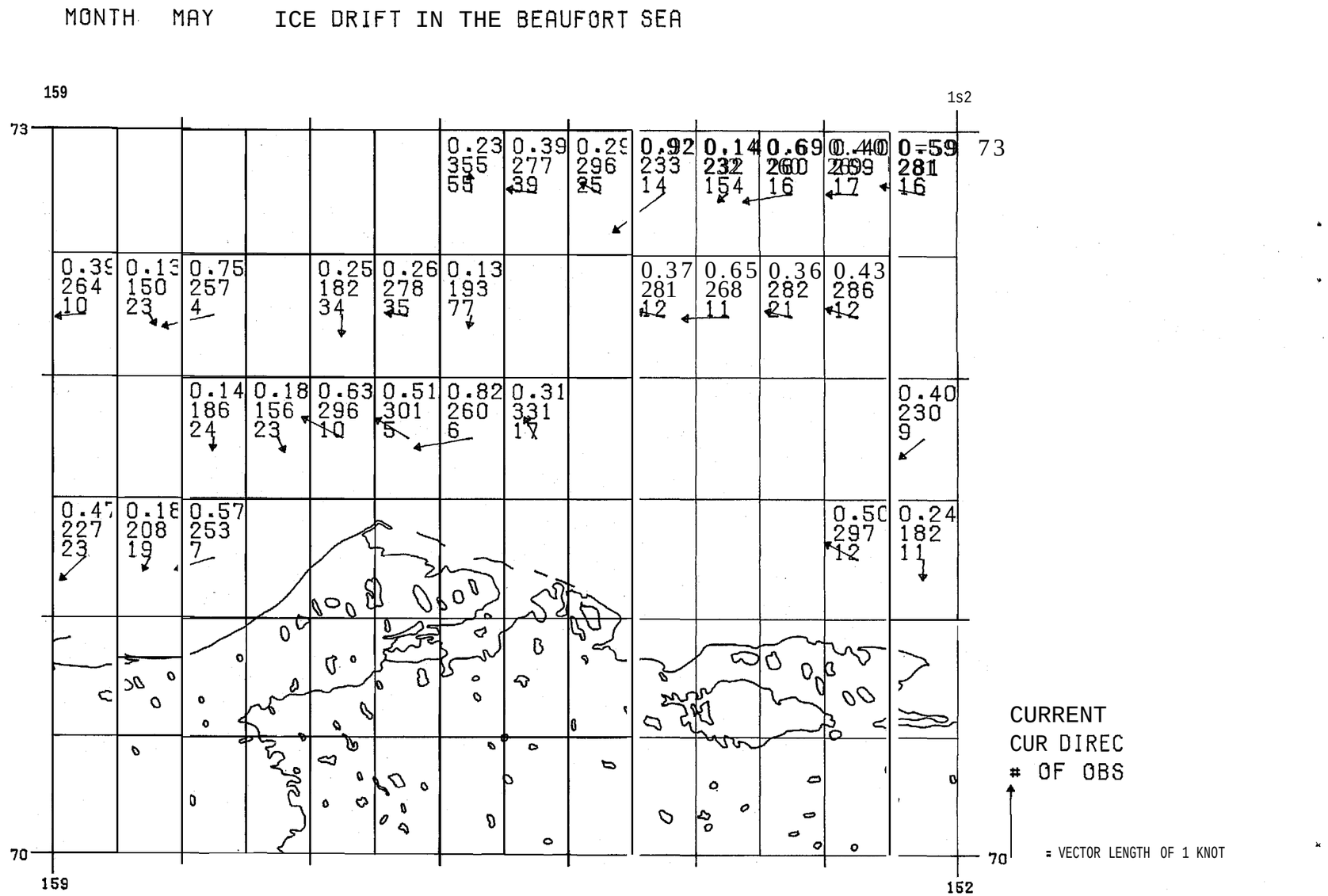
File Type 056 - Lagrangian Current Measurements

This presentation summarizes the movement of-any number of buoys passing through specific areas, either as freely drifting buoys or affixed to ice or other drifting objects. As discussed in Figure I-B-7, the displacement is based on signals transmitted between the buoy and a passing satellite for OCSEAP data; displacement also can. be interpreted from periodic ship or aircraft sightings.

For this product, the mid-point location of the buoy is computed between successive reportings and the direction of movement computed between the two positions. The displacement is located at the mid-point position for computation purposes. All direction and speed values are then grouped within each specified area and the mean speed and resultant direction determined and plotted along with the number, of observations in each area. The vector for each area is plotted to a pre-selected scale such as that shown in the example.

This presentation may represent asummary of one or more buoys over any time period or geographic area or for specified drogue depth or intervals. The size of each summary area also is optional. The example displays ½ degree areas for all buoys reported for the month of May for 1976 and 1977 data combined.

This product inapplicable only to File Type 056 and the NODC ship drift or surface current file. This example displays data from several buoys, identified as data sets, submitted by the Polar Science Center of the University of Washington (RU 98),



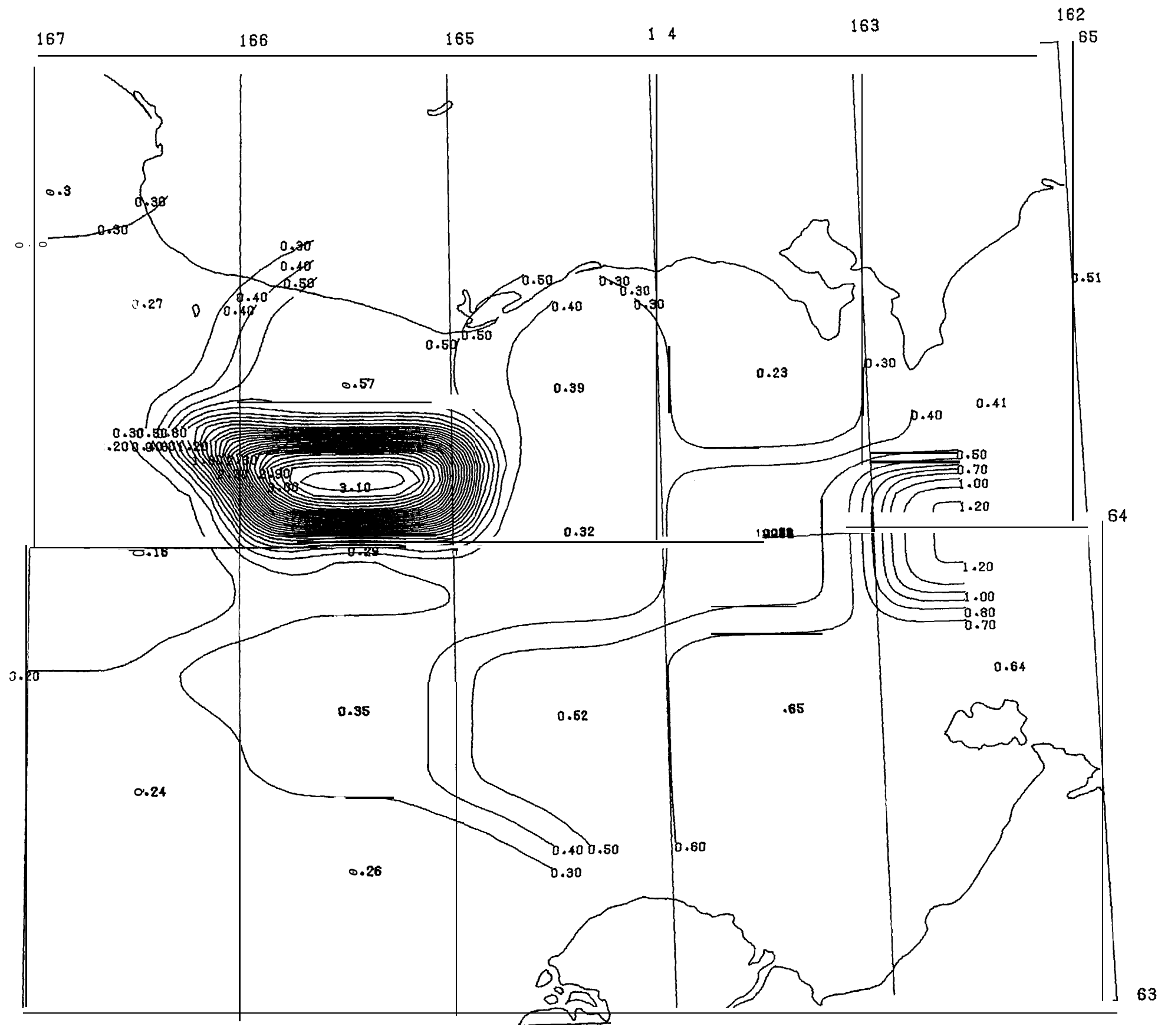
SECTION I-C - MARINE CHEMISTRY (NODC)

THIS SECTION INCLUDES SEVERAL DISPLAYS THAT ARE MODIFICATIONS OF PRODUCTS DESCRIBED IN OTHER SECTIONS OF THE NODC PORTION OF THE CATALOG. EXAMPLES ARE INCLUDED IN THIS SECTION TO BETTER ILLUSTRATE THE APPLICATION TO OTHER DISCIPLINES AS WELL AS SOME OF THE DIFFERENCES IN PRESENTATION. DIFFERENCES MAY INCLUDE CONTOURING CHARACTERISTICS, RANGES IN DATA PARAMETERS OR MORE SIMPLIFIED VERTICAL OR HORIZONTAL STRUCTURES.

FOR MARINE CHEMISTRY FILE TYPES, THE DATA HAVE BEEN REPORTED EITHER BY THEIR CHEM COL ELEMENT (CU = COPPER, PB = LEAD, ETC.) OR DERIVED FROM CONCENTRATION VALUES REPORTED AT ALLOCATED LOCATIONS ON SPECIFIED RECORDS OF A DATA FORMAT.

THE PRODUCTS INCLUDED IN THIS SECTION ARE AS FOLLOWS:

FIGURE I-C-1 - HORIZONTAL CONTOUR CHART - SELECTED DEPTH
I-C-2 - HORIZONTAL CONTOUR CHART - INTEGRATED LEVELS
I-C-3 - VERTICAL PROFILES - SINGLE STATION
I-C-4 - VERTICAL CROSS-SECTION
I-C-5 - SYMBOL MAP OF CONCENTRATIONS



RETIO OF ETHANE/ETHYLENE AT THE SURFACE NORTON SOUND MONTHS JULY AUG SEPT

Figure I-C-1

Horizontal Contour Chart - Se ected Depth

File Type 043 - Hydrocarbons

This presentation is an example of the NODC general contour plot program. All values at a specific depth or level (in the example, the surface level) are plotted at their respective geographic position and contours generated automatically based on the distribution of the data.

Data may be selected by geographic area, depth, time periods, selected stations or individual surveys, and chemical parameters. In the example, the data consists of all stations within the designated geographic limits collected during the summer season (only one survey in this case). The ratio values between two hydrocarbons, ethane and ethylene, are plotted rather than specific concentration values so the data values do not actually have units. The individual points may be included in the contour plot (as in the example) or may be omitted from the plot which is recommended when the density of points is high. The original plot consisted of different colors for data points and contours to delineate contour values from measured values.

This product is applicable to any file type where geographic distribution and range of parameter values permit contouring. This example uses data from a survey submitted by Cline and Feely of PMEL (RU 153). The data set is identified as File ID 760908 or NODC Track Number 649.

Figure I-C-2

Horizontal Contour Chart - Integrated Levels

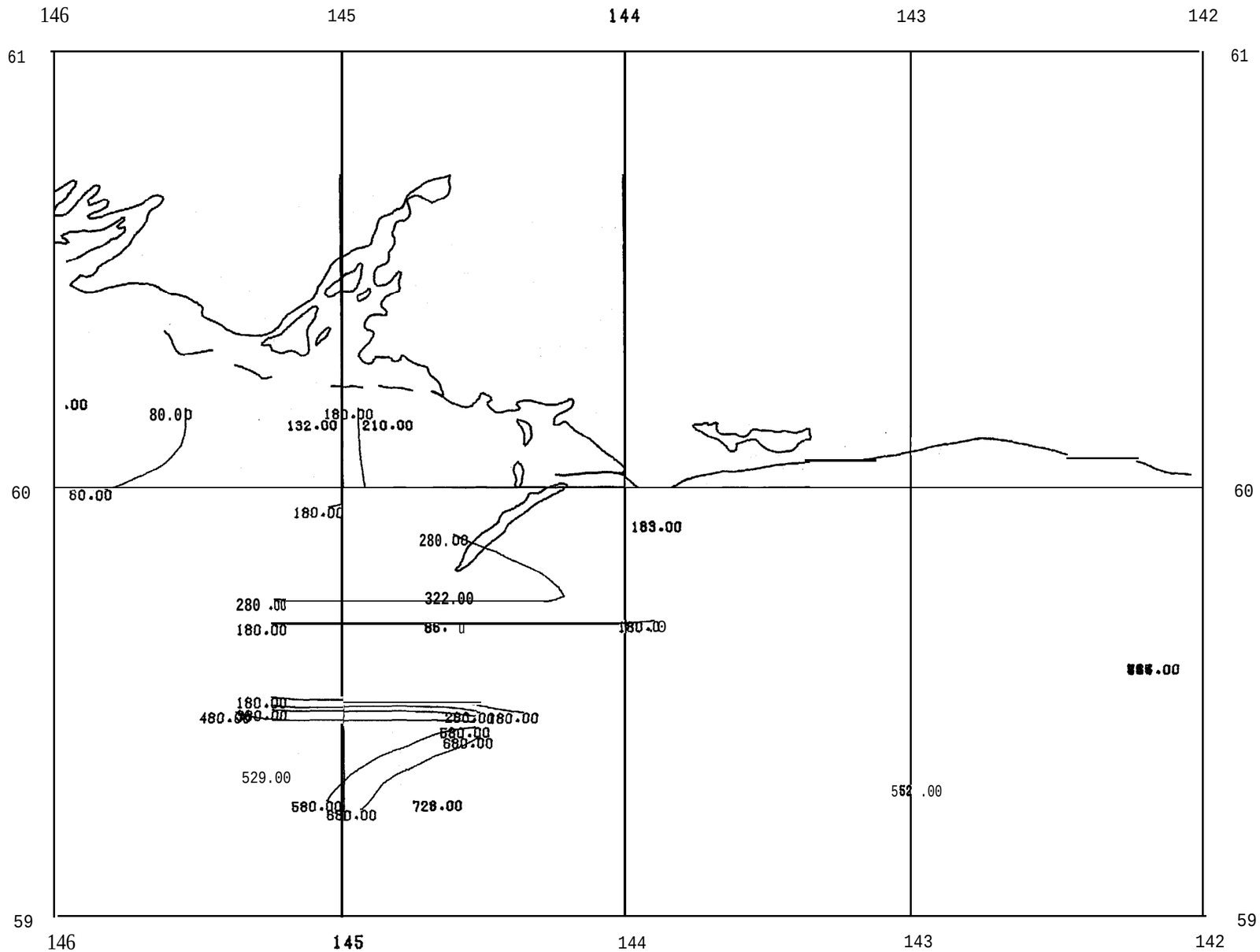
F-i 1 e Type 029 - Primary Productivity

This presentation is similar to Figure I-C-1, but is included for several reasons. For many OCSEAP data distributions, particularly biological at-d chemical data, ranges of measured values may vary, greatly, may be scattered over large areas, or may be grouped in several small regions within the area of interest. This often results in poor or limited contour products, especially if contour intervals are determined automatically as shown in this example. Plotting of individual station values may also result in overprinting of values where data density is high.

Another reason for this example is its display of integrated data. Although fields in the primary productivity format are available for reporting integrated values, integrated values can be computed and products generated for this and other file types where an integration of measured values for a segment of the water column is of interest.

This product displays the Data Center's editing capability, as extremely high coastal values of productivity were deleted to provide a smoother contour product for the automatic contour version of the program. This particular example therefore should not be used as an analytical product since some of the measured points were removed.

This example uses data submitted byseveral OCSEAP investigators reporting productivity data for the period October to December for any year with measured data.



PRIMARY PRODUCTIVITY INTEGRATED TO THE SURFACE-NEGOALEASE AREA

MONTHS OCT N(3V DEC

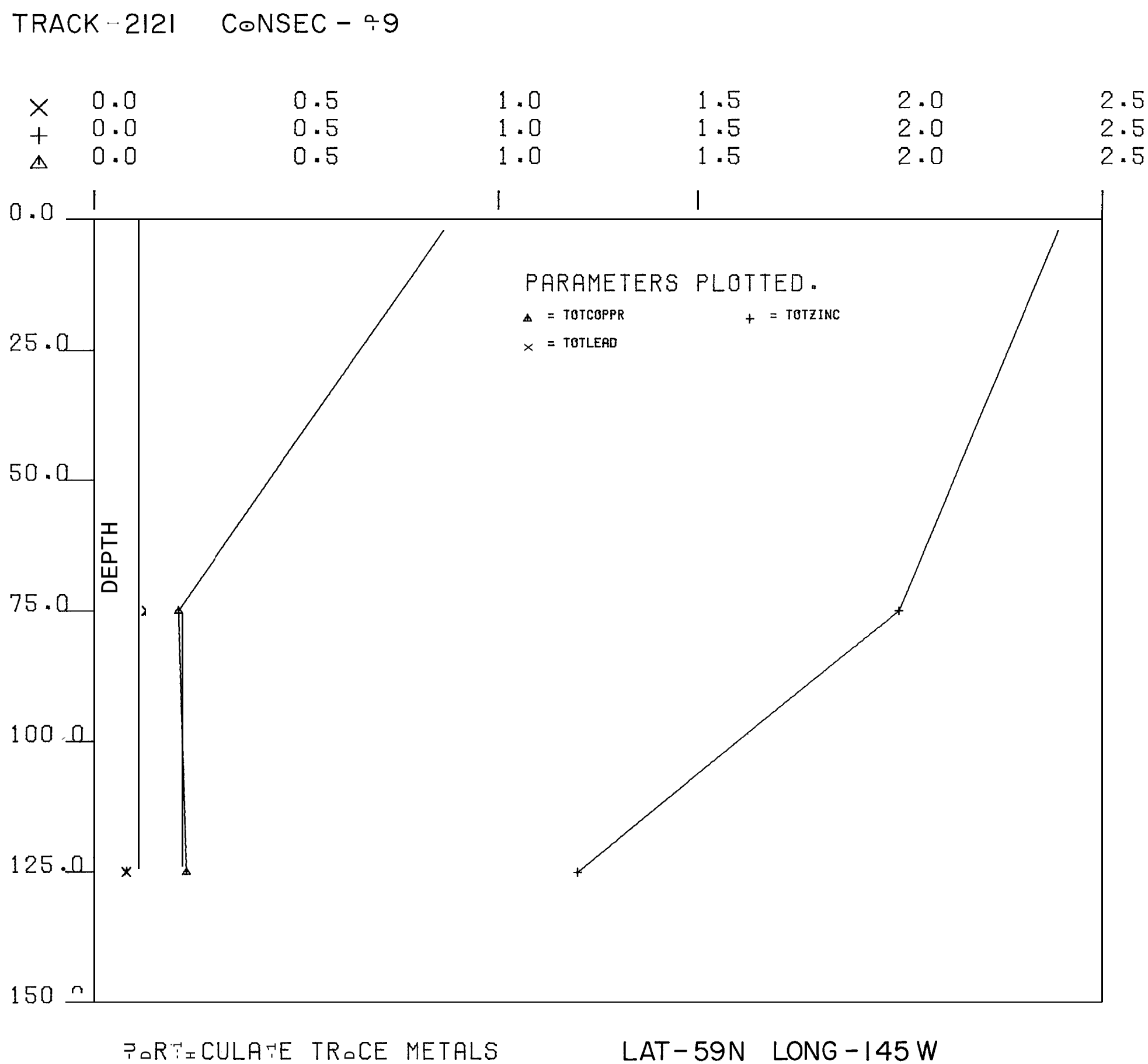


Figure I-C-3

Vertical Profiles - Single Station

File Type 061 - Trace Elements

This presentation provides a comparison of selected marine chemical parameters and their variation with depth. Up to four individual elements or chemical compounds may be displayed on each plot. Although all concentration ranges and axis intervals are the same in the example, these ranges may vary for individual parameters.

This presentation is available for any file type that contains multiple depth data. It should be noted that OCSEAP data received to date for this file type that contain more than 2 or 3 depths at a single station are quite limited.

This example uses data submitted by Burrell of the University of Alaska (RU 162). The data set is identified as File ID TMOCS1 or NODC Track Number 2121.

Figure I-C-4

Vertical Cross Section

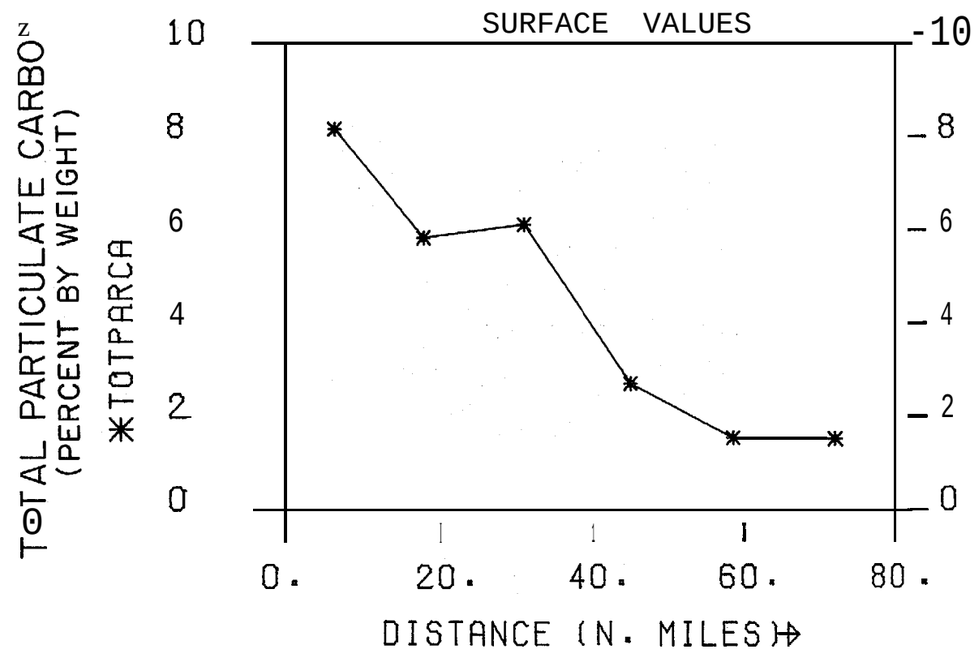
File Type 021 - Trace Metals

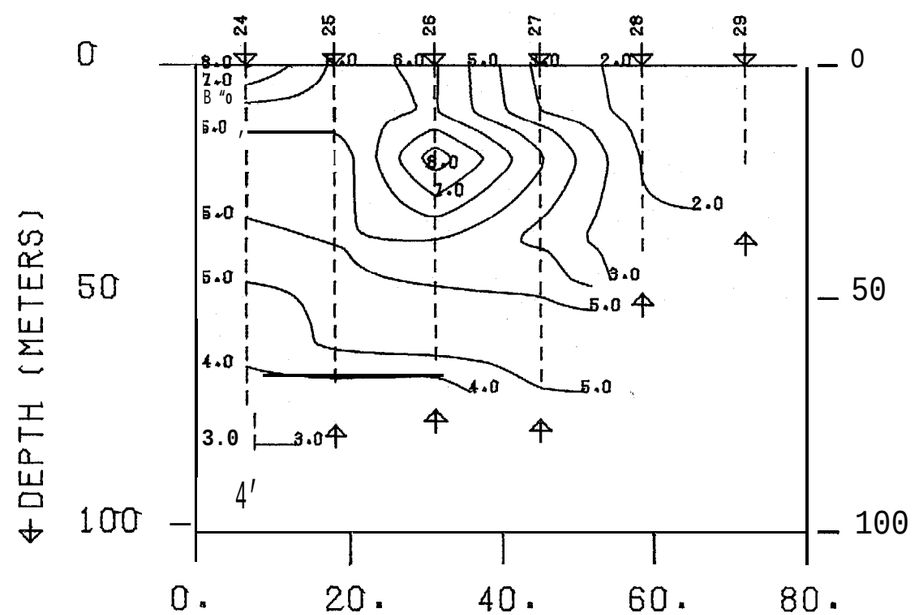
This presentation is similar to Figure I-A-3, except for the parameters displayed. Concentration of total particulate carbon is shown for the surface and to 100 meters for a series of stations across Lower Cook Inlet. The station numbers are indicated across the top of the vertical section and bottom depths 'indicated by arrows at each station.

The arrangement of figures for this product is pre-set. Depth of cross sections are pre-selected and other display parameters are automatically computed. Up to 50 stations may be included, although a number in excess of 20 may crowd the vertical cross-section plot, unless the size of the plot is increased.

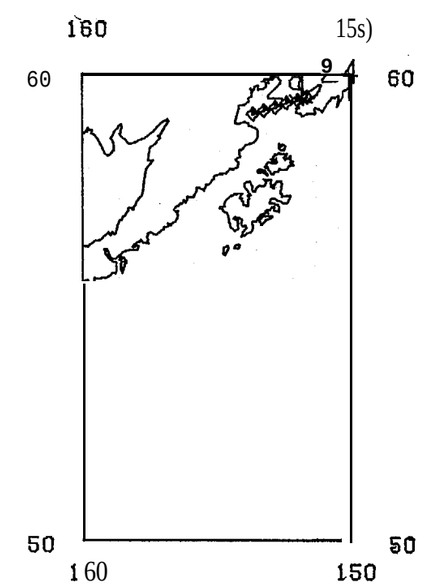
Other options for this product are similar to those discussed for Figure I-A-3. This example uses a series of stations from a survey submitted by Cline and Feely of PMEL (RU 152). The data set is identified as File ID 770404 or NODC Track Number 3030.

TOTAL PARTICULATE CARBON CONCENTRATIONS IN COOK INLET

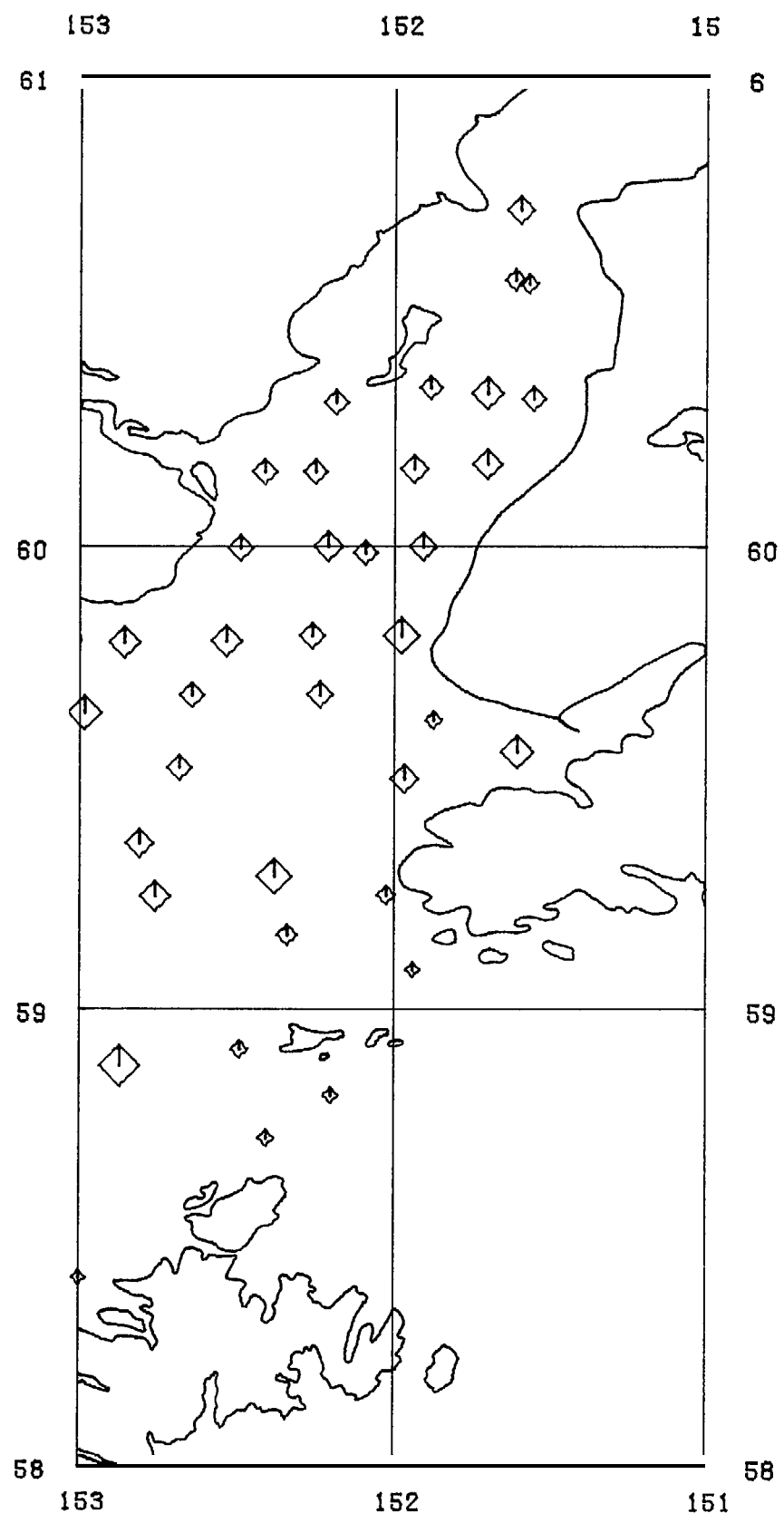




APRIL 1977 CRUISE 3030 CONSECS 24 - 29



CRUISE TRACK PLOT



•30.0 PPM ◇ 60.0 PPM ◇ 90.0 PPM TOTAL PARTICULATE COPPER

CRUISE 3030 APRIL 1977

Figure I-C-5

Symbol Map - Concentrations

F le Type o2 – Metals

This presentation displays concentrations of a specific element or chemical compound at individual station locations. For this example, symbols are directly proportional to the concentration values as shown in the legend; the width of the symbol (not the area is proportiona to the concentration level.

This product may be generated for any geographic scale or map projection. Plots may be for single or multiple surveys or data sets, for any month or season, and for any depth or depth interval depending on data availability. Symbol size may be modified to accommodate the number and distribution of stations and range of concentration values. Symbols other than the one used in the example may be selected.

This example uses data from one survey submitted by Cline and Feely of PMEL (RU 152). The data set is identified as File ID 770404 or NODC Track Number 3030.

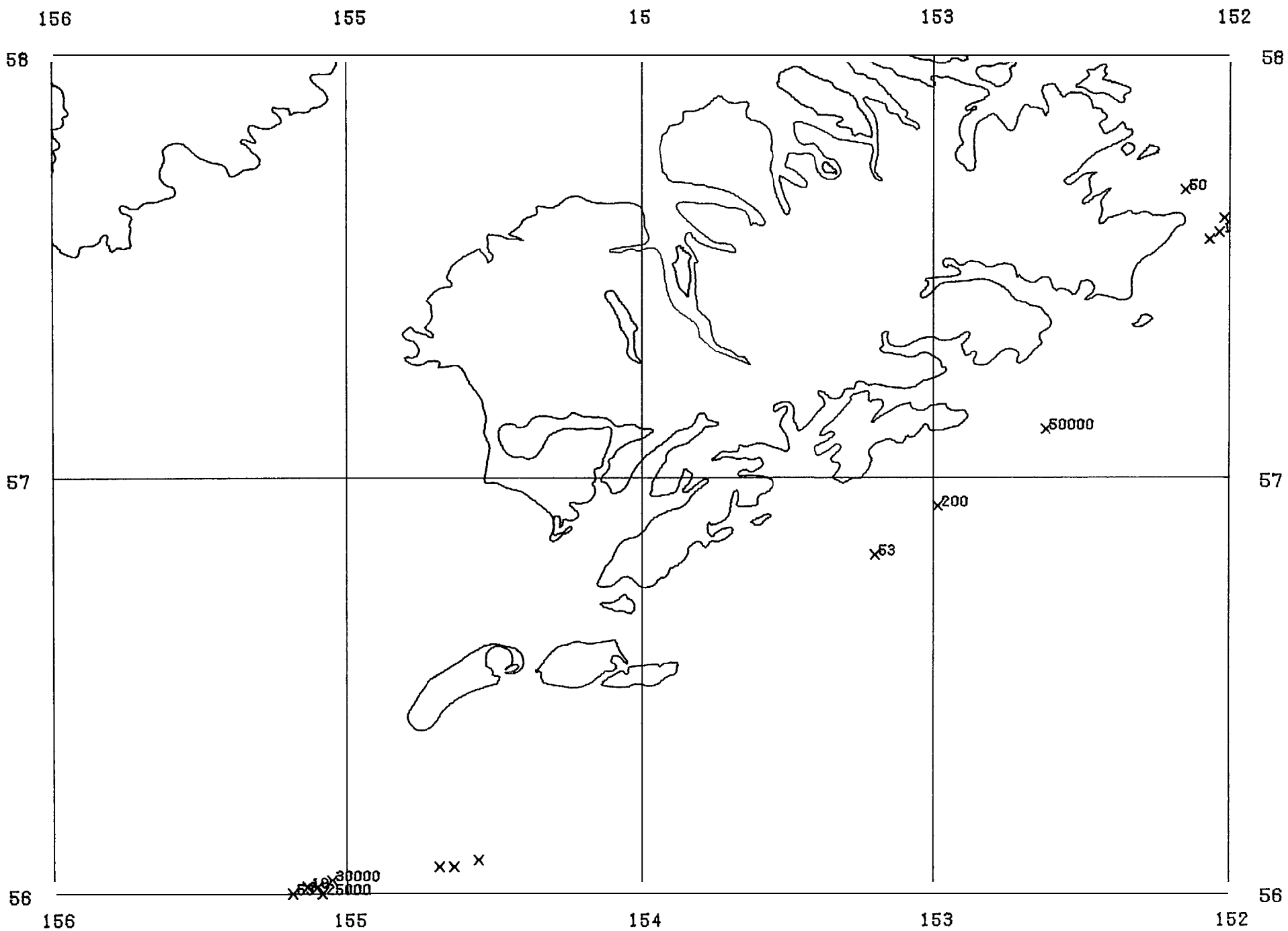
SECTION I-D - MARINE BIOLOGY (NODC)

THIS SECTION INCLUDES SEVERAL GRAPHIC PRODUCTS USED TO DISPLAY DATA FOR OTHER DISCIPLINES AS WELL AS SEVERAL PRODUCTS NOT DESCRIBED IN PREVIOUS SECTIONS OF THIS CATALOG. BIOLOGICAL DATA FILES ARE THE MOST VARIED IN CONTENT AND ALSO THE MOST DIFFICULT TO QUALITY CONTROL AND EDIT. THIS IS DUE IN PART TO THE FACT THAT THE DATA CENTER HAS ONLY RECENTLY BEGUN TO PROCESS BIOLOGICAL DATA SUBMISSIONS AND PREPARE DATA PRODUCTS, WHEREAS MOST PHYSICAL AND CHEMICAL DATA HAVE BEEN SUBJECTED TO NODC DATA PROCESSING FOR SOME TIME. SOME PRODUCTS IN THIS SECTION, THEREFORE, HAVE BEEN COMPLETED ONLY AFTER EXTENSIVE SEARCHING FOR ADEQUATE DATA DISTRIBUTIONS AND VALID PARAMETERS THAT PROVIDE APPROPRIATE EXAMPLES.

ONE UNIQUE AREA OF BIOLOGICAL DATA PROCESSING IS THE USE OF TAXONOMIC CODES TO IDENTIFY BIOLOGICAL SPECIES. THE CURRENT 12-DIGIT CODE, THE NODC TAXONOMIC CODE FILE, IS A HIERARCHICAL CODE WHICH PERMITS SORTING AND RETRIEVAL OF SPECIES IN ANY TAXONOMIC LEVEL SUCH AS GENUS OR FAMILY, PROVIDING THE INVESTIGATORS HAVE BEEN ABLE TO IDENTIFY AND HAVE REPORTED THEIR RESULTS TO THE NECESSARY TAXONOMIC LEVELS. FOR EXAMPLE, PRODUCTS CAN BE GENERATED TO INDICATE A SPECIES OF MARINE BIRDS SUCH AS SHEARWATERS (CODE = 91090204) OR A PRODUCT ONLY FOR SHORT-TAILED SHEARWATERS (9109010408). A PRODUCT REQUEST FOR THE LATTER WOULD NOT INCLUDE ALL SHEARWATERS, WHILE A REQUEST FOR SHEARWATERS WOULD INCLUDE THE SHORT-TAILED AND ALL OTHER SHEARWATER SPECIES UNLESS OTHERWISE INSTRUCTED. CONSEQUENTLY, CARE MUST BE TAKEN WHEN RETRIEVING DATA AND INTERPRETING THE RESULTING PRODUCTS.

THE PRODUCTS INCLUDED IN THIS SECTION ARE AS FOLLOWS;

FIGURE I-D-1 - SPECIES COUNT PER STATION PLOT
I-D-2 - SYMBOL PLOT - NUMBER OR CONCENTRATION OF INDIVIDUALS
I-D-3 - CATCH PER UNIT EFFORT PLOT
I-D-4 - HORIZONTAL CONTOUR PLOT
I-D-5 - SPECIES COUNT BY AREA - SUMMARY PLOT
I-D-6 - SUMMARY PLOT - AVERAGE WEIGHT OF CATCH
I-D-7 - TIME SERIES OF CONCENTRATIONS - MULTIPLE SPECIES
I-D-8 - MATRIX SUMMARY - SPECIES VS HABITAT
I-D-9 - DENSITY PLOT - SPECIES PER UNIT AREA



SHEARWATER SIGHTINGS JUNE 1976 CRUSE 3

Figure I-D-1

Species Count per Station Plot

File Type 033
Marine Bird Sightings - Ship Aircraft

This presentation is one version of an annotated station location plot. The display indicates the count of a selected species (or group of species), as observed for different sighting positions. Where more than one sighting takes place at the same geographic location, counts may be accumulated.

The example shows the number of a single marine bird species (shearwaters) sighted at each station for one survey. The plot also indicates the sightings where no shearwaters were observed during the survey by the 'X' symbols with no number to the right of the symbol.

Options include geographic area limits and chart projections, choice of surveys or time periods and selection of taxonomy. Species may be grouped at any coding level (family, genus, etc.) and totals computed for these combinations at each station. In the example, sightings of all shearwaters (taxonomic code 91090204) are included along with any sooty or short-tailed shearwaters observed (codes 91.902.407 and 910-9020408)

The example uses data from a survey submitted by Myres and Guzman of the University of Calgary (RU 239). The survey is identified as File ID 03UC76 or NODC Track Number 3111. Nearly all biological files (birds, fishes, mammals, plankton, etc.) are applicable to this presentation if geographic location and species data have been properly submitted.

Figure I-D-2

Symbol Plot-Number or Concentration of Individuals

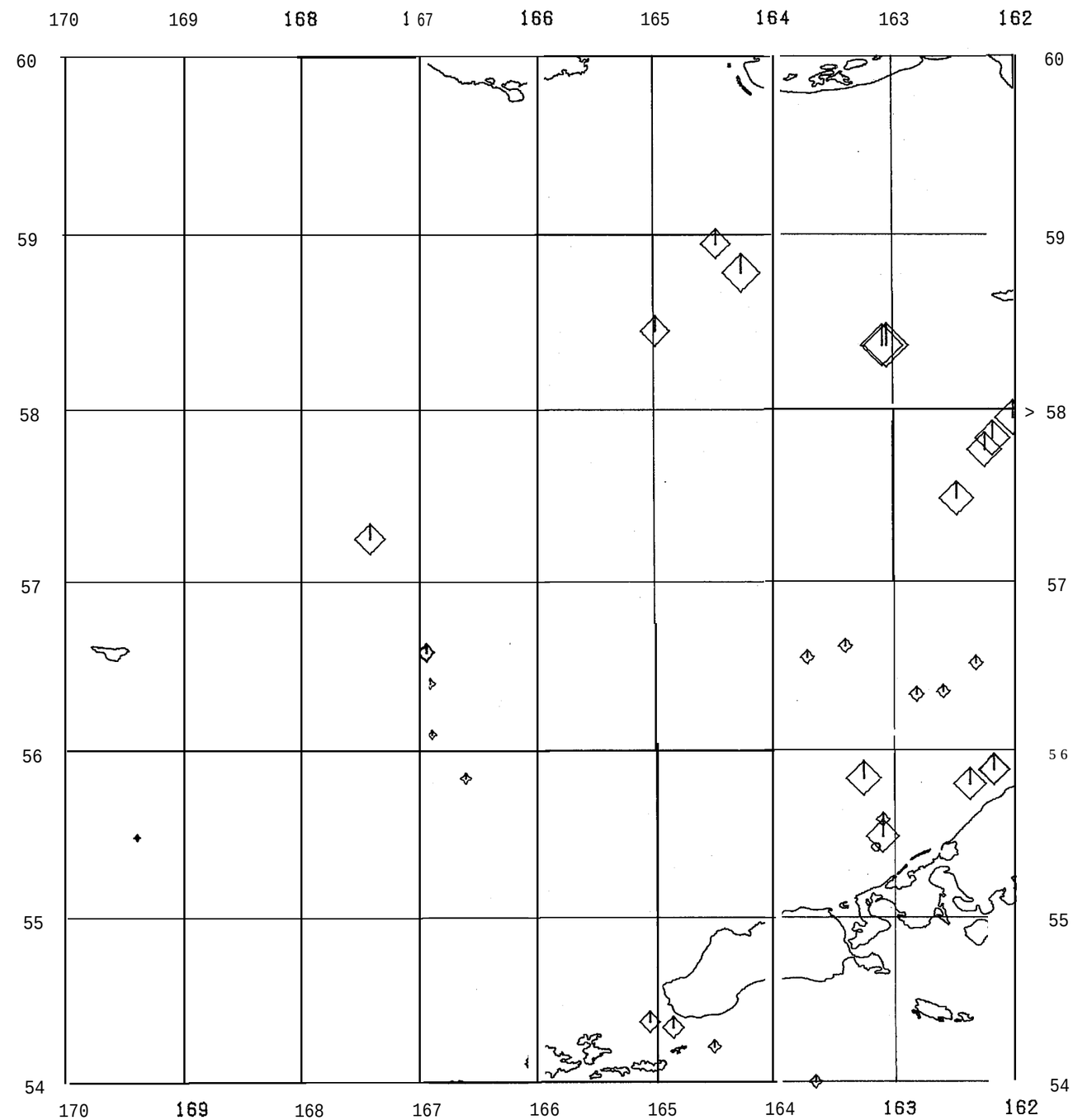
File Type 033
Marine Bird Sightings'- Ship/Aircraft

This presentation displays the number of individuals or concentrations of one or more species sighted for any specified geographic area, time period or survey. This display is similar to the symbol plot for chemical parameters (Figure I-C-5). All options discussed for that figure also apply to this product.

It should be noted that the symbol size in this figure is a function of the ratio of the logarithm (to the base ten) of the counts at each station in contrast to the simple linear function used in Figure I-C-5. The use of the logarithm function is to accommodate the wide variation in counts of this particular species (less than ten to greater than 50,000). A sighting of 1000 individuals would be represented by a symbol 1.5 times the symbol for 100 individuals. This display therefore provides relative magnitude ordensity but should not be used where more exact counts are required.

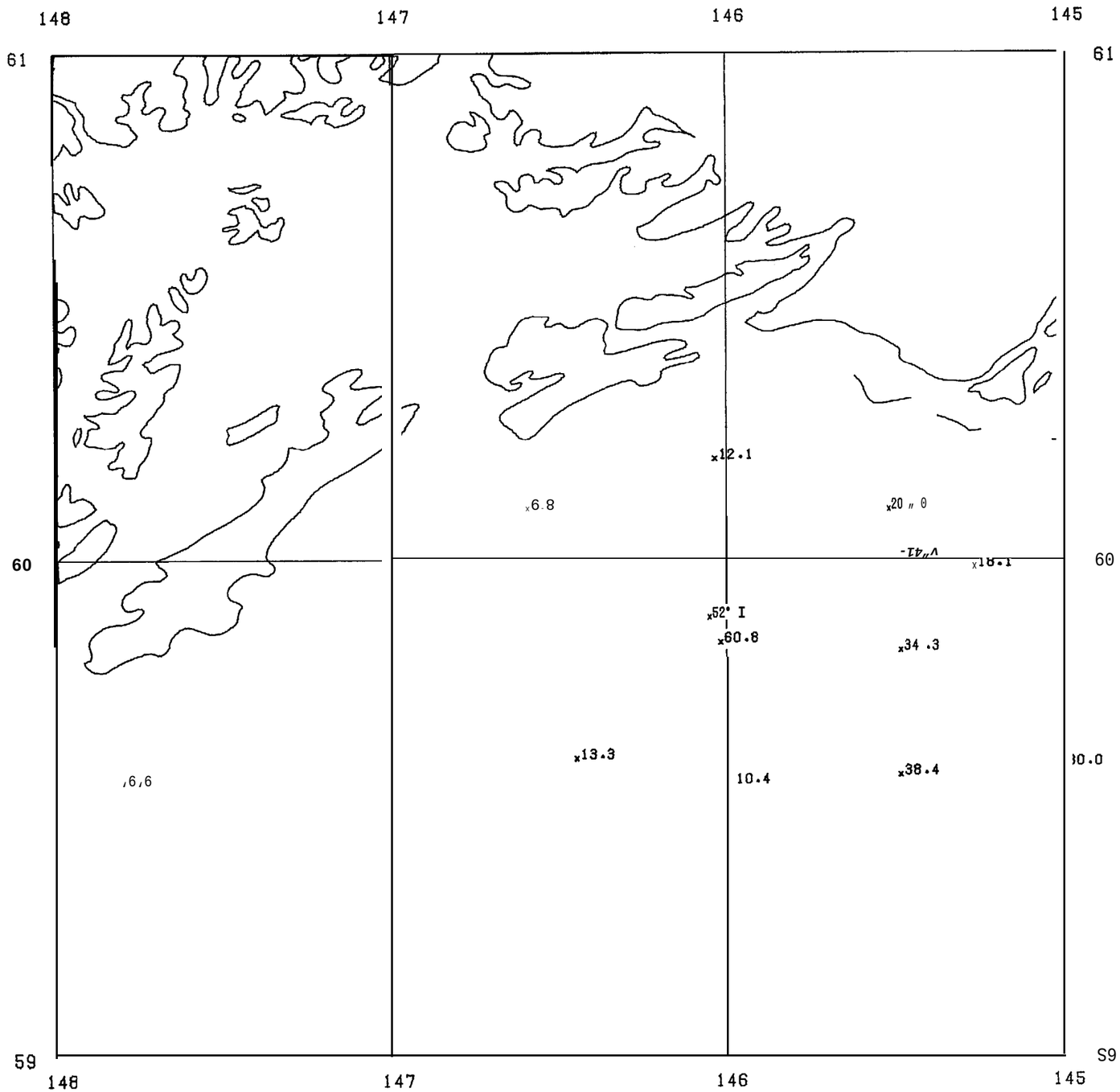
Another variation of the symbol plot, which is not included in this catalog, is the representation of size classes by a series of numbers or letters, which are plotted at each station. For example, a count of 0 = 0, 1-10 = 1, 11.-50 = 2, 51-100 = 3, etc.

This example uses data from a single survey submitted by Myres and Guzman of the University of Calgary (RU 239). The survey is identified as File ID 01UC75 or NODC Track Number 3106.



LOG SCALED SYMBOLS ◇ 100. SIGHTED ◇ 1000. SIGHTED ◇ 10000. SIGHTED

SHEARWATERS SIGHTED JUNE 1975 CRUISE 3106



CPUE FOR STATIONS WHICH EXCEED 5KG/HR PANDALID SHRIMP
JULY 1975 TRACK 461

Figure I-D-3

Catch per Unit Effort Plot

File Type 032 - Benthic Organisms

This presentation is a modified version of the annotated station location plot which is available for any file type. For this product, data can be selected and plotted for any geographic area or map projection, month or season, and for individual or multiple surveys. Values based on upper or lower limits of catch and selection of individual or groups of species also are available. Species selected for one level such as genus, may be grouped with others selected at a different level, such as family or species, where it is appropriate.

For this example, only those catches of Pandalid shrimp are plotted with a rate in excess of five kilograms per hour. This product also is applicable to File Types 023 and 123 - Fish and Shellfish Resource Assessment. Other biological formats may be adapted to this presentation with some modifications needed for expressing densities or abundance. This product can of course be generated only when all necessary parameters are submitted by the investigators. These include location, date, weight of catch, elapsed time for tows and taxonomic codes to the level needed to complete the request.

This example uses data from a survey submitted by Feder of the University of Alaska (RU 281). The data set is identified as File ID 000817 or NODC Track Number 461.

Figure I-D-4

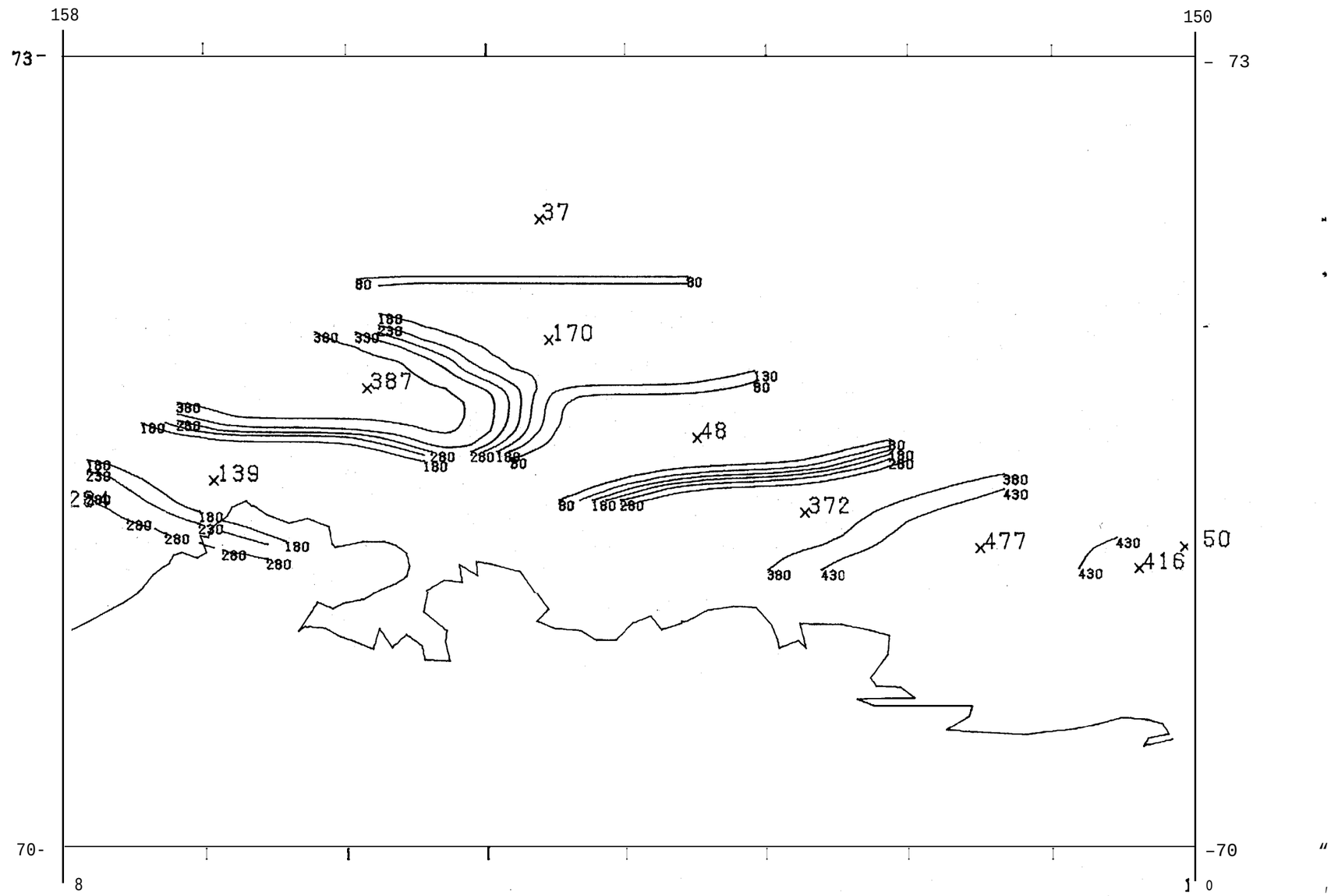
Horizontal Contour Plot

File Type 028 - Phytoplankton Species

This presentation displays the horizontal distribution of selected species for any time period or geographic area as a contour chart. The example indicates the surface distribution of a single phytoplankton species and single survey. With the range of values predetermined, intervals of 50 cells/milliliter were selected for contour intervals. The plot program selected the starting value (80) and incremented with 50 cells/milliliter intervals. Contours for preselected values can be specified (50, 100, 150, etc.).

This particular example indicates some of the limitations of the NODC contour program where data are somewhat limited. Since all stations in this area were from a single survey essentially along a single track, contours are not always closed or connected as might be expected. A more comprehensive distribution within the area would have resulted in a more complete contour plot. For this example, the WDBI land mass was used, as the plot is an enlargement of part of a broader geographic area where the land mass detail was not considered as important.

This product is applicable to all biological files where station locations and species codes have been properly submitted. Other parameters such as counts of species also can be contoured wherever data distribution permits. This example uses data for several stations of a survey submitted by Homer (RU 359), who had been associated with the University of Washington. The survey is identified as File ID 080977 or NODC Track 3955.

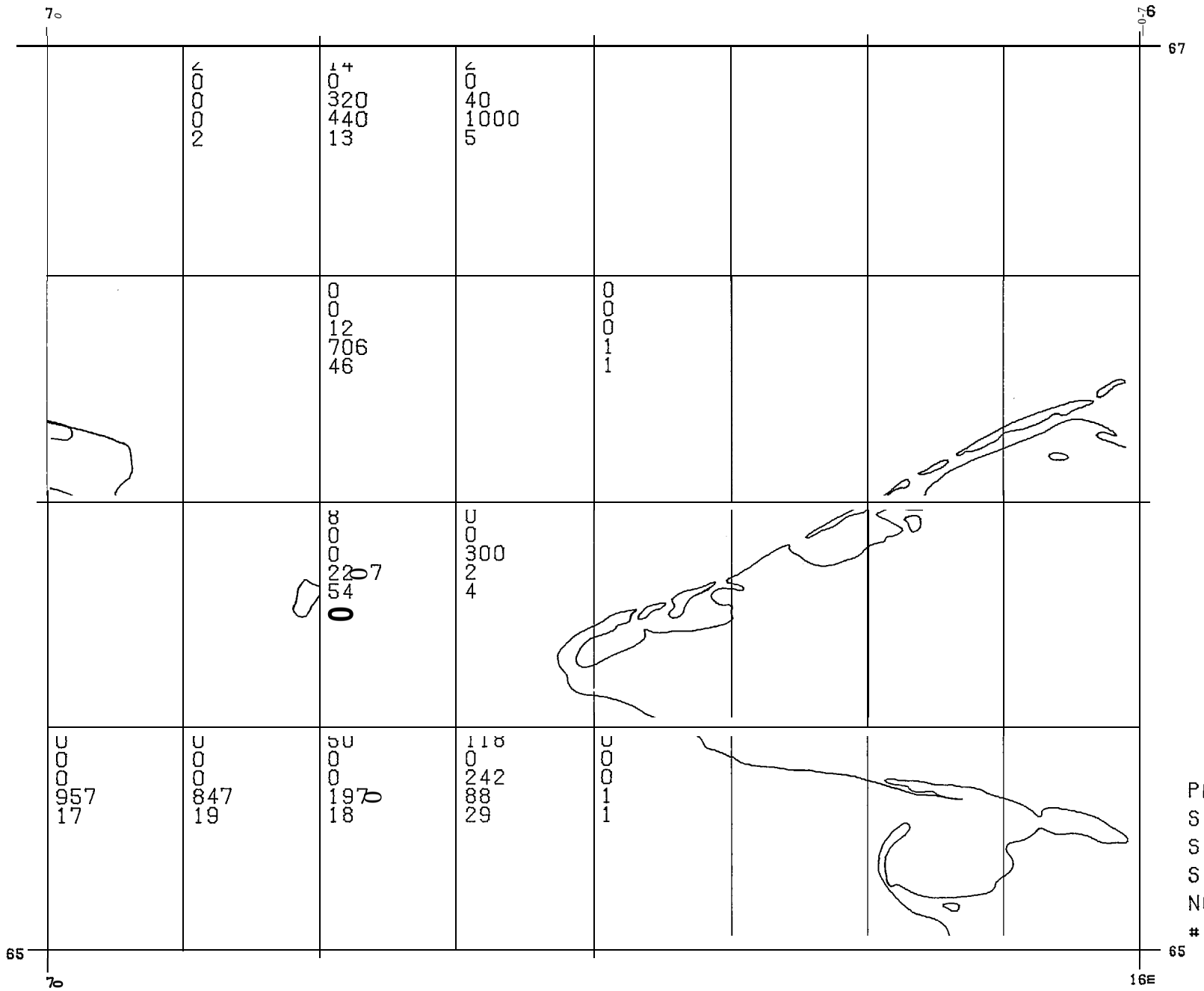


HORIZONTAL CONTOUR OF CELLS/MILLILITER F(3R THALASSIOSIRA SPP.

CRUISE 3955 OCT 977

MONTHS APR MAY JUNE

ODOBENUS ROSMARUS - TOTAL SIGHTED WITHIN QUARTER DEGREE SQUARES



igure I-D-5

Species Count by Area - Summary Plot

F le Types 026 and 027 - Marine Mammal S ghtings

This presen:ation summarizes individual station counts for any designated group of species. This particular version also provides a summary for one of the observed characteristics as reported in File Type 027 data submiss ons—the distribution of mammals sighted on land vs water vs ice. The other mammal sighting format (File Type 026) does not provide for this parameter; all counts of the species obtained from this format are nc used in the unspec fieo tota s. In addition, the geographic location for sightings reported in File Type 026 is determined to be at the mid-point of a transect as only begin and end positions are reported for th s type of data in contrast to File Type 027 which contains sighting positions.

Options include modification of summary areas from six-minute squares to ten-degree areas, variation in geographic limits and chart projections, and selection of species or groups of species as discussed for previous biological products. This presentation is applicable, with minor modifications, for reporting other parameters than number observed on ice, land and water and for other biological file types.

This example uses observations from both mammal sighting formats and from surveys conducted in the Norton Sound and Chukchi Sea region during the spring season.

Figure I-D-6

Summary Plot - Average Weight of Catch

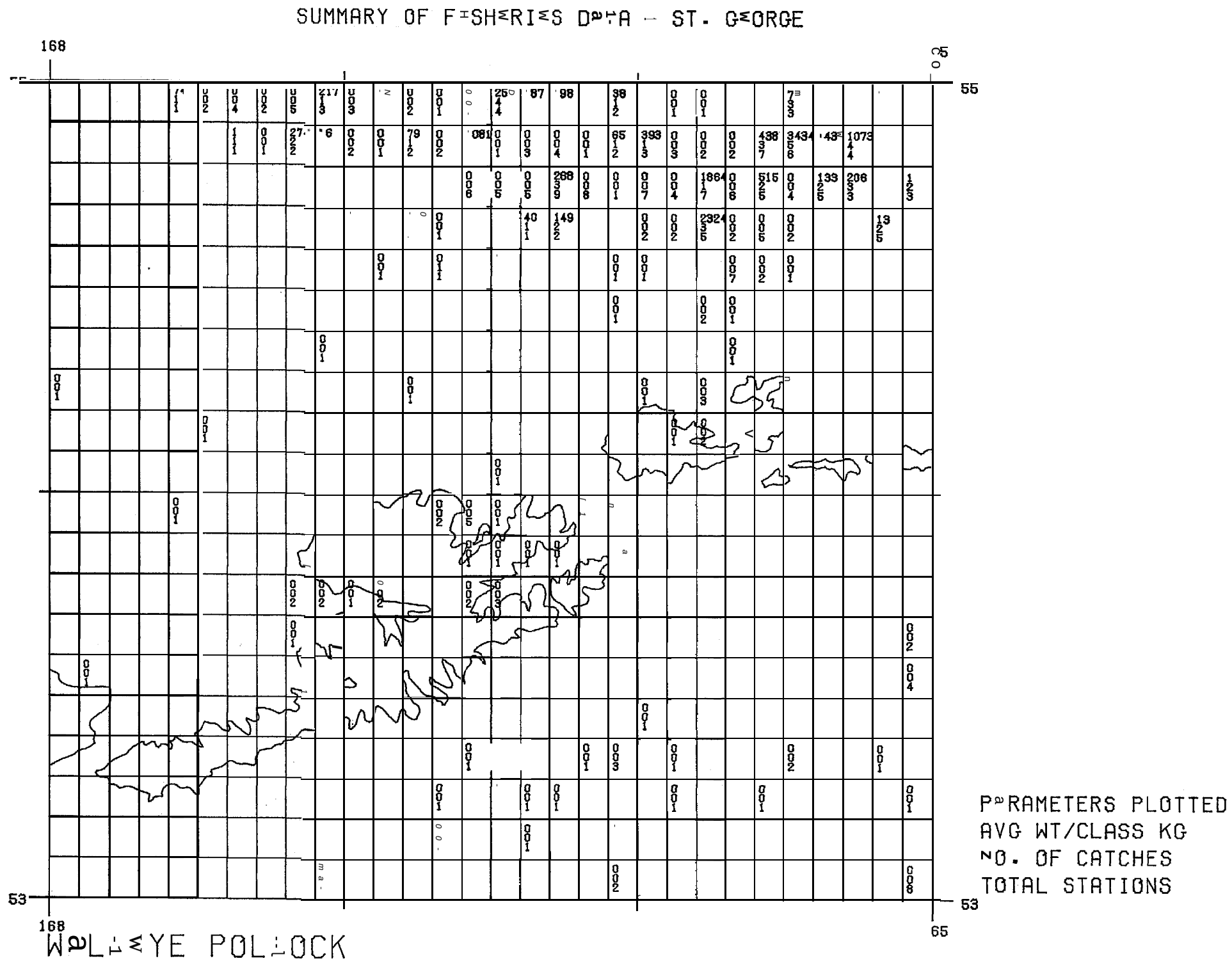
File Type 023 - Fish Resource Assessment

This presentation is a summary of the average weight per catch for a single species (walleye Pollock). A series of these particular products were provided to the Bureau of Land Management recently for several lease areas summarizing selected fish and benthic catches for data received to date by the Data Center. For this figure, the average weight/catch (in kilograms) is plotted in each area where catches were completed. The number of catches containing the species as well as the total catches for the area and time period are listed below in each summary area.

As this product is only a slight variation of the mammal summary figure discussed in Figure I-D-5, similar options apply. Other data parameters besides weight of catch can be displayed for this type of data. More than three parameters may be included in each area, although this generally will be dependent on the area covered and scale of the plots.

This example represents a composite of fish resource data submitted over all seasons by several investigators. It is feasible, where necessary, to identify the sources of any individual stations within any or all summary areas.

This specific product also is applicable to benthic catches (File Type 032) and the recent format-Fish/Shellfish Resource Assessment (File Type 123). Other biological file types are applicable with minor modifications.



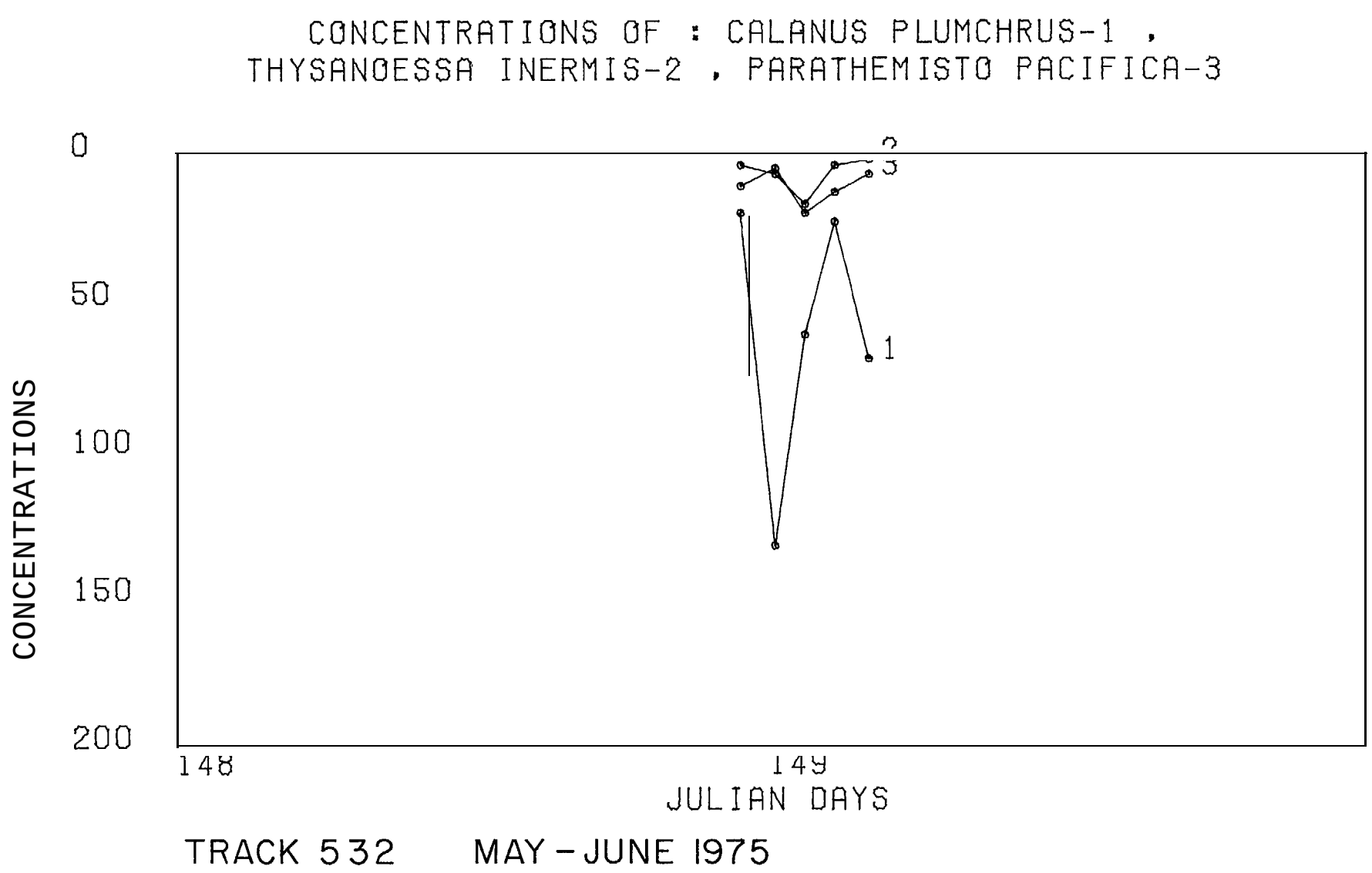


Figure I-D-3

Time Series of Concentrations-Multiple Species

File Type 124 - Zooplankton

This presentation indicates the concentration or abundance of several species as measured over the period of one or more days. The example displays the concentration variation of three zooplankton species measured over portions of two days, indicated as Julian days. The minimum interval for this particular product is one day. Horizontal and vertical scales and the number and value of increments may be specified. Although 20 or more species curves may be plotted on one figure, the actual number generally will be dependent on the ability to define individual curves and should only be limited to about five species.

For the example, concentrations are plotted for number per 1000 cubic meters modified from the field in the zooplankton format which is number per cubic meter. Some investigators have reported data only for the number of each species and volume of the sample; concentrations are computed by the Data Center in these areas. Other investigators reported only gear type, length or depth of tow and elapsed time; concentrations are not available for most of these data submissions.

This example uses data from a survey submitted by Cooney of the University of Alaska (RU 426). This data set is identified as File ID RTCZ05 or NODC Track Number 532

Figure I-D-8

Matrix Summary-Species vs Habitat

File Type 040 - Marine Bird Habitat

This presentation summarizes in matrix form the frequency of selected marine bird species observed for selected habitat types. The matrix may consist of as many as 10 columns (habitats) and 20 rows (species). The product may summarize single or multiple data sets for any biological data, classifying statistics for any measured field based upon species and an observed characteristic, such as behavior, sex, or life cycle.

This example displays three matrices which are actually produced as separate computer listings. The top figure indicates the number of sightings for one of five selected marine bird species as observed at one of four habitat types. The sightings of the remaining species sighted during this survey are included as 'all others'. The middle figure shows the total counts for the selected bird species. The bottom figure indicates the average number per sighting of each species (e.g., the average number of Glaucous-winged Gulls or 9128020103 is 29 where the total count is 1770 for 61 sightings.

This example uses data for a survey from Arneson of the Alaska Department of Fish and Game (RU 003). The survey is identified as File ID FG7601 or NODC Track Number 451.

MATRIX SUMMARY CLASSIFIED BY PHYSIOGRAPHIC CODE
BIRD HABITAT DATA COLLECTED IN BRISTOL BAY FROM 75/10/14 TO 76/10/25

SIGHTINGS

TAXCODE	RIVER DELTA	BEACH	FLOOD PLAIN	INTER-TIDAL
9128020103	61	88	9	20
9112010401	40	36	2	20
9112010907	25	5	8	9
9112010901	26	7	7	14
9112011804	13	28	0	8
ALL OTHERS	361	442	75	234

TOTAL NUMBER OBSERVED

TAXCODE	RIVER DELTA	BEACH	FLOOD PLAIN	INTER-TIDAL
9128020103	1770.00	8167.00	23.00	8989.00
9112010401	4297.00	6467.00	136.00	51580.00
9112010907	2724.00	199.00	718.00	8811.00
9112010901	557.00	257.00	956.00	2537.00
9112011804	11297.00	1889.00	0.00	220.00
ALL OTHERS	92652.00	46736.00	1829.00	25990.00

AVERAGE NUMBER OBSERVED

TAXCODE	RIVER DELTA	BEACH	FLOOD PLAIN	INTER-TIDAL
9128020103	29.02	92.81	2.56	449.45
9112010401	107.42	179.64	68.00	2579.00
9112010907	108.96	39.80	89.75	979.00
9112010901	21.42	36.71	136.57	181.21
9112011804	869.00	67.46	0.00	27.50
ALL OTHERS	256.65	105.74	24.39	1820.47

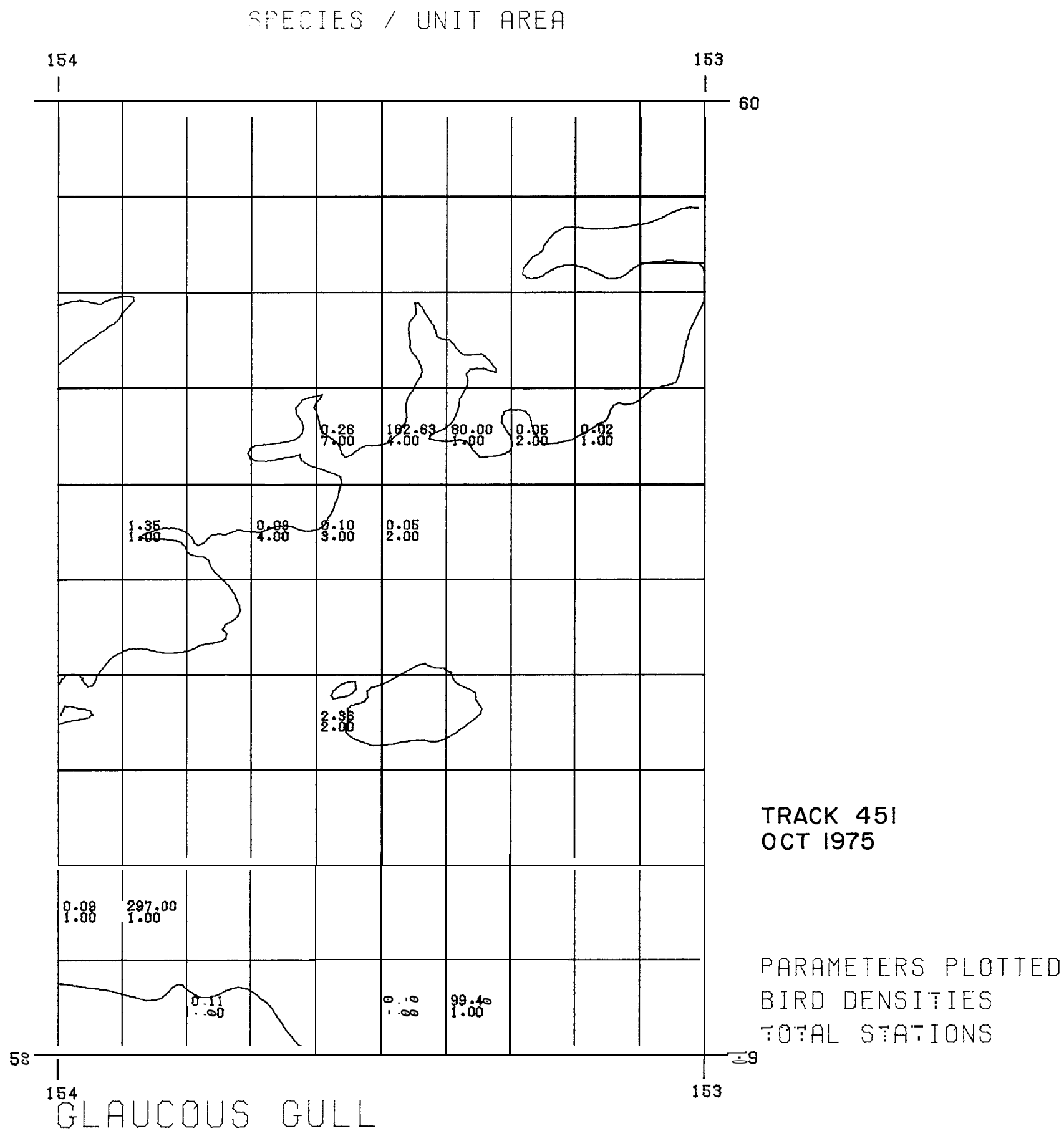


Figure I-D-9

Density Plot - Species per Unit Area

File Type 040 - Marine Bird Habitat

This presentation displays the density of a species or group of species over a given area, time period, or selected survey. The computations are based on the average density for any number of reported counts of a species within a designated area and the corresponding 'area surveyed' field (expressed in km^2) in the File Type 040 format.

Densities less than .01 birds/km^2 or areas where no birds were sighted are indicated by a value of 0.00 in contrast to blank areas where no sightings were made.

Options include those described previously for most biological products - selection of geographic limits, chart projection, time period, species, etc. This example uses summer 1978 data collected by Arneson of the Alaska Department of Fish and Game (RU 003). The survey is identified as FG7808 or NODC Track Number 3878.

SECTION I-E - MARINE GEOLOGY/GEOPHYSICS (NGSDC)

THE NATIONAL GEOPHYSICAL AND SOLAR-TERRESTRIAL DATA CENTER RECEIVES, PROCESSES, AND ARCHIVES GEOLOGICAL AND GEOPHYSICAL DATA COLLECTED BY VARIOUS NATIONAL AND INTERNATIONAL SOURCES INCLUDING OCSEAP INVESTIGATORS. THE TYPES OF DATA SUBMITTED BY OCSEAP INCLUDE BEACH PROFILES (FILE TYPE 072), GRAIN SIZE ANALYSIS (FILE TYPE 073) AND EPICENTER DATA (FILE TYPE 401). THESE DATA ARE INCORPORATED IN LARGER NGSDC FILES AND MADE AVAILABLE FOR DATA RETRIEVAL AND PRODUCT REQUESTS. UNDERWAY GEOPHYSICAL DATA, SUCH AS BATHYMETRIC AND SEISMIC PROFILES, ALSO ARE STORED AT NGSDC IN ANALOG AND PHOTOCOPY FORM FOR PUBLIC DISSEMINATION. COMPUTERIZED INVENTORY AND DISPLAY SYSTEMS HAVE BEEN DEVELOPED AT NGSDC TO FACILITATE HANDLING OF ALL GEOLOGICAL AND GEOPHYSICAL DATA RECEIVED BY THEIR FACILITY.

MOST GRAPHIC PRODUCTS CAN BE GENERATED ON ONE OF 38 DIFFERENT MAP PROJECTIONS AND SCALES THAT ARE UP TO 50 INCHES IN HEIGHT. IN ADDITION TO OCSEAP DATA, EXTENSIVE AMOUNTS OF GEOPHYSICAL DATA, PARTICULARLY SEISMIC AND EPICENTER DATA, ARE AVAILABLE AT NGSDC FROM SOURCES SUCH AS SCRIPPS INSTITUTE OF OCEANOGRAPHY, LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, US GEOLOGICAL SURVEY, HAWAII INSTITUTE OF GEOPHYSICS, THE NAVAL OCEANOGRAPHIC OFFICE, OTHER NOAA FACILITIES, THE UNIVERSITIES OF WASHINGTON, ALASKA AND SOUTH CAROLINA AND THE FRENCH NATIONAL BUREAU OF OCEANOGRAPHIC DATA. PRODUCTS CAN BE PROVIDED THAT WILL INCORPORATE DATA FROM ONE OR MORE OF THESE SOURCES, DEPENDING ON THE GEOGRAPHIC AREA, TYPE OF DATA, DATE, TIME, ETC.

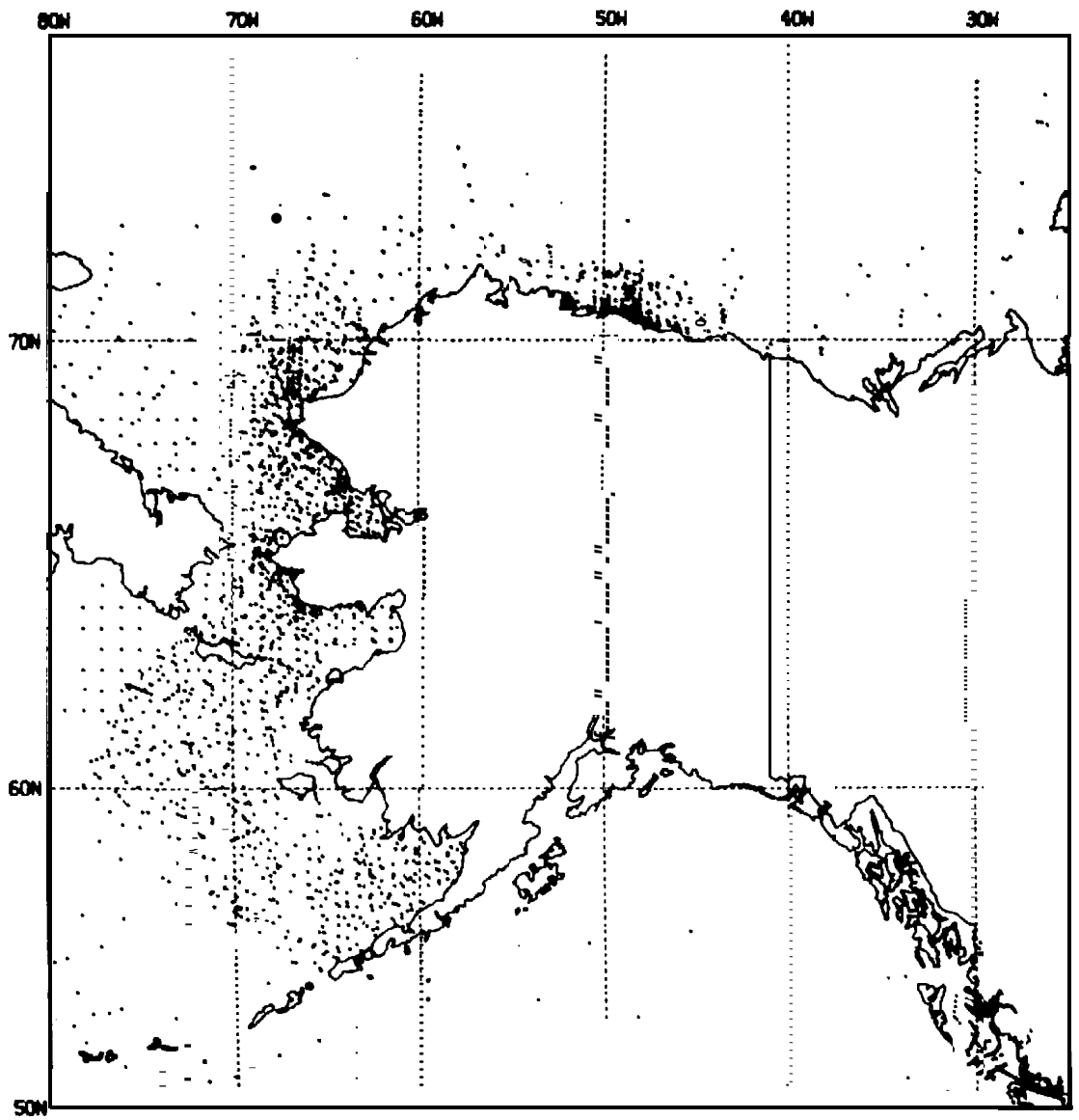
THE PRODUCTS SHOWN IN THIS SECTION OF THE CATALOG INCLUDE SEVERAL INVENTORY PRODUCTS TO BETTER IDENTIFY AREAS WHERE SPECIFIC GEOLOGICAL OR GEOPHYSICAL DATA ARE AVAILABLE. MORE DETAILED INFORMATION IN TERMS OF SPECIFIC LEASE AREAS CAN BE FOUND IN PARTS 1 AND 2 OF THE OCSEAP CATALOG OR BY CONTACTING THE OCSEAP DATA COORDINATOR AT NGSDC.

PRODUCTS FOR OCSEAP INVESTIGATORS THAT CONCERN OCSEAP DATA GENERALLY ARE PROVIDED AT NO COST TO THE REQUESTOR UNDER THE NGSDC TASK TO SUPPORT PROJECT DATA REQUESTS WHERE THESE REQUESTS HAVE BEEN SUBMITTED THROUGH THE OCSEAP DATA PRODUCTS COORDINATOR. THOSE PRODUCTS NOT INVOLVING OCSEAP DATA MAY BE OBTAINED AT COST FROM NGSDC. SPECIAL PRODUCTS, SUCH AS GRID MAPS OR OTHER GRAPHIC OR MAGNETIC TAPE PRODUCTS, MAY INVOLVE ADDITIONAL COSTS TO COVER COMPUTER CHARGES AND DEVELOPMENTAL EFFORTS. ESTIMATES OF CHARGES WILL BE PROVIDED FOR ANY PRODUCT UPON REQUEST. THE SERVICING OF DATA REQUESTS IS DISCUSSED FURTHER IN THE INTRODUCTION TO THE CATALOG.

A MORE COMPREHENSIVE CATALOG OF NGSDC PRODUCTS IS BEING PREPARED INDEPENDENTLY OF THIS CATALOG AND WILL DESCRIBE IN MORE DETAIL THE PRODUCTS SHOWN IN THIS SECTION AND OTHER PRODUCTS THAT MAY BE APPLICABLE TO OCSEAP DATA TYPES OR USEFUL FOR ANALYSES IN ALASKAN OCS STUDY AREAS.

THE FIGURES IN THIS SECTION OF THE CATALOG ARE AS FOLLOWS;

FIGURE I-E-1 - SEDIMENT TEXTURE LOCATION PLOT
I-E-2 - EPICENTER DISTRIBUTION
I-E-3 - GEOPHYSICAL DATA TRACKLINES
I-E-4 - BATHYMETRIC DATA COVERAGE
I-E-5 - BATHYMETRIC SOUNDING PLOT
I-E-6 - BATHYMETRIC PROFILE
I-E-7 - THREE-DIMENSIONAL BATHYMETRIC DISPLAY



Locations of 2886 samples analyzed for sediment texture (073)

Figure I-E-1

Sediment Texture Locations

File Type 073 - Grain Size Analysis

This presentation indicates the location of all stations received to date where samples were collected and analyzed for sediment texture. These sample locations include data other than OCSEAP. Similar inventory plots can be generated for File Types 072 - Beach Profiles and 401 - Epicenter Locations. Plots can be made available for any specific area or chart projection.

Figure I-E-2

Epicenter Distribution

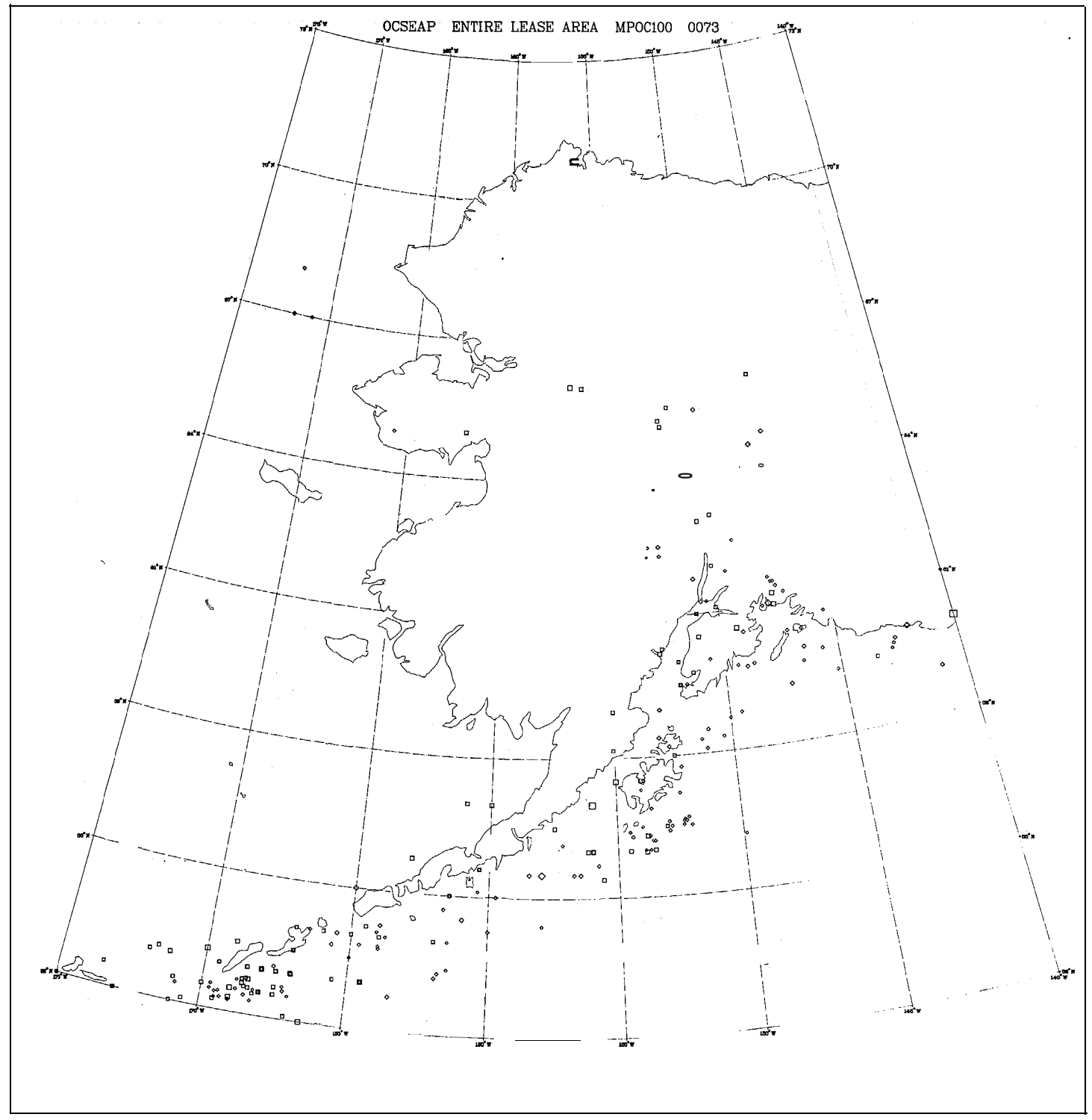
Fi le Type 401 - Epicenter Data

The epicenter file can be sorted and searched for a large selection of parameters, including time of occurrence, magnitude, intensity, focal depth and the number of reporting stations used to calculate the magnitudes.

The example indicates locations of earthquakes of magnitude greater than 6 (intensity greater than IX). Squares represent epicenters with focus depths greater than 70 km. Diamonds represent earthquake epicenters from 0 to 70 km. The magnitude of the event is proportional to the width of the symbol (not the area) with a maximum magnitude of 8.7 shown in the example.

An adaptation has been developed at NGSDC for a stereo projection to visually determine differences in focal depths of earthquakes.

This presentation is applicable only to earthquake data files and can be presented at a variety of scales and chart projections.



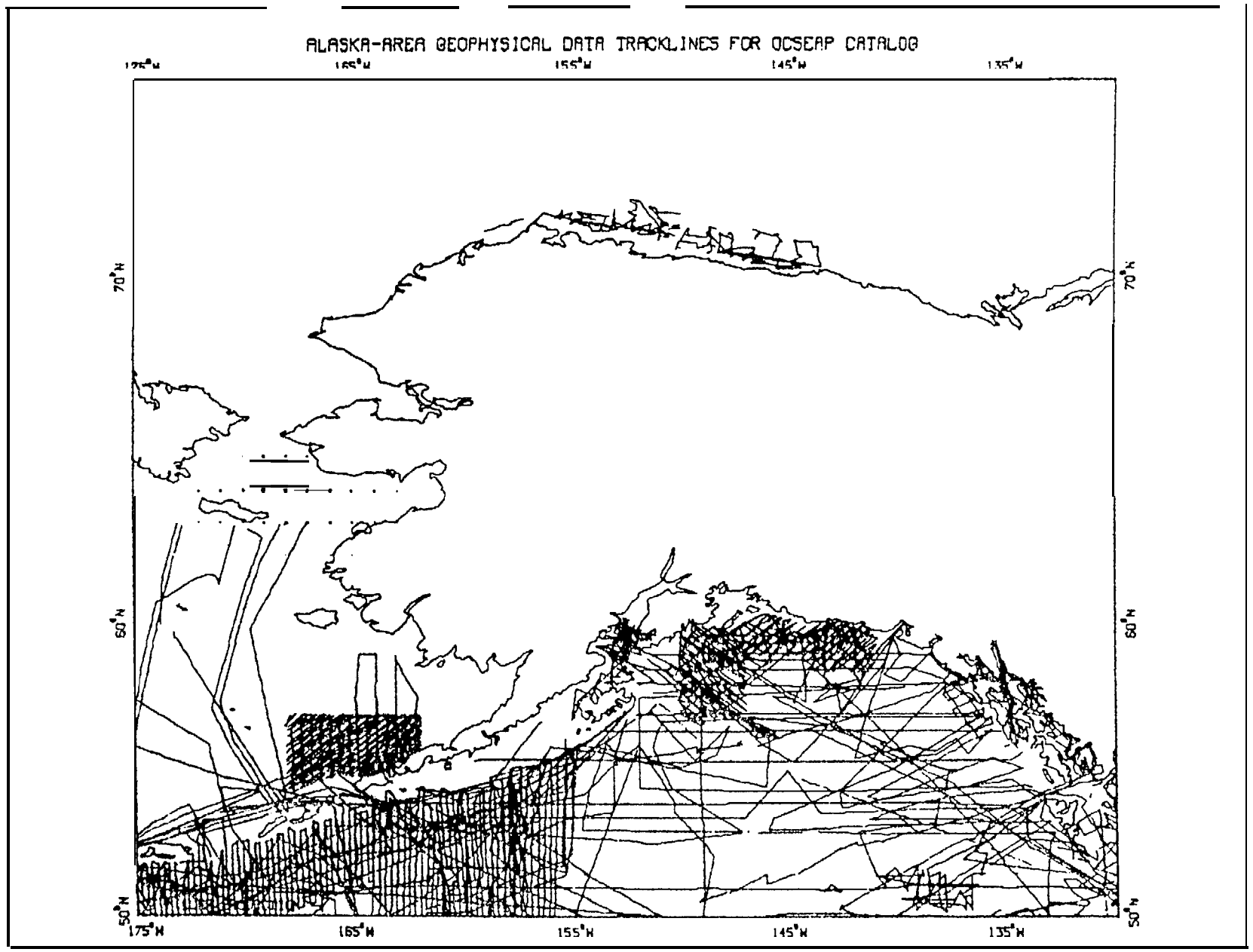


Figure I-E-3

Geophys cal Data Track ines

D gital and Ana og Geophys ca Data Fi es

This figure provides an inventory of tracks where geophysical data, such as magnetics, gravity, seismics and bathymetry have been collected. Track plots can be prepared for any one of these parameters and for any geographic area, season, etc.

Since all of the geophysical data types have not been collected along all tracks, it is emphasized that requests for specific data products be discussed with NGSDC personnel to ascertain the availability of the data required.

Track plots are applicable only to geophysical data held by NGSDC. This type of data is identified by NGSDC file type numbers similar to other OCSEAP data files that contain data collected in analog or digital mode.

Figure I-E-4

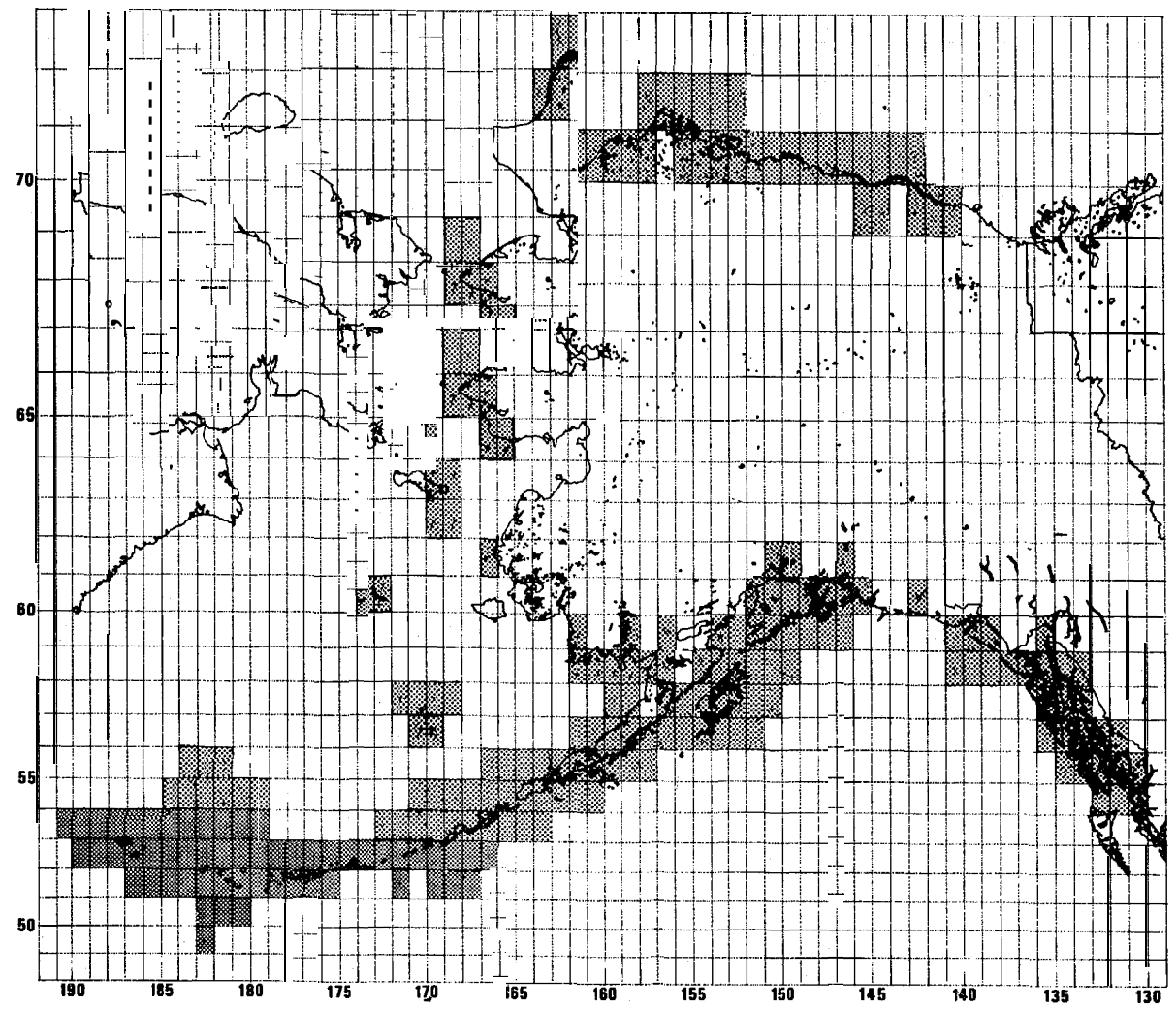
Bathymetric Coverage

File Type - Not applicab e

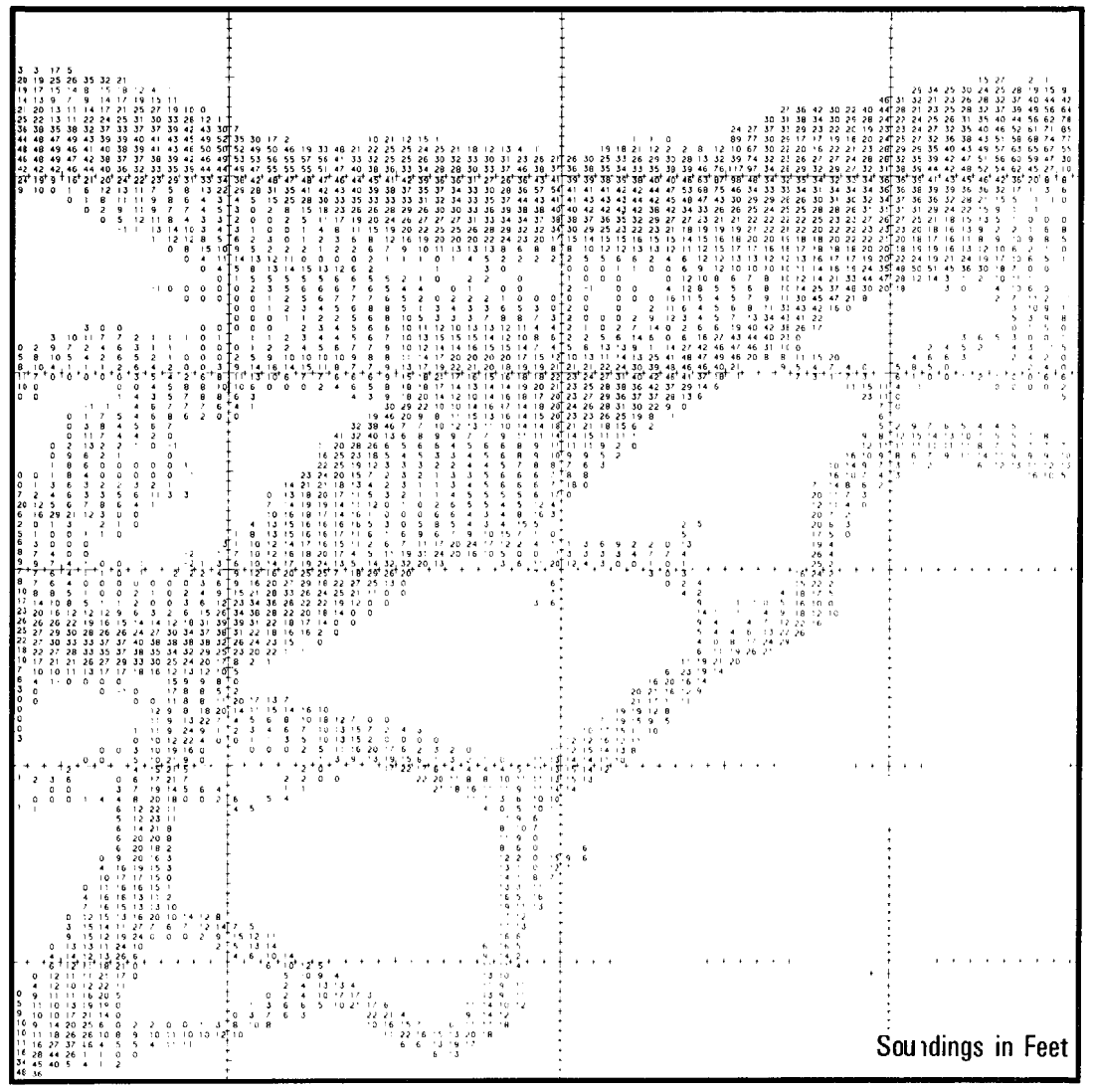
This figure displays bathymetric data coverage for the Alaskan OCS area for one-degree areas. The coverage includes data collected between 1930 and 1965; a small percentage (about 3%) of the data concerns bottom characteristics and dangers to navigation information.

All records contain a registry number and date of the survey, the type of data collected, and the geographic position. Data are available in a variety of products such as sounding plots, gridded data plots, bottom profiles and bottom characteristics displays. Plot parameters such as depth units, chart scale, and projection can be specified by the requestor. Magnetic tape copies of selected data also can be provided.

This type of data is not identified by a specific file type number as used for other OCSEAP data files. Similar charts can be generated for other individual geophysical parameters, such as seismic data coverage.



ALASKA BATHYMETRIC COVERAGE (1930-1965 ONLY).



UNIT GRID N X - 500 Ft.
Y - 300 Ft.

COLUMBIA RIVER ESTUARY
OREGAN STATE PLANE COORDINATE SYSTEM

Figure I-E-5

Bathymetric Sounding Plot

File Type - Not applicab e

This presentation displays data for an area outside the Alaskan OCS (the Columbia River estuary). Similar products can be generated for any Alaskan area where sufficient bathymetric data coverage exists as shown in Figure I-E-4.

For this example, the grid spacing is 500 feet in the X or longitude direction and 300 feet in the Y or latitude direction. Soundings are in feet but can also be displayed in meters. Depths can be displayed as specific values or as averages for specific areas as designated by the requestor.

This type of data is not identified by a specific file type number as used for other OCSEAP files.

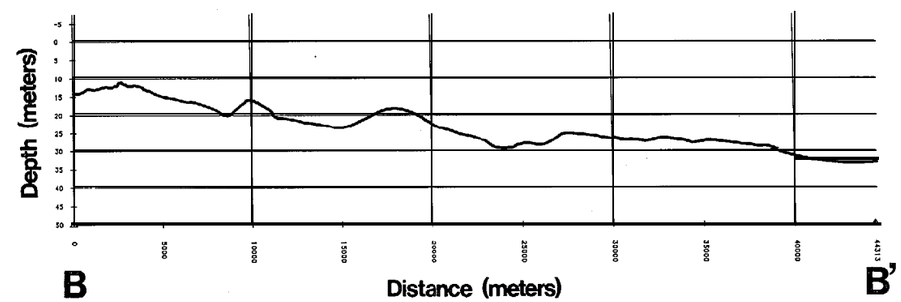
Figure I-E-6

Bathymetric Profile

File Type - Not applicable

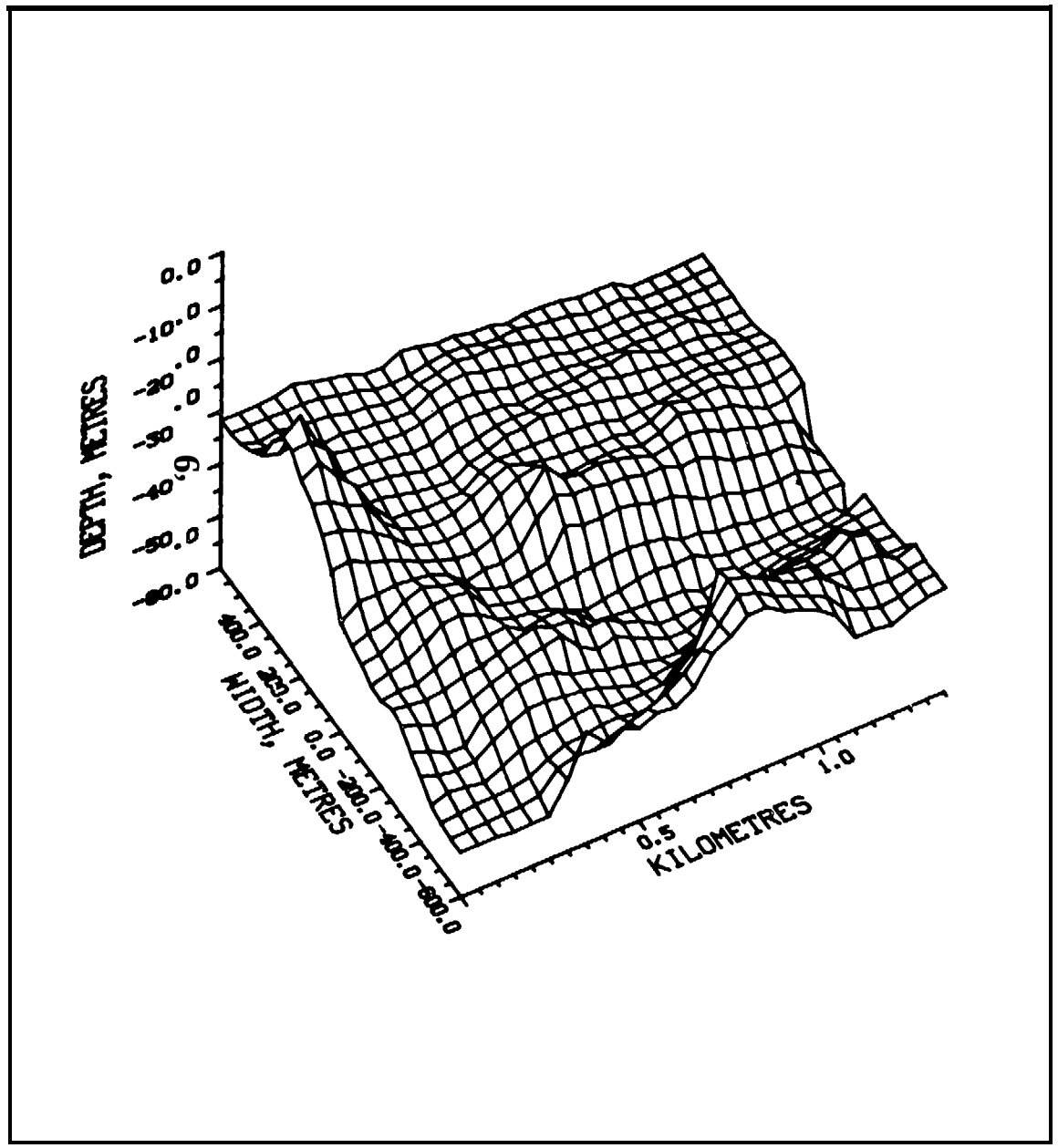
This presentation depicts a vertical bathymetric profile along a specified direction or point to point. The example uses data outside the Alaskan OCS but similar products can be generated wherever data are adequate. Vertical and horizontal scales can be set to the requestor's needs. Depths can be plotted in feet or meters and distances in meters, kilometers or nautical miles.

This type of data is not identified by a specific file type number as used for other OCSEAP data files.



LATITUDE OF ORIGIN - (0.0 KM.) 35.1667 DEG.
LONGITUDE OF ORIGIN - (0.0 Ku.) = 75.5000 DEG.
LATITUDE OF END POINT - [44.31 KM.) 35.3500 DEG.
LONGITUDE OF END POINT - [44.31 KM.)= 75.0667 DEG.

HORIZONTAL SCALE - 1 TO 78740
VERTICAL SCALE - 1 TO 394



3-D BATHYMETRIC PLOT

Figure I-E-7

Three-Dimentonal Bathymetric Disp ay

Fi.e Type - Not appl cab e

This figure displays sounding data as a three-dimensional presentation. The product is of course available only where data coverage is adequate. Depth (Z axis) and width of track (Y axis) generally are expressed in meters and length of track (X axis) in kilometers. Scales and units can be modified at the user's request. The maximum geographic area to be displayed is also dependent on the extent of data coverage.

This type of data is not identified by a specific file type number as used for other OCSEAP data files.

SECTION I-F - DATA VALIDATION AND DATA MANAGEMENT (NODC)

NODC HAS BEEN TASKED TO PROCESS AND ARCHIVE ALL PHYSICAL, CHEMICAL AND BIOLOGICAL DATA SUBMITTED BY OCSEAP INVESTIGATORS IN THE REQUIRED DIGITAL DATA FORMATS. AS A RESULT, A SYSTEM FOR DATA CHECKING AND VALIDATION HAS BEEN DEVELOPED THAT APPLIES TO ALL FILE TYPES, REGARDLESS OF DISCIPLINE. CRITERIA WERE ESTABLISHED FOR THOSE REQUIRED DATA FIELDS NECESSARY FOR THE DATA CENTER TO PROCESS, STORE AND RETRIEVE THE DATA FOR DATA PRODUCT REQUESTS. MANDATORY SCIENTIFIC PARAMETERS FOR EACH FILE TYPE HAVE BEEN IDENTIFIED BY OCSEAP THAT HELP DETERMINE CONTRACT COMPLIANCE FOR EACH INVESTIGATOR AND THAT PROVIDE NECESSARY DATA PARAMETERS FOR PROGRAM AND INVESTIGATOR PRODUCTS.

THE FOLLOWING EXAMPLES ARE SELECTED FROM PRODUCTS ROUTINELY GENERATED FOR EACH DATA SET (FILE ID) THAT HAVE BEEN SUBMITTED TO THE DATA CENTER. MANY OF THESE PRODUCTS ARE SIMILAR TO DATA CHECKING AND INVENTORY PRODUCTS GENERATED BY THE GROUPS AT AEIDC AND THE UNIVERSITY OF RHODE ISLAND WHERE MANY OF THE BIOLOGICAL DATA FILES ARE FIRST PROCESSED AND CHECKED.

THE PRODUCTS SHOWN IN THIS SECTION ARE AS FOLLOWS:

FIGURE I-F-1 - PRELIMINARY STATION PLOT
I-F-2 - PRELIMINARY STATION LISTING
I-F-3 - PARAMETER SUMMARY - SINGLE DATA SET
I-F-4 - DATA CHECK LIST
I-F-5 - TAXONOMIC SUMMARY - SINGLE DATA SET
I-F-6 - TAXONOMIC LIST FOR INDIVIDUAL STATIONS

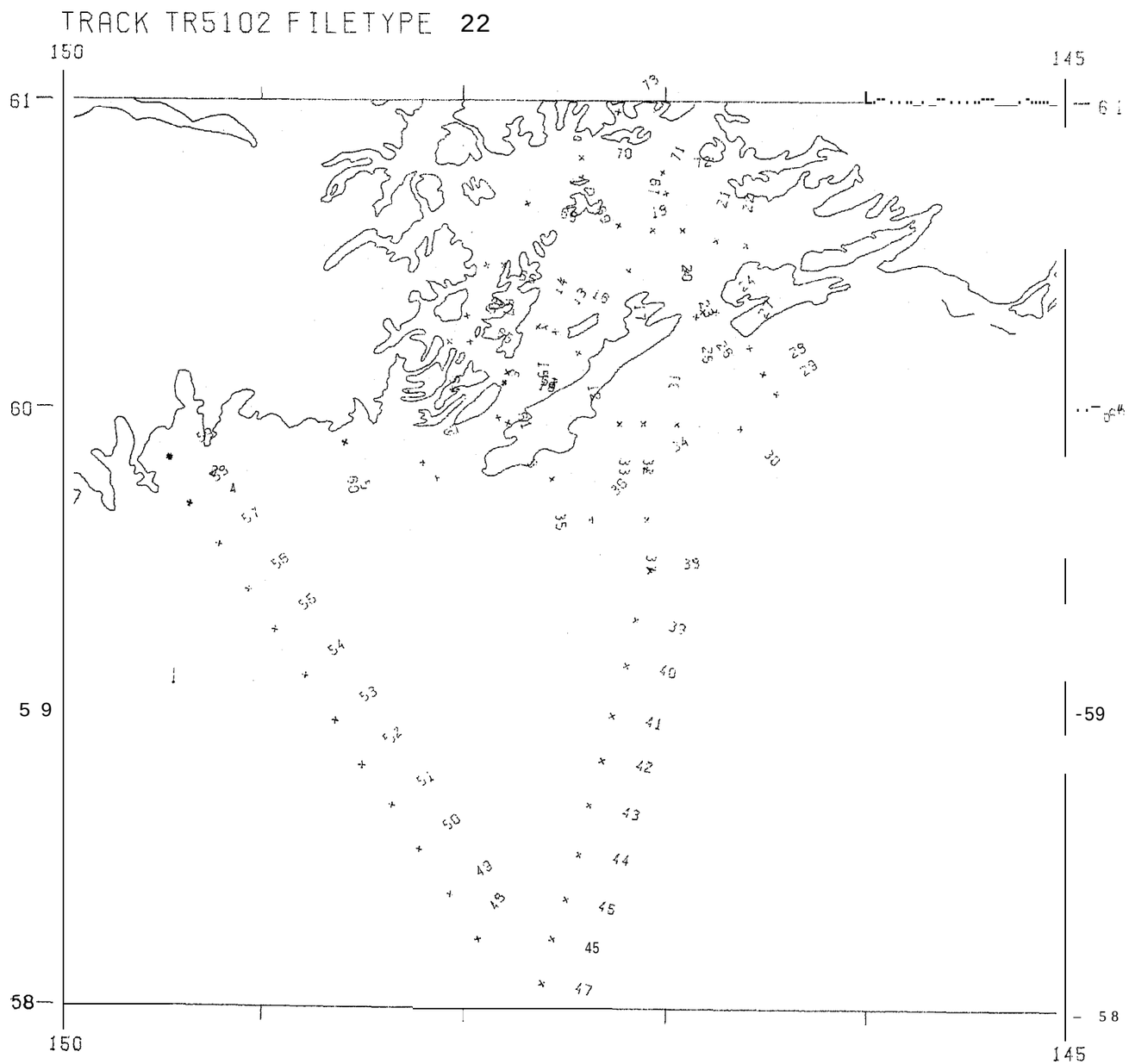


Figure I-F-1

Preliminary Station Plot

All File Types

This product is generated for each data set shortly after receipt of the data and prior to any data corrections or edits. Geographic limits generally are based on the minimum/maximum limits within each data set. Each plot is 12″ high to allow for up to three plots along the 40″ paper; length of each plot is dependent on the range of the longitudes.

Station numbers as reported by the investigator are plotted next to each station location. In an attempt to minimize overplotting of station numbers, stations are assumed to be a portion of a survey submitted in cruise order. The course between adjacent stations is computed and the station identifier is plotted perpendicular to the course. Plots are generated on a Miller projection and include the recent World Data Base II for land mass, rivers, etc.

Options include specifying geographic limits or selecting one of several lease areas which have pre-set limits. A list of any stations falling outside the geographic limits or that do not contain acceptable latitude or longitude values is provided. Another option allows for setting the maximum number of stations per plot (up to 500).

This example uses an STD survey (File Type 022) for data submitted by Royer of the University of Alaska (RU 289). The survey is identified as File ID 282IMS or NODC Track Number 5102.

Figure I-F-2

Pre iminary Station Listing

All File Types

This listing is generated for each data submission during processing for all types of data received in NODC formats to assure that all stations for each file ID have been correctly identified and that the information agrees with the Data Documentation Form (DDF) that accompanies the data. A review of the station positions on the list also verifies the CSEAP lease area all locations for each data set.

During this phase of processing, the investigator s file ID is replaced by an NODC Track Number; the file ID is retained in the data inventory file. The NODC Track Number assures that each data set will have a unique identifier. Other information for each preliminary inventory record includes the NODC accession number (NAPIS) which may be the same for multiple data sets within the same data submission, station latitude and longitude to the nearest minute, date, investigator's station number and an NODC status code (1 = final processed and 2 = in processing). The Anchorage facility uses a code of 3 to indicate that data are in processing at their facility.

These preliminary records, which are identified as QUADI records or 'quick and dirty inventory,' are merged with the final processed records to allow these new data to be included in any search of the inventory files within several weeks of receipt of the data. A status code of 2 indicates that the data should be used with caution. When data are final processed, the QUADI files are automatically replaced by the final inventory records with all corrections included.

This example displays zooplankton data stations (File Type 024) received from Hayes of the National Marine Fisheries Service (RU 551). The data are identified as File ID 1WE78 or NODC Track Number 5100.

NAPIS NO.	TRACK NO.	FILE TYPE	STATUS CODE	LATITUDE	LONGITUDE	DATE	STATION NO.
80-0005	TR5100	024	2	5858N	15114W	7811	2 98
80-0005	TR5100	024	2	5858N	15114W	7811	2 99
80-0005	TR5100	024	2	5847N	15058W	7811	1 100
80-0005	TR5100	024	2	5847N	15059W	7811	1 101
80-0005	TR5100	024	2	5847N	15059W	7811	1 102
80-0005	TR5100	024	2	5838N	15043W	7811	1 103
80-0005	TR5100	024	2	5837N	15044W	7811	1 104
80-0005	TR5100	024	2	5837N	15044W	7811	1 105
80-0005	TR5100	024	2	5837N	15044W	7811	1 106
80-0005	TR5100	024	2	5837N	15044W	7811	1 107
80-0005	TR5100	024	2	5829N	151 2W	7811	2 108
80-0005	TR5100	024	2	5829N	151 2W	7811	2 109
80-0005	TR5100	024	2	5829N	151 2W	7811	2 110
80-0005	TR5100	024	2	5822N	15121W	7811	2 111
80-0005	TR5100	024	2	5821N	15122W	7811	2 112
80-0005	TR5100	024	2	5821N	15122W	7811	2 113
80-0005	TR5100	024	2	5821N	15122W	7811	2 114
80-0005	TR5100	024	2	58 2N	15123W	7811	2 115
80-0005	TR5100	024	2	58 2N	15123W	7811	2 116
80-0005	TR5100	024	2	58 2N	15123W	7811	2 117
80-0005	TR5100	024	2	58 2N	15123W	7811	2 118
80-0005	TR5100	024	2	58 2N	15123W	7811	2 119
80-0005	TR5100	024	2	5812N	151 6W	7811	2 120
80-0005	TR5100	024	2	5812N	151 7W	7811	2 121
80-0005	TR5100	024	2	5812N	151 7W	7811	2 122
80-0005	TR5100	024	2	5812N	151 9W	7811	2 123
80-0005	TR5100	024	2	5812N	151 9W	7811	2 124
80-0005	TR5100	024	2	5828N	15027W	7811	1 125
80-0005	TR5100	024	2	5828N	15027W	7811	1 126
80-0005	TR5100	024	2	5828N	15027W	7811	1 127
80-0005	TR5100	024	2	5818N	15012W	7811	1 128
80-0005	TR5100	024	2	5817N	15012W	781	1 129
80-0005	TR5100	024	2	5817N	15012W	7811	1 130
80-0005	TR5100	024	2	5810N	15031W	7811	1 131
80-0005	TR5100	024	2	58 9N	15030W	7811	1 132
80-0005	TR5100	024	2	58 9N	15030W	7811	1 133
80-0005	TR5100	024	N 2	58 8N	15030W	7811	1 134
80-0005	TR5100	024	2	58 8N	15030W	7811	1 135
80-0005	TR5100	024	2	58 2N	15049W	7811	1 136
80-0005	TR5100	024	2	58 2N	15035W	7811	1 137
80-0005	TR5100	024	N 2	58 2N	15035W	7811	1 138
80-0005	TR5100	024	2	58 1N	15050W	7811	1 139
80-0005	TR5100	024	2	58 1N	15050W	7811	1 140
80-0005	TR5100	024	2	5753N	15110W	7811	1 141
80-0005	TR5100	024	2	5753N	15110W	7811	1 142
80-0005	TR5100	024	2	5753N	15110W	7811	1 143
80-0005	TR5100	024	2	5744N	15129W	7811	1 144
80-0005	TR5100	024	2	5744N	15130W	7811	1 145
80-0005	TR5100	024	2	5744N	15130W	7811	1 146
80-0005	TR5100	024	2	5737N	15146W	7811	1 147
80-0005	TR5100	024	2	5736N	15146W	7811	1 148

```
NSDCHEK *** NON-STANDARD DATA FIELD CHECKING PROGRAM
THIS IS 01/11/79 VERSION WITH FULL CODE CHECKING

USER'S INPUT REQUESTS FOLLOW:
LRECL HAS BEEN SPECIFIED AS  80
STATION HEADER RECORD SPECIFIED AS 1
RECORD TYPES FLAGGED FOR RETRIEVAL ARE = 0134
STATION STARTS IN POSITION  11 FOR  5 BYTES
STATION WILL APPEAR ON RECORD TYPES : 134
RECORD TYPE WILL BE TAKEN FROM COLUMN 10 OF THE INPUT RECORDS
FILETYPE IS 029

NO OBVIOUS ERRORS FOUND IN TABLE GENERATION PHASE - SUCCESSFUL EXECUTION EXPECTED
*****************************************************************************
029TR3646100001I5914   NI5340   W7803241900+10000320065006000314005   02      2307
   ??????
FIRST FILE ID
THE FIELDS BELOW WERE CHECKED AS FOLLOWS(S=SIGN/B=BLANK/T=TAXONOMIC CODE/N=NUMERICS/M=MANDATORY NUMERIC/Z=NO CHECKING
```

TYPE	REC	POS	LENGTH/NAME	RANGE TESTED LOW	RANGE TESTED HIGH	ACTUAL RANGE LOWEST	ACTUAL RANGE HIGHEST	MEAN	S. DEV	COUNT	FP	FP-1	>-1
M	0	28	2 YEAR CRUISE BEGIN	NO RANGE CHECKING		NO VALUES FOUND FOR THIS PARAMETER							
M	0	31	2 MONTH CRUISE BEGIN	01	12	NO VALUES FOUND FOR THIS PARAMETER							
M	0	34	2 DAY CRUISE BEGIN	01	31	NO VALUES FOUND FOR THIS PARAMETER							
M	0	37	2 YEAR CRUISE END	NO RANGE CHECKING		NO VALUES FOUND FOR THIS PARAMETER							
M	0	40	2 MONTH CRUISE END	01	12	NO VALUES FOUND FOR THIS PARAMETER							
M	0	43	2 DAY CRUISE END	01	31	NO VALUES FOUND FOR THIS PARAMETER							
M	1	16	2 LAT DEG STATION	48	78	59	59	59.00	00	21	21	0	0
M	1	18	2 LAT MIN STATION	00	59	14	33	23.42	6.46	21	21	0	0
N	1	20	2 LAT SEC STATION	00	59	NO VALUES FOUND FOR THIS PARAMETER							
C	1	22	1 0500LAT HEM STATION							21			
M	1	23	3 LON DEG STATION	120	175	151	153	152.14	1.25	21	21	0	0
M	1	26	2 LON MIN STATION	00	59	0	58	30.71	17.20	21	21	0	0
N	1	28	2 LON SEC STATION	00	59	NO VALUES FOUND FOR THIS PARAMETER							
C	1	30	1 0501LON HEM STATION							21			
M	1	31	2 YEAR DATE STATION	NO RANGE CHECKING		76	78	77.80	1.35	21	21	0	0
M	1	33	2 MONTH DATE STATION	01	12	3	3	3.00	00	21	21	0	0
M	1	35	2 DAY DATE STATION	01	31	24	27	25.47	92	21	21	0	0
M	1	37	2 HOUR DATE STATION	00	23	0	22	11.38	8.79	21	21	0	0
N	1	39	2 MINUTE DATE STATION	00	59	0	50	24.52	16.18	21	21	0	0
N	1	41	3 STATION TIME ZONE	+04	+11	10	10	10.00	00	21	21	0	0
N	1	44	5 DEPTH TO BOTTOM WHOLE METERS	00010	08000	32	32	32.00	00	1	1	0	0
N	1	49	4 CHLORO A INTGR TO .1 MG M(-2)	0017	3900	53	368	183.38	81.96	21	21	0	0
N	1	53	4 P. PIGMENTS INTGR TO.1 MG M(-2)	0005	0550	47	164	98.85	33.89	21	21	0	0
N	1	57	5 CARB ASSML INTGR TO.1 MG M(-2)	00025	99999	314	3914	2337.00	1503.14	3	3	0	0
N	1	62	3 ONE % LIGHT DEPTH WHOLE METERS	001	045	4	27	19.50	8.13	16	16	0	0
N	1	65	2 PHOSPHATE REACT TIME MINUTES	01	99	NOVALUES FOUND FOR THIS PARAMETER							
C	1	67	1 0183PH SCALE CODE			NO VALUES FOUND FOR THIS PARAMETER							
C	1	68	1 0184IN SITU CORR (PH) CODE			NO VALUES FOUND FOR THIS PARAMETER							
N	1	69	2 SECCHI DEPTH WHOLE METERS	01	20	2	10	7.31	2.95	16	16	0	0
N	1	71	3 MIXED LAYER DEPTH WHOLE METERS	000	060	NO VALUES FOUND FOR THIS PARAMETER							
N	1	74	3 LIGHT LEVEL LANGLEYS/DAY	030	650	NO VALUES FOUND FOR THIS PARAMETER							
N	1	77	3 QUANTA MODEINSTEINS/M2/DAY	001	999	137	230	173.66	40.46	3	3	0	0
N	1	80	1 EXPONENT (+) FOR ABOVE	0	9	7	7	7.00	00	3	3	0	0
N	3	16	5 DEPTH OF SAMPLE METERS TO .1	00000	08000	0	500	202.72	148.26	191	191	0	0
N	3	21	4 CHLOROPHYLL A CONC:.01MG M(-3)	0000	3600	16	83	41.85	12.35	191	191	0	0
N	3	25	4 PHAEOPIGMENT CONC .01MG M(-3)	0000	0270	9	50	22.93	7.47	191	191	0	0
N	3	29	5 CARBON ASSIMIL .01 MG M(-3)	00001	10500	6	279	102.66	82.53	21	21	0	0
N	3	34	2 HRS TIME OF INCUBATION	01	10	6	6	6.00	00	15	15	0	0
N	3	36	2 MIN TIME OF INCUBATION	00	59	6	27	16.46	10.15	15	15	0	0

Figure I-F-3

Parameter Summary - Single Data Set

All File Types

This listing provides information both to the originator for verifying data submission values and ranges and to project Offices to evaluate completeness of the data for contract compliance and scientific value. Every parameter of a format is checked. Ranges are set for parameters based on previously submitted data, supplementary information from investigators or Program or Project Office personnel, or reasonable limits are established by NODC personnel. Limits may be somewhat broad due to the multi-project nature of the data which may involve various geographic areas and environmental conditions. More specific ranges may be applied where ranges are provided by originators or other sources.

Parameters are considered under one of the following conditions:

M-Mandatory field C-Code field, code number under name
N-Numeric field
B-Blank field Z-Any entry acceptable

Other columns from left to right indicate the record type on the format, the starting column in that record and the length of the parameter. The parameter name includes units and precision where applicable.

The tested ranges are followed by the actual ranges for each data set and the mean and standard deviation values which may not always have the correct decimal placement as values are treated as whole numbers during computation.

The last group of numbers indicates total entries, the number reported at full precision, the number at full precision minus one (one trailing blank) and the number with more than one trailing blank. This check is for consistency of data entries (all should generally be at the same precision) and to allow investigators to submit values at less than full precision without having the entries flagged as possible errors.

The example displays a portion of a parameter summary for Primary Productivity data (File Type 029) submitted by Larrance of PMEL. The data set is identified as File ID LCI781 or NODC Track Number 3646. Summaries can be provided for groups of data sets as well as a single data set.

Figure I-F-4

Data Check List

a l ile Types

This product is an example of the listing resulting from several probable errors found in ≥ data submissio. The entire data record is printed and the parameters with questionable values are indicated with a series of question marks below the parameter in question.

The error message consists of the same parameter information as that listed in the parameter summary (Figure I-F-3). The code number and name are listed for codes out of range. Blank entries are noted for mandatory fie ds. Imbedded blanks (blanks within a parameter value) also are noted but trailing blanks are indicated only in the precision list as discussed for Figure I-F-3. Blanks preceding a value are acceptable for most parameters, although they may be zero-filled for the length of the parameter.

In the example, the only legitimate errors noted were entries of 'W' instead of 'N' for latitudes. The number '0' for number of individuals is an indication by the investigator that no birds were sighted at that particular station. During final processing, these records were changed by NODC to text records and a note 'No Birds Sighted' added wherever a '0' count value was found. Several stations ≥ so were misnumbered and were corrected during processing.

This example displays a portion of the data submitted by Conners of the University of California-Bodega Bay Lab. The data set is identified as File ID 770602 or NODC Track Number 4444.

```
MASTER RECORD ——— T244441BPP18712156W1562324W770901220671213 8N1562153W004   0502001
                                  ?
ERROR INDICATOR ———
ERROR STATEMENT ——— INVALID VALUE FOR CODE 0500LAT HEM
*****************************************************************************
034T244441BPP19712156W1562324W770907203571213 8N1562153W005   0502001
                                  ?
INVALID VALUE FOR CODE 0500LAT HEM
*****************************************************************************
034T244441BPP22712156W1562324W770917194071213 8N1562153W007   0502001
                                  ?
INVALID VALUE FOR CODE 0500LAT HEM
*****************************************************************************
034T244445BWJ09     91                          0                           1
                                        ??????
DATA BELOW RANGE IN # OF INDIVIDUALS  WHOLE NUMBER
*****************************************************************************
034T244445BWJ09     91                          0                           1
                                        ??????
DATA BELOW RANGE IN # OF INDIVIDUALS  WHOLE NUMBER
*****************************************************************************
034T244441BVC21711B01 1156402 9W770914     711812N1564101W      0501002
                                      ??
ILLEGAL BLANK FIELD-HOUR
*****************************************************************************
034T244445BWS09     91                          0                           1
                                        ??????
DATA BELOW RANGE IN # OF INDIVIDUALS  WHOLE NUMBER
*****************************************************************************
034T244445BWS21     91                          0                           1
                                        ??????
DATA BELOW RANGE IN # OF INDIVIDUALS  WHOLE NUMBER
*****************************************************************************
034T244445BP14040091120117 02                   02                          5
        ?????
STATION NUMBER HAS CHANGED WITHOUT A MASTER
*****************************************************************************
034T244444P     UNIDENTIFIED EIDERS ARE ALL CODED AS SOMATERIA 91120117.
        ?????
STATION NUMBER HAS CHANGED WITHOUT A MASTER
*****************************************************************************
```

THE FOLLOWING IS A UNIQUE LIST OF THE TAXCODES FOUND IN THIS FILE, FOR EACH CODE CURRENTLY IN THE TAXONOMY FILES A NAME HAS BEEN PRINTED OUT. FOR PURPOSES OF THIS PROGRAM ONLY ONE NAME IS PRINTED AND ALL DIFFERENCES BETWEEN COMMON AND LATIN NAMES, HOMONYMS, AND SYNONYMS ARE IGNORED

RECTYPE	REC. POS	TAXCODE	NAME	COUNT	WARNINGS
4	20	000000000000		1	CODE NOT FOUND
4	20	08	CHLOROPHYTA	1	
4	20	15	PHAEOPHYTA	1	
4	20	15080201	LAMINARIA	7	
4	20	16I.102I1	MEMBRANOPTERA	2	
4	20	34520301	CYCLOGYRA	1	
4	20	3452030101	CYCLOGYRA INVOLVENS	41	
4	20	3452030102		56	CODE NOT FOUND
4	20	34521401	QUINQUELOCULINA	1	
4	20	34530304	DENTALINA	17	
4	20	34531101	GUTTULINA	9	
4	20	34543002	ELPHIDIELLA	71	
4	20	3701	HYDROZOA	1	
4	20	3703010101	PERIGONIMUS YOLDIARCTICAE	6	
4	20	3703010501	CALYCOPSIS BIRULAI	14	
4	20	37030106	RATHKEA	1	
4	20	3703030101	CORYMORPHA FLAMMEA	10	
4	20	37030302	TUBULARIA	2	
4	20	3704050305	SERTULARIA TOLLI	1	
4	20	3711010201	AGLANTHA DIGITALE	27	
4	20	3712010401	AEGINOPSIS LAURENTII	5	
4	20	3740	ANTHOZOA	5	
4	20	374704c)10Z	EUNEPHTHYA FRUCTOSA	1	
4	2'3	43	RHYNCHOCOELA	57	
4	20	47	NEMATODA	83	
4	20	5001	POLYCHAETA	117	
4	20	50Q102c)202	ANTINOELLA SARSI	2	
4	20	5001021301	HELAENIS LOVENI	7	
4	" 20	5001060101	PHOLOE MINUTA	9	
4	2.3	5001120103		1	CODE NOT FOUND
4	20	5001130102	ANAITIDES GROENLANDICA	14	
4	20	5001130205	ETEONE LONGA	85	
4	20	5001210301	NEREIMYRA APHRODITOIDES	28	
4	20	5001230107	AUTOLYTUS ALEXANDRI	1	
4	20	5001230705	EXOGONE NAIDINA HOM.1	6	
4	20	50012501	NEPHTYS	2	
4	20	5001250102	NEPHTYS CILIATA	6	
4	20	500125o103	NEPHTYS CAECA	11	
4	20	5001250110	NEPHTYS PARADOXA	40	
4	20	5001260201	SPHAERODOROPSIS MINUTA	66	
4	20	50013101	LUMBRINEREIS	1	
4	20	5001310114	LUMBRINEREIS ACUTA	10	
4	20	5001360102	DORVILLEA CAECA	12	
4	20	5001400102	HAPLOSCOLOPLOS ELONGATUS	4	
4	20	5001490301	SCOLOPLOS ARMIGER	46	
4	20	50014005	ORBINIA	9	
4	20	5001410201	ARICIDEA SUECICA	27	
4	2a	50014106	CIRROPHORUS	30	
4	20	5001420101	APISTOBRANCHUS TULLBERGI	1	

Figure I-F-5

Taxonomic Summary - Single Data Set

All Biological File Types

This product is an example of the summary of taxonomic codes reported for a single data set. It is routinely provided during data checking for all file types containing taxonomic code fields. The list is sorted numerically with taxonomic names and the number of entries for each code included. The list separates codes for each taxonomic field in each format record which allows for differentiating predator and prey data within a data set.

This listing may be generated for portions of a data set such as selected stations, or for multiple data sets. There is no limit to the number of codes that can be listed. In addition to all reported codes, the list indicates any unacceptable codes (a code not in the NODC code file) with a 'code not found' message. Some newly assigned codes not yet incorporated in the automated version of the file are considered acceptable as in the case of the unacceptable codes in the example.

A separate search program is completed to identify' the specific data records containing unacceptable codes to enable investigators to clarify these codes.

This example shows a partial list of intertidal data submitted by Broad of Western Washington State University (RU 356). The data set is identified as File ID 790317 or NODC Track Number 4137.

Figure I-F-6

Taxonomic List for Individual Stations

A Biological File Types

This listing is generated for special cases where summaries of unique species for each station of a cruise or survey are required. The frequency of entries and counts of each species are not included, but unacceptable codes are noted as discussed in Figure I-F-5. A location record as submitted by the investigator is listed to help identify each station.

This listing may be generated for any number of data sets or selected stations. There is no limit to the number of stations or the number of species codes that can be listed.

This example lists a portion of a marine bird sighting data set (File Type 033) submitted by Divoky of the Pt. Reyes Bird Observatory. The data set is identified as File ID 2A2976 or NODC Track Number 2369.

```
FILE TYPE/TRACK NO./STA. NO/START LAT./START LONG./DATE/TIME/END LAT./END LONG./TIME ZONE/PLATFORM CODES
033TR236911ZE12702850N1602615W76092100027050 40N1592115W15+10   4 4551      580
          88010101        GAVIA
          88060113 01     CLANGULA HYEMALIS
          88100801 01     LARUS HYPERBOREUS

033TR236911ZF13705040N1592115W76092100177049 05N1730W10+10      7 4551      07
          8806010303      BRANTA NIGRICANS
          8806011301      CLANGULA HYEMALIS
          88060117        SOMATERIA
          8810080101      LARUS HYPERBOREUS

033TR236911ZG14704905N1581730W76092100277123 15N1562925W25+10   5 4551      85
          88010101        GAVIA
          8801010102      GAVIA ADAMSII
          880601          ANATIDAE
          8806011301      CLANGULA HYEMALIS
          8810080101      LARUS HYPERBOREUS

033TR236911FG09704905N1517301W76092100277123 15N1562925W25+10   5 4551      850
          88010101        GAVIA
          8801010104      GAVIA STELLATA
          880601          ANATIDAE
          8806011301      CLANGULA HYEMALIS
          88060117        SOMATERIA
          8806011701      SOMATERIA MOLLISSIMA
          8810080101      LARUS HYPERBOREUS

03 TR236911DB01694350N1630500W76092021046916 25N1631800W14+10   19 4551     55
          88010101        GAVIA
          880601          ANATIDAE
          88060117        SOMATERIA
          88100412        CALIDRIS
          8810080101      LARUS HYPERBOREUS
          881402          STRIGIDAE

033TR236911ZAC2691625N1631800W76092021 8685230N1660700W31+11   24 451      1400
          88010101        GAVIA
          880601          ANATIDAE
          8806010303      BRANTA NIGRICANS
          88060117        SOMATERIA
          881008          LARIDAE
          8810080101      LARUS HYPERBOREUS
          8810080501      XEMA SABINI
          88101003        URIA

033TR236911FAC368523 0N1660700W76092022296916 25N1631700W35+11   07 4551     1400
          88010101        GAVIA
          880601          ANATIDAE
          8806010303      BRANTA NIGRICANS
          88060117        SOMATERIA
          88100701        STERCORARIUS
          8810080101      LARUS HYPERBOREUS
```

SECTION II — OCSEAP DATA SUPPORT FACILITY PRODUCTS

THIS SECTION CONSISTS OF OCSEAP PRODUCTS DEVELOPED BY FACILITIES OTHER THAN THE EDIS DATA CENTERS. THESE PRODUCTS INCLUDE A VARIETY OF GRAPHIC DISPLAYS FOR PHYSICAL OCEANOGRAPHIC DATA, MARINE BIRD STUDIES AND MICROBIOLOGICAL INVESTIGATIONS. IN ADDITION, A LARGE NUMBER OF TABULAR SUMMARIES AND STATISTICAL PRESENTATIONS ARE DESCRIBED, PARTICULARLY FOR MARINE BIOLOGICAL DATA AND OCSEAP DATA MANAGEMENT SUPPORT.

AS NOTED IN THE INTRODUCTION TO EACH FACILITY, PRODUCTS DESCRIBED IN THIS SECTION GENERALLY HAVE BEEN LIMITED TO SUPPORTING SPECIFIC OCSEAP INVESTIGATORS AND ARE NORMALLY NOT AVAILABLE TO OTHER OCSEAP INVESTIGATORS WITHOUT PRIOR APPROVAL OF THE PROGRAM OR PROJECT OFFICE PERSONNEL. INDIVIDUALS OTHER THAN OCSEAP INVESTIGATORS THAT ARE INTERESTED IN SPECIFIC OCSEAP PRODUCTS DESCRIBED IN THIS SECTION MAY NEGOTIATE IN MANY CASES WITH THAT FACILITY TO OBTAIN PARTICULAR PRODUCTS THAT ARE AVAILABLE.

THE TABLE IN THE INTRODUCTION TO THE CATALOG, AND PARTS 1 AND 2 OF THE CATALOG PROVIDE MORE SPECIFIC INFORMATION CONCERNING DATA RECEIVED TO DATE FROM OCSEAP SURVEYS THAT ARE AVAILABLE AT EACH FACILITY. SINCE SOME DATA ARE INITIALLY SUBMITTED TO THESE SUPPORT FACILITIES FOR PROCESSING PRIOR TO SUBMISSION TO THE DATA CENTER, THERE MAY BE SUPPLEMENTAL DATA NOT YET LISTED IN THE CATALOG THAT ARE AVAILABLE FOR SOME PRODUCTS. ACCESS AND INCLUSION OF SUPPLEMENTARY DATA SHOULD OF COURSE BE DISCUSSED WITH PERSONNEL WORKING AT EACH FACILITY.

SECTION II-A - MARINE BIOLOGY AND DATA MANAGEMENT (AEIDC/NODC)

A SIGNIFICANT AMOUNT OF OCSEAP DATA MANAGEMENT SUPPORT IS PROVIDED BY THE GROUP LOCATED AT THE ARCTIC ENVIRONMENTAL INFORMATION AND DATA CENTER IN ANCHORAGE. THE GROUP IS MANAGED BY THE NODC ALASKA LIAISON OFFICER. ASSISTANCE IS PROVIDED TO OCSEAP IN THE FORM OF DIGITAL DATA PROCESSING AND INVENTORIES, DATA VALIDATION, TAXONOMIC CODE PRODUCTS AND DATA MANAGEMENT SUPPORT. INITIALLY, IN 1977, THE GROUP WAS FUNDED ESSENTIALLY TO SUPPORT KEY ENTRY AND VERIFICATION OF INVESTIGATORS' DATA SUBMITTED ON FIELD CODING FORMS. FOR THE PAST FEW YEARS, HOWEVER, THE GROUP HAS EMPHASIZED DATA CHECKING AND VALIDATION OF MARINE BIOLOGICAL DATA TYPES, PARTICULARLY FOR THOSE FILE TYPES WITH PREDATOR/PREY DATA.

AS A RESULT, A NUMBER OF TABULAR SUMMARY PRODUCTS HAVE BEEN DEVELOPED BY THIS GROUP, MANY OF WHICH ARE DISPLAYED IN THIS SECTION OF THE CATALOG. IN ADDITION TO PRODUCTS CONCERNING DATA PROCESSED BY AEID PERSONNEL, UP-TO-DATE COPIES OF OCS DATA FINAL PROCESSED BY NODC ARE MAINTAINED AT AEIDC FOR THE MORE IMPORTANT DATA TYPES, ESPECIALLY MARINE BIOLOGICAL AND CHEMICAL DATA.

SINCE THE AEIDC GROUP IS FUNDED ANNUALLY FOR SPECIFIC DATA PROCESSING AND ANALYTICAL SUPPORT, REQUESTS FOR PRODUCTS NOT ALREADY SCHEDULED MUST BE FORWARDED THROUGH THE APPROPRIATE PROJECT OFFICE OR THE OCSEAP DATA PRODUCTS COORDINATOR FOR APPROVAL AND PRIORITY ASSIGNMENT. REQUESTS FOR OCSEAP PRODUCTS BY NON-OCSEAP INVESTIGATORS MAY BE NEGOTIATED BETWEEN AEIDC AND THE REQUESTOR, WHERE NON-OCSEAP RESOURCES CAN BE MADE AVAILABLE.

PRODUCTS IN THIS SECTION GENERALLY CAN BE DIVIDED INTO ONE OF SEVERAL TYPES: THOSE INVOLVING PRODUCTS APPLICABLE TO MORE THAN ONE FILE TYPE (FIGURES II-A-1 THRU II-A-7), THOSE USED PRIMARILY FOR ONE SPECIFIC FILE TYPE (FIGURES II-A-8 THRU II-A-12), AND THOSE USED FOR PROJECT MANAGEMENT AND CONTRACT VALIDATION (FIGURES II-A-13 THRU II-A-15). FUTURE AEIDC PRODUCTS WILL INCLUDE A GRAPHIC PACKAGE WHICH RECENTLY HAS BEEN IMPLEMENTED TO DISPLAY DATA IN THE FORM OF HISTOGRAMS, X-Y PLOTS, AND PIE-DIAGRAMS.

THE PRODUCTS DESCRIBED IN THIS SECTION ARE AS FOLLOWS:

FIGURE II-A- 1 - TAXONOMIC LIST
II-A- 2 - DATA LISTING WITH TAXONOMIC NAMES
II-A- 3 - DIGITAL FORMAT CODE SUMMARY
II-A- 4 - DATA SET SUMMARY
II-A- 5 - PRELIMINARY INVENTORY LISTING

FIGURE II-A- 6 - PARAMETER RANGE SUMMARY
II-A- 7 TAXONOMIC CATEGORIES
II-A- 8 - TAXONOMIC CATEGORY SUMMARY
II-A- 9 - SPECIAL TAXONOMIC CATEGORY
II-A-10 - BIRD DENSITY
II-A-11 - PREDATOR-PREY LIST
II-A-12 - SPECIAL PREDATOR-PREY LIST
II-A-13 - PARAMETER CHECK LIST - FILE TYPE
II-A-14 - PARAMETER CHECK LIST - FILE TYPE/RU
II-A-15 - EXCEPTION REPORT

RU100 NODC CODE 80/03/14
TAXONOMIC LIST

5102050201	8	COLLISELLA PELTA
5102050202	13	COLLISELLA DIGITALIS
5102050207	12	COLLISELLA STRIGATELLA
5102050301	6	NOTOACMAEA SCUTUM
5102100103	3	CALLIOSTOMA LIGATUM
5102100308	7	MARGARITES PUPILLUS
5102100312	4	MARGARITES SUCCINCTUS
5103090302	14	LACUNA VARIEGATA
5103100101	16	LITTORINA SITKANA
5103100104	15	LITTORINA SCUTULATA
5103460103	2	BITTIUM ESCHRICHTII
5105010802	9	**CANNOT FIND**
5105010803	2	**CANNOT FIND**
5105040201	5	SEARLESIA DIRA
5110060101	6	ACLAJA DIOMEDEUM
5124020101	2	PHYLLAPLYSIA TAYLORI
5131050401	6	ONCHIDORIS BILAMELLATA
5303020601	2	TONICELLA INSIGNIS
5303020602	1	TONICELLA LINEATA
5303020701	1	LEPIDOZONA MERTENSII
5303020703	5	LEPIDOZONA COOPERI
5303070301	5	KATHARINA TUNICATA
5303070407	1	MOPALIA LIGNOSA
5303070408	3	MOPALIA MUCOSA
5507010101	11	MYTILUS EDULIS
5515170102	2	CYCLOCARDIA CREBRICOSTATA
5515220102	5	CLINOCARDIUM NUTTALLII
5515310114	16	MACOMA NASUTA
5515310115	8	MACOMA INQUINATA
5515310116	2	MACOMA BALTHICA
5515310204	1	TELLINA MODESTA
5515470101	20	TRANSENNELLA TANTILLA
5515470501	3	PSEPHIDIA LORDI
5515470701	9	PROTOTHACA STAMINEA
5515470801	3	TAPES PHILIPPINARUM
5517010201	4	MYA ARENARIA
6110999997	4	##OSTRACODA
6110999998	14	##OSTRACODA
6134010101	7	CHTHAMALUS DALLI
6134020103	8	BALANUS CARIOSUS
6134020107	12	BALANUS GLANDULA
6134020110	2	BALANUS NUBILIS
6153010301	4	ARCHAEOMYSIS GREBNITZKII
6154010104	1	LAMPROPS CARINATA
6154050202	2	DIASTYLOPSIS TENUIS
6154999998	3	##PERACARIDA CUMACEA
6154999999	11	##PERACARIDA CUMACEA
6155999998	1	##PERACARIDA TANAIDACEA
6157020101	11	LEPTOCHELIA SAVIGNYI
6161010101	5	CIROLANA KINCAIDI
6161020301	22	GNORIMOSPHAEROMA OREGONENSIS
6161020501	9	DYNAMENELLA SHEARERI

Figure II-A-1

Taxonomic List

Selected Biological File Types

This product is the result of a taxonomic code check on a data set. All taxonomic codes are checked for validity. Any invalid codes are flagged as '**CANNOT FIND**.' Any special codes, codes created by the investigator for his special purpose, are flagged with '##' in front of the taxonomic name. A summary of the codes present in the data is printed along with the number of entries of each code and its taxonomic name. Codes which were flagged are also printed but with '**CANNOT FIND**' in place of the name or '##' in front of the name.

The example presented refers to data collected by a non-OCSEAP investigator. The survey used is identified by NODC Track Numbers 4494 and 4495. This product is applicable to File Types 023, 025, 027, 030, 031, 032 and 100. File Type 100 is an intertidal data format not currently associated with OCSEAP data.

Figure II-A-2

Data Listings with Taxonomic Name

Selected Biologica File Types

This product is a print of the data with the taxonomic name written to the right of each taxonomic code record. The taxonomic name is written out exactly as it is printed in the NODC taxonomic code file. If any of the codes in the data were not valid codes, they are printed with '**CANNOT FIND**' in place of the taxonomic name. If there are any special codes present, they are printed with '##' in front of the taxonomic name.

The example presented refers to data collected by a non-OCSEAP investigator. The survey used is identified by NODC Track Numbers 4494 and 4495. This product is applicable to File Types 023, °25, °27, °3°, 031, 032, an ° °°.

DATA LISTING /TAXONOMIC NAME PAGE 1

```
     ....*....1....*....2....*....3....*....4....*....5....*....6....*....7....*....8    TAXONOMIC NAME
0101 100TR44941030700000   740716    483048N1230842W
0102 100TR44943030700001 13740716       15-003
0103 100TR44944030700002 133915020103       3                                          PROCERODES PACIFICA
0104 100TR44944030700006 136161020301       3                                          GNORIMOSPHAEROMA OREGONENSIS
0105 100TR44944030700012 135004            34                                          OLIGOCHAETA
0106 100TR44943030700013 23740716       15-003
0107 100TR44944030700018 233999999993       2                                          ##PLATYHELMINTHES
0108 100TR44944030700020 235004            40                                          OLIGOCHAETA
0109 100TR44944030700022 236169210805       2                                          MAERA DUBIA
0110 100TR44943030700025 33740716       15-003
0111 100TR44944030700028 335004           330                                          OLIGOCHAETA
0112 100TR44944030700030 336169210805       3                                          MAERA DUBIA
0113 100TR44944030700034 3347               1                                          NEMATODA
0114 100TR44944030700036 333999999999       5                                          ##PLATYHELMINTHES
0115 100TR44943030700037 38740716       15-003
0116 100TR44944030700042 383999999993       5                                          ##PLATYHELMINTHES
0117 100TR44944030700044 385004            62                                          OLIGOCHAETA
0118 100TR44944030700046 386163210805       5                                          MAERA DUBIA
0119 100TR44943030700049 02740716       15 009
0120 100TR44944030700050 023915020103      54                                          PROCERODES PACIFICA
0121 100TR44944030700052 025004             8                                          OLIGOCHAETA
0122 100TR44944030700054 026169210805     743                                          MAERA DUBIA
0123 100TR44944030700058 023999999999       1                                          ##PLATYHELMINTHES
0124 100TR44943030700059 03740716       15 009
0125 100TR44944030700062 036169210805      75                                          MAERA DUBIA
0126 100TR44944030700068 033915020103     166                                          PROCERODES PACIFICA
0201 100TR44943030700069 08740716       15 009
0202 100TR44944030700070 083915020103     242                                          PROCERODES PACIFICA
0203 100TR44944030700076 085004            10                                          OLIGOCHAETA
0204 100TR44944030700078 086169210805    4924                                          MAERA DUBIA
0205 100TR44943030700079 13740716       15 009
0206 100TR44944030700082 133915020103      61                                          PROCERODES PACIFICA
0207 100TR44944030700084 135004             1                                          OLIGOCHAETA
0208 100TR44944030700086 136169210805    1053                                          MAERA DUBIA
0209 100TR44943030700089 18740716       15 009
0210 100TR44944030700090 183915020103     132                                          PROCERODES PACIFICA
0211 100TR44944030700092 185004             2                                          OLIGOCHAETA
0212 100TR44944030700094 186169210805     375                                          MAERA DUBIA
0213 100TR44944030700098 183999999999       1                                          ##PLATYHELMINTHES
0214 100TR44943030700099 23740716       15 009
0215 100TR44944030700100 236169210805     125                                          MAERA DUBIA
0216 100TR44944030700102 2347               3                                          NEMATODA
0217 100TR44944030700104 233999999999       1                                          ##PLATYHELMINTHES
0218 100TR44944030700106 233915020103      42                                          PROCERODES PACIFICA
0219 100TR44944030700108 235004            30                                          OLIGOCHAETA
0220 100TR44943030700109 28740716       15 009
0221 100TR44944030700110 283915020103      51                                          PROCERODES PACIFICA
0222 100TR44944030700116 285004            43                                          OLIGOCHAETA
0223 100TR44944030700118 286169210805    2647                                          MAERA DUBIA.
0224 100TR44943030700119 33740716       15 009
0225 100TR44944030700122 333915020103      89                                          PROCERODES PACIFICA
0226 100TR44944030700124 335004             1                                          OLIGOCHAETA
0301 100TR44944030700126 336169210805    1432                                          MAERA DUBIA
     | FILE TYPE | FILE ID | REC. NO. | STA. NO. | SEQ. NO. | SAMPLE NO. | (REC. 4/5 ONLY) TAXO. CODE | COUNT |
```

CD025 SUMMARY OF CODES USED PAGE 1

FILE TYPE 025 RU 230

SUMMARY OF CODES USED

0101 SEX

CODE	ENTRIES	DESCRIPTION
0	1	INDETERMINABLE
1	17	MALE
2	18	FEMALE

0117 DECISION

CODE	ENTRIES	DESCRIPTION
	115	BLANK - NO INFORMATION
N	8	NO
Y	8	YES

0135 HABITAT (025)

CODE	ENTRIES	DESCRIPTION
	36	BLANK - NO INFORMATION

0136 MISC STOMACH CONTENT

CODE	ENTRIES	DESCRIPTION
	95	BLANK - NO INFORMATION

0139 BEHAVIOR (027)

CODE	ENTRIES	DESCRIPTION
	36	BLANK - NULL CODE - NO BEHAVIOR INFORMATION AVAILABLE

0144 DIGESTIVE ORGAN

CODE	ENTRIES	DESCRIPTION
	95	BLANK STOMACH

0148 LIFE HISTORY

CODE	ENTRIES	DESCRIPTION
	95	BLANK - NO INFORMATION

Figure II-A-3

Digital Format Code Summary

Selected File Types

This product provides a listing of all digital codes which were employed in a given data set. The digital codes are listed in ascending order. Each digital code is identified by printing the digital code number and description followed by each individual code designation used under that digital code, the number of entries for that code designation, and the description of that code designation. Each digital code is listed in this format.

The capability to produce the Digital Format Code Summary has been developed for File Types 023, 024, 025, 027, 030, 031, 032, 040, 041, 100, 123, and 124. The program which produces this product also checks for and lists any illegal codes.

The data in this example were collected during the year 1977 by Burns of the Alaska Department of Fish and Game (RU 230). The survey is identified as 677DIO or NODC Track Number 5077.

Figure II-A-4

Data Set Summary

Selected File Types

This product provides a summary of fields listed by record type. The record type description and total number of records are listed prior to each individual field name and number of entries for that field. Each record type is listed in this format. This product can be used to compare actual fields within a data set to fields required for analysis, etc. This summary is from a survey submitted by Feder of the University of Alaska (RU 005). The data set is identified as File ID FED01 or NODC Track Number 5738.

The Data Set Summary is now available for File Types 023, 024, 025, 027, 030, 031, 032, 041, 100, and 124.

EX 032 FILE TYPE 032 PAGE 1

RU005 DATE 13 MAR 80

FEDER

SUMMARY OF EACH RECORD TYPE

RECORD TYPE 1 *HEADER TEXT RECORD* 5 RECORDS

FIELD	NO.ENTERED
SHIP NAME	5

RECORD TYPE 2 *STATION HEADER RECORD* 19 RECORDS

FIELD	NO.ENTERED	FIELD	NO.ENTERED
START DEPTH	19	START DATE	19
START TIME	19	START LATITUDE	19
START LONGITUDE	19	END DEPTH	19
END DATE	0	END TIME	0
END LATITUDE	19	END LONGITUDE	19
DISTANCE OFFS-HIRE	0	TOW DIRECTION	0

RECORD TYPE 3 *SEGMENT DETAIL RECORD* 19 RECORDS

FIELD	NO.ENTERED	FIELD	NO.ENTERED
START DEPTH	0	END DEPTH	0
PENETRATION DEPTH	0	AREA SAMFILED	0
BOTTOM SALINITY	0	BOTTOM TEMPERTURE	0
BOTTOM OXYGEN	0	ORGANIC CARBON	0
CARBON SEDIMENT	0	SAND SEDIMENT	0
SILT SEDIMENT'	0	CLAY SEDIMENT	0
SIZE MIN.SIEVES	0	WIRE LENGTH	0
WIRE ANGLE	0	AVG PHI SIZE	0
EQUIPMENT CODE	19	SAMPLE NUMBER	0
SAMPLE VOLUME	0	NUMBER OF GRABS	19

RECORD TYPE 5 *SPECIES RECORD* 188 RECORDS

FIELD	NO.ENTERED	FIELD	NO.ENTERED
SPECIES CODE	188	SUB SPECIES CODE	0
NUMBER INDIVIDUALS	188	SPECIES WEIGHT	188
QUALITATIVE CODE	188		

QUADI2 FI⊢≡ TYP≡ 023 PAG≡ 1

....*....1....*....2....*....3....*....4....*....5....*....6....*....7....*....8

```
023NGULF136017N14659W750723
023NGUL⊂ .35955N148∘4W75⊞⊞
023NGULF135956N14803W750728
023NGULF235952N147⊞⊞5∘914
023NGULF235952N14747W750915
023NGULF235955N14804W750916
023NGULF235956N14803W750917
023NGULF336∘17N14659W751123
∘23≥NGU⊢F3≥6017N14700W751124
023NGULF335955N14804W751125
023NGULF335956N14803W751126
023NGULF335956N148∘3⊞51127
02≥NG∘⊢F≥≥5955N14804W751128
023NGULF335952N14747W751129
023NGULF335952N14747W751130
023NGULF435952N14747W760313
023NGULF435952N14747W760314
023NGULF435952N14747W760315
023NGULF435956N14≡∘3⊞76∘316
023NGULF435956N148∘3W760318
023NGULF4≥6017N14700W760319
∘23NG∘LF436017N14700W760320
023NGULF436017N14700W760622
```

FTP FILE ID STATUS CODE LAT LONG DATE

Figure I₂-A-5

Preliminary Inventory Listing

Selected File Types

This product provides a listing which contains the file type, file identification, status code, latitude, longitude, sample date, and station number for each station within any given data set. These data can be used to display sample area maps for one or more surveys.

The data in the example were collected in 1975-76. The surveys are identified as NGULF1, NGULF2, NGULF3 and NGULF4, submitted by Lees of Dames and Moore (RU 417). These data sets have not yet been assigned NODC track numbers.

Figure II-A-6

Parameter Range Summa ry

Selected File Types

This product provides a printout containing minimum and maximum range values found in the data. The ranges are listed by record type. The field number, field name, minimum value, and maximum value are printed for each field within the record type. The program that produces the Parameter Range Summary checks each field within the data set and records the minimum and maximum value.

This product has been developed for file types 023, 025, 031, and 032. The data in the example were collected in 1977 by Jackson of the Alaska Department of Fish and Game (RU 552). The survey is identified as 000781 and has not yet been assigned an NODC track number.

MAX-MIN RANGE CHECK 023 -RU 552 *

RT 1 HAUL RECORD

	MIN	MAX		MIN	MAX
1-INPFC AREA			8-SURFACETEMP	39	44
2-LATITUDE	57'3536	581558	9-GEAR TEMP		
3-LONGITUDE	1521208	1522806	10-AVG DEPTH	2	37
4-DATE	780405	780412	11-TRAWL/WARP	37	183
5-TIME	30	2315	12-AIR TEMPERATURE		
6-DURATION FISHED			13-CURRENT FORCE		
7-DISTANCE FISHED	1	4			

RT 2 TRAWL GEAR

	MIN	MAX		MIN	MAX
14-OPENING HT TRAWL	0	7	23-LENGTH DOORS	8	8
15-OPENING WIDTH TRAWL	53	53	24-WIDTH DOORS	4	4
16-TRAWL LENGTH	6	6	25-WARP LENGTH		
17-COEND LENGTH			26-DEPTH GEAR		
18-LENGTH FOOT ROPE	7	7	27-GEAR SALINITY		
19-LENGTH HEAD ROPE	6	6	28-TRANSPARENCY		
20-NUMBER FLOATS	3	3	29-TIDE		
21-FLOAT DIAMETER	7	7	30-BOTTOM TEMP		
22-LENGTH BRIDLES	16	18	31-BOTTOM SALINITY		

RT 3 MISC. GEAR RECORD

	MIN	MAX		MIN	MAX
32-UNIT LENGTH	46	46	37-GILLNET SHACKLES		
33-NET DEPTH	2	4	38-GEAR DEPTH	3	3
34-NUMBER UNITS			39-TRAMMEL SHACKLES	1	2
35-GANGION LENGTH			40-GEAR SALINITY		
36-NUMBER SUBUNITS					

RT 4 SPECIES CATCH RECORD

	MIN	MAX		MIN	MAX
41-TOTAL WT SPECIES	0	300	44-VOLUME OF CATCH		
42-TOTAL #OF SPECIES	1	260	45-FISH PER LITER		
43-# SPECIES EXAMINED			46-WT SMALL CATCHES		

RT 5 LENGTH FREQUENCY

	MIN	MAX		MIN	MAX
47-LENGTH OF CLASS	31	368	48-LENGTH FREQUENCY	1	6

RT 6 INDIVIDUAL BIOLOGICAL

	MIN	MAX		MIN	MAX
49-INDIVIDUAL LENGTH	30	460	54-GONAD WEIGHT		
50-INDIVIDUAL WEIGHT	0	1700	55-AVG EGG LENGTH		
51-AGE			56-OVARIAN WEIGHT		
52-CARAPACE WIDTH			57-GONAD-SOMATIC INDEX		
53-CHELAE LENGTH			58-GONAD WEIGHT		

RT 7 PREY RECORD

	MIN	MAX		MIN	MAX
59-NUMBER OF PREY	1	400	62-WET WEIGHT PREY	0	18920
60-VOLUME OF PREY			63-# STOMACHS POOLED		
61-WT STOMACH CONTENTS	0	3176			

```
                    TAXONOMIC CATAGORIES                    PAGE   1
     ...* ... 1 ... .*....2....*....3....*....4....*....5....*....6....*....7....* ....8....
0101 040FG76011A  40583402N1571823W751014          422    A51609 30522N
0102 040FG76012A  40                          1410         8
0103 040FG76015A  40    1COUNT UNITS 4,5,AND 6COMBINED. SEA DUCKS-14 OUT OF TRANSECT/
0104 040FG76015A  40    2, GULLS-12 OUT OF TRANSECT OBSERVERS P. ARNESON AND NATE JOHNSON
0105 040FG76015A  40    3PLATFORM TYPE: CESSNA 185 ON WHEELS - CHARLIE ALLEN PILOT
0106 140FG76014A  40     9112011301          26                  SEADUCKS
0107 140FG76014A  40     9127030103          46                  SHOREBIRDS
0108 140FG76014A  40     91280101          1261                  JAEGER & GULL
0109 140FG76014A  40     91584602             1                  OTHER BIRDS
0110 040FG76011A  70582 21N1573229W751014          148    A51609 30520N
0111 040FG76012A  70                          1410         8
0112 040FG76015A  70    1SEA DUCKS-33 OUT OF TRANSECT, GULLS-2 OUT OF TRANSECT.
0113 140FG76014A  70     9112011301           5                  SEADUCKS
0114 140FG76014A  70     9127030103          13                  SHOREBIRDS
0115 140FG76014A  70     91280101           230                  JAEGER & GULL
0116 040FG76011A  90581451N1573008W751014          113    A51609 30514N
0117 040FG76012A  90                          1410         8
0118 040FG76015A  90    1ONLY HALF OF COUNT UNIT 9 SURVEYED.
0119 140FG76014A  90     91280101            18                  JAEGER & GULL
0120 040FG76011A  6B583124N1572332W751014           18   7B51609 30527N
0121 040FG76012A  6B                          1410         8
0122 140FG76014A  6B     9127030103         697                  SHOREBIRDS
0123 140FG76014A  6B     91280101            69                  JAEGER & GULL
0124 040FG76011A  6C583032N1572506W751014           16   6B51609 305 9N
0125 040FG76012A  6C                          1410         8
0126 040FG76015A  6C    1NO BIRDS SEEN IN THIS TRANSECT.
0201 040FG76011A  6D582940N1572700W751014           20   8B51609 30527N
0202 040FG76012A  6D                          1410         8
0203 140FG76014A  6D     91120109           152                  DABBLERS
0204 140FG76014A  6D     9127030103         115                  SHOREBIRDS
0205 140FG76014A  6D     91280101             1                  JAEGER & GULL
0206 140FG76014A  6D     91584602            14                  OTHER BIRDS
0207 040FG76011A  6E582848N1572802W7510 4           11   4B51609 305 9N
0208 040FG76012A  6E                          1410         8
0209 140FG76014A  6E     91080101             1                  GREBES
0210 140FG76014A  6E     9112011101          12                  DIVERS
0211 140FG76014A  6E     9112011301           7                  SEADUCKS
0212 140FG76014A  6E     91584602             3                  OTHER BIRDS
0213 040FG76011A  6F582756N1572849W751014            7   3B51609 30527N
0214 040FG76012A  6F                          1410         8
0215 140FG76014A  6F     91120102             2                  SWANS & GEESE
0216 140FG76014A  6F     9127030103           1                  SHOREBIRDS
0217 140FG76014A  6F     91280101             1                  JAEGER & GULL
0218 040FG76011A  6G582703N1572921W751014            4   1B51609 305 9N
0219 040FG76012A  6G                          1410         8
0220 040FG76015A  6G    1NO BIRDS SEEN IN THIS TRANSECT.
0221 040FG76011A  6H582612N1572952W751014            2   1B51609 30527N
0222 040FG76012A  6H                          1410         8
0223 040FG76015A  6H    1NO BIRDS SEEN IN THIS TRANSECT.
0224 040FG76011A  8A581738N1573202W751014           21   8B51609 30518N
0225 040FG76012A  8A                          1410         8
0226 040FG76015A  8A    1BIG CREEK.
0301 140FG76014A  8A     91120102             1                  SWANS & GEESE
```

FILE ID | SPECIES CODE | SPECIES NAME

Figure II-A-

Taxonomic Categories

Selected Biological File Types

This product is a print of the data after the taxonomic records have been combined into categories. The taxonomic categories are predesignated groupings of the taxonomic codes. The taxonomic records within a station are grouped into their corresponding categories. The taxonomic code is changed to the taxonomic category code and the number of individuals is increased, resulting in one taxonomic record per category per station. The category name is also written to the right of the taxonomic record.

The example presented refers to data collected in the North Alaska Peninsula area during the fall of 1976 by Arneson of the Alaska Department of Fish and Game (RU 003). The survey used is identified by FG7601 or NODC Track Number 451. This product is applicable to File Types 028, 030, 040, and 100.

Figure II-A-8

Taxonomic Category Summary

File Type 040 - Marine Bird Habitat

This product prints a summary table for each data file of taxonomic categories present. Before this product can be generated, the data must be merged into predesignated taxonomic categories (see product titled "Taxonomic Categories") and have density values created for all taxonomic records (see product titled "Bird Density"). A summary table is then printed listing the file type, new taxonomic record type, sequence number, category taxonomic code, number of birds in that category, average density, category name, and number of records. At the end of each file, the total number of birds is recorded as well as the average density for the entire file.

The example presented refers to data collected in the Bristol Bay area during the spring of 1976 by Arneson of the Alaska Department of Fish and Game (RU 003). The survey used is identified by FG7606 or NODC Track Number 1053. Any File Type 040 data may be used by this program.

TAXONOMIC CATEGORY SUMMARY PAGE 1

....*....1....*....2....*....3....*....4....*....5....*....6....*....7....*....8....*....9....

BRISTOL BAY,SPRING,SECTION #5,SUMMARY OF ALL SPECIES CATEGORIES PRESENT.

		SEQ#	CATEGORY #	# BIRD	AVG DENSITY	CATEGORY NAME	# RECORDS
040	9	1	91070101	14	.472	LOONS	5
040	9	2	91080101	7	.655	GREBES	2
040	9	3	91120102	223	4.700	SWANS & GEESE	9
040	9	4	91120109	144	2.167	DABBLERS	10
040	9	5	9112011101	1694	23.321	DIVERS	14
040	9	6	9112011301	92	2.096	SEADUCKS	8
040	9	7	91120121	198	4.609	MERGANSERS	10
040	9	8	9113	2	.571	RAPTORS	1
040	9	9	9120010102	33	.927	CRANES	6
040	9	10	9127030103	374	5.671	SHOREBIRDS	11
040	9	11	91280101	497	5.476	JAEGER & GULL	16
040	9	12	91280207	141	3.965	TERNS	8
040	9	13	9158450601	1	.029	CORVIDS	1
040	9	14	9158460104	61	4.320	PASSERINES	2
040	9	15	91584602	30	1.471	OTHER BIRDS	5
	GRAND TOTALS			3511	6.113		103

BRISTOL BAY,SPRING,SECTION #6,SUMMARY OF ALL SPECIES CATEGORIES PRESENT.

		SEQ#	CATEGORY #	# BIRD	AVG DENSITY	CATEGORY NAME	# RECORDS
040	9	16	91070101	18	.817	LOONS	5
040	9	17	91100401	18	1.113	CORMORANTS	3
040	9	18	91120102	191	6.285	SWANS & GEESE	5
040	9	19	91120109	117	3.322	DABBLERS	6
040	9	20	9112011101	1811	31.428	DIVERS	11
040	9	21	9112011301	3059	38.245	SEADUCKS	12
040	9	22	91120121	73	2.284	MERGANSERS	6
040	9	23	9120010102	28	2.144	CRANES	2
040	9	24	9127030103	576	8.770	SHOREBIRDS	9
040	9	25	91280101	694	33.091	JAEGER & GULL	14
040	9	26	91280207	259	9.551	TERNS	9
040	9	27	912901	4	.166	ALCIDS	2
040	9	28	9158450601	6	.455	CORVIDS	3
040	9	29	91584602	262	15.685	OTHER BIRDS	3
	GRAND TOTALS			7116	15.759		90

BRISTOL BAY,SPRING,SECTION #7,SUMMARY OF ALL SPECIES CATEGORIES PRESENT.

		SEQ#	CATEGORY #	# BIRD	AVG DENSITY	CATEGORY NAME	# RECORDS
040	9	30	91070101	111	2.748	LOONS	9
040	9	31	91080101	16	.928	GREBES	4
040	9	32	91100401	183	6.722	CORMORANTS	6
040	9	33	91120102	31	.724	SWANS & GEESE	3
040	9	34	91120109	14	.704	DABBLERS	1
040	9	35	9112011101	64	1.442	DIVERS	6
040	9	36	9112011301	383	8.403	SEADUCKS	10

```
     ....*....1....*....2....*....3....*....4....*....5....*....6....*....7....*....8....
0101 040FG78081L 94A593258N1534924W7808012256  572     3?E3  40  1227N
0102 040FG78082L 94A                     0264-27 3      00 0          1-
0106 040FG78084L 94A   49128020103         20 564301                                1    GWGU
0111 040FG78084L 94A   99128020103          3 568301                                1    GWGU
0112 040FG78084L 94A  109128020103          6 566301                                1    GWGU
0113 040FG78084L 94A  119128020103         21 567301                                1    GWGU

0116 040FG78081L 82A595◦31N1525912W7806211731 6◦◦3      10F   6  18 3Y
0117 040FG78082L 82A                                 03 6          3+
0118 040FG78084L 82A   19128020103        505 3A1101                                6    GWGU

0213 040FG78081L 85D593703N1532240W7806302105 4402      1◦F   6  1814Y
0214 040FG78082L 85D                                 ◦3 2          2-
0224 040FG78084L 85D  109128020103         8◦ 7◦11◦                                 4    GWGU

0302 040FG78081L 85C593729N1532524W7807121830 4451      10◦   6  18 9Y
0303 040FG78082L 85C                                 ◦1 2          5-
0316 040FG78084L 85C  13912320103          65◦ 7A1100                               6    GWGU

0320 040FG78081L100C591044N1540511W7807142315 2451      20F   6  1818N
0321 040FG78082L100C                                 ◦1 2          4+
0323 040FG78084L100C   29128020103        319 7A1100                                4    GWGU

0411 040FG78081L106A590631N1535223W7807162140  5 1      10F   6  18 9N
0412 040FG78082L106A                                 03 3          2-
0423 040FG78084L106A  119128020103        297 7A11◦◦                                4    GWGU

0503 040FG78081L◦◦9A590◦15N1532301W7807152300 4451      50F   6  18 9Y
0504 040FG78082L◦◦9A                                 03 3          5+
0525 040FG78084L◦◦9A  219128020103        497 7A110◦                                1    GWGU

0602 040FG78081L120A592056N1533200W7807300005 1302     120F  32  1700N
0603 040FG78082L120A                          00     ◦1 1          5-
0604 040FG78084L120A   191280201◦3        36 467301                                 1    GWGU

0609 040FG78081L121059224 2N1533142W7807300135 1392     180F  32  17 1N
0610 040FG78082L1210                      27 4       01 1          5+
0611 040FG78084L1210   19128020103        31 466301                                 1    GWGU

0626 040FG78081L 830594500N1530102W780622◦10◦ 1◦04161    22  4◦  1213N
0701 040FG78082L 830                                 01 7          2-
0705 040FG78084L 830   49128020103         5 766301                                 1    GWGU
0720 040FG78084L 830  199128020103         1 73A301                                 1    GWGU
0721 040FG78084L 830  209128020103         1 73A320                        ×        1    GWGU

0808 040FG78081L 840593947N1530832W7806220200  532150    22  40  1224N
0809 040FG78082L 840                                 01 7          3-
0812 040FG78084L 840   39128020103         2 73A320                                 1    GWGU
0817 040FG78084L 840   89128020103         5 766301                                 1    GWGU
0818 040FG78084L 840   99128020103         6 736320                                 1    GWGU
0819 040FG78084L 840  109128020103         1 736301                                 1    GWGU
0823 040FG78084L 840  149128020103        24 7D6301                                 1    GWGU
```

FILE ID

SPECIES CODE

SPECIES ABBREV.

Figure II-A-9

Specia Taxonomic Category - Birds

File Type 040 - Marine Bird Habitat

This product prints all taxonomic records for a user-selected taxonomic code. A code of up to 12 digits may be selected. For example, if only the first 6 or 8 digits are selected, the list will encompass that entire family or genus. Therefore, any taxonomic code containing those 6 or 8 digits will be printed. The entire taxonomic record is printed for whatever data parameter is desired. An option exists in the program to either print records on paper or write them on a disk for storage.

This example refers to data collected in the Lower Cook Inlet area during the summer of 1978 by Arneson of the Alaska Department of Fish and Game (RU 003). The survey used is identified as FG7808 or NODC Track Number 3878. Any File Type 040 data may be used by this program.

Figure II-A-10

Bird Density

File Type 040 - Marine Bird Habitat

This analysis computes a density value for each taxonomic record and an average density value for all records in a station and all stations in a file. Each taxonomic record present in the data has a density value (#of individuals /km^2) computed. As each record type present is read, it is written on another disk with the density value included on the appropriate records. When the end of the station is noted, an average density value is computed. This value is printed in table form. The entries on the density table are station number, total individuals, average density, number of records, the new record type, the survey technique, and the number of kilometers. At the conclusion of the file, the total number of individuals, average density, and number of records for the stations in the file are printed.

This example refers to data collected in the Lower Cook Inlet area during the summer of 1978 by Arneson of the Alaska Department of Fish and Game (RU 005). The survey used is identified by FG7808 or NODC Track Number 3878. Any File Type 040 data may be used by this program.

BIRD DENSITY DENSITY 040 PAGE 1

STATION NO.	TOTAL INDIVIDUALS	AVERAGE DENSITY	NO. RECORDS	NEW RT	ST	KILOMETERS
L 10	7	0.3261	5	8	A	4.2 SQ
L 20	785	24.5558	8	8	A	3.9 SQ
L 40	171	3.5882	8	8	A	5.9 SQ
L 50	13	10.0386	1	8	A	1.2 SQ
L 30	4269	16.0368	22	7	E	12.1 SQ
L 4A	206	2.1798	15	7	E	6.3 SQ
GRAND TOTALS	5451	10.5479	59			

STATION NO.	TOTAL INDIVIDUALS	AVERAGE DENSITY	NO. RECORDS	NEW RT	ST	KILOMETERS
L 60	20	0.9130	4	8	A	5.4 SQ
L 80	15	0.4474	6	8	A	5.5 SQ
L 90	44	8.7440	4	8	A	1.2 SQ
L 100	311	5.2764	9	8	A	6.5 SQ
L 110	54	1.4224	9	8	A	4.2 SQ
GRAND TOTALS	444	3.1751	32			

STATION NO.	TOTAL INDIVIDUALS	AVERAGE DENSITY	NO. RECORDS	NEW RT	ST	KILOMETERS
L 120	267	4.4821	10	8	A	5.9 SQ
L 130	1027	41.6768	6	8	A	4.1 SQ
L 140	415	8.2472	17	8	A	2.9 SQ
GRAND TOTALS	1709	13.1843	33			

STATION NO.	TOTAL INDIVIDUALS	AVERAGE DENSITY	NO. RECORDS	NEW RT	ST	KILOMETERS
L 150	825	25.5290	10	8	A	3.2 SQ
L 160	6880	74.2293	15	8	A	6.1 SQ
L 170	999	41.9254	7	8	A	3.4 SQ
L 180	248	9.0577	5	8	A	5.4 SQ
L 190	352	18.0180	8	8	A	2.4 SQ
L 19A	2	0.5515	1	8	A	3.6 SQ
L 210	455	29.7036	6	8	A	2.5 SQ
L 220	8064	320.9807	7	8	A	3.5 SQ
L 230	33	5.1087	6	8	A	3.0 SQ
L 240	18	2.1060	3	8	A	2.8 SQ
L 250	657	24.13534	6	8	A	4.4 SQ
L 260	17	2.8716	4	8	A	1.4 SQ
L 270	8	1.0810	5	8	A	1.4 SQ
L 18A	543	0.8320	26	7	E	25.1 SQ
L 28A	544	2.3625!	12	7	E	15.3 SQ
GRAND TOTALS	19705	37.5 087	121			

PC025 PREDATOR PREY RELATION PAGE 1

PREDATOR 9221030102 PHOCA HISPIDA (RINGED SEAL NO. OF TIMES 22 NO. STOMACHS 7

PREY TAX CODE	ENTRIES	% OF STOMACHS	NAME
61530115o7	2	28.57	NEOMYSIS RAYII
6168	2	28.57	PERACARIDA AMPHIPODA
61690201	1	14.29	AMPELISCA
61690202o2	2	28.57	BYBLIS GAIMARDI
61692107o3	1	14.29	GAMMARUS WILKITZKII
61693403o2	4	57.14	ANONYX NUGAX
61700110o2	4	57.14	PARATHEMISTO LIBELLULA HOM.1
6175	1	14.29	EUCARIDA DECAPODA(ARTHROPODA)
6179160305	1	14.29	LEBBEUS POLARIS
617916040601	5	71.43	EUALUS GAIMARDII BELCHERI
6179180102	3	42.86	PANDALUS GONIURUS
617922	1	14.29	CRANGONIDAE
6179220106	1	14.29	CRANGON DALLI
6179220301	1	14.29	ARGIS LAR
8735	4	57.14	OSTEICHTHYES ACTINOPTERYGII TELEOSTEI
8791030201	4	57.14	BOREOGADUS SAIDA (ARCTIC COD)
8791030301	3	42.86	ELEGINUS GRACILIS (SAFFRON COD)
88310222	1	14.29	MYOXOCEPHALUS
885704	1	14.29	PLEURONECTIDAE (RIGHTEYE FLOUNDER)

NUMBER UNIQUE PREY 19 NUMBER OF PREY 42

PREDATOR 9221030301 ERIGNATHUS BARBATUS (BEARDED SEAL) NO. OF TIMES 14 NO. STOMACHS 4

PREY TAX CODE	ENTRIES	% OF STOMACHS	NAME
5001	1	25.00	POLYCHAETA
51037602	1	25.00	NATICA
51050401	1	25.00	BUCCINUM
57080102	1	25.00	OCTOPUS
6153011507	1	25.00	NEOMYSIS RAYII
6168	3	75.00	PERACARIDA AMPHIPODA
61690201	1	25.00	AMPELISCA
61690603	1	25.00	LEMBOS
61692008	1	25.00	EUSIRUS
6169340302	2	50.00	ANONYX NUGAX
6179160Z	1	25.00	SPIRONTOCARIS
6179160211	1	25.00	SPIRONTOCARIS SPINA
6179160404	1	25.00	EUALUS FABRICII
617916040601	3	75.00	EUALUS GAIMARDII BELCHERI
6179180102	3	75.00	PANDALUS GONIURUS
6179220103	2	50.00	CRANGON SEPTEMSPINOSA
6179220106	2	50.00	CRANGON DALLI
6179220201	3	75.00	SCLEROCRANGON BOREAS
6179220301	4	100.00	ARGIS LAR
61830602	3	75.00	PAGURUS (DECAPODA
61830807	1	25.00	PARALITHODES

Figure II-A-11

Predator-Prey List

File Type 025 - Mammal Specimen

This product lists the prey items by taxonomic code for each predator taxonomic code present in the data. The predator code is listed, followed by the taxonomic name, the number of times it occurred, and the number of stomachs analyzed. Its associated prey codes are then listed along with the number of entries, the percentage that item represented of the predator's stomachs, and the taxonomic name. Following the prey list table, the total number of unique prey codes is given and the total number of prey entries.

The product is applicable only to File Type 025. A similar presentation can be generated without the prey percentage of stomachs listed. The example refers to data collected during the year 1977 by Burns of the Alaska Department of Fish and Game (RU 230). The survey used is identified as 677D10 or NODC Track Number 5077.

Figure II-A-12

Special Predator-Prey List

File Type 031 - Marine Bird Specimen

This product provides a list of tax codes and taxonomic names in predator-prey relationship form where the predators are selected by the user. Each selected predator tax code, taxonomic name, and number of occurrences of the predator within the data are listed prior to listing each **prey tax code, number of occurrences** of the prey item, and **prey** taxonomic **name found under the selected** predator. **Totals for unique** prey items and the total prey items are also listed for each predator.

The data in the example were submitted by Gould and Sanger of the US Fish and Wildlife Service (RU 341). Multiple data sets of File Type 031-Marine Bird Specimen, were reviewed for this summary. This product is applicable to any File Type 031 data.

SPECIAL PREDATOR PREY RELATION PAGE 3-

PL031

PREDATOR 9129010301 URIA AALGE (COMMON MURRE) NO. OF TIMES 7

PREY TAX CODE	NO. OF ENTRIES	NAME
61693403	1	ANONYX
61?'4020S06	1	THYSANOESSA RASCHII HOM.1
	1	INSECTA I
%556302	1	MALLOTUS
879103	1	GADIDAE(CODFISHES AND HAKES)
8791030701	1	THERAGRA CHALCOGRAMMA (WALLEYE POLLOCK)
8845010101	1	AMMODYTES HEXAPTERUS (PACIFIC SAND LANCE)

NUMBER UNIQUE PREY 7 NUMBER OF PREY 7

PREDATOR 9129010302 URIA LOMVIA (THICK-BILLED MURRE) NO. OF TIMES 31

PREY TAX CODE	NO. OF ENTRIES	NAME
500124	1	NEREIDAE
57	26	CEPHALOPODA
61	1	ARTHROPODA MANDIBULATA CRUSTACEA
6118	1	COPEPODA CALANOIDA
6169	1	PERACARIDA AMPHIPODA GAMMARIDEA
617OO11O(H?	4	PARATHEMISTO LIBELLULA HOM.1
6170011003	2	PARATHEMISTO PACIFICA
617402	1	SPECIES GROUP##EUPHAUSIIDAE
879103	2	GADIDAE(CODFISHES AND HAKES)
8791030201	1	BOREOGADUS SAIDA (ARCTIC COD)
8791030701	1	THERAGRA CHALCOGRAMMA (WALLEYE POLLOCK)
879999	4	##GNATHOSTOMATA I

NUMBER UNIQUE PREY 12 NUMBER OF PREY 45

TOTAL PREY 52

PARAMETER CHECK LIST PAGE 1

FILE TYPE 038
MIGRATORY BIRD SEA WATCH

RT	NAME OF FIELD
X	FILE IDENTIFIER
X	RECORD TYPE
X	STATION NUMBER
1	LATITUDE
1	LONGITUDE
1	DISTANCE -SHORE
1	PLATFORM TYPE CODE
1	SAMPLING TECHNIQUE
1	HEIGHT ABOVE WATER
1	SCOPE BEARING
1	SEQUENCE NUMBER
2	TEXT
2	SEQUENCE NUMBER
3	START DATE-TIME
3	ELAPSED TIME
3	TAXONOMIC CODE
3	AGE CLASS CODE
3	SEX CODE
3	COLOR PHASE CODE
3	PLUMAGE CODE
3	MOLT CODE
3	NO. INDIVIDUALS
3	COUNTING METHOD
3	RELABILITY CODE
3	DERICTION-FLIGHT
3	SPECIES GROUP CODE
3	WATCH TYPE CODE
3	BEHAVIOR CODE
3	NO. SPECIES
3	LINKAGE
3	OBSER. CONDITIONS
3	SEQUENCE NUMBER
4	WEATHER CODE
4	TIDE TREND
4	TIDE HEIGHT CODE
4	SEA STATE CODE
4	SEQUENCE NUMBER

Figure II-A-13

Parameter Check ist-F e Type

All File Types

This product provides a listing which contains the record type and field name for each field within a selected file type, which is File Type 038 in this example. An 'X' in the record type indicates that the field is common to all record types.

Figure II-A-14

Parameter Checklist-File Type/RU

All File Types

This product provides a report which lists the record type, field name, and each associated principal investigator's commitment status (an 'X' indicates committed) for each field within a selected file type, which in this example is File Type 022.

This product can be used as a checklist to determine which fields are committed to be entered by each RU. The commitment status is obtained from either the Fairbanks or Juneau Project Office. An 'X' in the record type indicates that the field is common to all record types.

PARAMETER CHECK LIST PAGE 1

80/03/13 PROJECT OFFICE-ALL RU-ALL

FILE TYPE 022
STD

RT	NAME OF FIELD	RU 138	RU 141	RU 151	RU 162	RU 289	RU 307	RU 427	RU 541	RU 549	RU 550	RU 583
X	FILE IDENTIFICATION	X	X	X	X	X	X	X	X	X	X	X
X	RECORD TYPE	X	X	X	X	X	X	X	X	X	X	X
X	CAST NUMBER	X	X	X	X	X		X	X	X	X	X
1	TEXT											
1	SEQUENCE NUMBER											
2	LATITUDE	X	X	X	X	X	X	X	X	X	X	X
2	LONGITUDE	X	X	X	X	X	X	X	X	X	X	X
2	CRUISE IDENT	X	X	X	X	X	X	X	X	X	X	X
2	NUMBER SCANS	X	X	X	X	X	X	X	X	X	X	X
2	DATE	X	X	X	X	X	X	X	X	X	X	X
2	TIME	X	X	X	X	X	X	X	X	X	X	X
2	DEPTH INTERVAL INDIC	X	X	X	X	X	X	X	X	X	X	X
2	DEPTH INTERNAL	X	X	X	X	X	X	X	X	X	X	X
2	BAROMETRIC PRESSURE											
2	WET BULB TEMP											
2	DRY BULB TEMP											
2	WIND DIRECTION											
2	WIND SPEED											
2	WEATHER CODE											
2	SEA STATE CODE											
2	VISIBILITY CODE											
2	CLOUD TYPE CODE											
2	CLOUD AMOUNT CODE											
2	INSTRUMENT	X	X	X	X	X	X	X	X	X	X	X
2	LOCATION NAME	X	X	X	X	X	X	X	X	X	X	X
2	DEPTH TO BOTTOM	X	X	X	X	X	X	X	X	X	X	X
2	MAX DEPTH OF CAST	X	X	X	X	X	X	X	X	X	X	X
3	DEPTH	X	X	X	X	X	X	X	X	X	X	X
3	TEMPERATURE	X	X	X	X	X	X	X	X	X	X	X
3	SALINITY	X	X	X	X	X	X	X	X	X	X	X
3	SIGMA-T	X	X	X	X	X	X	X	X	X	X	X
3	SCAN CONDITION CODE	X	X	X	X	X	X	X	X	X	X	X
3	SCAN DATA	X	X	X	X	X	X	X	X	X	X	X
3	SEQUENCE NUMBER	X	X	X	X	X	X	X	X	X	X	X
4	DEPTH				X	X	X	X		X		
4	DISSOLVED OXYGEN											
4	TRANSMISSIVITY											
4	SCAN CONDITION CODE				X	X	X	X		X		
4	SCAN DATA				X	X	X	X		X		
4	SEQUENCE NUMBER				X	X	X	X		X		

```
SUM032   FILE TYPE 032                                   PAGE   1
RU005                          DATE 80/03/13

FEDER  BENTHIC DATA

        TOTAL EXCEPTIONS   340

ALL RECORD TYPES                                  232 RECORDS
          FIELD        NO.EXCEPTIONS        FIELD          NO.EXCEPTIONS

  X  CRUISE NUMBER              0      X  RECORD TYPE              0

RECORD TYPE 1   *HEADER TEXT RECORD*                                5 RECORDS
          FIELD        NO.EXCEPTIONS        FIELD          NO.EXCEPTIONS

  X  SHIP NAME                  0      X  SEQUENCE #               0
     TEXT                       0

RECORD TYPE 2   *STATION HEADER RECORD*                            19 RECORDS
          FIELD        NO.EXCEPTIONS        FIELD          NO.EXCEPTIONS

  X  STATION #                  0      C  END DATE                19
  X  START DEPTH                0      C  END TIME                19
  X  START DATE                 0      C  END LATITUDE             0
  X  START TIME                 0      C  END LONGITUDE            0
  X  START LATITUDE             0         DISTANCE OFFSHORE        0
  X  START LONGITUDE            0         TOW DIRECTION            0
  C  END DEPTH                  0
```

Figure II-A-15

Exception Report

Selected File Types

This product provides an exception report of the number of fields not entered that were committed to be entered by the principal investigator

The report is listed by record type. For each field within the record type, the PI commitment status (an 'X' in front of the field name indicates committed), the field name and the number of exceptions are printed. Also, the option to print every record containing an exception exists.

The example is from data submitted by Feder of the University of Alaska (RU 005). The survey is identified as FED01 or NODC Track Number 5738. Only end dates and times are indicated as missing. The Exception Report has been developed for File Types 023, 024, 025, 030, 031, 032, 100 and 124.

SECTION II-B - PHYSICAL OCEANOGRAPHY (PMEL/ERL)

THE PRODUCTS DESCRIBED IN THIS SECTION ARE DERIVED FROM A SYSTEM OF COMPUTER ROUTINES DEVELOPED BY THE PACIFIC MARINE ENVIRONMENTAL LABORATORY IDENTIFIED AS R2D2 (RAPID RETRIEVAL DATA DISPLAY). THIS SYSTEM IS DESIGNED TO QUICKLY SORT AND DISPLAY IN A VARIETY OF FORMATS THE STD/CTD AND CURRENT METER DATA (FILE TYPES 022 AND 015) COLLECTED BY OCSEAP.

THE DATA BASE CURRENTLY CONTAINS OVER 5500 STD CASTS AND 150 CURRENT METER STATIONS COLLECTED FOR THE GULF OF ALASKA AND BERING SEA AREAS. THE DATA ARE STORED ON DISK FILE ON THE ENVIRONMENTAL RESEARCH LABORATORY CDC 6600 COMPUTER SYSTEM IN BOULDER, CO. AN INTERACTIVE GRAPHIC CAPABILITY USING A TECTRONIX TERMINAL ALSO IS AVAILABLE FOR PRODUCING THE PRODUCTS SHOWN IN THIS SECTION.

STD DATA MAY BE SORTED BY GEOGRAPHICAL AREA, TIME PERIOD, CRUISE NAME AND REFERENCE NUMBER. DATA MAY BE DISPLAYED FOR SELECTED STD STATIONS AS AREAL PLOTS OF PHYSICAL PROPERTIES, TEMPERATURE-SALINITY-DENSITY PROFILES, VERTICAL TRANSECTIONS, T-S DIAGRAMS OR COMPLETE DATA LISTINGS.

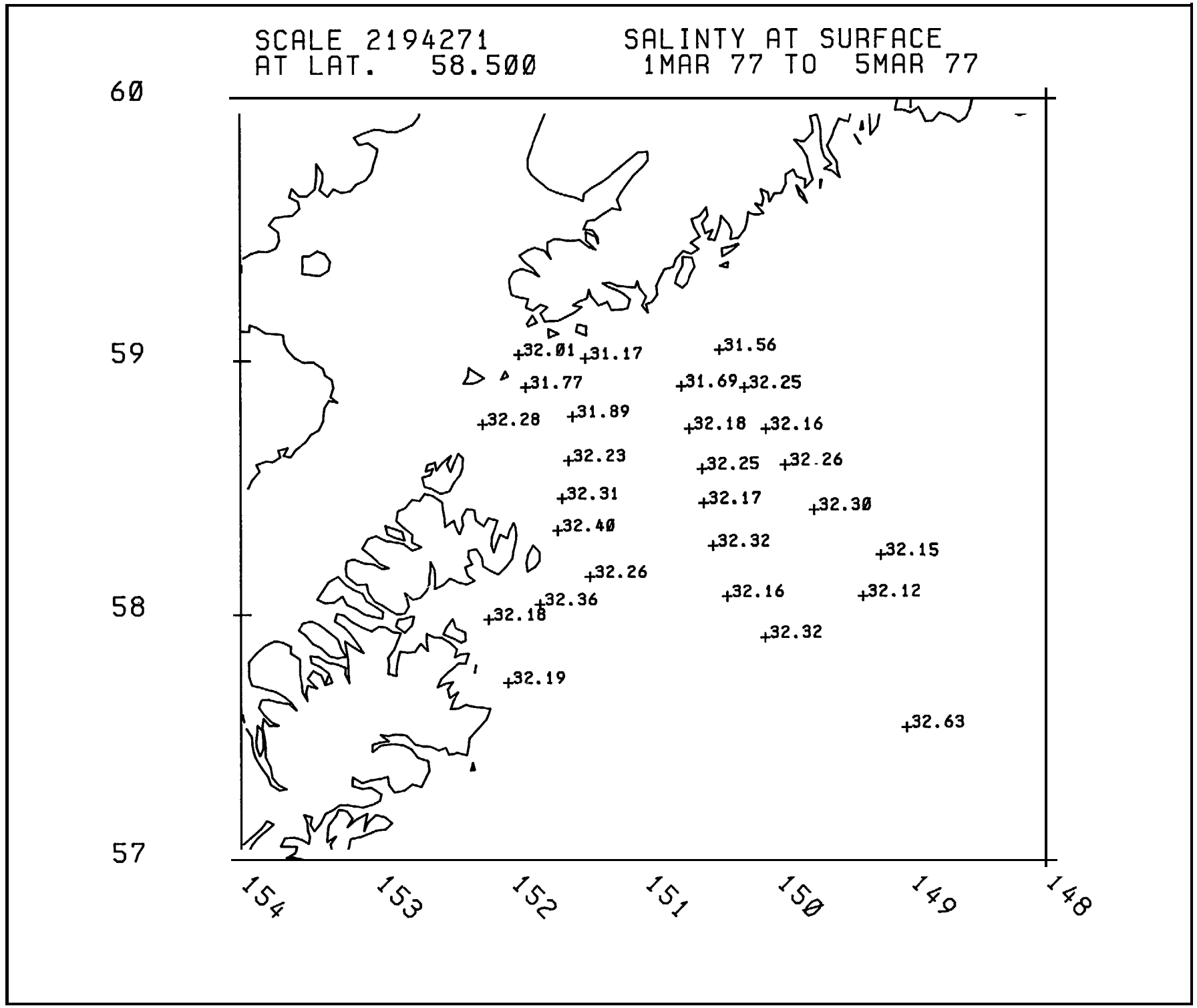
CURRENT METER DATA ARE SORTED BY REFERENCE NUMBER, AREA, TIME PERIOD, METER NUMBER, MOORING NAME, PROJECT NAME AND METER DEPTH. SUMMARIES OF DATA FILE CONTENTS ALSO MAY BE OBTAINED, AS WELL AS STATION LOCATION PLOTS AND LISTINGS OF STATION HEADER INFORMATION. DATA, FILTERED AT EITHER 2.86 OR 35.0 HOURS MAY BE DISPLAYED AS TIME SERIES PLOTS, PROGRESSIVE VECTOR DIAGRAMS, HISTOGRAMS, CURRENT ROSES AND SUMMARY VECTORS. MORE INFORMATION ON THE PROCESSING OF CURRENT METER DATA IS INCLUDED IN A NOAA TECHNICAL MEMO - ERL/PMEL-6, CHARNELL AND KRANCUS, "A PROCESSING SYSTEM FOR AANDERAA CURRENT METER DATA," 1976 (P. 5).

THE PRODUCTS DISPLAYED IN THIS SECTION ARE CONSIDERED WORKING GRAPHICS AND THEREFORE ARE NOT NECESSARILY INTENDED FOR PUBLICATION. CONSEQUENTLY, A LESS-DETAILED LAND MASS FILE THAN THAT USED BY SOME OF THE OTHER FACILITIES DESCRIBED IN THIS CATALOG IS EMPLOYED FOR THESE PRODUCTS. REQUESTS FOR PRODUCTS HAVE BEEN LIMITED ESSENTIALLY TO PMEL AND OCSEAP USE. AS FUNDS ARE LIMITED FOR HANDLING REQUESTS FROM OTHER OCSEAP INVESTIGATORS, ANY REQUESTS OF THIS NATURE SHOULD BE FORWARDED THROUGH THE PROPER OCSEAP PROJECT OFFICE.

THE STD AND CURRENT METER PRODUCTS THAT ARE AVAILABLE FOR THE R2D2 SYSTEM AND INCLUDED IN THIS SECTION ARE AS FOLLOWS WITH THE FIRST FIVE PRODUCTS FROM STD DATA AND THE REMAINING SEVEN FROM CURRENT METER DATA:

FIGURE II-B- 1 - AREAL PLOT
II-B- 2 - VERTICAL TRANSECTIONS
II-B- 3 - VERTICAL PROFILES

FIGURE II-B- 4 - T/S DIAGRAMS
II-B- 5 - FULL DATA PRINTOUT
II-B- 6 - MOORING DEPLOYMENTS VS TIME
II-B- 7 - PROGRESSIVE VECTOR DIAGRAM
II-B- 8 - TIME SERIES PLOTS
II-B- 9 - CURRENT HISTOGRAMS
II-B-10 - MOORING LOCATIONS
II-B-11 - CURRENT ROSES
II-B-12 - SUMMARY CURRENT VECTORS



F gure II-B-1

Areal P ots

File Type 022 - STD/CTD Data

All plots are generated on a mercator projection with the coastline (resolution of about 5 km) included. The chart scale and other information are included at the top of each figure.

Plot options include latitude/longitude boundaries, chart scales and plot height. Station location plot options are station names or locations, reference numbers and cast numbers. Data options include the following: temperature, salinities and densities at specified depths, temperature, salinity and density averages or differences between specified depths, dynamic height anomalies for specific depths, and depths, temperatures, or salinities at a density surface.

This product is designed solely for File Type 022 data. A listing of the data for any station also is available. All File Type 022 data products (Figures II-B-1 through II-B-5) use portions of a survey collected by Schumacher and Hayes of PMEL (RU 138). The data are identified as Fi e ID DI77A2 or NODC Tr=c=I Number 1702.

Figure II-B-2

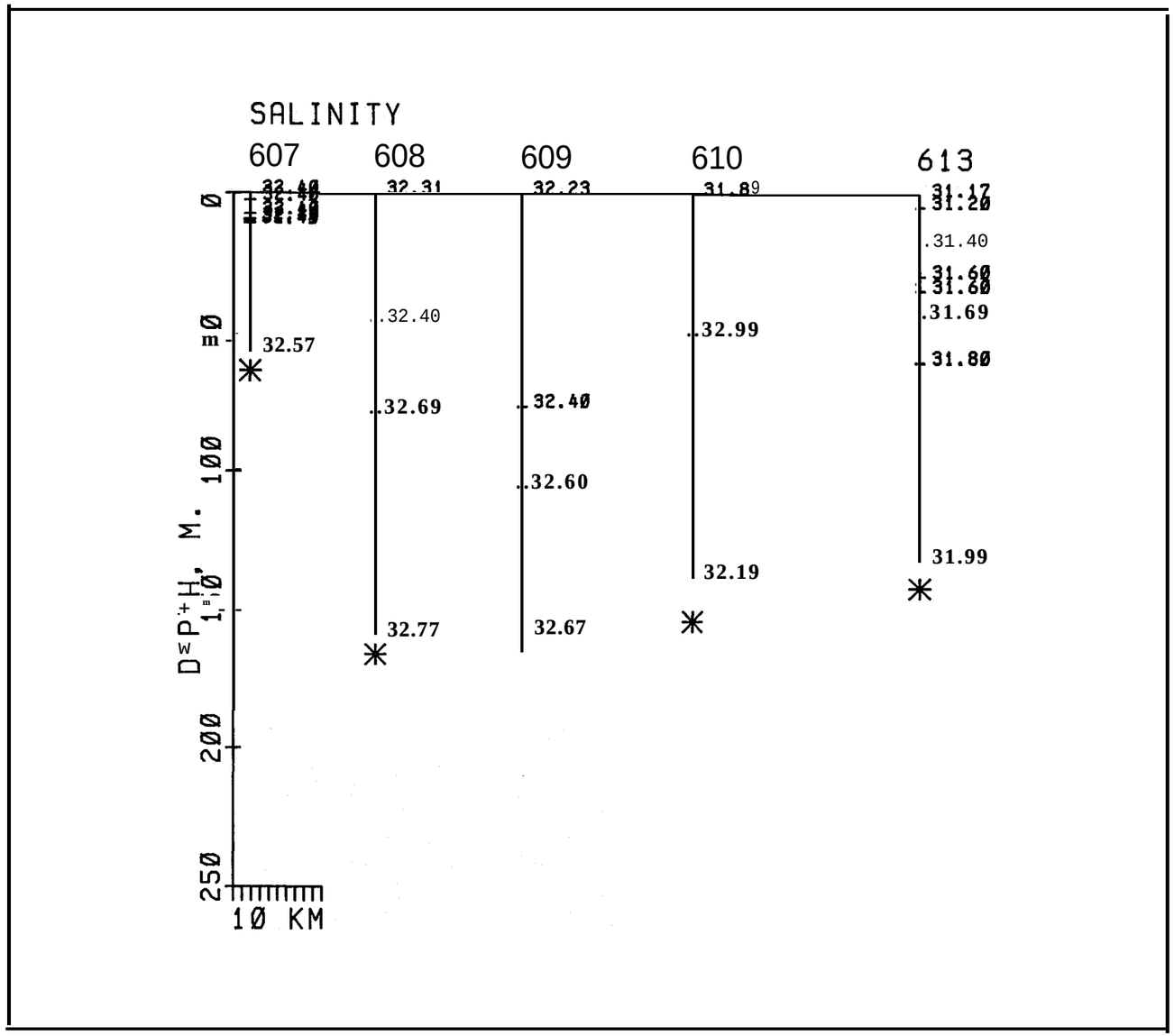
Vertical Transections

File Type 022 - STD/CTD Data

Transections showing vertical distributions of temperature, salinity, or density are plotted for a specified line of stations.

Options include specification of vertical and horizontal scales and data intervals. The example shows surface and bottom cast values of salinity, the depth of selected isolines (at 0.2 ppt intervals) and bottom depths (*) for a line of five stations (607, 608, etc).

This product is designed solely for File Type 022 data files.



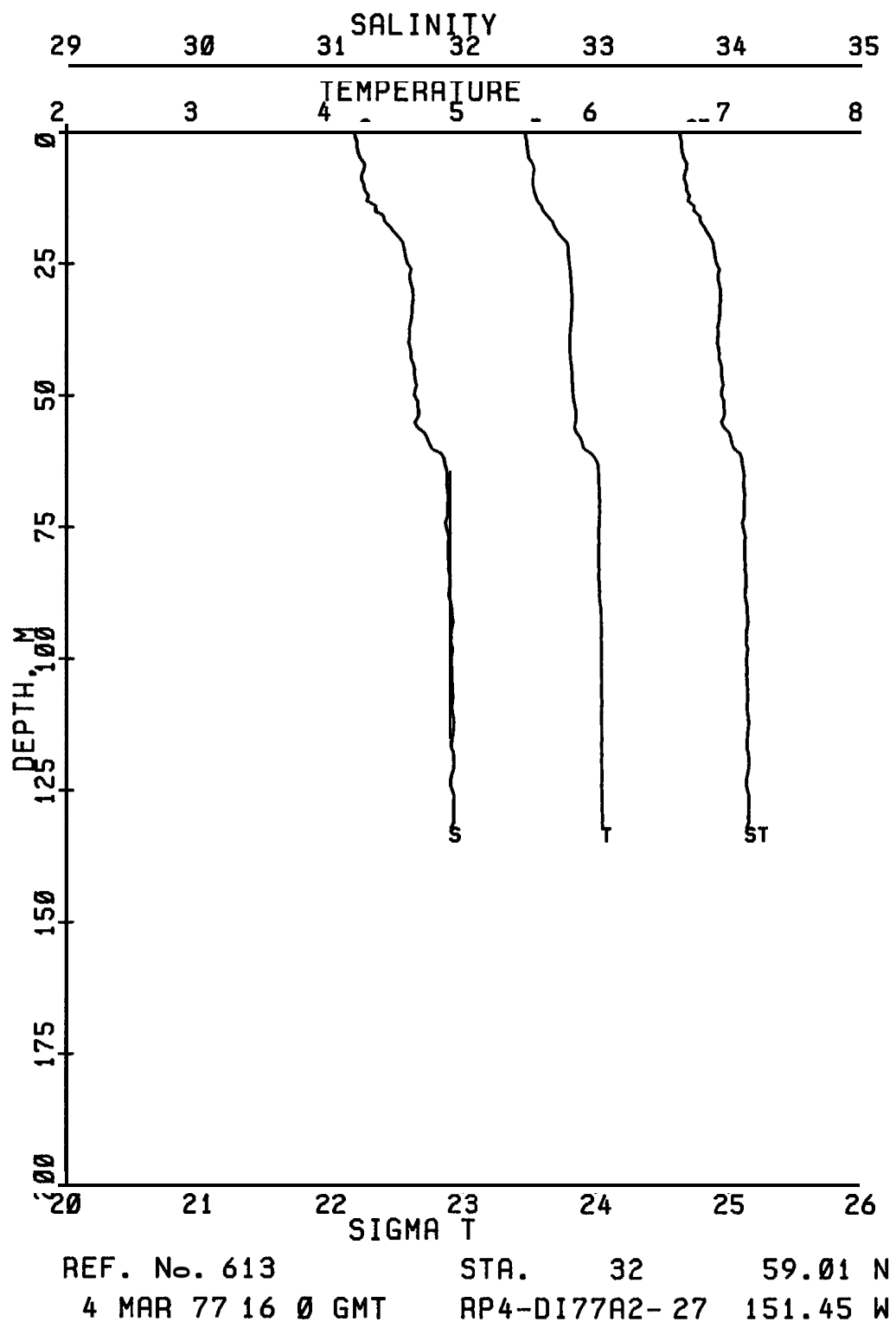


Figure II-B-3

Vertica Profiles

F e Type 022 - STD/CTD Data

Plots include profiles of temperature, salinity and density vs depth for a selected station. Station information is included at the bottom of each figure. Sa inity and temperature scales are plotted at the top of the figure and density at the bottom.

Plots are automatically scaled to the maximum station depth or to any other depth specified. The increments for the temperature, salinity and density ran a so are automatica y scaled.

This product is des gned s e y for File Type 022 data files.

Figure II-B-4

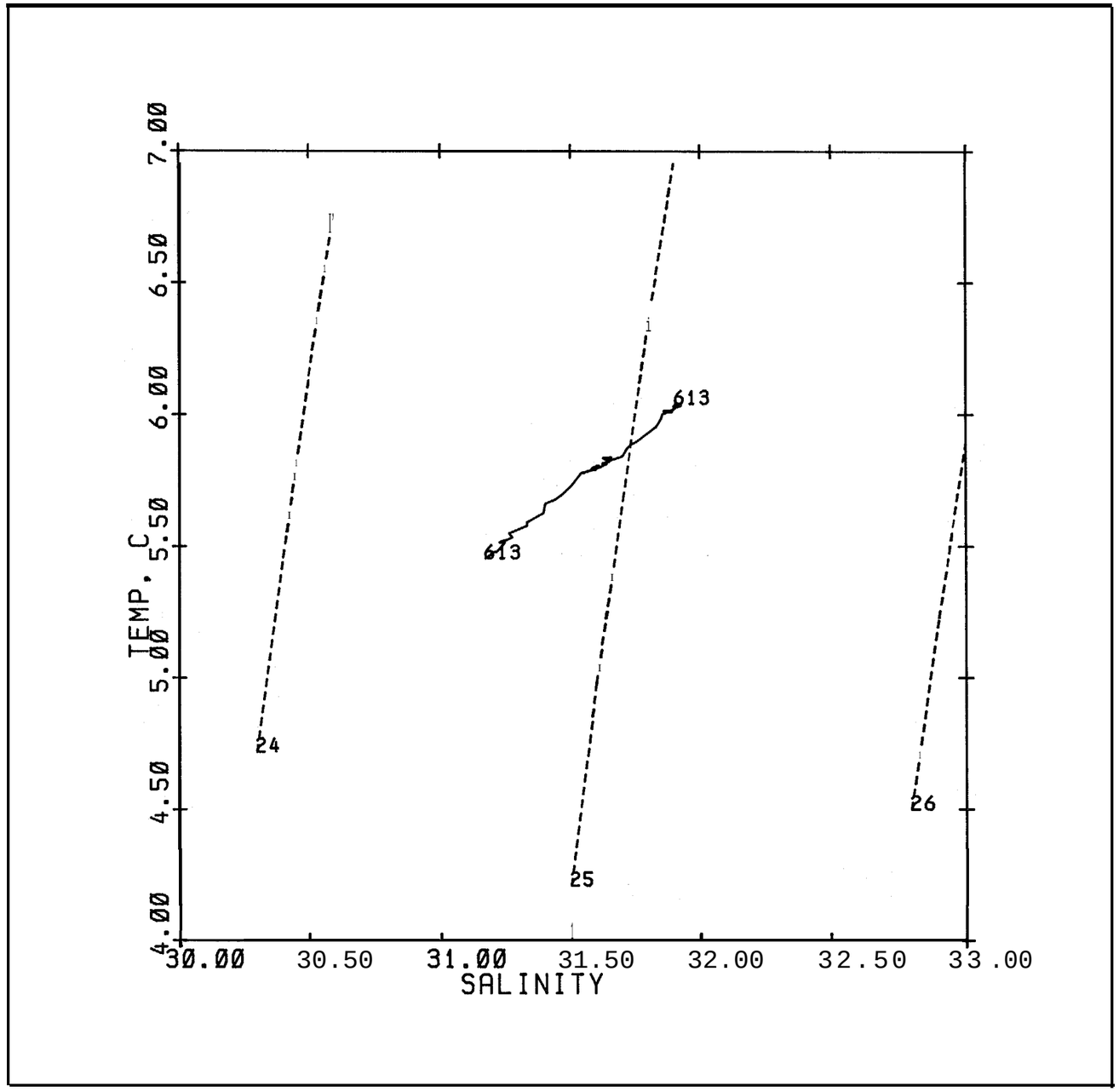
T/S Diagrams

File Type 022 - STD/CTD Data

Plots of salinity vs temperature are plotted for selected stations. Lines of equal density are automatically plotted on each figure.

Axis scales may be specified or set automatically. Multiple casts may be generated on the same plot and depth tics may be included.

This product is designed solely for File Type 022 data files.



REF	CRUISE	CAST	STA	LAT, N	LON,W	GMT	DAY	MON	JD	YR	DEP
613	RP4-DT77A2	27	32	59.01	151.45	16 0	4	MAR	63	77	142

DEP	TEMP	SAL	SIG-T	DYN M	DEP	TEMP	SAL	SIG-T	DYN M
0	5.45	31.17	24.62	0.000	1	5.46	31.18	24.62	.003
2	5.47	31.19	24.63	.007	3	5.47	31.19	24.63	.010
4	5.48	31.20	24.64	.013	5	5.48	31.21	24.65	.017
6	5.51	31.24	24.67	.020	7	5.52	31.24	24.67	.023
8	5.52	31.22	24.65	.026	9	5.51	31.22	24.65	.030
10	5.51	31.24	24.67	.033	11	5.52	31.24	24.67	.036
12	5.53	31.27	24.69	.040	13	5.55	31.26	24.68	.043
14	5.58	31.33	24.73	.046	15	5.59	31.33	24.73	.049
16	5.63	31.39	24.77	.053	17	5.66	31.40	24.77	.056
18	5.68	31.44	24.80	.059	19	5.70	31.47	24.82	.062
20	5.73	31.50	24.85	.065	21	5.77	31.53	24.87	.068
22	5.78	31.54	24.87	.071	23	5.78	31.55	24.88	.074
24	5.78	31.56	24.88	.078	25	5.79	31.57	24.89	.081
26	5.79	31.60	24.91	.084	27	5.80	31.58	24.90	.087
28	5.80	31.58	24.91	.090	29	5.80	31.60	24.91	.093
30	5.80	31.61	24.92	.096	31	5.81	31.61	24.92	.099
32	5.81	31.61	24.92	.102	33	5.81	31.60	24.92	.105
34	5.80	31.60	24.92	.108	35	5.80	31.60	24.92	.111
36	5.80	31.59	24.91	.114	37	5.80	31.58	24.90	.117
38	5.79	31.59	24.91	.120	39	5.79	31.58	24.90	.123
40	5.79	31.58	24.90	.126	41	5.79	31.59	24.91	.129
42	5.79	31.60	24.92	.133	43	5.80	31.60	24.91	.136
44	5.80	31.61	24.93	.139	45	5.81	31.62	24.93	.142
46	5.81	31.62	24.93	.145	47	5.81	31.63	24.94	.148
48	5.81	31.64	24.95	.151	49	5.81	31.62	24.93	.154
50	5.82	31.62	24.93	.157	51	5.82	31.65	24.95	.160
52	5.83	31.65	24.95	.163	53	5.84	31.66	24.96	.166
54	5.84	31.65	24.95	.169	55	5.83	31.62	24.93	.172
56	5.82	31.64	24.95	.175	57	5.84	31.70	24.99	.178
58	5.87	31.72	25.00	.181	59	5.89	31.73	25.01	.184
60	5.90	31.75	25.03	.187	61	5.95	31.83	25.08	.190
62	5.99	31.85	25.09	.193	63	6.00	31.85	25.09	.196
64	6.01	31.87	25.10	.198	65	6.01	31.87	25.11	.201
66	6.01	31.87	25.10	.204	67	6.01	31.87	25.10	.207
68	6.01	31.88	25.11	.210	69	6.01	31.88	25.11	.213
70	6.02	31.88	25.11	.216	71	6.01	31.87	25.11	.219
72	6.02	31.87	25.11	.221	73	6.01	31.87	25.11	.224
74	6.01	31.86	25.09	.227	75	6.01	31.87	25.10	.230
76	6.01	31.88	25.11	.233	77	6.01	31.88	25.12	.236
78	6.01	31.88	25.11	.239	79	6.01	31.88	25.11	.242
80	6.01	31.88	25.11	.244	81	6.01	31.88	25.11	.247
82	6.01	31.89	25.12	.250	83	6.01	31.88	25.11	.253
84	6.01	31.89	25.12	.256	85	6.01	31.89	25.12	.259
86	6.01	31.89	25.12	.262	87	6.02	31.88	25.12	.264
88	6.02	31.88	25.11	.267	89	6.02	31.89	25.12	.270
90	6.02	31.90	25.13	.273	91	6.03	31.91	25.13	.276
92	6.03	31.91	25.13	.279	93	6.03	31.91	25.14	.282
94	6.03	31.90	25.13	.284	95	6.03	31.90	25.12	.287
96	6.03	31.90	25.13	.290	97	6.03	31.90	25.12	.293
98	6.03	31.91	25.13	.296	99	6.03	31.91	25.13	.299

Figure II-B-5

Full Data Printout

File Type 022 - STD/CTD Data

Temperature, salinity, density and dynamic height anomalies are listed by depth for selected casts. The station information is included at the top of each listing.

Maximum depth of each listing may be specified. Data may be listed for the complete one-meter averaged data or for a shortened version with intervals of one-meter for the first 100 meters, two-meter intervals for 100 to 300 meters, five-meter intervals for 300 to 800 meters and ten-meter intervals for 800 to 1600 meters. The example lists one-meter intervals to 99 meters.

The listing is designed solely for File Type 022 data presentations.

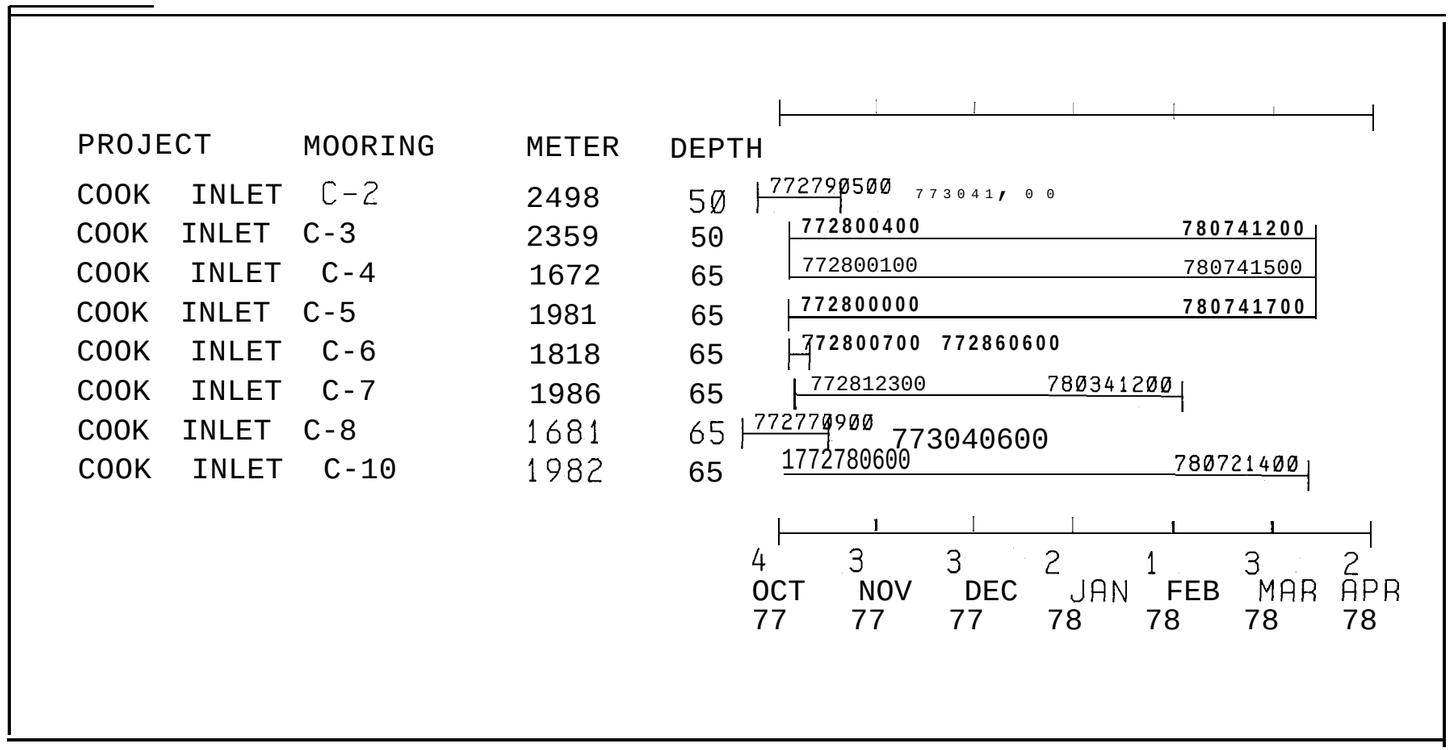
Figure II-B-6

Mooring Deployments vs Time

File Type 015- Current Meters

This data presentation provides inventory information for selected current meter data. Information includes project and mooring names, meter number and depth, and a scaled time line with start and stop dates plotted for selected time series (days are expressed as Julian days). The time scale is 30 days per inch..

The maximum number of moorings per plot is 20 and the time lines can accommodate any number of months of continuous data recordings: This product is designed solely for File Type 015 data. The current meter examples in this section (Figures II-B-6 through II-B-12) use data. from several 1977-78 PMEL current arrays.



STATION: C-6
PROJECT: COOK INLET
LATITUDE: 59.30N
LONGITUDE: 152.64W
DEPTH: 71.00 METERS

METER: 1818
DEPTH: 65 METERS

MEAN SPEED: 27.44 CM/SEC
NET DRIFT: 9.05 CM/SEC, 261.3°T
VARIANCE: 208.46

2.86 HOUR DATA PLOT

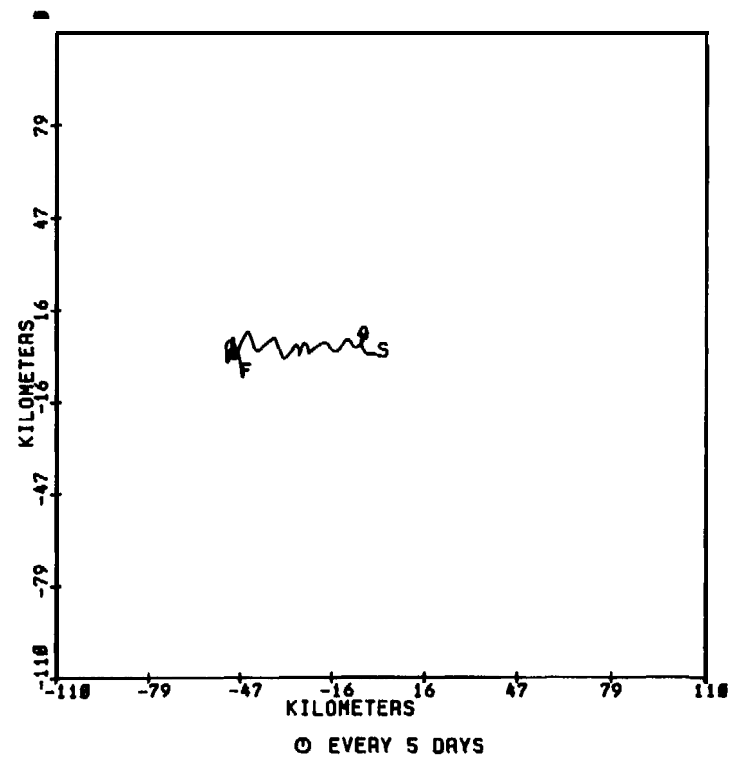


Figure II-B-7

Progressive Vector Diagram

File Type 05 - Current Meters

This product provides a plot of the speed vectors laid end-to-end. Information accompanying the plot includes mooring position, meter depth and number, and selected statistical data for the period of measurement. The scale of the plot may be specified or determined automatically. If no scale is specified, a scale of 1 day/inch is used. Data will be plotted for whatever period of measurement is provided.

This product is designed solely for File Type 05 data.

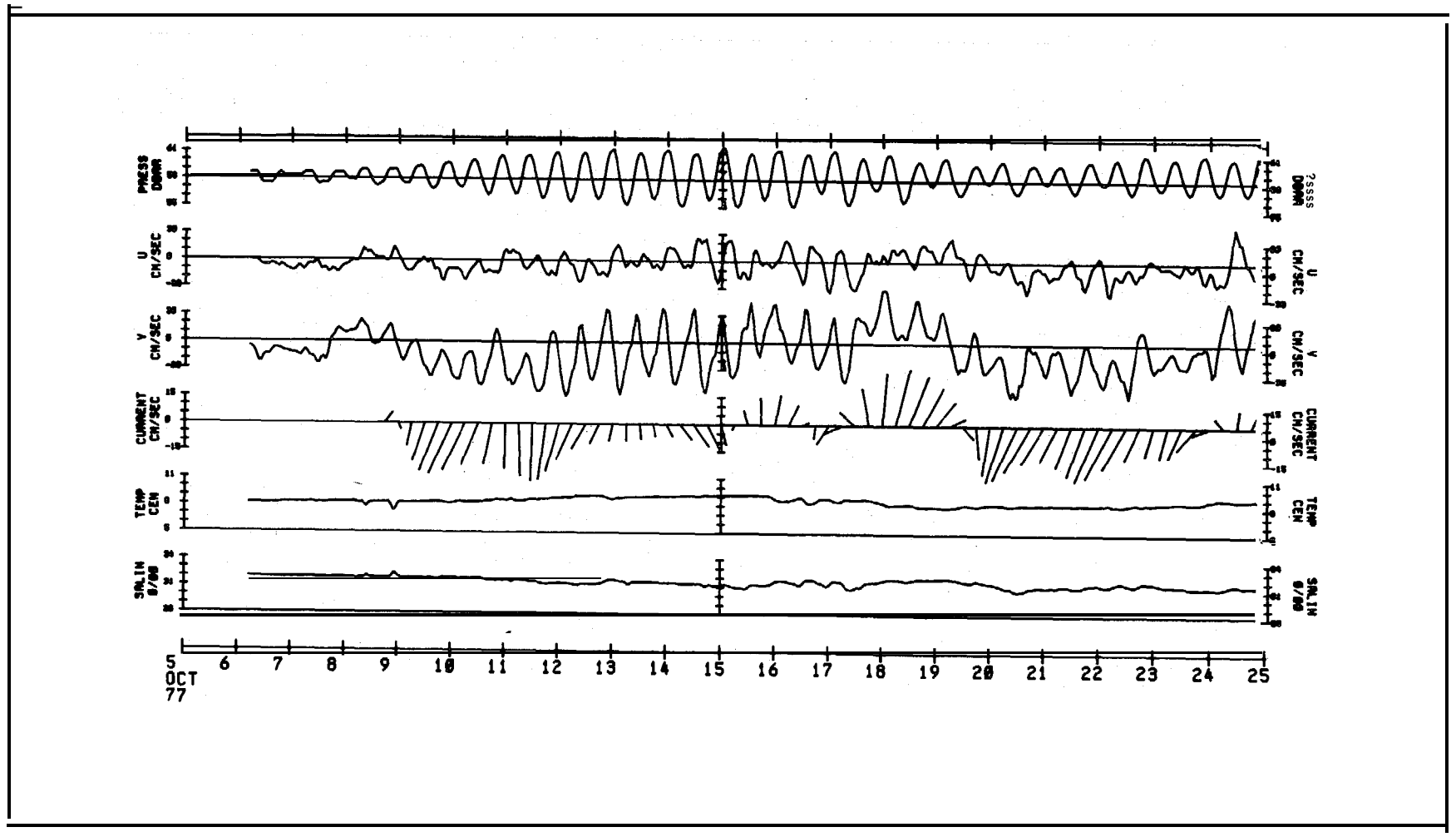
Figure I -B-8

T me Series Plots

le Type ° 5 - Current Meters

This presentation displays one variation of several available filters. For 2.86 hour data, plots include current components (U, V), temperature, pressure, salinity and the resultant current speed and direction based on the 35.0 hour filter. The horizontal scale is one or more days per inch. For the 35.0 hour data, only U, V and resultant current speed and direction are plotted. The horizontal scale is set at five days per inch.

This product is designed s. ely for File Type 015 data.



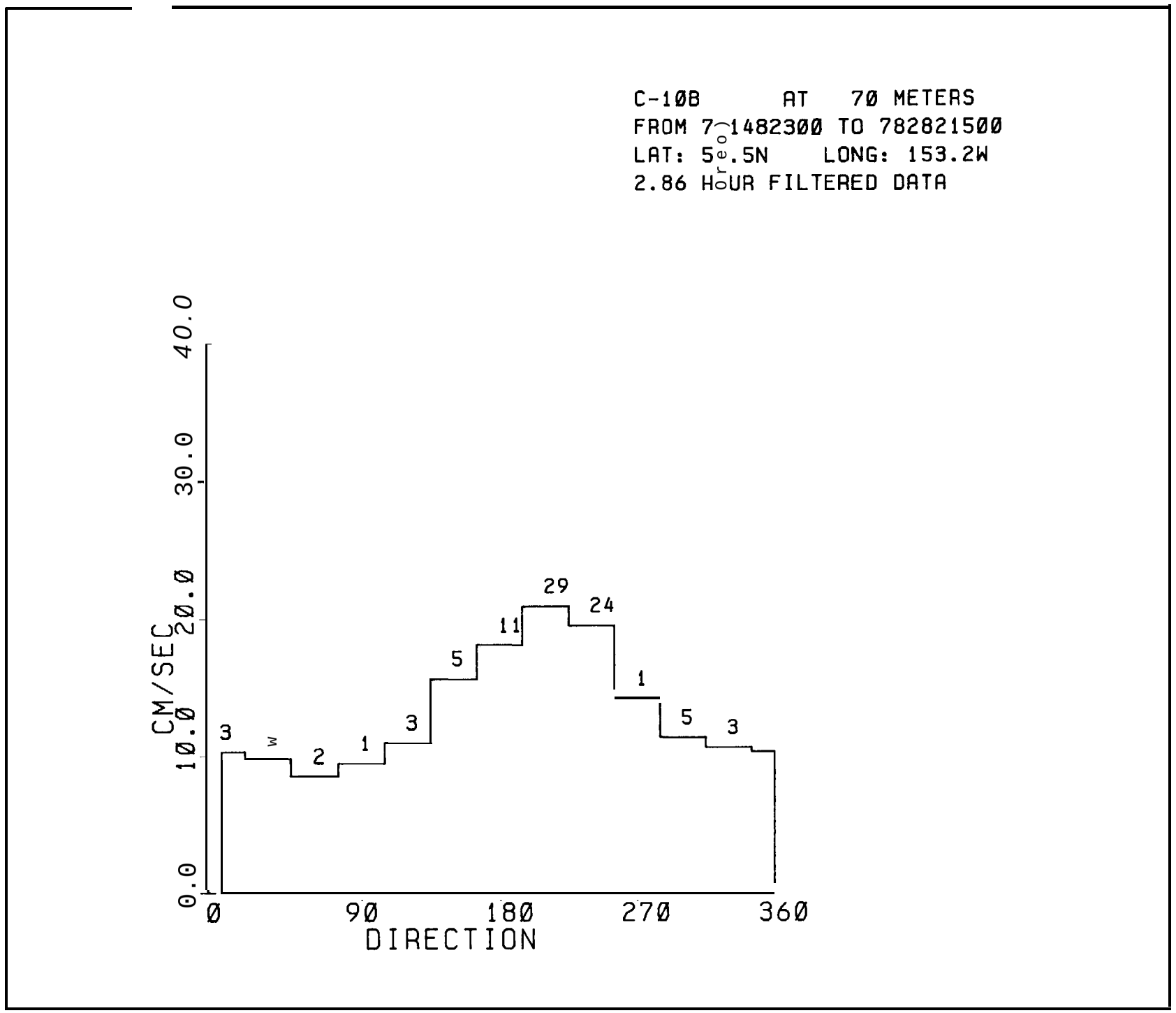


Figure II-B-9

Current Histogram

File Type 5 - Current Meters

This presentation may show either the percentage of observations or the mean speed in a given direction. The percentage of observations is printed at the top of each interval of the bar graph when mean speed vs direction is selected. Information on the mooring is included at the top of each graph.

Other options include the selection of either the 2.86 hour or 35.0 hour filtered data and the number of intervals (4 to 36) into which the direction can be divided. The scale of the plots also may be varied.

This product is designed solely for Type 015 data.

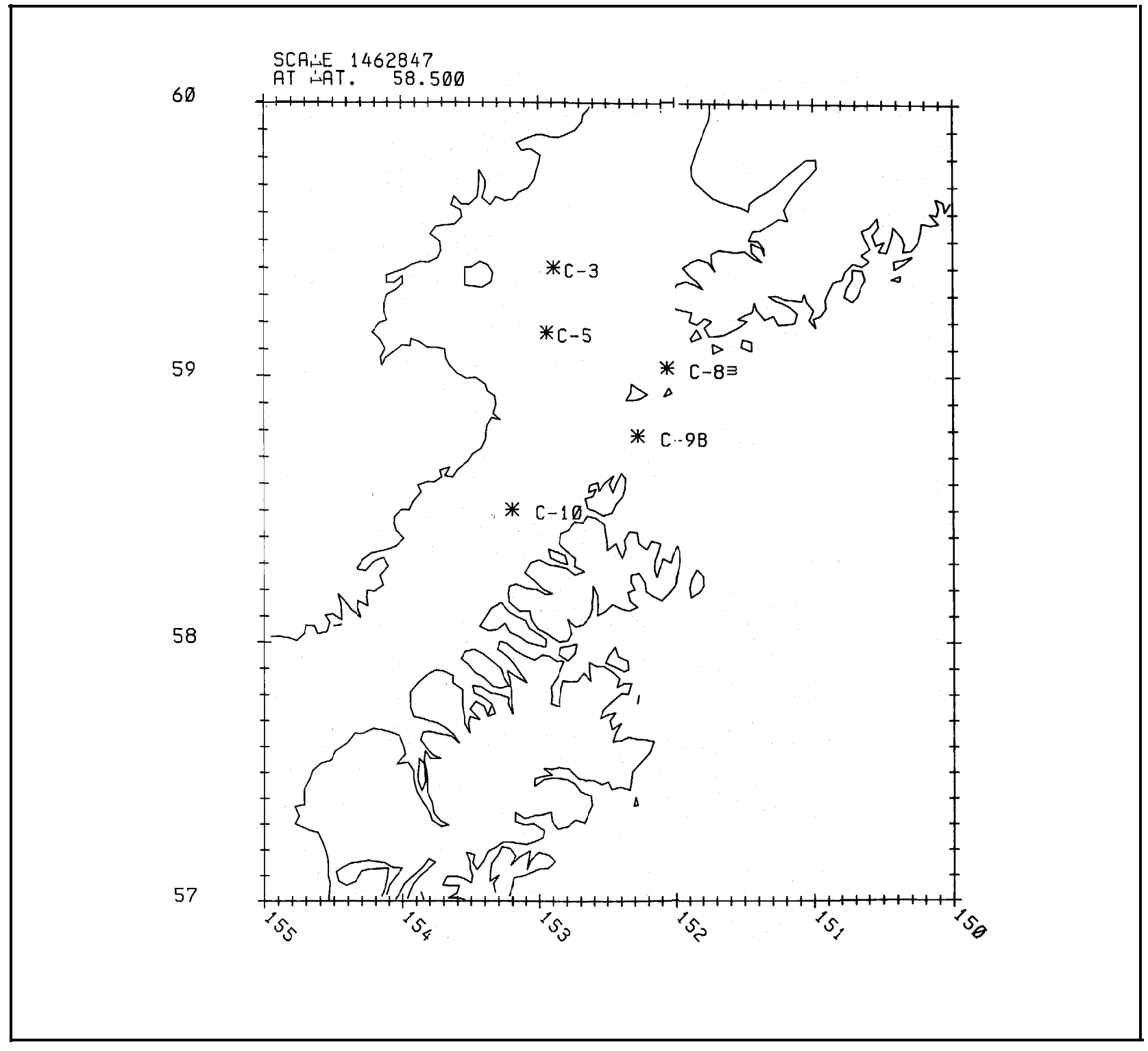
Figure [illegible]-B-[illegible]

Mo[illegible]ing Locations

F[illegible] Type 015 - Current Meters

This plot indicates the geographic location and identification of any number of moorings for a selected area plotted on a mercator projection chart. The scale is noted at the top of each chart. The number of m[illegible]or[illegible]ngs plotted on a single map are dependent o[illegible]y on readability of the plot.

Latitude and longitude boundaries may be specified as well as the chart scale or height of the plot. Moorings also can be selected by depth (all 20 meter moorings, etc.). Tic mark spacings may also be specified. This product is designed solely for File Type 015 data.



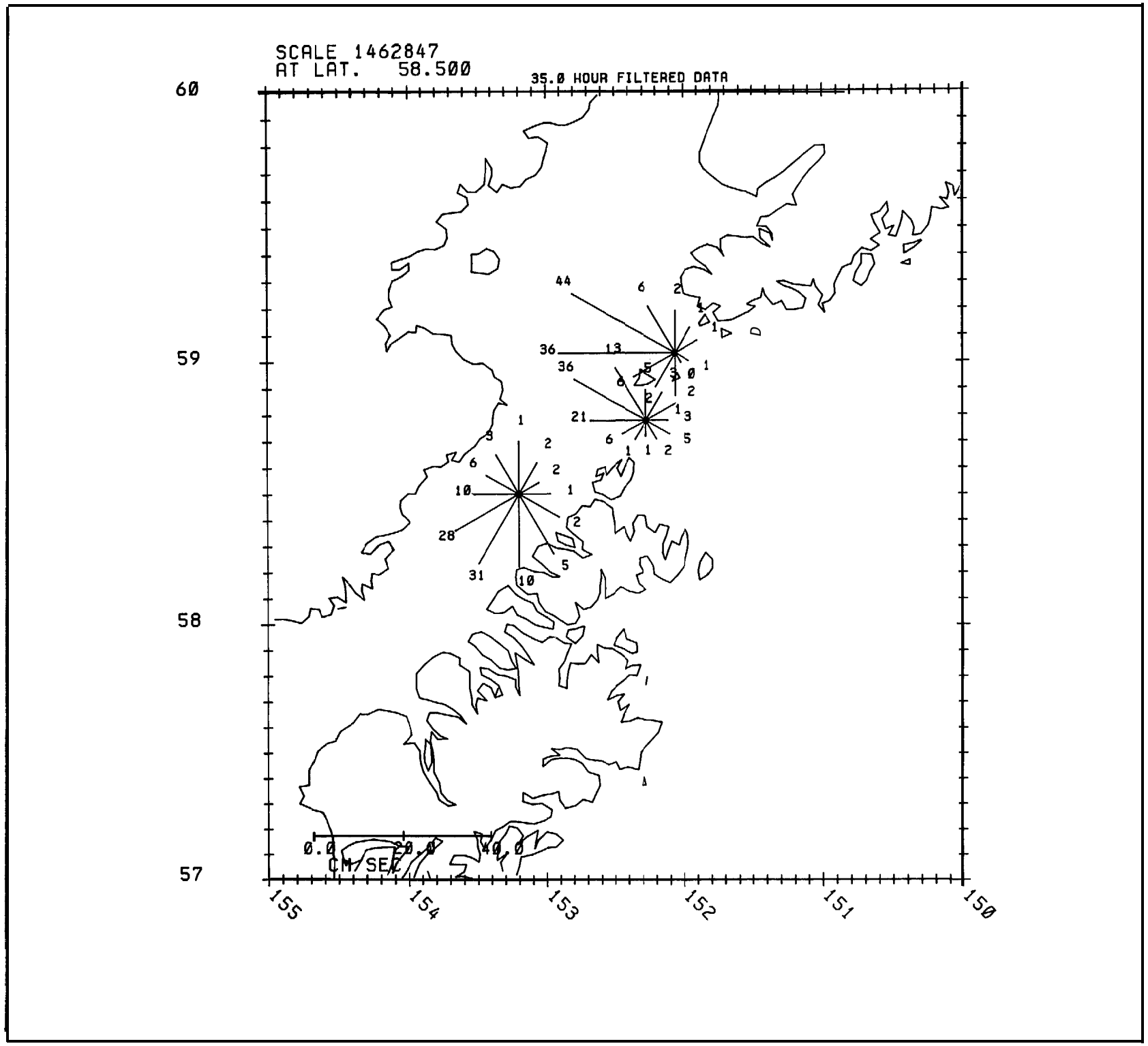


Figure II-B-11

Current Roses

F le Type o 5 - Current Meters

This plot may show either the percentage of observations or the mean speed in a given direction. The roses are plotted on a mercator projection. Mooring information and the chart scale are noted at the top of each chart. The speed scale also is included for each plot.

Options may include selection of 2.86 hour or 35.0 hour filtered data and the direction may be divided into 4 to 36 intervals. Other options are similar to those discussed for the mooring location plot (Figure II-B-7).

This product is designed solely for Fi e Type 015 data.

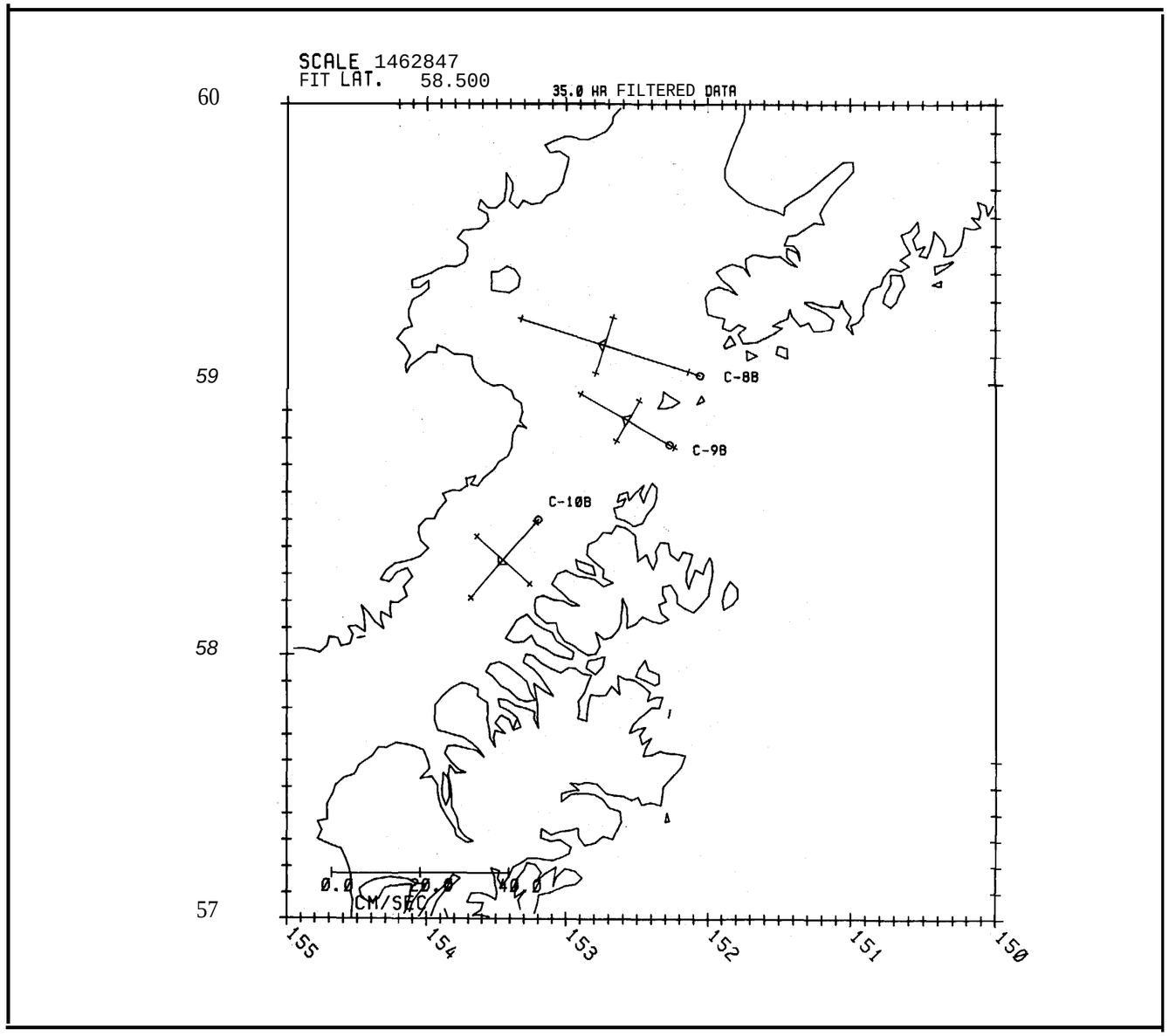
Figure II-B-12

Summary Current Vectors

File Type 015 - Current Meters

This presentation shows mean speed and standard deviations along and across the direction of the mean speed (major and minor axes).

Plots may be generated for either the 2.86 or the 35.0 hour filtered data. The vectors may be plotted on a chart at the geographic location of the mooring or plotted separately. Other options are similar to those discussed for the mooring location plot (Figure II-B-7). This product is designed solely for File Type 015 data.



SECTION II-C – MARINE BIRD ANALYSES AND DATA MANAGEMENT (DPG/URI)

THE EFFORTS OF THE DATA PROJECTS GROUP (DPG) INVOLVE DATA ENTRY, QUALITY CONTROL AND ANALYSIS SUPPORT FOR SELECTED OCSEAP PRINCIPAL INVESTIGATORS STUDYING SEABIRDS. DATA MANAGEMENT SUPPORT TO THE PROJECT OFFICES AND SUPPORT TO THE PROGRAM SYNTHESIS EFFORT ALSO ARE PROVIDED FOR THOSE AREAS CONCERNING PELAGIC BIRD STUDIES.

INITIALLY, IN 1977, THE DPG VALIDATED AND REFORMATTED SHIP AND AIRCRAFT CENSUS DATA FOR PELAGIC BIRDS PRIOR TO SUBMISSION OF THESE DATA TO THE DATA BASE AT NODC. TO AID IN THE PROGRAM'S INCREASING NEED FOR ANALYSIS PRODUCTS AND TO IMPROVE THE RELIABILITY AND CONSISTENCY OF DIFFERENT INVESTIGATORS' DATA SUBMISSIONS, THE DPG ESTABLISHED IN 1979, A DISTRIBUTED PROCESSING NETWORK FOR MARINE SEABIRD INVESTIGATOR USE. THIS NETWORK, THROUGH INTELLIGENT TERMINALS INSTALLED AT USER SITES, PROVIDES FOR ON-SITE ENTRY AND RESOLUTION OF ERRORS DURING DATA ENTRY. AS A RESULT OF THESE EFFORTS, A SERIES OF GRAPHIC AND TABULAR PRODUCTS HAVE BEEN DEVELOPED BY THE DPG TO ASSIST OCSEAP INVESTIGATORS IN THE ANALYSIS OF THEIR DATA. THESE DATA ARE STORED, RETRIEVED AND DISPLAYED THROUGH THE USE OF THE UNIVERSITY OF RHODE ISLAND MARMAP INFORMATION SYSTEM.

NEARLY ALL SEABIRD SHIP AND AIRCRAFT CENSUS DATA (FILE TYPE 033) COLLECTED BY OCSEAP INVESTIGATORS, ARE AVAILABLE OR CAN BE MADE AVAILABLE FOR THE DPG TO GENERATE THE PRODUCTS DESCRIBED IN THIS SECTION. THE FILE OF THESE DATA CURRENTLY CONSISTS OF OVER 200 DATA SETS AND OVER 21,000 STATIONS WHICH COVER NEARLY ALL PORTIONS OF THE ALASKAN COASTAL REGION. THE DPG HAS BEGUN TO PROCESS OTHER SEABIRD DATA TYPES, NAMELY MARINE BIRD SPECIMEN (FILE TYPE 031), MARINE BIRD LAND CENSUS (FILE TYPE 034), MIGRATORY BIRD SEA WATCH (FILE TYPE 038) AND MARINE BIRD COLONY II (FILE TYPE 135). PRODUCTS IN ADDITION TO THOSE SHOWN IN THIS SECTION ARE ANTICIPATED FOR THESE OTHER FILE TYPES.

SINCE THE DPG IS FUNDED ANNUALLY FOR SPECIFIC DATA PROCESSING AND ANALYTICAL SUPPORT, REQUESTS FOR PRODUCTS NOT ALREADY SCHEDULED FOR OCSEAP INVESTIGATORS SHOULD BE FORWARDED THROUGH THE APPROPRIATE PROJECT OFFICE PERSONNEL OR THE OCSEAP DATA PRODUCTS COORDINATOR FOR APPROVAL. REQUESTS FOR OCSEAP PRODUCTS BY NON-OCSEAP INVESTIGATORS MAY BE NEGOTIATED BETWEEN DPG PERSONNEL AND THE REQUESTOR. A PRODUCT COMPENDIUM DATED 1 FEBRUARY 1980, IS AVAILABLE FROM THE DATA PROJECTS GROUP. THE COMPENDIUM INCLUDES EXAMPLES AND EXPLANATIONS OF THE PRODUCTS IN THIS CATALOG AND OTHER PRODUCTS DEVELOPED FOR NON-OCSEAP DATA FILES BY THE GROUP.

THE DPG PRODUCTS ARE PROVIDED ROUGHLY INTO TWO TYPES; SUMMARIES AND INVENTORIES PRIMARILY FOR DATA MANAGEMENT PERSONNEL AND GRAPHICAL DISPLAYS AND ANALYTICAL PRODUCTS DEVELOPED FOR DATA SYNTHESIS OR AT THE REQUEST OF OCSEAP INVESTIGATORS. THE PRODUCTS IN THIS SECTION ARE AS FOLLOWS:

FIGURE II-C-1 - BLOCK IDENTIFICATION NUMBER
II-C-2 - TRANSECT CATALOG
II-C-3 - SIGHTINGS EFFORT TABLE (BLOCK SEGMENTATION)
II-C-4 - SIGHTINGS EFFORT TABLE (WITHOUT BLOCK SEGMENTATION)
II-C-5 - SIGHTINGS EFFORT PLOT
II-C-6 - STATION POSITION PLOT
II-C-7 - CRUISE/FLIGHT TRACK PLOT
II-C-8 - DIGITAL DENSITY PLOT
II-C-9 - DATA SUMMARY TABLE
II-C-10 - DENSITY HISTOGRAM
II-C-11 - GRADUATED SYMBOL PLOT
II-C-12 - HORIZONTAL CONTOUR PLOT
II-C-13 - STAR DIAGRAM PLOT
II-C-14 - DENSITY AND VARIABILITY OF DISTRIBUTION SUMMARY
II-C-15 - DENSITY RATIO TABLE
II-C-16 - STATISTICAL ANALYSIS PRODUCTS
II-C-17 - MEAN DENSITY VS SAMPLE VARIANCE RATIO TABLE
II-C-18 - FOOD ANALYSIS TABLE
II-C-19 - FOOD SIZE CLASS TABLE

OCSEAP - MAXIMUM, MEAN, AND MINIMUM BIRDS/KM2 FOR
ALL TRANSECTS WITHIN EACH 10' X 10' BLOCK

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

BLOCK IDENTIFICATION CHART

TOTAL PLOT BOUNDARIES - LATITUDES 55 N TO 59 N, LONGITUDES 168 W TO 172 W

59 N - 172 W

59 N - 168 W

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168
169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192
193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216
217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264
265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288
289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312
313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336
337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384
385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408
409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432
433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456
457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504
505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528
529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552
553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576

55 N - 172 W

55 N - 168 W

Figure II-C-1

Block Identification Number

File Type 033-Marine Bird Sightings-Ship/Aircraft

This product displays a digital plot used for bird densities. The area portrayed corresponds to the geographical area in which the data were collected. The area is separated into blocks with the block size being specified by the user. Blocks may be 10, 20, 30, or 60 minutes in width or length. A reference number for each block is included in the Data Summary Table (II-C-9). The Block Identification Number Display is similar in appearance to the density plot, but contains block reference numbers instead of bird densities. This master reference is used to relate a block number on the plot with transect data in the Data Summary Table.

As many as 9999 blocks are allowed for each display with up to 24 blocks across the width of the area. Multiple displays may be generated where more than 24 blocks are required. Display boundaries always begin on whole degree demarcations.

Figure II-C-2

Transect Catalog

File Type 033-Marine Bird Sightings-Ship/Aircraft

The Transect Catalog is similar to the Data Summary Table (II-C-7) in that it serves as a reference point for use with other analysis products, such as the Sightings Effort Table and the Sightings Effort Plot (II-C-3 through II-c-5). Listed are the RU number, principal investigator name, transect date, field operation, transect number, platform type, location, start time, and duration of each transect. Also listed is a 30′ x 60′ block reference number which is identical in use to the block number defined in the description of the Digital Density Plot (II-c-8). The catalog may contain transects from any number of field operations and principal investigators.

This product and the Data Summary Table are examples of the Report Writer, which is a generalized reformatting program designed for use with multiple input and output formats. The user may specify title and sorting information so that the report may be generated with output in a user-specified sequence with the proper headings.

The example is one page of the Transect Catalog that has been created from data collected on 74 field operations conducted by RU 083, RU 108, RU 239 and RU 337, in the Bering Sea during the years 1975 through 1978. The program is capable of using any File Type 033 data and may be adapted for use with other file types in which the transect position is reported.

OCSEAP - FILE TYPE 033 TRANSECT CATALOG

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

BERING SEA

RESEARCH UNIT IDENTIFICATION		BLOCK	DATE	FIELD	TRANSECT INFORMATION				
RU #	PRINCIPAL INVESTIGATOR	NUMBER	DD MM YY	OPER.	TRANSECT NUMBER	POSITION LATITUDE	POSITION LONGITUDE	START TIME	DURATION (MIN)
083	GEORGE HUNT	419	01 05 78	UCI801	s1296 S	58 00 08 N	169 24 01 W	0330	10
					s1297 S	58 02 04 N	169 22 04 w	0340	10
					S1298 S	58 04 00 N	169 20 02 W	0350	10
					S1299 S	58 05 04 N	169 18 01 W	0400	10
					S1300 s	58 06 09 N	169 16 00 W	0410	10
					S1301 s	58 08 05 N	169 13 09 W	0420	10
					s1302 S	58 06 06 N	169 12 04 W	0510	10
					S1303 s	58 04 05 N	169 12 04 w	0520	10
					S1304 s	58 02 04 N	169 12 05 W	0530	10
					S1305 s	58 00 03 N	169 12 04 W	0540	10
083	GEORGE HUNT	420	11 07 77	UCI701	S1298 S	58 03 03 N	168 58 01 w	0220	10
					S1299 S	58 04 08 N	168 55 01 W	0230	10
					S1300 s	58 06 03 N	168 52 00 W	0240	10
					S1301 s	58 07 07 N	168 19 02 w	0250	10
					s1302 S	58 09 01 N	168 46 01 W	0300	10
					S1303 s	58 07 01 N	168 45 09 w	0310	10
					S1304 s	58 05 02 N	168 45 05 W	0320	10
					S1305 s	58 03 01 N	168 45 03 W	0330	10
					s1306 S	58 01 00 N	168 45 03 w	0340	10
083	GEORGE HUNT	423	25 06 78	UC1804	TT102 s	58 02 08 N	165 53 05 W	0552	10
					TT103 s	58 08 07 N	165 46 01 w	0750	10
083	GEORGE HUNT	440	24 09 78	UCI806	2D110 S	57 58 04 N	172 00 04 W	1730	10
083	GEORGE HUNT	441	24 08 75	UCI501	Ts083 S	57 34 00 N	171 02 00 w	0045	15
083	GEORGE HUNT	441	09 07 77	UCI701	S193A S	57 33 07 N	171 02 08 W	2340	10
					S1194 s	57 35 02 N	171 05 07 w	2350	10
083	GEORGE HUNT	441	10 07 77	UCI701	S1195 s	57 36 06 N	171 08 05 W	0000	10
					S1196 S	57 38 00 N	171 11 04 w	0010	10
					S1197 s	57 39 05 N	171 14 05 w	0020	10
					S1198 S	57 40 08 N	171 17 02 w	0030	10
					S1199 s	57 42 03 N	171 20 00 w	0040	10
					S1200 s	.57 43 06 N	171 23 00 W	0050	10
					S1201 s	57 45 01 N	171 26 00 W	0100	10
					S1202 s	57 46 05 N	171 28 09 W	0110	10
					S1203 S	57 47 09 N	171 31 06 w	0120	10

OCSEAP - FILE TYPE 033 SIGHTINGS EFFORT TABLE

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

SIGHTINGS EFFORT TABLE

ALL SURVEYS - KODIAK ISLAND 1976

BLOCK NUMBER	POSITION OF SE CORNER OF 30' X 60' BLOCK AREA LATITUDE	LONGITUDE	SEASON	NUMBER OF TRANSECTS
6	59 30 N	153 00 W	SPRING	28
7	59 30 N	152 00 W	WINTER	3
			SPRING	80
			SUMMER	6
			AUTUMN	16
8	59 30 N	151 00 W	WINTER	2
			SPRING	55
			AUTUMN	4
9	59 30 N	150 00 W	WINTER	1
			SPRING	2
10	59 30 N	149 00 W	SPRING	49
			SUMMER	6
11	59 30 N	148 00 W	WINTER	3
			SPRING	27
			AUTUMN	1
12	59 30 N	147 00 W	WINTER	2
			SPRING	16
			AUTUMN	1
18	59 00 N	153 00 W	SPRING	38
			SUMMER	1
			AUTUMN	4
19	59 00 N	152 00 W	WINTER	3
			SPRING	68
			SUMMER	6
			AUTUMN	25

Figure II-C-3

Sightings Effort Table (Block Segmentation)

File Type 033-Marine Bird Sightings-Ship/Aircraft

This analysis summarizes the number of transects carried out in each 30' x 60' block of area for any region specified by the user. The table may contain material from as many field operations conducted by as many principal investigators as desired. The hardcopy output consists of the number of transects undertaken in each block with the total number of transects divided into seasonal counts. The user may print summaries regarding all principal investigators, all platform types, particular principal investigators, specific years, platform types, or a combination of these alternatives.

The example refers to data collected in the Kodiak area This product has been used in conjunction with data collected on over 100 field operations in the Bering Sea and Kodiak area during the years 1975 through 1978. The principal investigators who conducted these field operations are RU 083, RU 108, RU 129 and RU 337. Any File Type 033 data may be used by this program. The program may be adapted to other file types in which transect position and date are reported.

Figure II-C-4

Sightings Effort Table
(without Block Segmentation)

File Type 033-Marine Bird Sightings-Ship/Aircraft

This report summarizes by user-specified RU numbers, platform types, years and months, the number of transects carried out in a given area. Unlike the Sightings Effort Table (II-C-3), the area specified is not segmented into geographical blocks, but is viewed as a whole. The table may contain material from as many field operations as desired.

At least one RU number, one platform type and one year must be specified as input to the program along with the boundaries of the area in question and product title information. Boundaries must be rectangular in nature and fall on whole degree demarcations. If a transect for which information exists in the input data base does not meet the requirements specified by the user (i.e., different RU number, platform type or year), a line will be printed noting the existence of the transect, but the transect will not be taken into account in the totals printed.

The example refers to data collected for multiple investigators and field operations similar to Figure II-C-3. The program may be adapted to other file types in which transect position and date are reported.

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

BERING SEA

54 N - 59 N AND 162 W TO 175 W

RU #	PRINCIPAL INVESTIGATOR	PLATFORM	YEAR	MONTH	TRANSECTS
083	GEORGE HUNT	AIRCRAFT	1977	JULY	67
				AUGUST	83
			1978	APRIL	17
				MAY	7
		SHIP	1975	AUGUST	157
			1976	JUNE	38
				JULY	146
			1977	JULY	346
				AUGUST	348
			1978	APRIL	239
				MAY	281
				JUNE	394
				JULY	97
				AUGUST	294
				SEPTEMBER	300
108	JOHN WIENS	SHIP	1975	AUGUST	19
			1976	JUNE	14
				AUGUST	9
196	GEORGE DIVOKY	SHIP	1978	APRIL	213
239	JUAN GUZMAN	AIRCRAFT	1976	JUNE	2
		SHIP	1975	JUNE	59
				JULY	23
				AUGUST	26
			1976	JUNE	49
				AUGUST	65
337	CALVIN LENSINK	AIRCRAFT	1975	JUNE	9
				JULY	26
				AUGUST	198

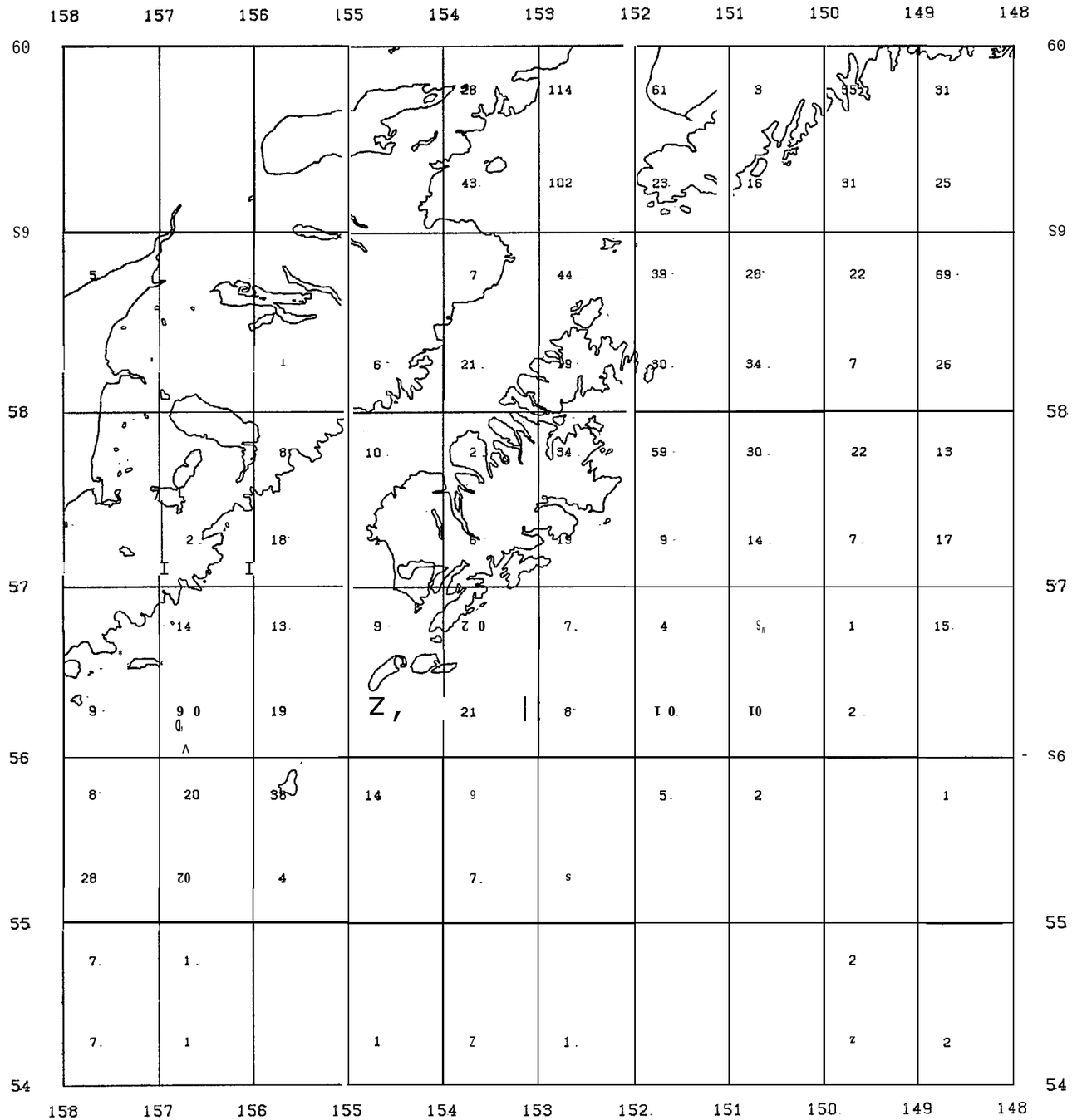


Figure II-C-5

Sightings Effort Plot

File Type 033-Marine Bird Sightings-Ship/Aircraft

This is a plotted version of the Sightings Effort Table. The number of stations which occur in each 30' x 60' block of area are summed according to geographic position and season, with further refinement to individual principal investigators and particular years being available. Values are then plotted on a 12-inch drum plotter along with a land mass available in a number of projections being Miller, Mercator, Square and Universal Transverse Mercator in any projection.

The example shows the combined effort of File Type 033 data sightings in the Kodiak area in the Spring of 1976, using a Mercator Projection. It includes 97 field operations from RU 337, RU 083, RU 108 and RU 239.

This product is available for any file type in which transect position and date are reported.

Figure II-C-6

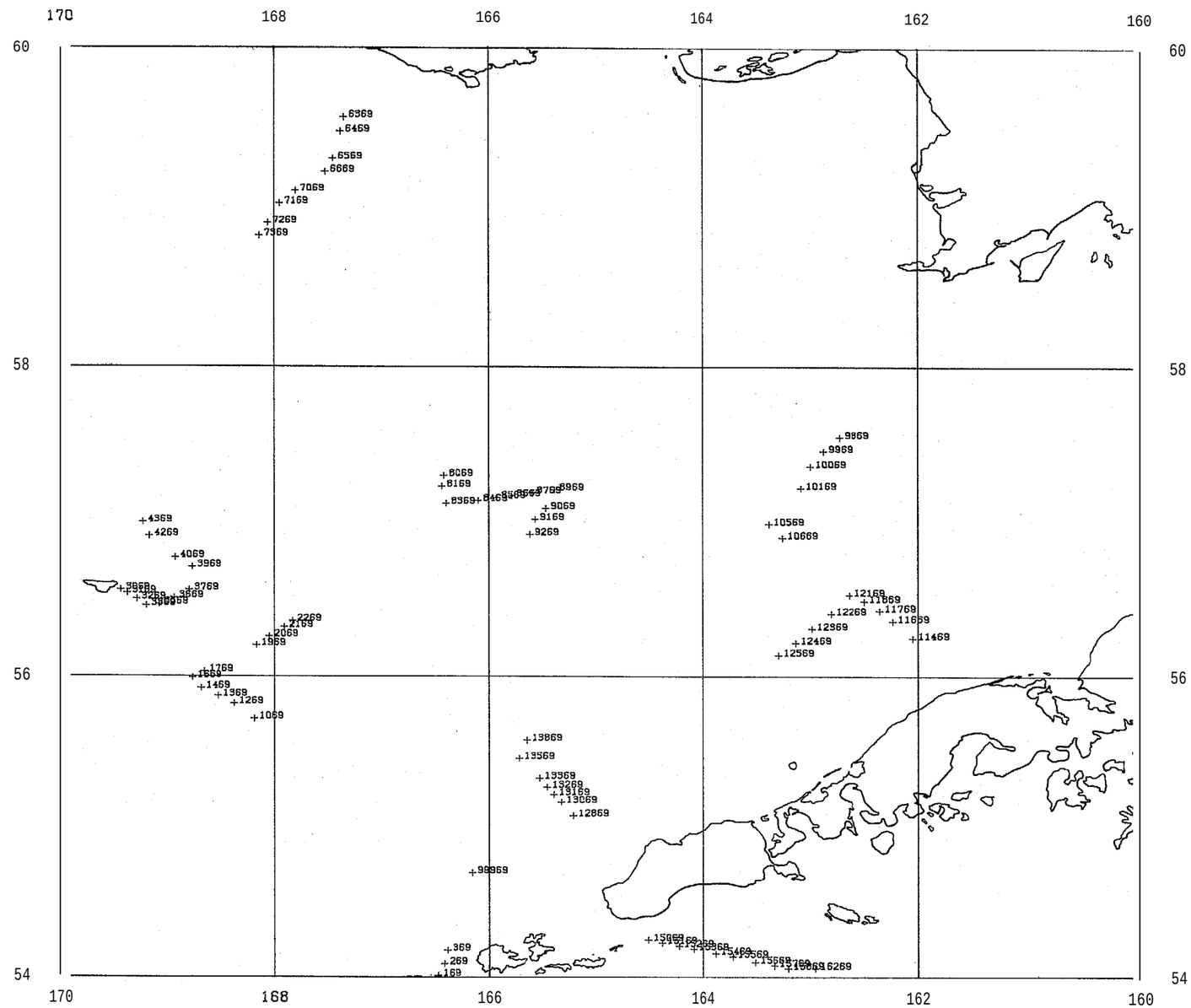
Station Position Plot

File Type 033-Marine Bird Sightings-Ship/Aircraft

This product displays a plot with a symbol or station number at each geographic coordinate at which a sighting or observation was made along a transect. The plot is drawn on a 12-inch drum plotter and includes a land mass of the specified area.

The example shows File Type 033 data collected in Bristol Bay by RU 337, identified as File ID FW6089. The example is plotted on a Mercator Projection.

This product is available for any file type in which transect position is reported.



STATION POSITION PLOT - BRISTOL BAY
FUR FIELD OPERATION FW6089

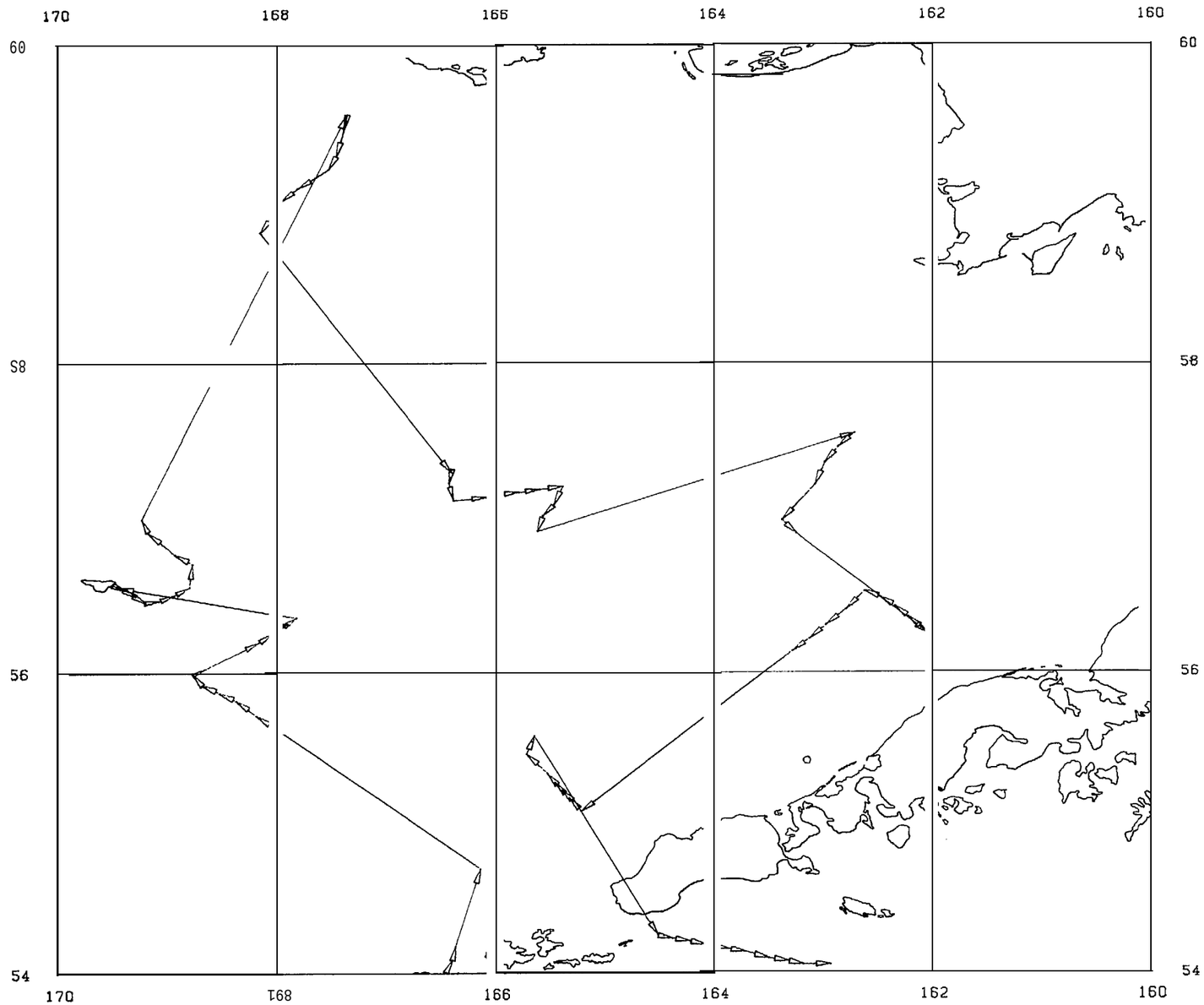


Figure II-C-7

Cruise/Flight Track Plot

File Type 033-Marine Bird Sightings-Ship/Aircraft

This product displays a plot of sighting locations connected by vectors, depicting the direction travelled between sightings. The resultant plot shows the overall cruise track or flight pattern of the craft. It is drawn on a 12-inch drum plotter and includes a land mass of the specified area in various chart projections.

The example shows File Type 033 collected in Bristol Bay by RU 337, identified as File ID FW6089. The example is plotted on a Miller Projection.

This product is available for any file type in which transect position, date and start time are reported.

Figure II-C-8

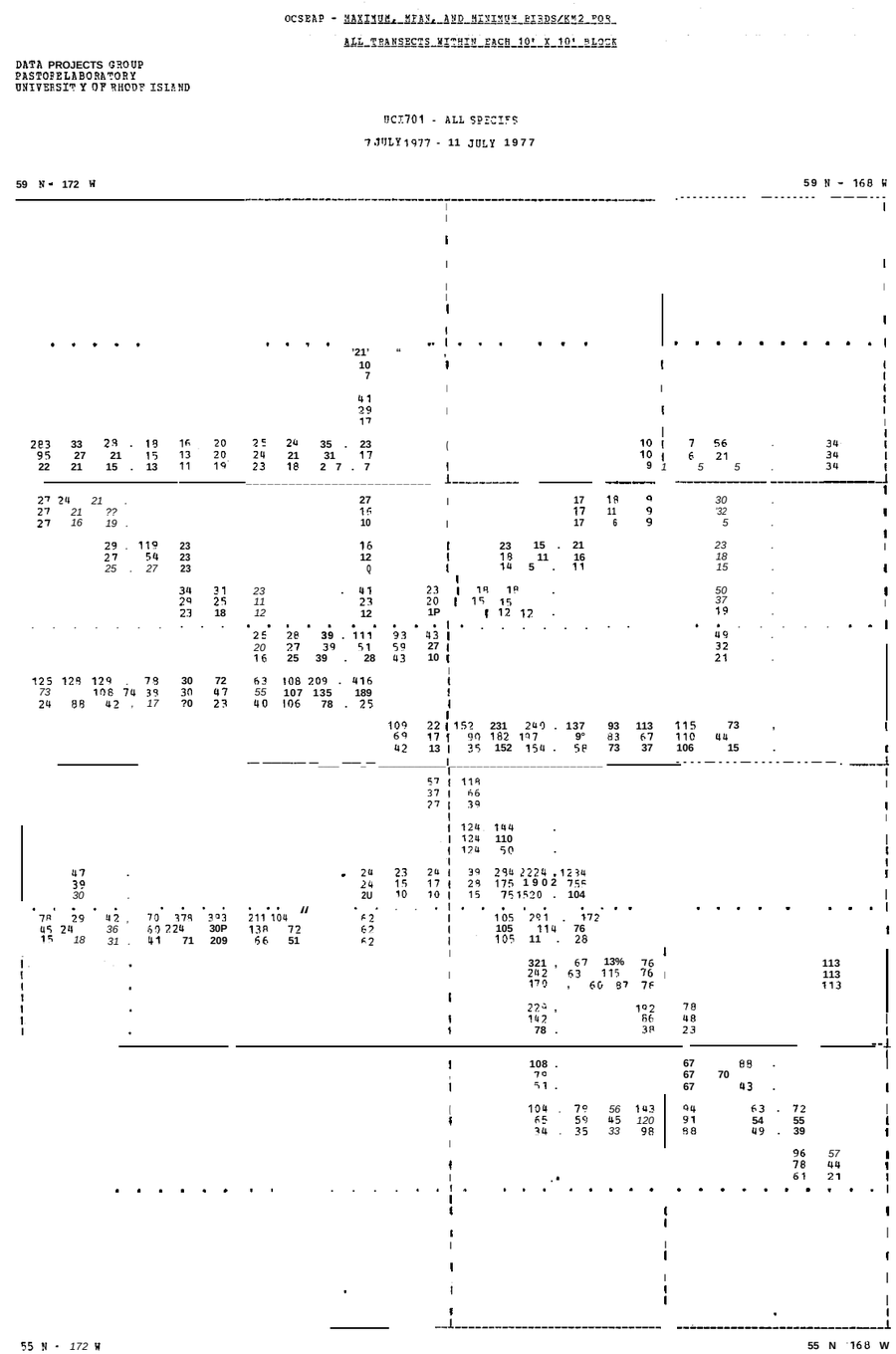
Digital Density Plot

File Type 033-Marine Bird Sightings-Ship/Aircraft

This figure displays density values for block identification numbers described in Figure II-C-1. Three values are obtained for each block. They are the largest number of birds per square kilometer on any transect, the mean number of birds per square kilometer for all transects, and the smallest number of birds per square kilometer seen on any transect. The values are printed in a position on the plot which corresponds to the particular block. The mean value is printed in the middle, with the largest and smallest density values printed above and below the mean, respectively. To assist in interpreting the plot, a mylar overlay, which shows land masses and bottom depth contour lines in the area being studied, may be constructed.

Densities can be calculated with respect to any time of day, behavior, season, month, subset of species, or combination of these parameters. Also, the user may specify that only a certain portion of the total area surveyed be displayed. The densities in the example were calculated using File ID UCI701 data collected by RU 083.

Digital density plots have been created from data collected on 74 field operations conducted by RU 083, RU 108, RU 239 and RU 337 in the Bering Sea during the years 1975 through 1978. The program is capable of using File Type 033 data from field operations in any other area as well.



EACH BLOCK CONTAINS THREE VALUES. THE TOP VALUE IS THE MAXIMUM NUMBER OF BIRDS/KM2 FOR ALL TRANSECTS IN THAT BLOCK. THE MIDDLE VALUE IS THE MEAN NUMBER OF BIRDS/KM2 FOR ALL TRANSECTS IN THAT BLOCK. THE BOTTOM VALUE IS THE MINIMUM NUMBER OF BIRDS/KM2 FOR ALL TRANSECTS IN THAT BLOCK. ASTERISKS INDICATE THAT THE NUMBER TO BE PRINTED WAS GREATER THAN 9999. PLUS SIGNS INDICATE THAT, WHILE SIGHTINGS WERE REPORTED IN THAT BLOCK, NO TRANSECT IN THAT BLOCK CONTAINED ALL OF THE DATA REQUIRED FOR THE CALCULATION OF BIRDS/KM2 VALUES.

OCSEAP - FILE TYPE 033 DATA SUMMARY

UCI701

7 JULY 977 - 11 JULY 1977

10' X 10' BLCCK NUMBER & POSITION ((D)DDMMSSH) BLOCK	LATITUDE	LONGITUDE	FIELD OPER.	STA.	DATE DDMMYY	TIME HHMM	TRAN. LENG. (M)	AREA SURV. (KM2)	ENVIRONMENTAL CONDITIONS STMP	SAL	BDEP	DNSH	DSB	OBSERVATIONS NAME	NUMBER SEEN	BC	DC
82	5827C7N	17o2504W	UCI701	S12o5	1C0777	1510	3397	1.02	89	o.7	76	76	25	COMMON MURRE	2	20	18
														MURRE	2	20	18
														NORTHERN FULMAR	1	20	18
														NORTHERN FULMAR	1	32	
														NORTHERN FULMAR	1	32	
														NORTHERN FULMAR (LIGHT)	1	20	00
														NORTHERN FULMAR (LIGHT)	1	20	18
														SHEARWATER	1	20	05
82	582907N	1702506W	UCI701	S 234	100777	1500	3706	1.11	89	3 7	76	7≡	127	NORTHERN FULMAR (DARK)	1	20	05
														NORTHERN FULMAR (LIGHT)	1	20	00
														NORTHERN FULMAR (LIGHT)	1	20	18
														NORTHERN FULMAR (LIGHT)	2	20	05
														NORTHERN FULMAR (LIGHT)	3	32	
1o6	581104N	702602W	UCI701	S 243	100777	1630	4015	1.20	88	318	75	60	111	HORNED PUFFIN	2	20	18
														MURRE	1	01	
														MURRE	1	01	
														MURRE	2	20	22
														NORTHERN FULMAR	2	20	
														NORTHERN FULMAR (DARK)	1	20	
														NORTHERN FULMAR (DARK)	3	20	
														NORTHERN FULMAR (LIGHT)	1	32	
														NORTHERN FULMAR (LIGHT)	1	32	
														NORTHERN FULMAR (LIGHT)	1	32	
														NORTHERN FULMAR (LIGHT)	2	20	
														NORTHERN FULMAR (LIGHT)	2	32	
														SOOTY SHEARWATER	1	20	
o6	581304N	1702509W	UCI7o	S 242	oo777	62o	3706	1.11	89	318	75	63	2	COMMON MURRE	1	20	15
														COMMON MURRE	2	32	
														HORNED PUFFIN	1	20	05
														LEAST AUKLET	3	20	00
														LEAST AUKLET	4	20	18
														NORTHERN FULMAR	1	32	
														NORTHERN FULMAR (LIGHT)	1	20	05
														NORTHERN FULMAR (LIGHT)	1	32	
														NORTHERN FULMAR (LIGHT)	2	32	

Figure II-C-≥

Data Summary Tab e

File Type 033-Ma~ine ≥i:d Sightings-Ship/Aircra~t

The Data Summary Table serves as a reference point for use with the other analysis products. It lists a variety of raw data parameters for each transect. Along with the resolution of taxonomic codes into common names, two parameters listed are derived from other raw data in the file. These parameters are the transect length (in meters) and the area surveyed (in square kilometers). Also listed is a block reference number defined in the Digital Density Plot description (Figure II- C-8).

Under the heading "Environmental Conditions" will be found the surface temperature (STMP) in tenths of degrees C, the surface salinity (SAL) in tenths of parts per thousand, the bottom depth (BDEP) in whole meters, the distance to nearest shore (DNSH) in whole nautical miles and the distance to shelf break (DSB) in whole nautical miles. Under the heading "Observations" are the species common name, the number of that speecies seen, the behavior code (BC) and the direction of flight code (DC).

The example contains data collected on Field Operation UCI707. The Data Summary Table has used, as input, data collected on field operations conducted by RU 083 and RU 337. Input from any data in Fi.e Type o 3 format may be used by this program.

Figure II-C-IO

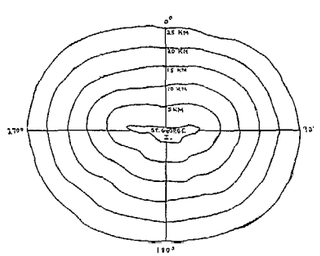
Density Histogram

File Type 033-Marine Bird Sightings-Ship/Aircraft

The Density Histogram displays densities (number of species per square kilometer) as a function of angle and distance from a given point source. Each column contains a density for each species group being studied. At the top of each column are the number of transects used in the calculation of the densities in that column and the distance range from the central point to the area in which the transects occurred.

The user has a choice of calculating densities for any group of species given a behavior code, year, month, season, time of day, latitude, longitude, bottom depth or any combination of these parameters. The width of the "distance to shore" bands and the width of the arc into which the area around the central point may be sectioned are at the discretion of the user. Also, a maximum distance boundary may be set so that only transects within a given distance of the central point will appear in the histogram. Densities also may be calculated only from transects for which distance to nearest shore information is available or all transects may be used by approximating the distance to the nearest shore through the use of the distance between the midpoint of the transect and the central point source. This output may portray data from as many field operations as desired.

The rough sketch below shows how the area surrounding St. George Island in the Bering Sea is segmented by the "distance to nearest shore" bends at 5-kilometer intervals and the 90-degree angles that extend from the center of the island. As the distance from the island increases so does the area covered by each band section. The sketch segments the island on north- south, east-west headings while the example shows segmentation on the northeast-southwest, southeast- northwest headings.



OCSEAP - BIRD DENSITY HISTOGRAM

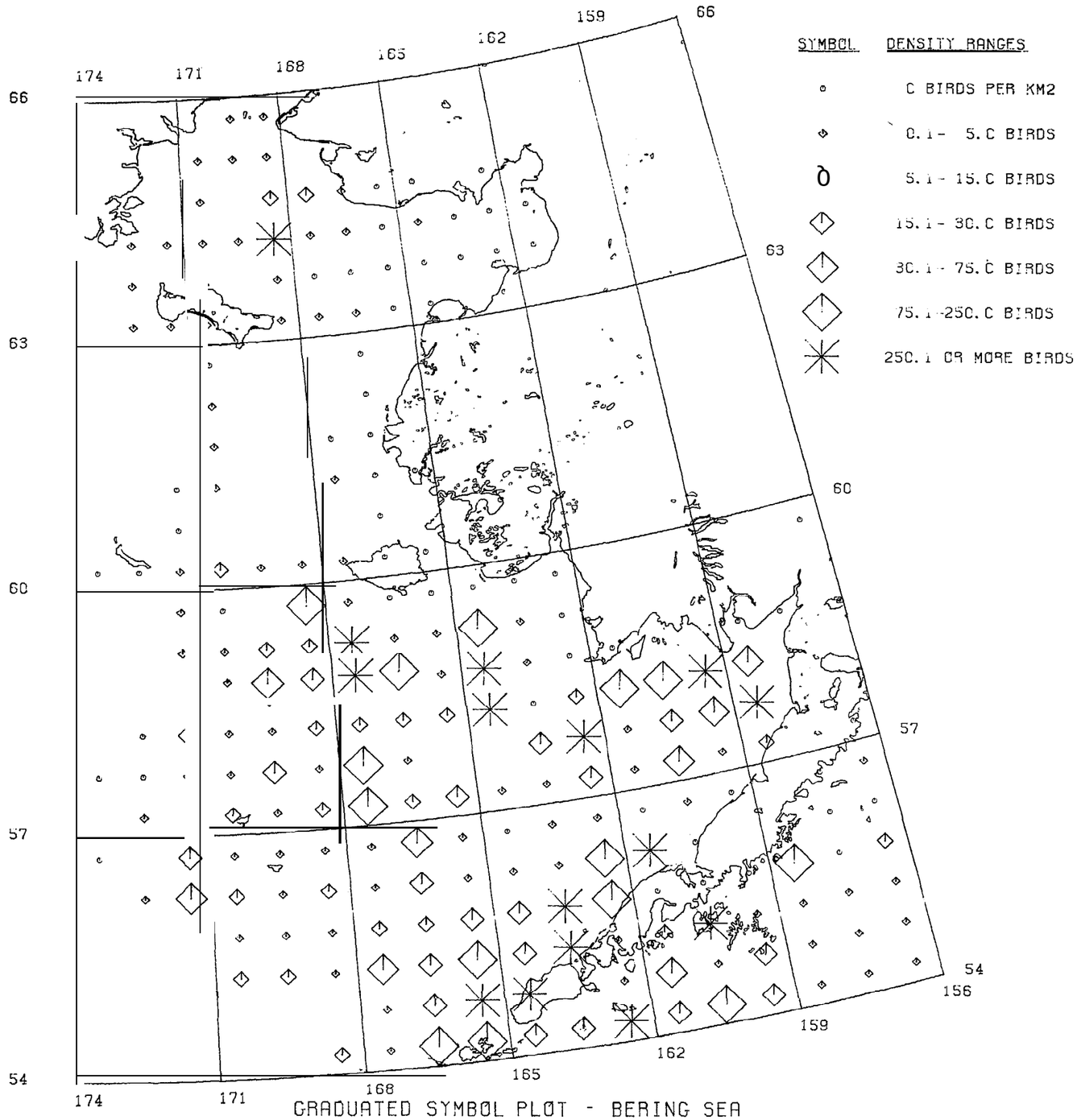
DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

UCI501,602,701,702,801, 803,806

5KM INTERVALS FROM ST. GEORGE IS

135 TO 224 DEGREES FROM NORTH

NUMBER OF TRANSECTS ->	6	18	15	6	15	17	15	11	18	12	15	21	20	12	18	19	12	15	27	14	14
DISTANCE -> / NAME	0 TO 5	5 TO 10	10 TO 15	15 TO 20	20 TO 25	25 TO 30	30 TO 35	35 TO 40	40 TO 45	45 TO 50	50 TO 55	55 TO 60	60 TO 65	65 TO 70	70 TO 75	75 TO 80	80 TO 85	85 TO 90	90 TO 95	95 TO 100	100 TO 105
AUKLET	69	4	2	0	1	0	0	0	0	3	0	1	1	1	4	0	4	3	1	0	1
BLACK-LEGGED KITTIWAKE	5	4	6	11	5	10	4	7	7	7	5	4	2	6	3	2	4	2	5	5	3
COMMON MURRE	0	0	0	1	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
FORK-TAILED STORM PETREL	0	0	0	1	5	1	6	7	26	5	51	8	39	8	26	1	1	2	5	2	1
HORNED PUFFIN	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KITTIWAKE	17	11	32	53	28	36	28	16	39	29	22	23	19	17	12	9	10	7	10	11	7
LEAST AUKLET	61	3	1	0	1	0	0	0	0	2	0	0	1	1	4	0	4	3	1	0	1
MURRE	150	36	13	25	22	20	67	16	9	8	2	7	19	10	2	5	5	7	7	1	6
NORTHERN FULMAR	21	16	14	9	55	15	12	12	16	52	33	25	38	16	10	37	12	7	12	18	20
NORTHERN FULMAR (DARK)	2	5	3	1	28	4	2	4	6	26	11	13	20	7	4	7	7	3	7	11	11
NORTHERN FULMAR (LIGHT)	17	7	6	Q	23	4	4	7	6	21	14	9	13	6	5	5	4	2	3	4	6
PARAKEET AUKLET	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RED-FACED CORMORANT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RED-LEGGED KITTIWAKE	9	5	25	42	22	18	11	9	16	15	15	19	17	11	8	6	5	5	5	5	4
SHEARWATER	0	0	0	0	0	0	4	0	4	10	2	3	1	0	1	1	1	3	3	10	3
THICK-BILLED MURRE	2	1	2	0	1	Q	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0
TUFTED PUFFIN	12	0	1	2	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	1	0



GRADUATED SYMBOL PLOT - BERING SEA
SHEARWATERS, SUMMER, SHIP & AIR SURVEYS

Figure II-C-11

Graduated Symbol Plot

File Type 033-Marine Bird Sightings-Ship/Aircraft

The Graduated Symbol Plot displays the abundance of data over a given area by varying symbols and/or symbol sizes. The data for the display is the density per square kilometer calculated for a specified block of area. Blocks may be 10, 20, 30 or 60 minutes in width or length. Symbols may represent densities calculated with respect to any time of day, behavior, season, month, subset of species, or combination of these parameters. The user specifies the density ranges for up to ten symbols or symbol sizes. These are compared to the calculated density at each geographic point and the appropriate symbol of the specified size is drawn. A legend is included defining each symbol with its associated density range. A land mass of the given area is superimposed on the plot.

A straight proportion of density versus symbol size may be used or the actual numerical value may be plotted. Plots may be generated on various chart projections provided the area of any block on the plot is at least as large as the largest symbol.

The example shows data for all shearwaters in the summers of 1975 through 1978 in the Bering area using a Universal Transverse Mercator Projection. The area has been segmented into 30' latitude x 60' longitude blocks. The plot represents the combined data of 74 field operations from RU 337, RU 083, RU 108 and RU 239.

This product is available for any file type with abundance data collected at recorded coordinates.

Figure II-c-12

Horizontal Contour Plot

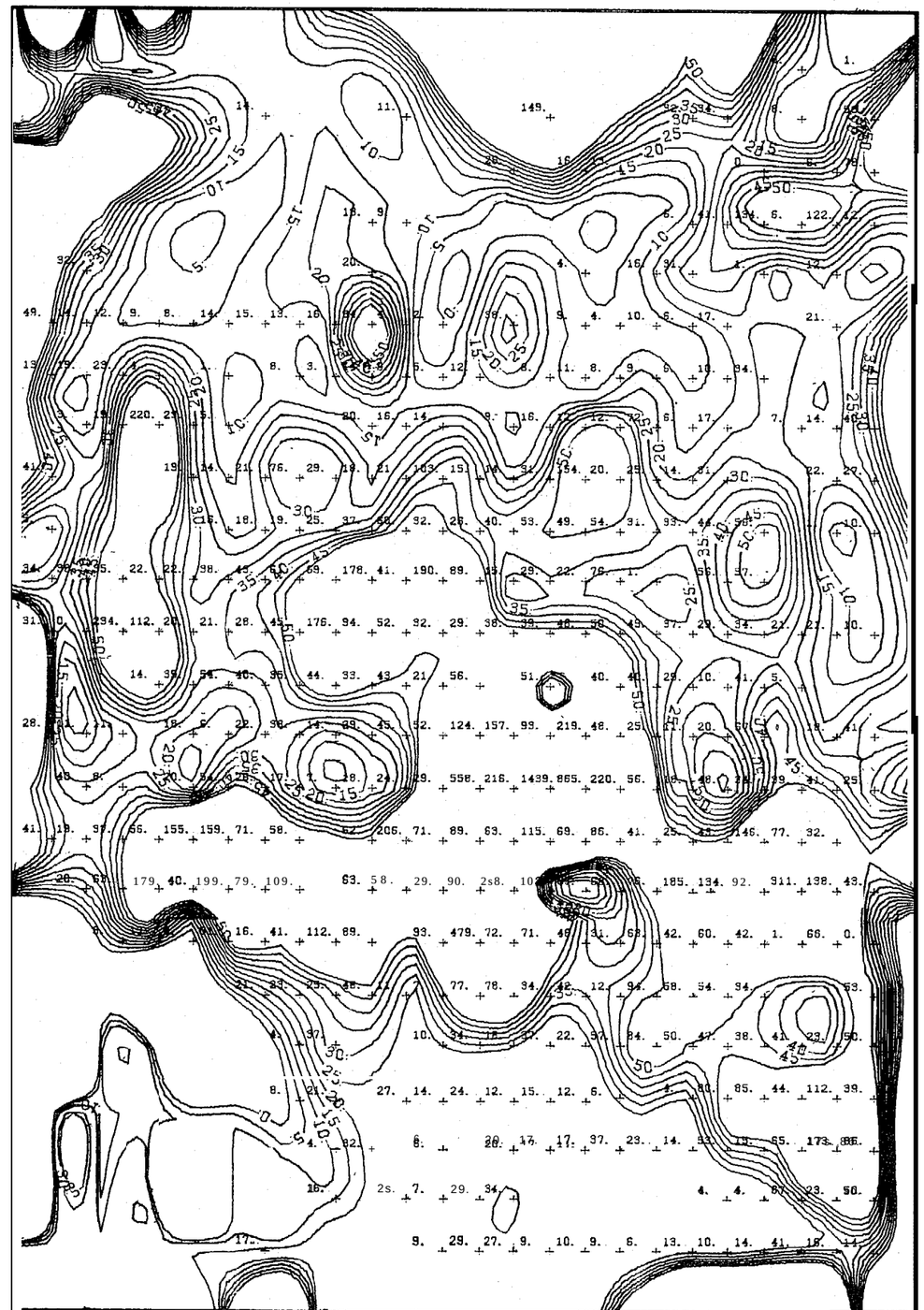
File Type 033-Marine Bird Sightings-Ship/Aircraft

Surfaces of constant abundance (numbers of individuals per square kilometer) are plotted on this horizontal contour plot. Sightings in each block of area are used to calculate the density per square kilometer, and together with geographic location, are used as input to a horizontal contour analysis program. Blocks may be 10, 20, 30, or 60 minutes in width or length. The average density for a block may be calculated with respect to a particular species or group of species, time of day, behavior, season, month, or combination of these parameters. A grid pattern covering the requested area is established, and input location and density data are used to determine the abundance at each grid intersection. From this regular array, contours of constant abundance are determined and drawn.

In the example shown, File Type 033 data for all species is combined from field operations conducted by RU 083, RU 108, RU 239, and RU 337 in the Pribilof area. The block size is 10′ latitude by 10′ longitude. The contour levels are 0 to 50 by 5. The contour levels may be set by the user or may be calculated by the program. The projection is a linear approximation of the Miller Projection.

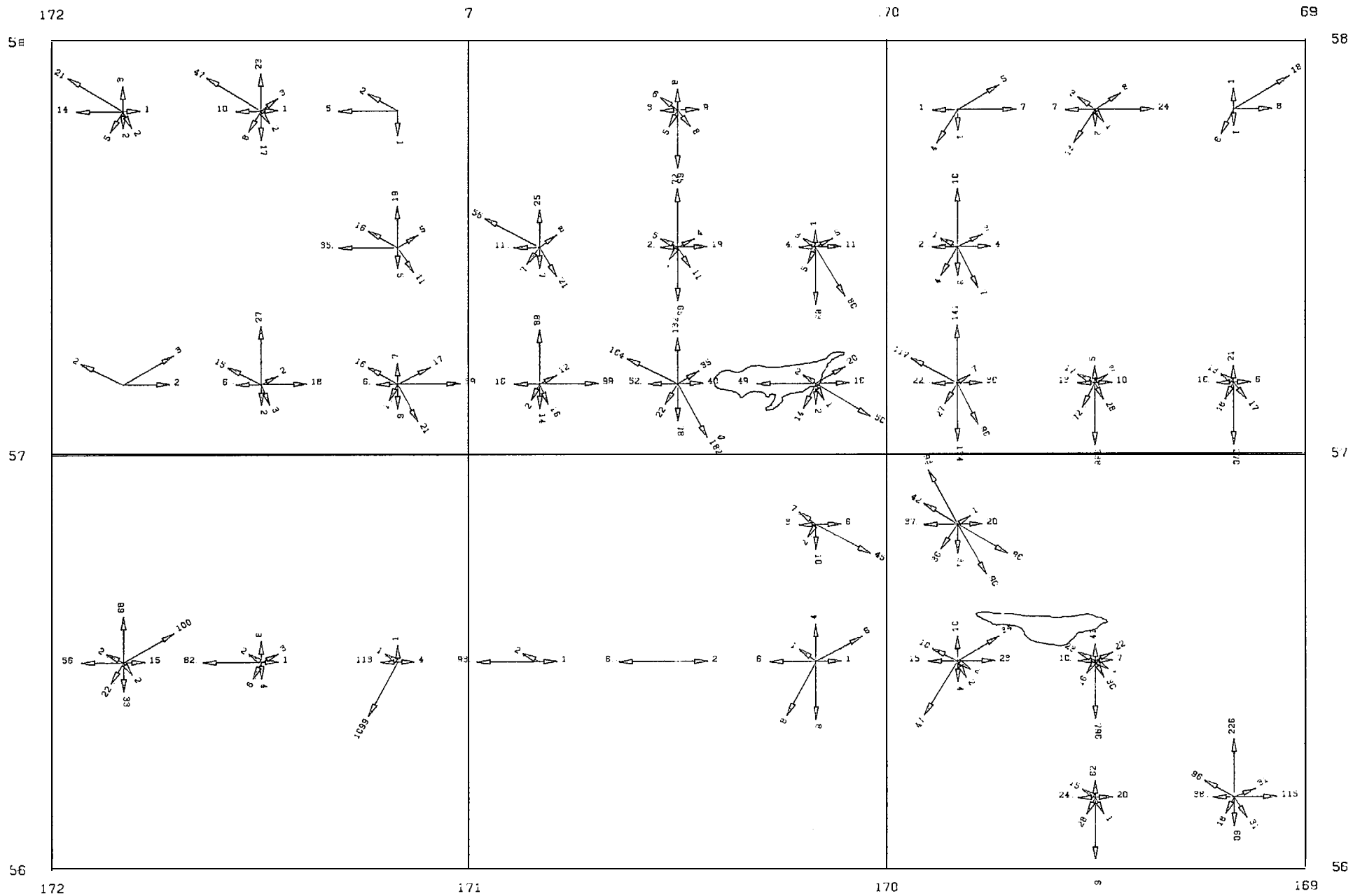
This product is available for any file type for which a regular array of location and abundance data can be established if the data may be retrieved from other data sources. A land mass overlay may be generated. Note that the Contour Plot creates output to be displayed on a linear grid so that, while the projected land mass may not be an exact fit, it will be a very close approximation to the area covered by the contour.

59 59



55 55

ONTOUR PLOT - PRIBILOF ISLANDS - DENSITIES (BY 10′ BLOCK) OF ALL SPECIES



STAR DIAGRAM - PRIBILOF ISLANDS
ALL SPECIES FOR FIELD OPERATION UCI701

Figure II-C-13

Star Diagram Plot

File Type 033-March Bird Sightings-Ship/Aircraft

This analysis produces a plot showing bird flight patterns. The survey area represented is divided into blocks of specified size. Within each area, abundance data are summed as a function of flight direction over thirty degree intervals. Vectors are proportional to the number of individuals flying in a given direction. A Square Projection is used to eliminate vector distortion. The star pattern results when all vectors within a block are drawn from a common origin. The number of individuals represented is recorded following each vector arrowhead. A table (not shown), accompanies each star plot. The information in the table is divided by block and lists the angles and numbers of individuals displayed on the plot.

The accompanying example shows data in the Pribilof area (segmented into 20' X 20' blocks) from File ID UCI701 collected by RU 083. As with the other products, blocks may be 10, 20, 30, or 60 minutes in width or length. Multiple plots may be generated and joined where more than six rows of stars are required on one page. Abundance may be reflected with respect to any time of day, behavior, season, month, subset of species, or combination of these parameters.

Though this example shows bird flight patterns, it can be used for other directional parameters with wind roses and current vectors being two examples.

Figure I -C- 4

Density and Variability of Distribution Summary

File Type 033-Marine Bird Sightings-Ship/Aircraft

This summary displays information regarding overall population and individual species characteristics. For a given set of user-defined conditions, the number of transects, those with no birds, the percentage of transects with birds, the highest and lowest transect densities and various mean density calculations are displayed for all species. Calculations are made for individual species or species groups for the number of individuals, the percentage of the total population for which that species group accounts, the mean density (average number of species per square kilometer), the density variance and the percentage of transects at which the species group was sighted.

Information may be displayed for any number of species given a variety of conditions. The user has a choice of calculating with respect to behavior code, year, month, season, time of day, latitude, longitude, bottom depth or any combination of these parameters. The example displays information calculated from data collected on 74 field operations conducted in the Bering Sea by RU 108, RU 239 and RU 337. This table contains information gathered from transects taken during the summer months of 1975 through 1978 at latitudes between 59 00 N and 63 30 N with bottom depths of less than 200 meters.

OCSEAP - FILE TYPE 033 DENSITY AND VARIABILITY OF DISTRIBUTION SUMMARY

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

BERING SEA

LATITUDE: 59 00 N - 63 30 N, BOTTOM DEPTH: 0 M - 199 M, SEASON: SUMMER

NUMBER OF TRANSECTS: 170

# TRANSECTS WITH NO BIRDS:	5	MEAN DENSITY:	522.0	LOG MEAN DENSITY:	1.316
% TRANSECTS WITH BIRDS:	97.0%	MEAN DENSITY + 2 STD. DEV.:	11271.5	LOG MEAN DENSITY + 2 STD. DEV.:	2.724
HIGHEST TRANSECT DENSITY:	70124.1	MEAN DENSITY - 2 STD. DEV.:	-10227.5	LOG MEAN DENSITY - 2 STD. DEV.:	-0.092
LOWEST TRANSECT DENSITY:	0.0	DENSITY VARIANCE:	28888025	LOG DENSITY VARIANCE:	0.496

SPECIES NAME	NUMBER RECORDED	% OF TOTAL	MEAN DENSITY	DENSITY VARIANCE	% OF OCCURRENCE
1 SHEARWATER	83251	92.35	491.6	28870963	48.53
2 NORTHERN FULMAR	215	0.24	0.9	4	25.29
3 NORTHERN FULMAR DARK	4	0.02	0.		.8
4 NORTHERN FULMAR LIGHT	77	0.09	0.4	0	3.53
5 STORM PETREL	25	0.03	0.1	0	3.53
RED-FACED CORMORANT	0	0.00	0.0	0	0.00
7 KITTIWAKE	1154	1.28	4.0	88	79.41
BLACK-LEGGED KITTIWAKE	723	0.80	2.6	76	47.65
9 RED-LEGGED KITTIWAKE	7	0.01	0.0	0	0.59
1 MURRE	3281	3.64	14.3	306	70.59
11 COMMON MURRE	1236	1.37	6.7	44	19.41
12 THICK-BILLED MURRE	18	0.02	0.1	0	4.7
13 HORNED PUFFIN	100	0.12	0.4	2	8.82
14 TUFTED PUFFIN	224	0.25	1.1	8	27.65

PRIBILOF ISLANDS: NORTHERN FULMAR RATIOS (LIGHT/DARK)

SUMMER - AIR

LATITUDE	LONGITUDE	LIGHT	DARK	LIGHT/DARK
56 10 N	171 10 W	2 9	4.0	0.7
56 10 N	170 00 W	0.0	0.0	
56 10 N	169 20 W	0.0	0.0	
56 10 N	169 10 W	5 9	3.6	1.6
56 10 N	169 00 W	4 2	0.5	8 4
56 10 N	168 50 W	10.7	5.4	2.0
56 10 N	168 40 W	23.2	32.1	0 7
56 10 N	168 30 W	40.1	56.1	0.7
56 10 N	168 20 W	27.3	22.7	1 2
56 10 N	168 10 W	13.8	11.7	1.2
56 00 N	171 30 W	0.0	0.0	
56 00 N	171 20 W	0 0	0.0	
56 00 N	171 10 W	2.6	1.3	2 0
56 00 N	170 00 W	0 0	0.0	
56 00 N	169 30 W	0 0	0.0	
56 00 N	169 20 W	2 5	1.0	2 5
56 00 N	169 10 W	0 6	0.0	
56 00 N	168 50 W	0.0	0.0	
56 00 N	168 40 W	0.0	0.0	
56 00 N	168 30 W	0.0	0.0	
56 00 N	168 20 W	0.0	0.0	
56 00 N	168 10 W	0 0	0.0	
56 00 N	168 00 W	0.0	0.0	
55 50 N	170 00 W	0.0	0.0	
55 50 N	169 20 W	2.2	0.0	
55 50 N	169 10 W	0.0	0.0	

Figure II-C-15

Density Ratio Table

File Type 033-Marine Bird Sightings-Ship Aircraft

This analysis produces a table of densities and ratios of densities for two groups of species under identical conditions. The rectangular area under study is separated into blocks with the block size being specified by the user Blocks may be 10, 20, 30 or 60 minutes of latitude or longitude. One density per species group per input transect is calculated and one mean density per species group per block of area is calculated and displayed. The ratio of the two mean densities for a block is calculated and printed in the final column of the output.

At the bottom of the output is found the number of blocks involved, the means of both species density columns, and the ratio of the means of the species densities. Densities may be calculated with respect to any time of day, behavior code, season, month, year, latitude, longitude, bottom depth, subset of species or combination of these parameters as long as the conditions placed on both species groups are identical.

The example shows ratios of light northern fulmars to dark northern fulmars as seen on aerial transects near the Pribilof Islands during summer months for data collected by RU 083.

Figure II-c-16

Statistical Analysis Products

File Type 033-Marine Bird Sightings-Ship/Aircraft

In this product, the interdependence of bird density and physical parameter data is evaluated through use of selected programs from the Statistical Package for the Social Sciences (SPSS). Three analyses are performed: stepwise multiple regression, factor analysis, and canonical correlation.

The stepwise multiple regression routine is used to examine variations in the number of birds per square kilometer (dependent variable-BKm2) as a function of variations in sea surface temperature (STMP), surface salinity (SAL), distance, to shelf break (DSB), distance to nearest shore (DNSH), and bottom depth (BDEP), the independent variables. A linear regression formula is calculated along with a table showing which independent variables are the best predictors of the dependent variable. In the example, surface temperature and distance to shelf break show slightly more correlation to density than the other parameters (smaller F values).

The factor analysis subroutine attempts to reduce the number of variables required for study by examining the intercorrelations of all variables and indicating a small number of variables which account for most of the variance in all of the variables. Unlike stepwise multiple regression, factor analysis does not explain dependent variable variance in terms of independent variable variance. It maximizes the explained variance of all variables available to it.

Canonical correlation analysis takes as input two' sets of variables (densities vs physical parameters) and attempts to account for a maximum amount of relationship between them. This is done by deriving a linear combination from each of the sets of variables in such a way that the correlation between the two linear combinations is maximized.

The example displays a multiple regression which resulted from data for File ID UC1701 collected by RU 083. SPSS is capable of handling data from a variety of sources. Another statistical package, the Statistical Analysis System (SAS), also is available for use but output displays are not included in this catalog.

ALL SPECIES - UCI701

FILE BIRDSKM2

* M U L T I P L E R E G R E S S I ON * * * * * * * * * * * * VARIABLE LIST 1
REGRESSION 1.,1S': 1

DEPENDENT VARIABLE.. BKM2 NUMBER OF BIRDS PER SQUARE KILOMETER

VARIABLE(S) ENTERED ON STEP NUMBER 1.. STMP SURFACE TEMPERATURE-TENTHS OF DEGREES C

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
MULTIPLE R	0.33396	REGRESSION	1.	1658696,97328	1658696.97328	42.55438
R SQUARE	0.11153	RESIDUAL	339.	1321.3641,60864	38978.29383	
ADJUSTED R SQUARE	0.10891					
STANDARD ERROR	197.42921					

VARIABLES IN THE EQUATION

VARIABLE	B	BETA	STD ERROR B	F
STMP	-6.491720	-0.33396	0.99515	42.554
(CONSTANT)	635.4167			

VARIABLES NOT IN THE EQUATION

VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
SAL	-0.00252	-0.00266	0.98687	0.002
BDEP	0.01216	0.01261	0.95615	0.054
DNSH	-o, 13370	-0.1172?	0,68299	4.709
DSB	-0.19406	-0.20400	0.98190	14.678

* *

VARIABLE(S) ENTERED ON STEP NUMBER 2.. DSB DISTANCE TO SHELF BREAK-WHOLE NAUT MI

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
MULTIPLE R	0.38536	REGRESSION	2.	2208616.64177	1104308.32088	29.47445
R SQUARE	0.14851	RESIDUAL	338.	12663721.94015'	37466,6.3296	
ADJUSTED R SQUARE	0.14347					
STANDARD ERROR	193.56299					

VARIABLES IN THE EQUATION

VARIABLE	B	BETA	STD ERROR B	F
STMP	-5.984156	-0.30785	0.98461	36.938
DSB	-1.124875	-0.19406	0.29361	14.678
(CONSTANT)	647.9995			

VARIABLES NOT IN THE EQUATION

VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
SAL	-0.12593	-0.11658	0.75502	4.806
BDEP	-0.09099	-0.08675	0.77407	2.555
DNSH	-0.07919	-0.06854	0,63?90	1,591

OCSEAP - FILE TYPE 033 MEAN DENSITY VERSUS SAMPLE VARIANCE RATIO TABLE

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

BERING SEA (30' X 60' BLOCKS)

BLACK-LEGGED KITTIWAKES (MARCH - MAY)

BLOCK	LATITUDE	LONGITUDE	MEAN	VARIANCE	M/V	V/M	TRANSECTS
493	56 30 N	167 00 W	2.3	15.2	0.1	6.7	18
494	56 30 N	166 00 W	2.4	7.2	0.3	3.0	20
495	56 30 N	165 00 W	0.4	0.5	0.9	1.1	12
496	56 30 N	164 00 W	1.7	0.0	*****	0.0	1
497	56 30 N	163 00 W	1.1	2.1	0.6	1.8	6
498	56 30 N	162 00 W	0.3	0.1	3.0	0.3	4
500	56 30 N	160 00 W	1.3	3.1	0.4	2.4	5
501	56 30 N	159 00 W	0.0	0.0	****	*****	2
504	56 30 N	156 00 W	0.2	0.2	0.9	1.1	9
509	56 00 N	175 00 W	0.0	0.0	*****	*****	2
513	56 00 N	171 00 W	4.2	35.8	0.1	8.6	20
514	56 00 N	170 00 W	1.0	2.4	.4	2.5	39
515	56 00 N	169 00 W	4.4	20.2	0.2	4.6	45
516	56 00 N	168 00 W	3.7	39.1	0.1	10.6	27
517	56 00 N	167 00 W	5.0	39.9	0.1	7.9	16
518	56 00 N	166 00 W	3.0	25.3	0.1	8.5	25
519	56 00 N	165 00 W	1.1	5.0	0.2	4.5	18
520	56 00 N	164 00 W	0.4	0.2	2.2	0.5	6
521	56 00 N	163 00 W	0.9	2.2	0.4	2.5	6

Figure II-C-17

Mean Density vs Sample Variance Ratio Table

File Type 033-Marine Bird Sightings-Ship/Aircraft

This analysis produces a table which portrays a mean density of individuals per square kilometer, the sample variance of the individual transect densities, and ratios of the two values for each block of the entire area specified by the user. The area is separated into blocks with the block size being specified by the user. Blocks may be 10, 20, 30 or 60 minutes in latitude or longitude. The transect densities used by this program are calculated from individual sightings from each transect. A reference number for each block is included in the table, along with the latitude and longitude of the southeast corner of each individual block and the number of transects which took place in the block. For the division of the mean density by the sample variance (M/V), a string of asterisks is printed if the sample variance is zero. Likewise, for the division of the sample variance by the mean density (V/M), a string of asterisks is printed if the mean density is zero. The block reference number may be used in conjunction with the Block Identification Number (Figure II-C-1) to determine the geographic position of certain blocks.

Densities may be calculated with respect to any time of day, behavior code, season, month, year, latitude, longitude, bottom depth, subset of species or combination of these parameters. Also, the user may specify that only a certain portion of the total area surveyed be displayed. The densities in the example were calculated using data collected on field operations in the Bering Sea during the months of March, April and May in the years 1975 and 1978.

Figure II-C-18

Food Analysis Table

File Type 031 - Marine Bird Specimen

This product displays an analysis by food prey species of the 'percent occurrence' (the percentage of predators in which the particular prey species was found), the 'percent volume' (the percentage of the total volume of prey for which a single prey accounts), and the 'percent number' (the percentage of the total number of prey for which a single prey accounts). Also on the printout is the sample size on which the calculations are based, the total prey volume found within the examined predators and the whole prey count (the actual number of whole prey represented by the prey fragments within the examined predators).

The Food Analysis Table may display information reflecting any set of circumstances recorded in the input data base. The table reflects all data regarding northern fulmar predator samples The values in the example were calculated using data collected on afield operation in the Pribilof Islands by RU 083.

OCSEAP - FILE TYPE 031 FOOD ANALYSIS TABLE

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

UCI031

NORTHERN FULMARS

SAMPLE SIZE: 10 PREY VOLUME (ML): 33 WHOLE PREY COUNT: 34

FOOD TYPE	PERCENT OCCURRENCE	PERCENT VOLUME	PERCENT NUMBER
ACANTHOCEPHALA	0.00	0.00	0.00
POLYCHAETA	0.00	0*00	0*00
NEREIDAE	0.00	0.00	0.00
NEPHTYIDAE	0.00	0.00	0.00
MOLLUSCA	0.00	0.00	0.00
GASTROPODA	0.00	0.00	0.00
ACMAEIDAE	0.00	0.00	0.00
GASTROPODA EUTHYNEURA	0.00	0.00	0.00
LIMACINIDAE	0.00	0.00	0.00
LIMACINA HELICINA	0.00	0.00	0.00
POLYPLACOPHORA	0.00	0.00	0.00
BIVALVIA	0.00	0.00	0.00
CEPHALOPODA	40.00	21021	32.35
THEUTHIDIDA MYOPSIDA	0.00	0000	0.00
ANTHROPODA MANDIB. CRUST.	10.00	3.03	2.94
COPEPODA	0.00	0.00	0.00
CALANIDAE	0.00	0.00	0.00

FOOD TYPE	PERCENT OCCUPRENCE	PERCENT VOLUME	PERCENT NUMBER
EUCARIDA DECAP. PLEO. A N .	0.00	0.00	0.00
PAGURIDAE	0.00	0.00	0.00
LITHODIDAE	0.00	0.00	0.00
HAPLOGASTER	0.00	0.00	0.00
HAPLOGASTER GREENITZKII	0.00	0.00	0.00
DERMATURUS MANDTII	0.00	0.00	0.00
COLLEMBOLA	0.00	0.00	0.00
OSTEICHTHYES	60.00	12.12	47.06
MALLOTUS VILLOSUS	0.00	0.00	0.00
EVERMANNELLIDAE	0.00	0.00	0 . 0 0
MYCTOPHIDAE	0.00	0.00	0*00
PARACANTHO. GADIF. GADOI.	0.00	0.00	0.00
GADIDAE	0.00	0.00	0.00
THERAGRA CHALCOGRAMMA	10.00	60.61	11.76
POLLACHIUS VIRENS	0.00	0.00	0.00
ZOARCIDAE	0.00	0.00	0,00
ACANTHOPTERYGII GASTEROS.	0.00	0.00	0.00

DATE OF ISSUE: MARCH 13, 1980

SEE LAST PAGE FOR NECESSARY KEYS

OCSEAP - FILE TYPE 031 FOOD SIZE CLASS TABLE

DATA PROJECTS GROUP
PASTORE LABORATORY
UNIVERSITY OF RHODE ISLAND

UCI031

LEAST AUKLETS

SAMPLE SIZE: 157

FOOD TYPE	PREY COUNT	PERCENT <=7MM	PERCENT 7MM-15MM	PERCENT >15MM
ACANTHOCEPHALA	0	0.0	0.0	0.0
POLYCHAETA	0	0.0	0.0	0.0
NEREIDAE	0	0.0	0.0	0.0
NEPHTYIDAE	0	0.0	0.0	0.0
MOLLUSCA	0	0.0	0.0	0.0
GASTROPODA	0	0.0	0.0	0.0
ACMAEIDAE	0	0.0	0.0	0.0
GASTROPODA EUTHYNEURA	0	0.0	0.0	0.0
LIMA=INI=AE	0	0.0	0.0	0.0
LIMACINA HELICINA	85	100.0	0.0	0.0
POLYPLACOPHORA	0	0.0	0.0	0.0
BIVALVIA	0	0.0	0.0	0.0
CEPHALOPODA	0	0.0	0.0	0.0
THEUTHIDIDA MYOPSIDA	0	0.0	0.0	0.0
ANTHROPODA MANDIB. CRUST.	0	0.0	0.0	0.0
COPEPODA	0	0.0	0.0	0.0
CALANIDAE	8	100.0	0.0	0.0

FOOD TYPE	PREY COUNT	PERCENT <=7MM	PERCENT 7MM-15MM	PERCENT >15MM
CALANUS	1172	0.0	0.0	0.0
CALANUS CRISTATUS	442	81.2	18.8	0.0
CALANUS GLACIALIS	0	0.0	0.0	0.0
CALANUS MARSHALLAE	507	0.0	0.0	0.0
CALANUS PLUMCHRUS	186	100.0	0.0	0.0
LEPAS ANATIFERA	0	0.0	0.0	0.0
PERACARIDA CUMACEA	28	67.9	32.1	0.0
DIASTYLIS BIDENTATA	0	0.0	0.0	0.0
PERACARIDA ISOPODA		0.0	0.0	0.0
IDOTEA OCHOTENSIS	0	0.0	0.0	0.0
PERACARIDA ISOPODA ASELL.	0	0.0	0.0	0.0
PERACARIDA AMPHIPODA	0	0.0	0.0	0.0
PERACARIDA AMPHIPODA GAM.	32	18.8	81.3	0.0
AMPHITHOE RUBRICATOIDES	0	0.0	0.0	0.0
ATYLUS BRUGGENI	1	100.0	0.0	0.0
ERICTHONIUS HUNTERI	0	0.0	0.0	0.0
EUSIRIDAE	0	0.0	0.0	0.0

KEYS AND COLUMN HEADINGS

SAMPLE SIZE	TOTAL NUMBER OF PREDATORS FOR WHICH INDIVIDUAL PREY WERE MEASURED
FOOD TYPE	PREY SPECIES NAME
PREY COUNT	TOTAL NUMBER OF PREY SPECIES MEASURED
PERCENT<=7MM	PERCENTAGE OF PREY COUNT LESS THAN OR EQUAL TO 7MM IN LENGTH
PERCENT 7M-15	PERCENTAGE OF PREY COUNT GREATER THAN 7MM AND LESS THAN OR EQUAL TO 15 MM
PERCENT>15MM	PERCENTAGE OF PREY COUNT GREATER THAN 15MM
TOTALS	THE TOTAL PREY COUNT, THE PERCENTAGE OF THE TOTAL PREY COUNT LESS THAN OR EQUAL TO 7MM, THE PERCENTAGE OF THE TOTAL PREY COUNT GREATER THAN 7MM AND LESS THAN OR EQUAL TO 15MM, AND THE PERCENTAGE OF THE TOTAL PREY COUNT GREATER THAN 15MM, RESPECTIVELY

Figure II-C-19

Food Size Class Table

File Type 031 - Marine Bird Specimen

This product displays, for a specified predator, an analysis by food prey species of the 'prey count' (the total number of prey species food sample contents), the percentage of the prey count with lengths no greater than 7 millimeters. Also on the printout will be found the 'sample size' (the total number of predators from which prey were counted), and the total prey count with percentages reflecting how the total prey count is divided among the three length categories.

The Food Size Class Table may display information reflecting any set of circumstances recorded in the input data base. The values in the example product were calculated using data collected on a field operation in the Pribilof Islands by RU 083. The table reflects all data regarding least auklet predator samples.

SECTION II-D - MICROBIOLOGY DATA (NIDR/NIH)

WATER AND SEDIMENT SAMPLES FOR MICROBIOLOGICAL STUDIES HAVE BEEN COLLECTED IN ALASKAN OCS AREAS BY SEVERAL OCSEAP INVESTIGATORS. THE RESULTS OF THESE SURVEYS ARE DIGITIZED AND SUBMITTED TO THE MICROBIAL SYSTEMATICS UNIT AT THE NATIONAL INSTITUTE OF DENTAL RESEARCH, PART OF THE NATIONAL INSTITUTES OF HEALTH. THE PRODUCTS IN THIS SECTION ARE EXAMPLES OF SOME OF THE GRAPHIC PRESENTATIONS DEVELOPED BY THE NIDR STAFF TO SUPPORT THE INVESTIGATORS' ANALYSES OF MICROBIOLOGICAL SAMPLES FOR OCSEAP.

SINCE THIS TASK IS FUNDED TO SUPPORT SPECIFIC OCSEAP INVESTIGATOR ANALYSES, PRODUCTS IN THIS SECTION CURRENTLY APPLY ONLY TO MICROBIOLOGICAL DATA FILES (FILE TYPE 402). WITH SOME MODIFICATIONS, MOST STATISTICAL AND GRAPHIC PRODUCTS CAN BE MADE APPLICABLE TO OTHER FILE TYPES, BUT THIS IS NOT CONSIDERED WITHIN THE CURRENT OBJECTIVES OF THE TASK. PRODUCTS FOR OTHER OCSEAP INVESTIGATORS MUST BE REQUESTED THROUGH THE NODC OCSEAP DATA COORDINATOR (THE NOAA LIAISON OFFICER FOR THIS TASK) OR THE OCSEAP DATA PRODUCTS COORDINATOR. PRODUCTS FOR NON-OCSEAP INVESTIGATORS MAY BE NEGOTIATED BETWEEN NIH AND THE REQUESTOR.

THE PRODUCTS DESCRIBED IN THIS SECTION ARE AS FOLLOWS:

FIGURE II-D-1 - DENDROGRAM - CLUSTER ANALYSIS
II-D-2 - REDUNDANCY INDEX
II-D-3 - SIMILARITY TRIANGLE - CLUSTER ANALYSIS
II-D-4 - THREE-DIMENSIONAL PLOT

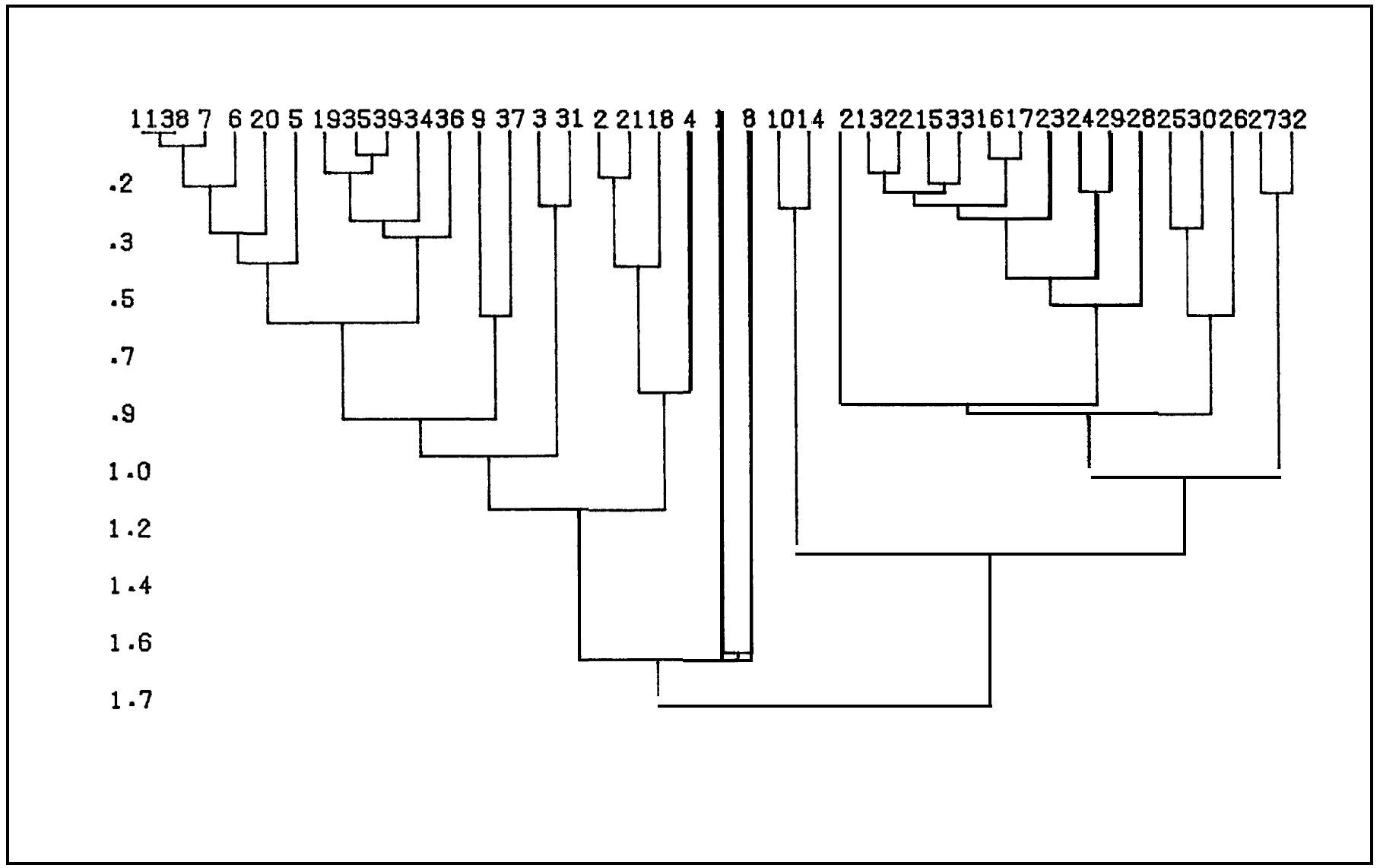


Figure I-D-1

Dendrogram - Cluster Analysis

File Type 402 - Microbiology Data

This presentation displays the degree of dissimilarity between station numbers for any biological activities or microbiological or physical characteristics. This display is used to cluster either bacteria or station characteristics for microbiological data.

The station number is plotted along the X-axis with the dissimilarity distance along the Y-axis. Any reasonable number of stations may be analyzed and is limited only by the computer capacity. The dissimilarity range is a function of the characteristics of the data.

In the example, there are two major clusters, stations 11-4 and 10-32 with stations 1 and 8 considered intermediate.

Although any numerical set of data for which there is a logical reason to apply this analysis may be applicable, only File Type 402 is considered to be appropriate within the context of this catalog.

Figure II-D-2

Redundancy Index

File Type 402 - Microbiology Data

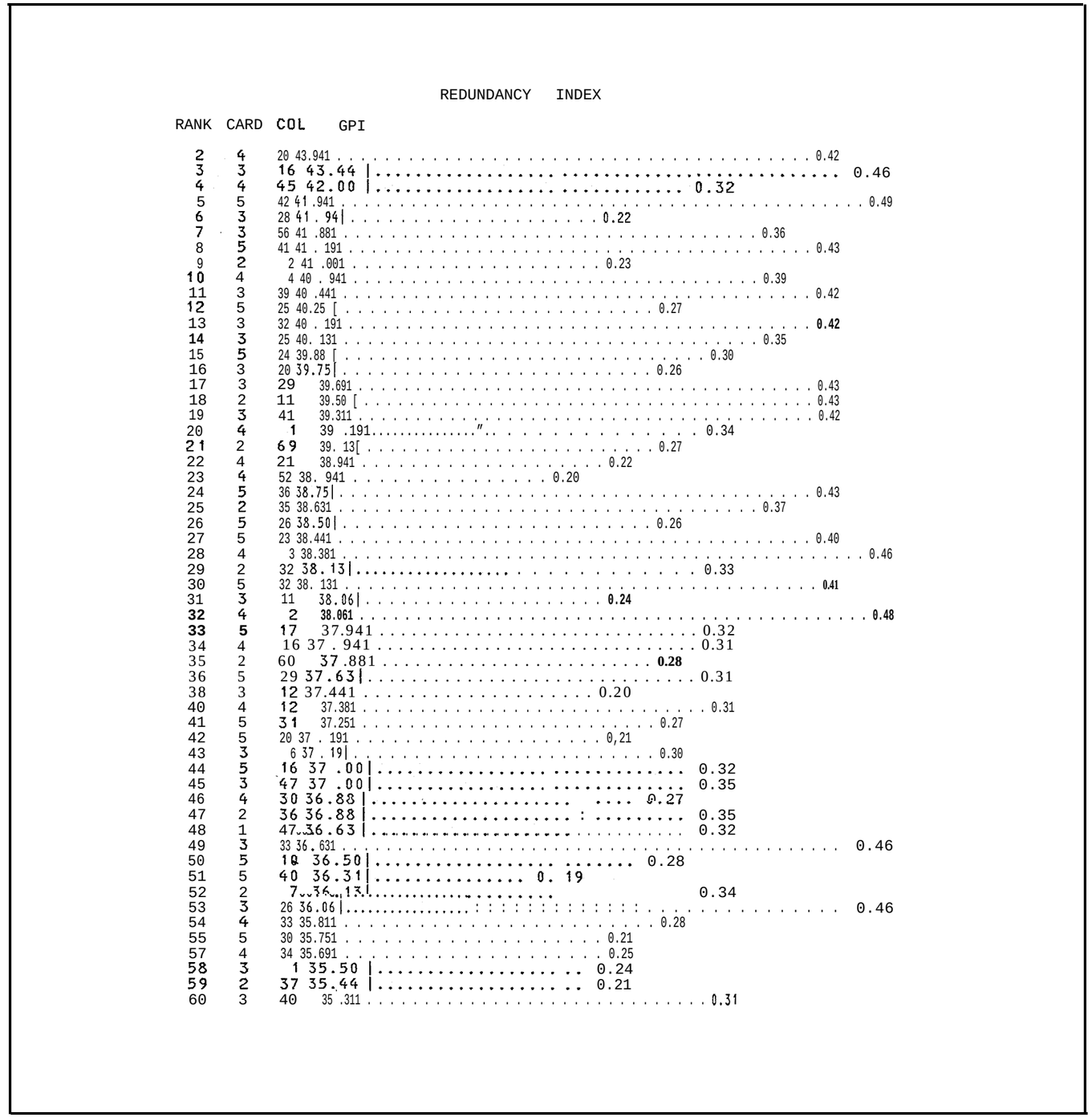
This presentation is a form of a histogram for determining frequency of occurrence of-features of strains for microbiological samples, particularly bacteria. On one axis is the Group Partitioning Index (GPI) which is a measure of the ability of a feature to efficiently partition biological groups into equal sets. A score of 50 equals a perfect feature vs a zero which equals no partitioning power. The Rank column is simply the order of the GPI. The card and column numbers refer to locations on the data file, which is initially punch-card-oriented.

The height or length of the other axis is the "measure of correlation for each feature to other features where high numbers (up to 0.50) indicate maximum redundancy. The scale of this axis is divided into increments of 0.05 with groups of dots representing each increment. In this example, the features ranked number 17 and 18 may be indicative of the same information as they are ranked next to each other and have the same index number (0.43).

An ideal feature would be one occurring in the upper left-hand corner of the histogram while apoor feature is in the lower right hand corner. This figure actually represents an interim procedure; each set is refined in terms of features until the histogram approaches a value of zero°(the origin).

As this analysis is operating from a very large feature frequency table generated from a card deck, any set or subset may be picked in any order. The example indicates those features within the rank 2-60. A practical limit is 300 features. per strain although layer samples may be evaluated; ranking forgreater than 100 features is normally not too useful.

As mentioned in Figure II-D-1, this type of display may be evaluated; ranking for many types of data, but only File Type 402, is considered appropriate within the context of this catalog.



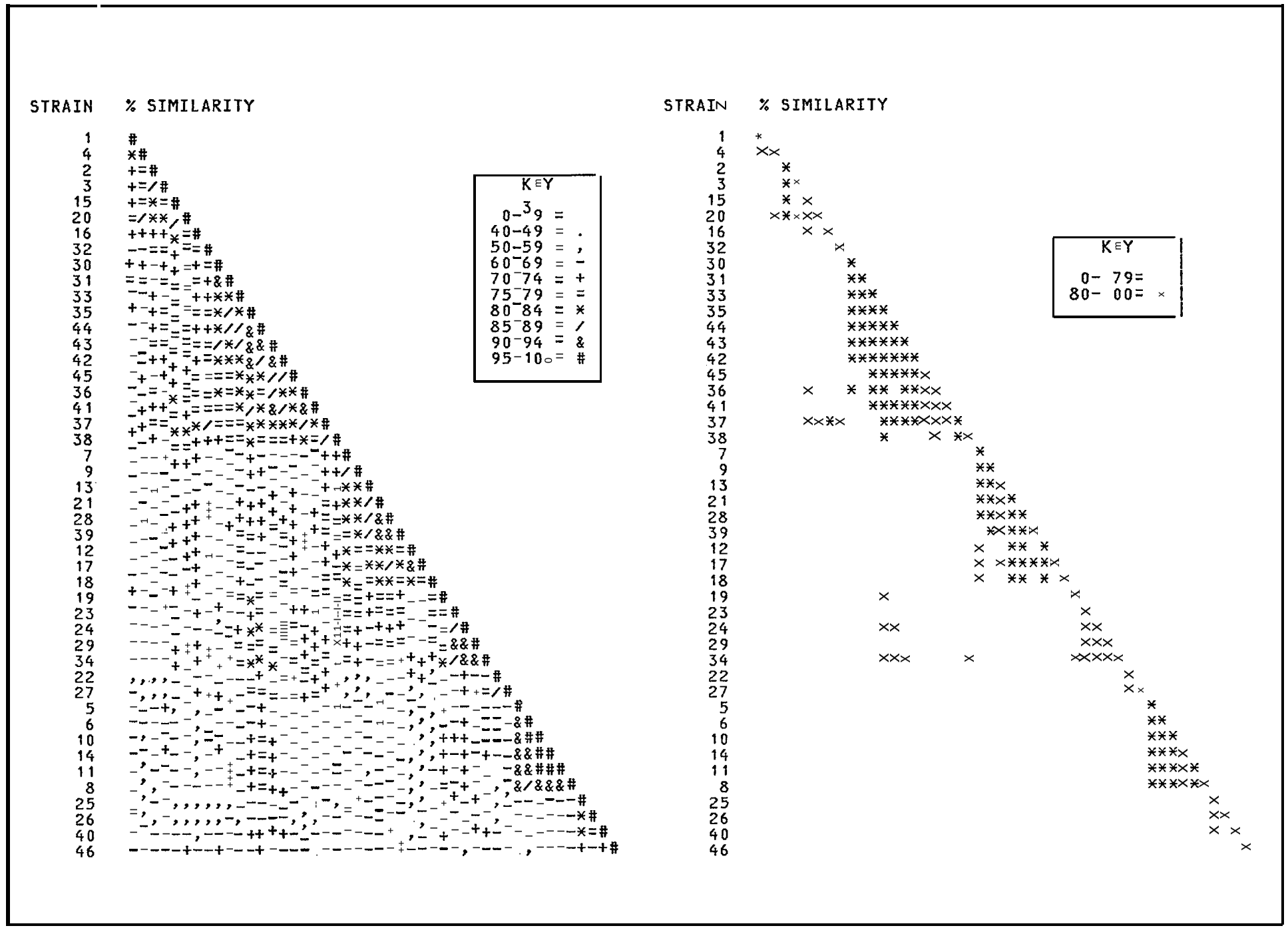


Figure II-D-3

Similarity Triangle - Cluster Analysis

File Type 402 - Microbiology Data

This presentation is used mainly to characterize bacteria samples. It is divided into two figures, where (A) shows the results for all strain number characteristics and (B) is an edited version grouping all symbols greater than 80% similarity and leaving the remainder blank. Symbols represent the percent similarity of each strain to every other strain; as described in (A). Both the X and the Y axis have the strain numbers in the same order as shown along the Y-axis which obviously results in 100% similarity along the diagonal. The similarity of all pairs of strains are then arranged according to their degree of similarity. The (B) portion is a good example of the power of editing data as it indicates quite clearly that there are five large clusters and several smaller ones in this group of strains.

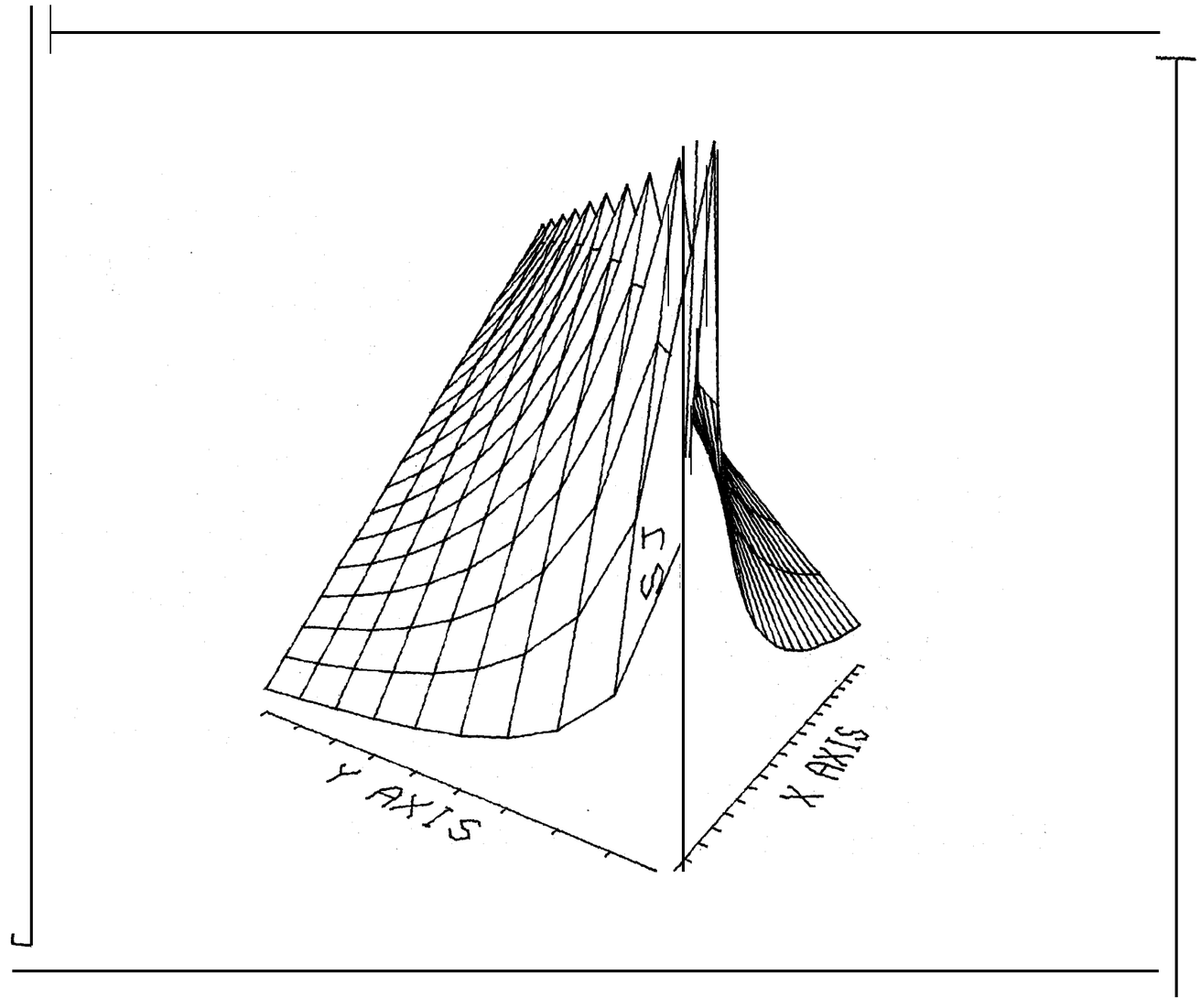
The practical limit for the number of strains to generate a cluster analysis display is about 600 strains. The printer output will segment the triangles into groups if more than 120 strains are involved in the analysis. As mentioned in Figure II-D-1, this type of display may lend itself to analysis of many types of data, but only File Type 402 is considered appropriate within the context of this catalog

Figure II-D-4

Three-Dimensional Plot

File Type 402 - Microbiology Data

This presentation is one product derived from a general purpose routine for displaying data points plotted on gridded surfaces at different plane angles to each other. Both the labels and the axis can be rotated and are controlled interactively at NIH. This display can be generated for a variety of scales and projections or viewpoints with options for axis labels, addition or deletion of different line Patterns, etc.

The example is derived from a study on mathematical behavior of similarity coefficients as used in cluster analyses: The similarity between two strains at various feature frequencies is displayed. The [illegible] indicates that similarities using Jaccard's coefficient are presented.

Since this is a general purpose routine, data other than microbiological data can certainly be applied, but only File Type 402 will be considered appropriate within the context of this catalog.