

ARCTIC DATA COMPILATION AND APPRAISAL VOLUME 6

Queen Elizabeth Islands: Physical Oceanography - Temperature, Salinity, Currents and Water Levels

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1983

CANADIAN DATA REPORT OF HYDROGRAPHY AND OCEAN SCIENCES NO. 5



Fisheries
and Oceans

Pêches
et Océans

Canada

Canadian Data Report Of Hydrography and Ocean Sciences

These reports provide a medium for the documentation and dissemination of data in a form directly useable by the scientific and engineering communities.

Generally, the reports will contain raw and/or analyzed data but will not contain interpretations of the data. Such compilations will commonly have been prepared in support of work related to the programs and interests of the Ocean Science and Surveys (OSS) sector of the Department of Fisheries and Oceans.

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

Regional and headquarters establishments of Ocean Science and Surveys ceased publication of their various report series as of December 1981. A complete listing of these publications and the last number issued under each title are published in the *Canadian Journal of Fisheries and Aquatic Sciences*, Volume 38: Index to Publications 1981. The current series began with Report Number 1 in January 1982.

Rapport statistique canadien sur l'hydrographie et les sciences océaniques

Ces rapports servent de véhicule pour la compilation et la diffusion des données sous une forme directement utilisable par les scientifiques et les techniciens.

En général, les rapports contiennent des données brutes ou analysées mais ne fournissent pas d'interprétations des données. Ces compilations sont préparées le plus souvent à l'appui de travaux reliés aux programmes et intérêts du service des Sciences et Levés océaniques (SLO) du ministère des Pêches et des Océans.

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

Les établissements des Sciences et Levés océaniques dans les régions et à l'administration centrale ont cessé de publier leurs diverses séries de rapports depuis décembre 1981. Vous trouverez dans l'index des publications du volume 38 du *Journal canadien des sciences halieutiques et aquatiques*, la liste de ces publications ainsi que le dernier numéro paru dans chaque catégorie. La nouvelle série a commencé avec la publication du Rapport n° 1 en janvier 1982.

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PREFACE

This group of data catalogues is produced by the Ocean Information Division at the Institute of Ocean Sciences. Joint government/industry contract projects have catalogued marine data sets focusing primarily upon oceanography and fisheries. Data set quality appraisals are provided to assist in establishing the usefulness of certain data for particular kinds of analyses and the confidence to be placed in interpretations. This will assist in setting priorities for incorporating the most useful data in the national Marine Environmental Data Service (MEDS) archives. Additional uses range from contributing to research planning, especially for climatological studies, to providing the best available resume of marine data sources for environmental assessments.

Accompanying the accelerating pace of Arctic offshore development activity is the need to review the sufficiency and suitability of available scientific information for design, regulatory and planning purposes. This review process has been divided into three phases: the first phase involves compilation and appraisal of all existing data sets; the second concentrates upon analysis of the suitability of the historical data for contributing to questions of particular interest; while the third relates primarily to analysis and/or interpretation of data and estimation of the scientific confidence in answering particular questions. This report represents the results of the first phase for the physical oceanographic data of the Queen Elizabeth Islands area.

Dr. Alan B. Cornford
Scientific Editor
Arctic Data Compilation
and Appraisal Series

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Can. Data Rep. Hydrogr. Ocean Sci. 5: (Vol. 6) 214 p.

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ABSTRACT

D.B. Fissel, L. Cuypers, D.D. Lemon, J.R. Birch, A.B. Cornford, R.A. Lake, B.D. Smiley, R.W. Macdonald and R.H. Herlinveaux. Arctic Data Compilation and Appraisal. Volume 6. Queen Elizabeth Islands: Physical Oceanography - Temperature, Salinity, Currents and Water Levels.
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This volume is one of a group of catalogues designed to compile and appraise marine data sets for the Canadian Arctic. For user convenience, the group has been organized with its subject matter divided into three general disciplines: physics, chemistry and biology. The Arctic has been arbitrarily divided into seven geographical areas incorporating, where possible, major oceanographic regions. The format throughout has been structured to facilitate comparison among subjects and regions. With such a large undertaking it is not possible to provide all reports at once. Therefore catalogues which are presently available in the series are indicated on the inside back cover of each volume.

Data collection is a continuing process and further updates of the catalogues are planned. Readers are requested to submit corrections and additions by writing the issuing establishment. Such corrections will be incorporated in on-line computerized data set listings and will be continuously available upon request.

SOMMAIRE

D.B. Fissel, L. Cuypers, D.D. Lemon, J.R. Birch, A.B. Cornford, R.A. Lake, B.D. Smiley, R.W. Macdonald and R.H. Herlinveaux. Arctic Data Compilation and Appraisal. Volume 6. Queen Elizabeth Islands: Physical Oceanography - Temperature, Salinity, Currents and Water Levels.
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Le présent volume fait partie d'un groupe de catalogues destinés à compiler et à évaluer les séries de données marines sur l'Arctique canadien. Pour plus de commodité, la question traitée est structurée en trois grandes disciplines: physique, chimie et biologie. L'Arctique a été divisé arbitrairement en sept régions géographiques qui englobent autant que possible les grandes régions océanographiques. Les catalogues sont présentés de façon à faciliter la comparaison entre les sujets et les régions. Le domaine est si vaste qu'il est impossible de fournir tous les catalogues en une seule fois. Les catalogues de la série actuellement disponibles sont indiqués à la fin de chaque volume à l'intérieur de la couverture.

La collecte des données est un processus permanent et il est prévu de mettre à jour les catalogues par la suite. Les lecteurs sont invités à soumettre par écrit les corrections et les additions à l'établissement auteur. Ces corrections seront traitées en direct sur ordinateur et incorporées aux listings qui pourront être obtenus sur demande.

ACKNOWLEDGEMENTS

In particular, we wish to thank Dr. M.P. Van Ieperen of Panarctic Oils Ltd., Calgary, for providing much valuable information and for reviewing an earlier draft of this report. Much appreciated information and assistance were received from Dr. N. Freeman and Dr. S. Prinsenberg of the Bayfield Laboratory for Marine Sciences and Surveys, Burlington; Mr. S. Peck, Department of Fisheries and Oceans, Montreal; Dr. J.R. Buckley, Petro-Canada, Calgary; Mr. D.A. St. Jacques, Canadian Hydrographic Service, Burlington; and Mr. H. Serson. Special thanks are also due to S. Norton and B. Clarke of Arctic Sciences Ltd. for their dedication in preparing the manuscript, and to S.D. Ball of the Institute of Ocean Sciences for her aid in preparation of the maps. Credit for most of the computer program development goes to S. Oberski and R. Chave of Arctic Sciences Ltd.

SPECIAL CREDITS

L.S.C. Thomson - Technical editing.

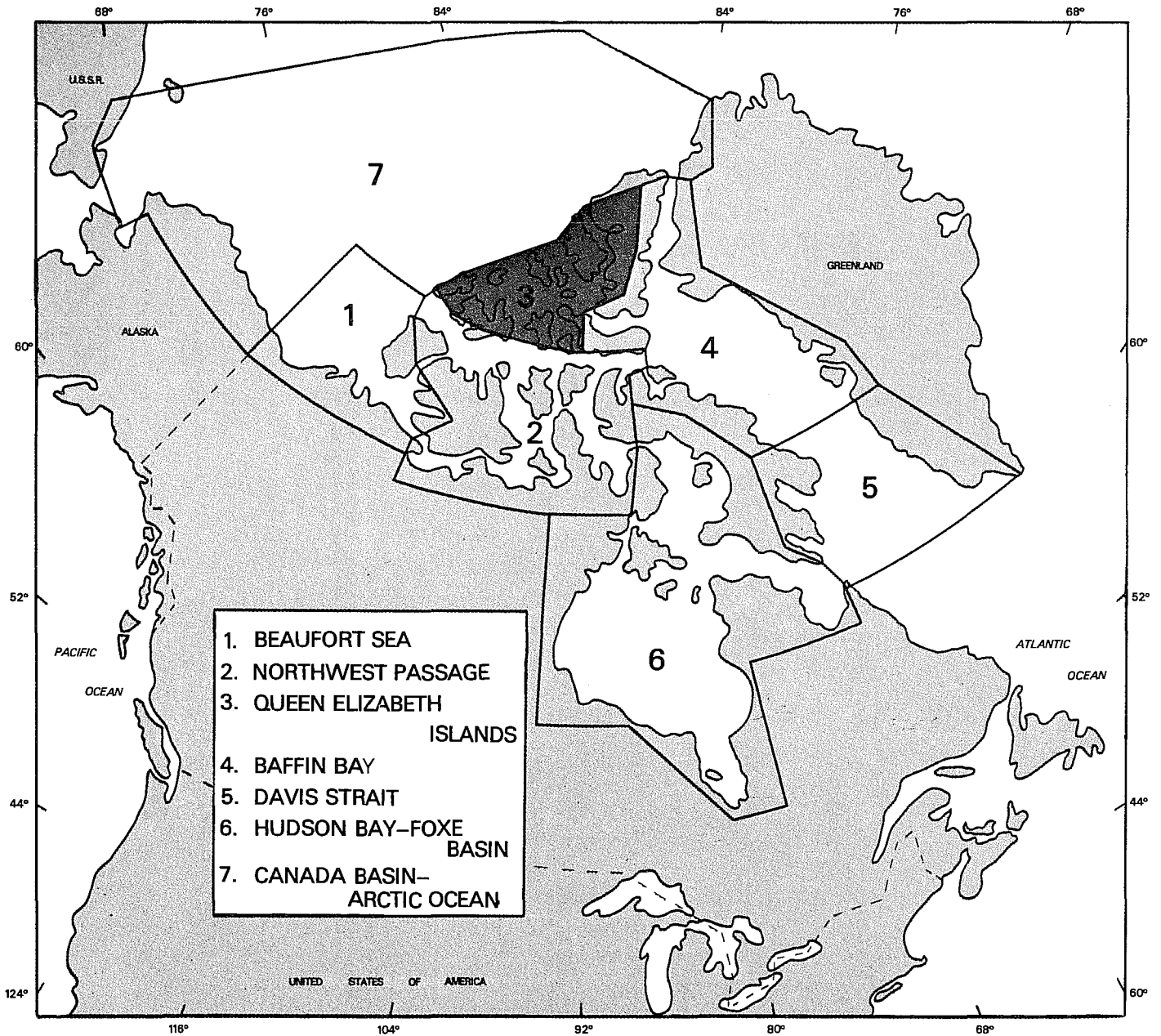
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ARCTIC DATA COMPILATION AND APPRAISAL

VOLUME 6

QUEEN ELIZABETH ISLANDS: PHYSICAL OCEANOGRAPHY



The area covered by this volume is shaded in the map above.

**VOLUME 6: Queen Elizabeth Islands: Physical Oceanography
Temperature, Salinity, Currents and Water Levels**

VOLUME ABSTRACT

This inventory contains a catalogue of physical oceanographic data from the Queen Elizabeth Islands. Times and locations of measurements are listed and displayed graphically for temperature-salinity, current meter, water level and drifter data. Meteorological and ice information are not included. Yearly plots showing the locations of all measurements are included, as are indexes by area and measurement types. References and sources are listed for all data included in the inventory.

Key words: Queen Elizabeth Islands, currents, inventory, salinity, temperature, tides, water properties.

1. INTRODUCTION

In this report, the physical oceanographic data collected in the channels of the Queen Elizabeth Islands are catalogued. The information provided includes the time and locations of measurements, the parameters measured, and the type of instrumentation. The data themselves are not included but a source for the data and any reports or references are cited wherever possible. This will enable potential users of the data to determine what is available in their area of interest, or what data were collected using a specific measurement technique, and whether or not that data may be of value.

A total of 86 data sets collected from 1948 through 1981 are catalogued and inventoried. Very little data were collected before 1948 (see Section 3), and these measurements are crude by today's standards.

The data inventory is ongoing. As new data and previously inaccessible data become available, they will be added to a computerized data base maintained at the Institute of Ocean Sciences, Sidney, B.C. Information concerning new data sets, older data sets which are not in the catalogue, or errors, should be submitted to the Ocean Information Section of the Institute of Ocean Sciences.

2. STUDY AREA

The study area, as shown in Figure 1, consists of the waterways of the Queen Elizabeth Islands of the Northwest Territories extending as far east as Ellesmere and Devon islands. It includes the central area of the Sverdrup Basin (Hazen Strait, Desbarats Strait, MacLean Strait, Belcher Channel, Norwegian Bay) along with the connecting channels to Parry Channel to the south (Crozier and Pullen Straits, Kellett Strait, Crozier Channel, Fitzwilliam Strait, Byam and Austin Channels, McDougall Sound, Wellington Channel) to Fram and Jones Sound in the southeast (Cardigan Strait and Hell Gate), and to the Arctic Ocean in the north and west (Ballantyne Strait, Wilkins Strait, Prince Gustaf Adolf Sea, Peary Channel, and Sverdrup Channel). In addition, the study area encompasses the water channels of the west coast of Ellesmere Island, including Greely Fiord, Nansen and Eureka Sounds and adjoining fiords.

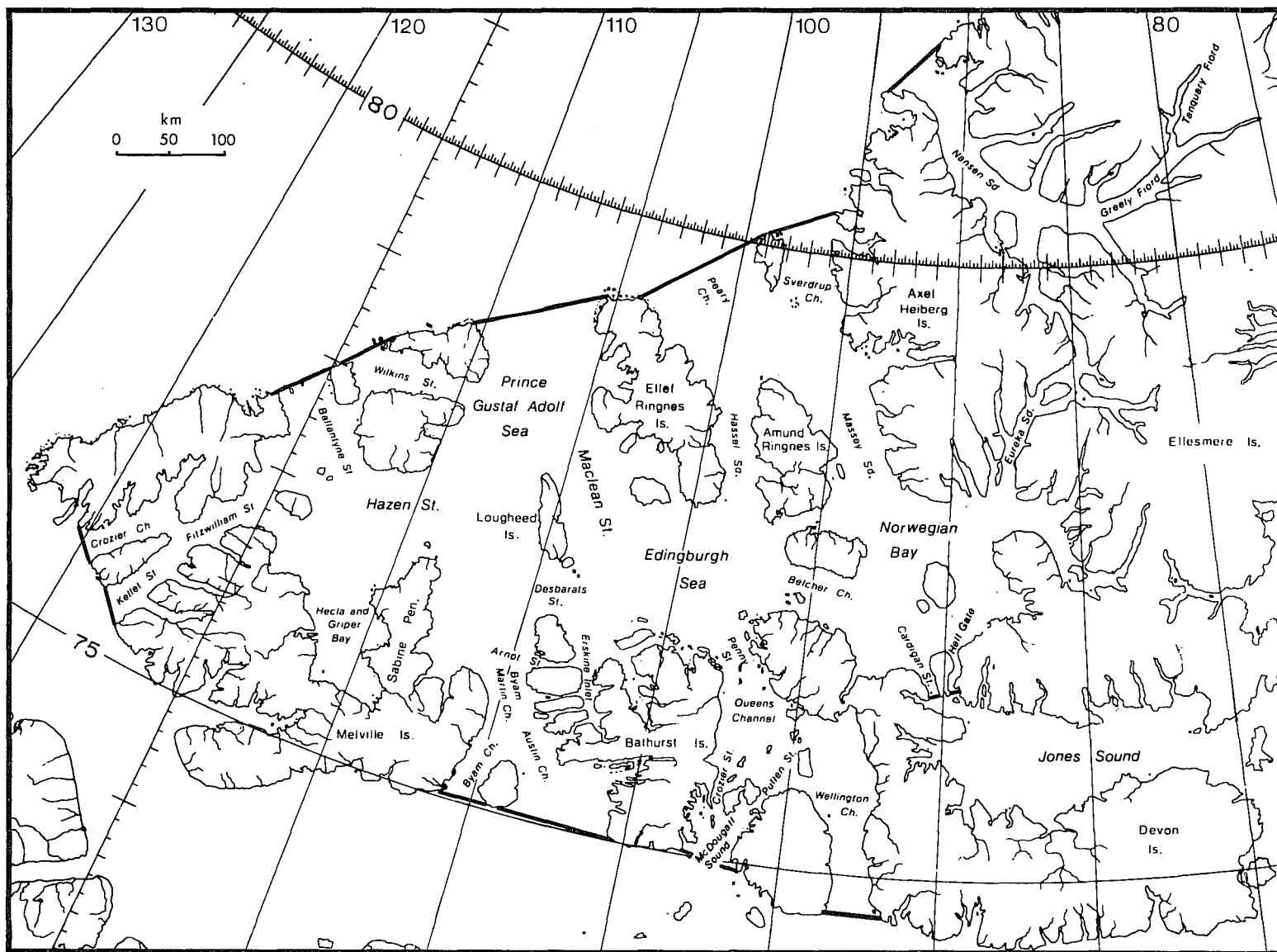


Figure 1: Geographic limits of Queen Elizabeth Islands physical oceanographic data compilation including place names.

Water depths in the area show a general tendency to decrease from north to south. The adjoining continental shelf to the north of the Queen Elizabeth Islands has a typical depth of 500 m. A similar depth range is found in the Prince Gustaf Adolf Sea, Peary and Sverdrup Channels and Nansen Sound. However, some deeper depressions occur, notably to 920 m in the Nansen Sound-Greely Fiord system, to 700 m in Peary Channel and to 600 m in Prince Gustaf Adolf Sea. In the central portion of the study area, the relatively deep waters of 400 m or more are separated into distinct basins by northward protruding zones of shallow water: such shallow zones with depths less than 200 m extend northward across Desbarats Strait to Lougheed Island and northward across Belcher Channel and Hendriksen Strait to Amund Ringnes Island. The presence of a sill between Nansen and Eureka Sounds restricts horizontal water movements to depths above 120 m.

The depths of passages at the southern limit of the study area are limited to 100 m in Hell Gate, 170 m in Cardigan Strait, 160 m in Penny Strait, 120 m in Austin Strait, 100 m in Byam Strait and 250 m in Fitzwilliam Strait.

An important factor in determining the extent of oceanographic data is the sea-ice coverage. Where present in sufficient quantity and thickness, sea-ice can provide a stable platform for the collection of oceanographic data. However, at times when sea-ice is breaking up or forming, oceanographic data collection is severely hindered.

During the winter months, ice conditions are severe in the study area. Typically, the area is covered by a combination of first-year and multi-year sea-ice floes. The multi-year ice floes often originate in the Arctic Ocean and are carried south into the region by the winds and currents. In many of the channels, the horizontal displacements of the ice-cover is limited to 15 m or less during winter. Polynyas (areas of open water or thin ice) have been known to occur in some of the southern channels, particularly in Hell Gate and northern portions of Wellington Channel. In most of the study area, the winter sea-ice provides a stable platform, useable for such activities as drilling for oil and gas, and collecting oceanographic data.

In summer, the ice coverage is less extensive, with large variations occurring from one year to another. Normally, the eastern portion of the central area (MacLean Strait and Norwegian Bay into Eureka Sound) exhibits considerable amounts of clearing, while further to the west, the region remains under seven-tenths or more of ice cover. The southern channels in the east clear out, often completely, while the more westerly channels can partially clear, but seldom completely.

3. HISTORICAL DATA

The first oceanographic data obtained in the area were bottle cast measurements of temperatures and salinities collected by government agencies in the late 1940's and the 1950's and 1960's. These data were usually of a reconnaissance nature, collected from icebreakers during the limited navigation season (e.g. Bailey, 1957) or from the ice using aircraft support from the Polar Continental Shelf Project's base in Resolute, N.W.T. (Collin, 1961).

In the 1970's, with the increasing activity associated with the search for oil and gas in the region, both government and industry mounted more extensive oceanographic programs (Figure 2). The most active company, Panarctic Oils Ltd., began offshore exploration in 1974. For engineering design purposes, information on the ocean currents was required, since no previous current data were available for the area. In addition, ocean current data along with water property (temperatures and salinities) and water level data were collected to satisfy oceanographic environmental operating conditions, established by the federal government. The data collection program has been carried out each winter and spring from 1974 up to the present. Since all logistics are provided in conjunction with the exploratory offshore drilling program, the Panarctic data are confined to the winter and spring periods, at offshore exploration sites.

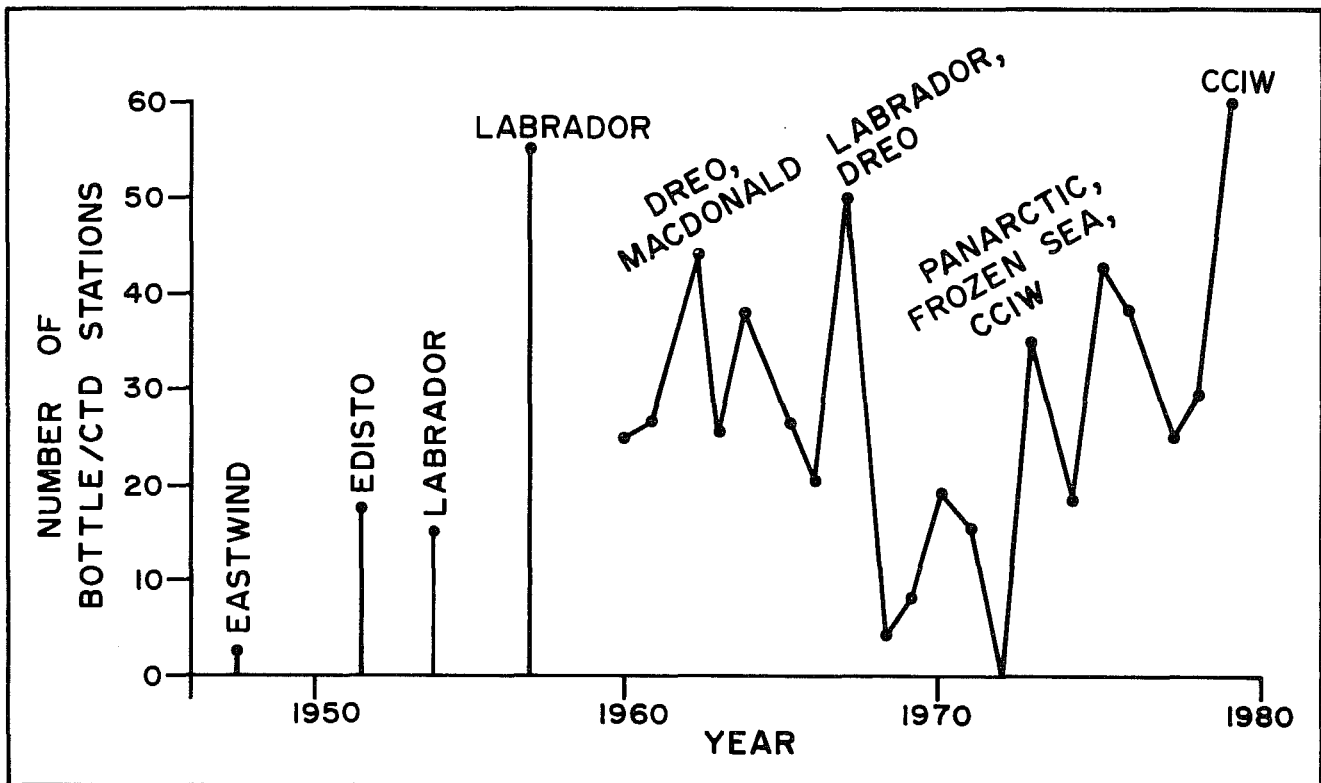


Figure 2: Plot showing level of effort of oceanographic data collection in the Queen Elizabeth Islands.

In addition to Panarctic, other companies have been involved in oil and gas exploration or related ventures in the region and, as part of their activities, they have collected some oceanographic data. Oceanographic data were collected by the Polar Gas Consortium in April and May of 1980 between Loughheed and Melville islands. These data consist of ocean current and water level measurements. In addition, near-surface current meter data were collected by Petro-Canada between 1977 and 1979 in central portions of the

study area (Hazen Strait, MacLean Strait, Byam Martin Channel and the Edinburgh and Prince Gustaf Adolf Seas).

Various agencies of the federal government have been active during the 1970's in collecting oceanographic data, in response to the increasing development activity. The agencies involved are:

- the oceanographic unit at the Canada Centre for Inland Waters (CCIW) in Burlington, Ontario (now Bayfield Marine Laboratory) who have conducted oceanographic programs in the areas since 1976;
- Canadian Hydrographic Service, Tides and Water Levels, at CCIW who have collected water level data at various sites in the study area in recent years; and
- Frozen Sea Research Group of the Institute of Ocean Sciences, Sidney, B.C. who have carried out oceanographic studies in the fiords of western Ellesmere Island and, later, in several of the passages connecting the Sverdrup Basin with the Northwest Passage.

4. GENERAL REPORT LAYOUT AND USER INSTRUCTIONS

4.1 DATA SETS

The data are organized in sets, where each set consists of data of a common type taken on a single expedition or cruise, usually by a single institution or organization. Thus, unless otherwise noted, all the data within a single set is assumed to have been collected in a uniform manner and should conform to a common standard of measurement.

Each data set has been assigned an identification number of the form yy-nnnn, where yy = last 2 digits of the year in which data were collected and nnnn = order of identification for that particular data set for that year. The data set number is a unique identifier which applies throughout the entire series of inventories; any set identified, for example, as 72-0009 is the same data set no matter where the reference to it is made. Gaps may appear in the sequence of data set numbers in this inventory for a particular year, because each data set will not appear in every discipline and geographical area.

4.2 INVENTORY ORGANIZATION

Table 1 (Section 8) lists all the data sets in the inventory in order by data set number. It provides a summary description of each set including the times, areas and methods of measurements. Table 1 also gives a listing of concurrent measurements from other disciplines.

Geographical and measurement type indexes are in Section 10. The sub-areas in the geographic index are shown on the map in Figure 1. Section 10 also contains an index of references, ordered by data set number. It is primarily an index of original data reports, although ancillary papers analyzing or discussing the data are listed if they came to our attention.

Measurement locations are plotted in a series of maps in Section 9. Two different maps, both in Lambert Conformal Conic projection, have been used to plot data (Figure 3). In most cases, an overall map of the entire Queen

Elizabeth Islands (scale 1:4,750,000, standard parallels 76° and 80°N) is used, however an enlarged map (scale 1:2,000,000, standard parallels 78° and 82°N) of the Nansen-Eureka Sounds area is also used to better display the more closely spaced stations in that area. The coastlines have been smoothed and small islands have been removed to avoid clutter. A key to the symbols on the maps is presented at the beginning of Section 9.

Detailed listings of the times and locations of individual measurements are in Section 11. There is a separate listing for each data type. The beginning of Section 11 explains the format of the listings.

Data sets were rated according to the criteria in Section 5. The ratings are listed in Table 1. Appendix 1 contains comments explaining the reasons for low ratings, a list of any errors found in each data set, and any other pertinent remarks concerning the data. The comments are ordered by data set number.

Section 6 contains a general description of the extent of the data available in the Queen Elizabeth Islands. Sections 6.1 and 6.2 describe its geographical and seasonal distribution. Section 6.3 tabulates instances of repeated measurements in the same area, and instances where measurements were carried out simultaneously, in different areas, or by different agencies.

4.3 SAMPLE USE OF THE INVENTORY

A typical use of the inventory might go as follows:

1. Consult the indexes in Section 10 to determine which data sets contain appropriate measurements in the desired areas.
2. Consult the maps in Section 9 to determine the number and disposition of measurements.
3. Refer to Table 1 for an overall description of each data set including the dates spanning the measurement period and an abbreviated listing of sources for the data.
4. If more specific information is required concerning the timing or location of individual measurements in the set, refer to Section 11.
5. Refer to Table 1 and Appendix 1 for information concerning the instruments and methods used in collecting the data, estimates of its accuracy and its overall rating.
6. Consult the reference index in Section 10 for works referring to or using the data.

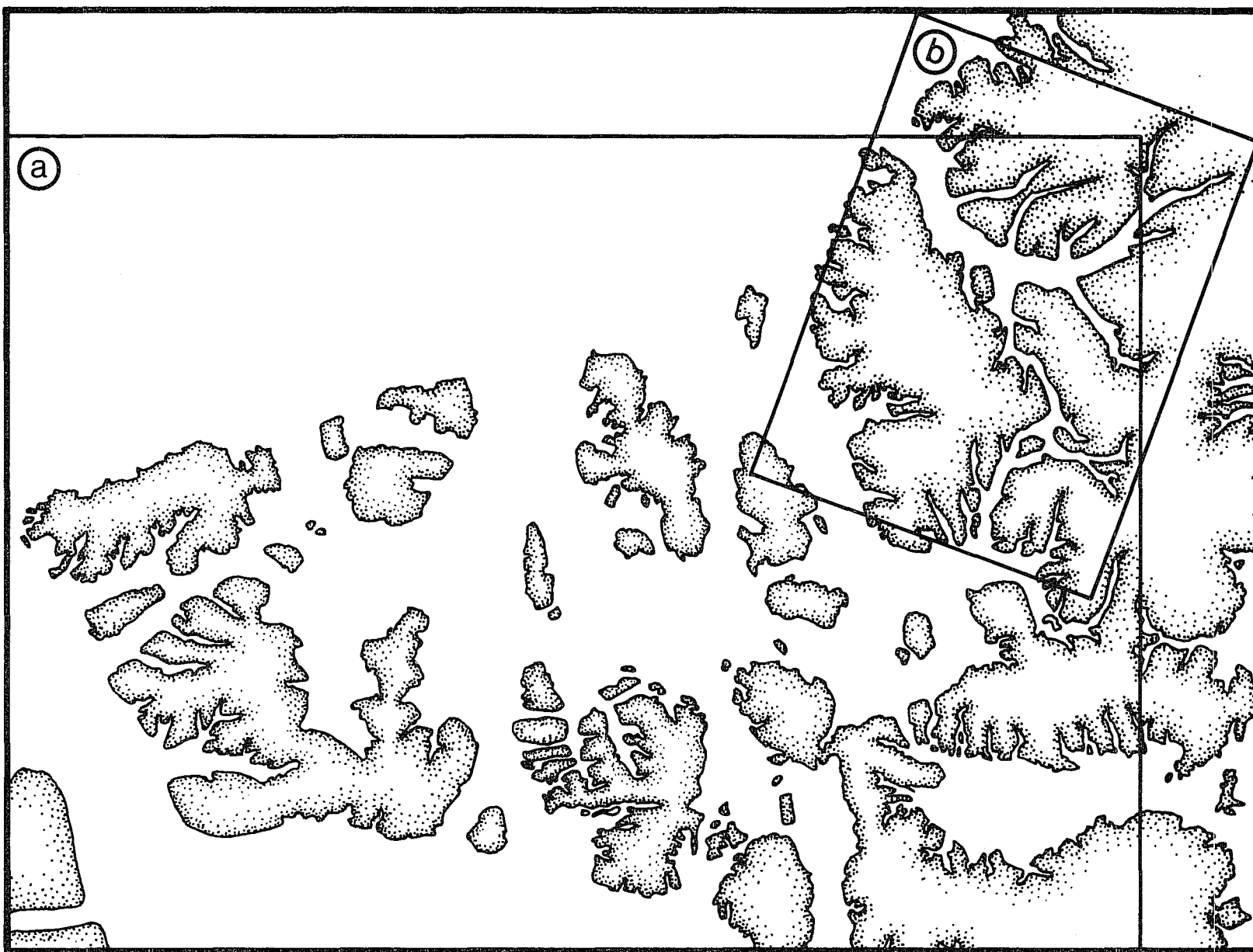


Figure 3: Maps used to plot station locations. Lambert Conformal Conic projection. Scales
a) 1:4,750,000 b) 1:2,000,000.

Another example might go as follows:

1. Examine the maps in Section 9 for measurements during a particular year, and note the data set numbers of interest.
2. Refer to Table 1 to find the range of measurement dates, measurement methods and accuracies and data sources.
3. Continue with steps 4, 5 and 6 from the first example.

5. DATA RATING, APPRAISAL

5.1 TYPES OF DATA

5.1.1 BOTTLE CAST DATA

These data consist of temperature and salinity measurements at discrete depths (ideally the international standard depths) by means of reversing thermometers and sampling bottles. Temperature accuracies of 0.01°C may be achieved by averaging two or more carefully read, well-calibrated thermometers. Some investigators have used hydrometers ($+0.2^{\circ}/\text{oo}$) and refractometers ($+0.5^{\circ}/\text{oo}$) for the determination of salinity, but up to 1960 salinity was usually obtained by titrating the water samples drawn from the bottles; replicate titrations in the hands of a good operator could yield results precise to $0.01^{\circ}/\text{oo}$. In the 1960's, salinometers measuring salinity via the conductivity of the sample replaced titrations. A precision of $0.003^{\circ}/\text{oo}$ can be obtained with the better instruments, although in the past, systematic errors of $0.02^{\circ}/\text{oo}$ or more could be introduced by variations in the standard water used to calibrate these instruments. New international standards for salinity should eliminate the latter source of error (Lewis and Perkin, 1978).

5.1.2 CTD DATA

CTD data are data produced by in-situ profiling instruments variously called STD (salinity-temperature-depth), STP (salinity-temperature-pressure), CTD (conductivity-temperature-depth) or CTP (conductivity-temperature-pressure) profilers. Fundamentally, all are CTP devices; the variations in output and name depend solely upon the degree of internal data processing. All instruments perform the same basic function of measuring (more or less continuously) temperature and conductivity as a function of depth. The precision achievable with such devices depends upon the individual instrument. The best are capable of a precision of 0.005°C and $0.005^{\circ}/\text{oo}$, although accuracy in salinity, until recently, was limited to approximately $+0.02^{\circ}/\text{oo}$ because of the inconsistencies in salinity standards and definitions (Walker and Chapman, 1973).

5.1.3 BATHYTHERMOGRAPH

The bathythermograph (BT) is a thermo-mechanical device which measures water temperature as a function of pressure. Its information is produced as a trace on a smoked glass slide which can be read to an accuracy of $\pm 0.2^{\circ}\text{C}$ and ± 2 m depth if well calibrated. The BT was widely used in conjunction with reversing thermometers but has largely been superseded by the CTD.

5.1.4 SELF-RECORDING CURRENT METERS

By the 1970's oceanographers could practically and reliably place and recover self-recording current meters in the water column. In the Arctic, such meters are moored from the sea floor, or hung beneath the ice surface. Meters of this type generally record internally on magnetic tape (in some models photographic film or paper charts were used) or, rarely, telemeter data to a ship- or shore-receiving station. They generally provide time series of current speed and direction, and may have other sensors (such as temperature, pressure or conductivity) mounted as well. Current speed and direction are usually measured by one of two methods: either by a propellor or rotor for measuring speed and a vane for direction sensing, or by measuring two orthogonal components of the current speed. Component speeds may be measured by propellers, electromagnetic, or acoustic speed sensors. Direction reference is provided either by a magnetic compass or in the case of instruments mounted from ships or from the ice, by using torsionally rigid suspension materials which allow directional reference to be fixed at the surface. Commonly used instruments employing the propellor and vane system are the Aanderaa and Hydroproducts meters; those employing the component measuring system are the Cushing and Marsh-McBirney instruments (electromagnetic), the Neil Brown (acoustic), and the Davis-Weller (orthogonal propellers) instruments.

The precision and accuracy of current meters depend to a great degree both on the design of the instrument, and on the environment in which it is used. Serious problems are encountered if rotor-type meters are used in the wave zone. Calibration drift and sensor fouling can interfere with satisfactory operation of electromagnetic and acoustic sensors. The sampling frequency and integration period selected for the meter can also affect the accuracy of the record.

Special problems in direction measurement are encountered when using compasses in the Canadian Arctic because of the weak horizontal component of the magnetic field due to the proximity of the magnetic pole. Directional accuracies are generally degraded unless the current meter is oriented at the surface via rigid coupling.

The vast majority of current meter data were obtained using Aanderaa RCM-4 current meters, fitted with small vanes to allow deployment through holes in the ice. While the Aanderaa current meter is widely used by oceanographers throughout the world, both the speed and direction sensors have some limitations. Current speeds in this area are frequently below the stall speed of the Savonius rotor, so that at some stations a zero current is recorded nearly 50% of the time. In addition, there may be increased risk of the direction vane becoming stuck because of deposits of biological origin (or other causes) in a low energy environment. Both types of problem did arise quite frequently resulting in reduced data recovery rates and limiting the types of numerical analysis that can be performed on the records.

5.1.5 PROFILING CURRENT METERS

These current meters provide a series of point measurements of current speed and direction at several depths throughout the water column. Meters used for this purpose are generally of the propellor or rotor and vane design, the oldest common example being the Ekman meter. Measurements usually are

taken from the ice, or from an anchored ship in shallow water. In water too deep for anchoring, a very good positioning system is required to correct for ship movements. The directional precision of the measurements can be degraded by the proximity of the magnetic pole. Unless repeated profiles were taken so as to form a time series, this type of data were not generally catalogued (see Section 12).

5.1.6 SATELLITE-TRACKED DRIFTERS

Satellite-tracked drifters are a comparatively recent invention, dating from the early 1970's. Widespread use of these devices began after the launch of the Nimbus VI satellite carrying the Random Access Measurement System (RAMS) in 1975. In early 1979, the TIROS-N satellite was launched activating System ARGOS which is now used to track all devices.

Both RAMS and System ARGOS compute position from the Doppler shift of a signal transmitted from the buoy to the satellite. On each pass of the satellite the position (and any other data being measured) is received and sent to a ground facility where the data are processed. The RAMS system produced positional accuracies of approximately ± 2 km. Prior to summer, 1978, RAMS produced an average of 8 valid fixes per day in northern latitudes. During the remainder of 1978, the number of fixes per day declined to 4 and then to 2 by the end of the year. The ARGOS system has an average positional accuracy of ± 1.2 km, and produces an average of 10 valid position fixes per day in northern latitudes (Fissel, 1980b).

5.1.7 RADAR OR AIRCRAFT-TRACKED DRIFTERS

This type of drifter usually consists of a float (with or without a drogue) and a radar reflector or visual marker. These devices can be tracked visually or by radar from shore or from a ship or aircraft. The accuracies achievable depend upon the tracking system used, and can be very good if a sophisticated system is available. Data of this type are often limited in their coverage in space and time, and may have gaps resulting from bad weather.

5.1.8 WATER LEVEL GAUGES

Water level data are produced mainly by visual observation of tide staffs, by mechanical shore-mounted float-type gauges, or by bottom-mounted pressure gauges. The pressure gauges may be self-contained, or they may consist of a pressure sensor connected to a shore-mounted recording device. The mechanical gauges (usually used at the permanent gauge locations) record by means of a pen on chart paper. The data are usually digitized at hourly intervals, resulting in a record with a resolution of approximately ± 1 cm, and an accuracy of the order of ± 5 to 10 cm. The resolution of the bottom pressure gauges varies from a millimetre to a centimetre, depending upon the instrument type and range. Sampling intervals generally vary between 5 and 60 minutes. Unless corrections are made, bottom-pressure records will also contain signals caused by variations in atmospheric pressure.

Virtually all water level data collected on behalf of Panarctic Oils Ltd. have been made with a Stephen Model 2A-35 Duplex Recorder. This instrument measures the vertical movement of the ice sheet by means of a cable attached to a weight on the ocean floor. In order to obtain the tides from these raw

data, the recordings have to be corrected for changes in freeboard of the ice, its horizontal movements, and changes in the position of the bottom weight, which might slowly sink into the mud.

Changes in freeboard of the ice are recorded by the instrument on a second channel, allowing the necessary correction to be made. Horizontal ice movements were monitored and the corresponding uncertainty in tidal height was calculated at most stations. Where necessary, corrections have been applied to the data. The third problem is almost impossible to monitor, although in some cases it was possible to estimate its influence by comparing neighbouring station records.

There is, in fact, another source of error associated with this type of instrument. According to one of Panarctic's reports, the counterweight at the surface was only 50 pounds. Although currents in this area are generally slow, it is quite conceivable that peak water velocities might exert enough drag on the cable to move the surface weight to some extent.

The data recording system is a mechanical one. Only the maximum and minimum water levels and the corresponding times were logged in from the strip charts. The timing accuracy is quoted in Panarctic's reports as ± 30 minutes (some earlier reports quote ± 1 hour). Most records obtained with the Stephen recorder are not continuous, with gaps lasting several days being quite common.

5.2 DATA RATING SCALE

5.2.1 RATING CRITERIA

The data appraisal in this inventory is intended to provide the reader with an indication of the quality of each data set and its suitability for comparison with other data sets. The appraisal was based primarily on documentation describing the methods used in collecting and processing the data and the investigator's estimate of its precision, accuracy and utility. Subsequent analyses of the data were also taken into account, i.e. if errors were found in a particular data set during a subsequent analysis, and the results were published, they were used in the assessment.

The information from the sources above was used to assign a numerical rating to each set. The rating system has five levels, defined as follows:

- 0: data are found to be wrong.
- 1: data suspect because of ill-defined doubts.
- 2: insufficient information, was not or could not be investigated.
- 3: data are internally consistent - patterns or trends within data probably real but comparison with other data sets may pose problems.
- 4: data are internally consistent and exhibit sufficient standardization that comparison with other 4 rated data should be possible.

5.2.2 ASSIGNMENT OF RATINGS

0 RATING

A data set received a zero rating if serious deficiencies in technique, or significant systematic errors occurred. A zero rating was also assigned if the documentation of the data set was lacking essential information (e.g. if the positions and times of measurements were not given) which no longer exists.¹

1 RATING

A data set received a 1 rating if, either as part of a data report or in subsequent analysis and examination, the original or other investigators questioned the validity of the data without pinpointing specific errors. In general, a 1 rating was assigned if a data set exhibited an atypical distribution of values, or indicated unlikely physical processes, but contained no obvious errors. Such data sets require careful examination before use.

2 RATING

Ratings of 2 were given to data sets for which it was not possible to carry out an appraisal. Such cases include:

- (i) Proprietary data, whose existence is known, but about which no details are available.
- (ii) Data sets for which we were unable to obtain documentation, but know that data were collected.

3 RATING

Data received a 3 rating if they were internally consistent within the precision of the methods used to collect the data. Precision is a measurement of the degree of random fluctuation experienced when a measurement is repeated many times, while accuracy is the departure of the measurement (or the mean of a series made under controlled conditions) from the true value. Because oceanographic data are normally taken without replication and under uncontrolled conditions, data taken with instruments of a certain precision will have the same (or poorer) level of accuracy. An exception is the case of a series of temperature-salinity measurements taken within a water body of stable, well-defined characteristics, in which case the mean of the measurement series could provide a measurement more accurate than the precision.

Ratings of 3 were given to all data sets for which no evidence of errors beyond the precision given in Table 1 was found, but which did not satisfy each of the criteria required for a rating of 4 (see below).

¹Note that this definition has been modified from that used in Volumes 1, 3 and 5 of this number to emphasize that data sets assigned a 0 rating are either wrong or of very limited value due to lack of documentation.

Caution should be exercised when comparing two sets of 3 rated data, as their levels of precision may be quite different. The reader should consult both Table 1 and Appendix 1 for precision and error information.

4 RATING

Data received a rating of 4 if these data were measured to the precision available with modern methods described in Section 5.1; had no evidence of systematic or other errors recorded in the documentation; and were obtained using measurement instrumentation, methodology and techniques which provide data that can be related to national or international standards.

Of all the physical oceanographic data that were inventoried, the bulk of the data is temperature/salinity measurements. Until the early 1960's, water samples were collected with bottle casts and salinity was determined by titration. During the 1960's, salinities were generally determined using conductivity bridges. From the late 1960's on, instruments which measured conductivity and temperature in situ (CTDs) became the standard. Salinity was then computed from the temperature and conductivity values.

CTDs with increased resolution have revealed gradations in salinity where previous chemical analyses indicated homogeneous water. Since both bottle and CTD data may have ratings of 3, caution must be used in any comparison.

Both methods of salinity determination depend on a standard (usually 35⁰/oo Copenhagen water); variability in the calibration of the instrumentation has in the past resulted in systematic errors of 0.02⁰/oo or more. In the past, replicate samples have been sent to various labs and the salinities determined by these labs differed by 0.01 to 0.02⁰/oo.

A new, practical salinity scale, where waters of the same conductivity ratio have the same salinity has been adopted (Lewis and Perkin, 1978) which reduces systematic errors in salinity. However, most of the historical data remains subject to a +0.02⁰/oo accuracy limitation.

Current meter data were judged by the instrument characteristics, response, and the deployment methods. The main causes of low ratings are directional errors due to inadequate compensation for the weak horizontal component of the earth's magnetic field, and contamination by mooring motion and wave orbital velocities.

Much of the water level data was received from MEDS with little supporting information. This resulted in the 2 rating for many of these data sets. It may be possible to improve the rating by further searching the files at MEDS and at the Institute of Ocean Sciences, Sidney.

6. SUMMARY OF DATA COVERAGE

6.1 SPATIAL COVERAGE, INCLUDING DATA DISTRIBUTION MAPS

The locations of all measurements are summarized individually for bottle/CTD data (Figure 4), current meter and water level data (Figure 5). The spatial coverage is far from uniform for any of the data types. The measurement sites tend to be concentrated in three sub-areas: the southern waterways adjoining Parry Channel; the central portions of the area centred around an area extending from the Sabine Peninsula of Melville Island to Loughed Island to King Christian Island; and the channels of Nansen and Eureka Sounds.

The areas with the least amount of data are generally located at the northern, western and eastern extremities of the region. In the channels to the west and north of Prince Patrick Island (Crozier Channel, Kellett, Fitzwilliam, Ballantyne and Wilkins Straits), there are no current meter measurements and very few water property data available. At the northern limit of the region, the same situation holds for Sverdrup and Peary Channels and Hassel and Massey Sounds. To the east, in the region of Norwegian Bay, the level of oceanographic data is limited to one current metering location and fewer than ten water property stations. Clearly for the western, eastern and northern channels of the study area, more data are required for any but the most rudimentary oceanographic studies.

6.2 SEASONAL COVERAGE, INCLUDING BI-MONTHLY MAPS

The quantity of oceanographic data varies markedly according to the time of year when the measurements were obtained. This seasonal pattern is illustrated in Figures 6-11 (temperature/salinity data) and Figures 12-17 (current meter and water level data): in each figure, the locations of available measurements are plotted according to the two-month period in which the data were obtained beginning in December-January, and continuing through to October-November. For all three measurements types, the largest quantities of data are available in the months of April and May, with lesser but significant data levels in the months of December to March inclusive and June. The predominance of measurements in the winter and spring months results from the suitability of the ice cover as a stable platform from which to collect data, beginning in the month of December. With the lengthening period of daylight hours in the spring, the months of April and May offer the best conditions for working from the ice; commencing in June or July, surface melt begins to hinder operations from the ice.

BOTTLE/CTD

The seasonal coverage of bottle/CTD data (Figures 6-11) exhibits a similar pattern to that of the current meter data: most of the data were collected in the months of April and May with reduced levels of data for December to March and June to July. In the southern channels (Wellington and Queens Channels, Penny Strait and Norwegian Bay) only water property data are also available for the months of August and September; unlike the rest of the area, these channels are navigable for coast guard icebreakers in late summer. No water property profile data are available for any part of the study area in October or November.

CURRENT METER

The amount of current meter data (Figures 12-17) is relatively large in the central portions of the study area through the months of December to June, due in large part to the data collected at Panarctic's drilling sites during this time of the year. Current meter data sets collected by government agencies tend to commence later in the year, usually in March or April. From August to November inclusive, current meter data are unavailable for all areas but Crozier Strait, where near-bottom current meter measurements at one site were obtained throughout the summer and autumn months (Greisman and Lake, 1978).

6.3 SYNOPTIC DATA SETS AND EXTENDED TIME SERIES

SYNOPTIC DATA SETS

In some years the existence of two or more data sets collected at the same time provides a combined data set with near-synoptic coverage over a relatively large area. Data sets were considered near-synoptic if their measurement periods overlapped significantly. The combined data sets may improve coverage within a given area, extend coverage to a larger area or allow comparison of simultaneous processes in different areas. The table below lists near-synoptic data sets by year and general area of coverage.

| Data Set ID | Area |
|--------------------|---|
| 1961 | |
| 61-0003 | Wellington Channel |
| 61-0004 | Wellington Channel |
| 1978 | |
| 78-0007 | Byam Martin Channel, McDougall Sound, Wellington Channel |
| 78-0012 | Wellington Channel, McDougall Sound |
| 1979 | |
| 78-0013 | Central Queen Elizabeth Islands (Hazen Strait, W. Loughheed Island, Desbarats Strait, MacLean Strait) |
| 78-0014 | |
| 79-0017 | |
| 79-0018 | |
| 79-0019 | |

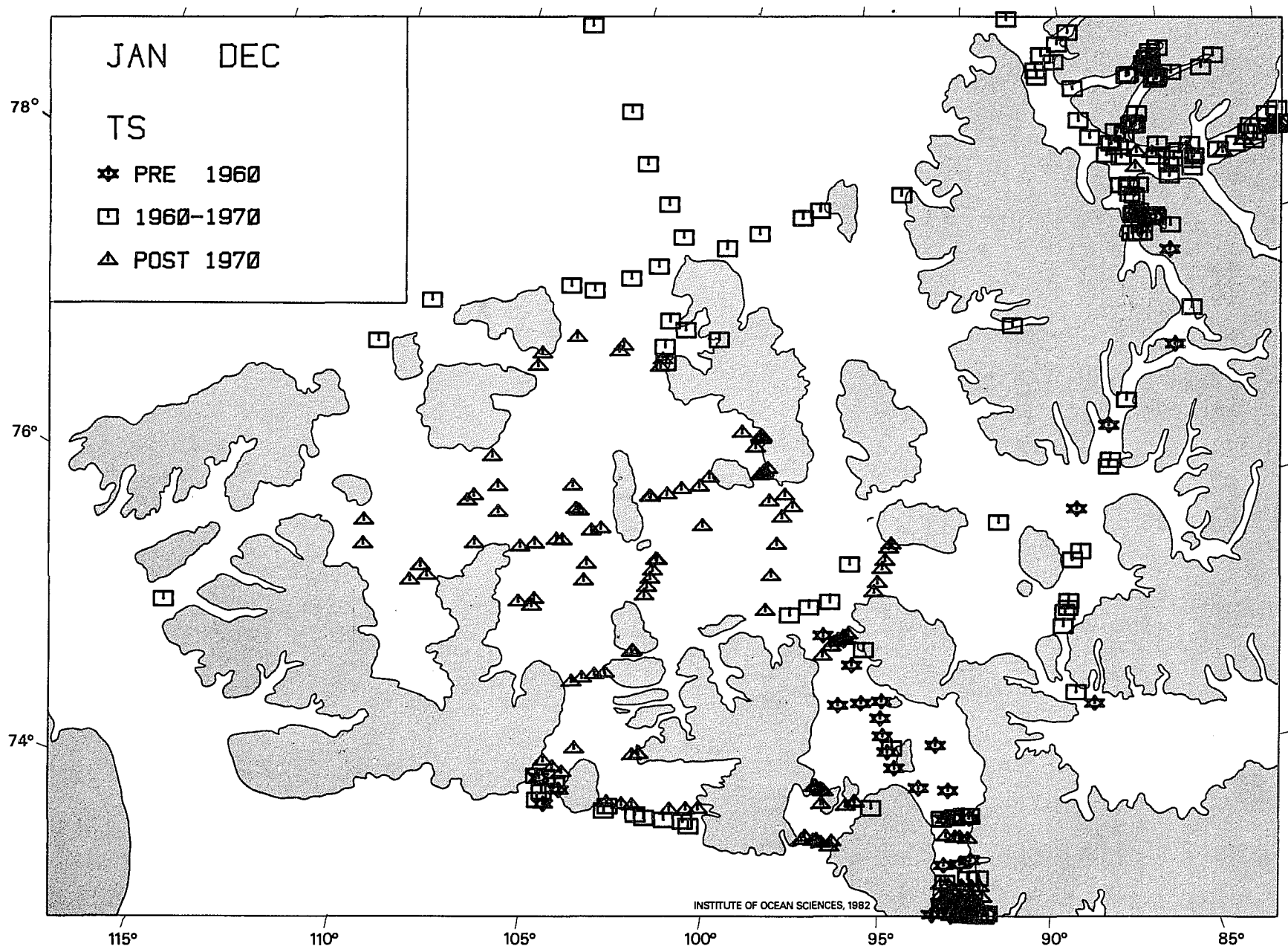


Figure 4a: The locations of all temperature and salinity measurements.

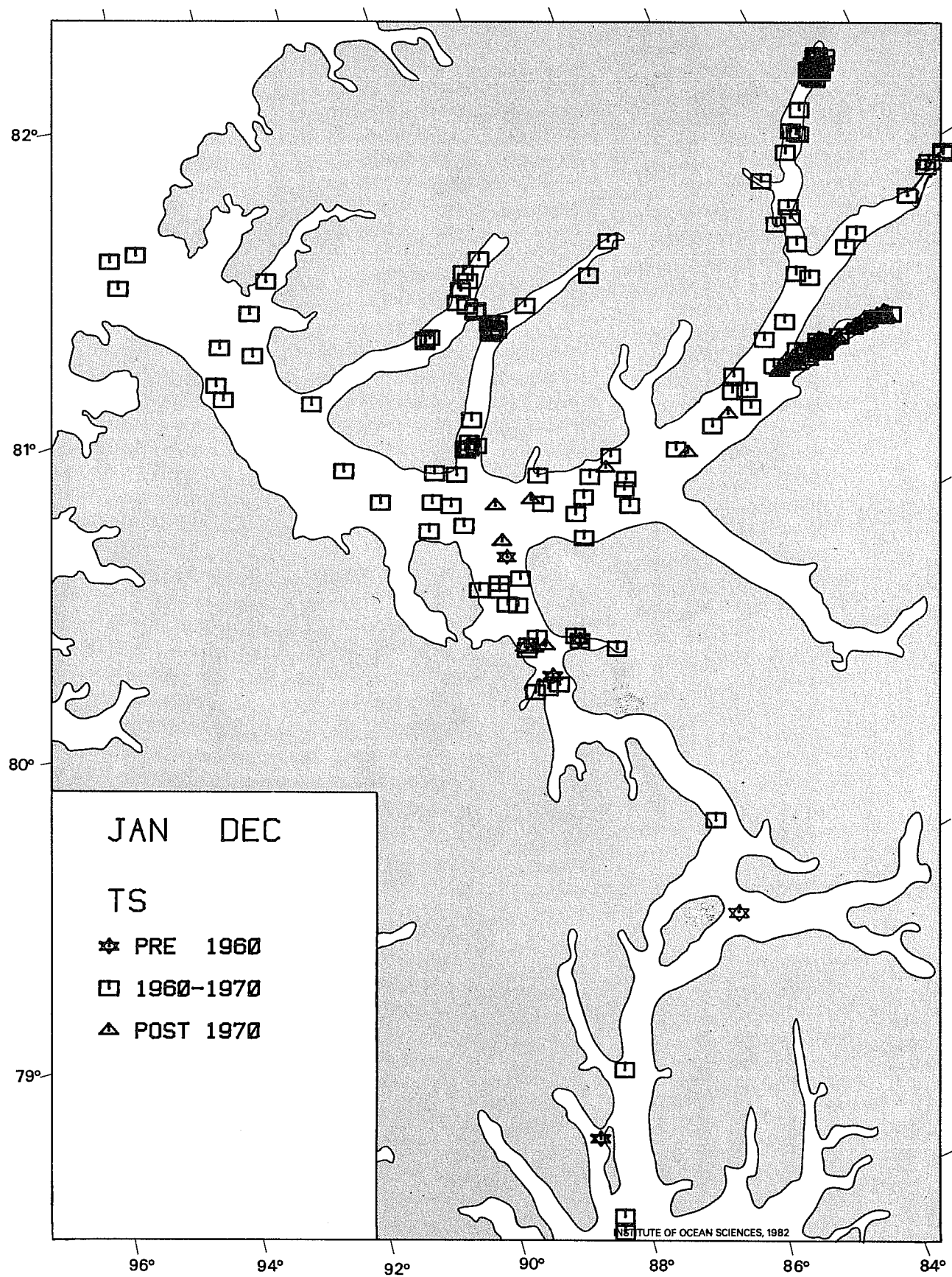


Figure 4b: The locations of all temperature and salinity measurements.

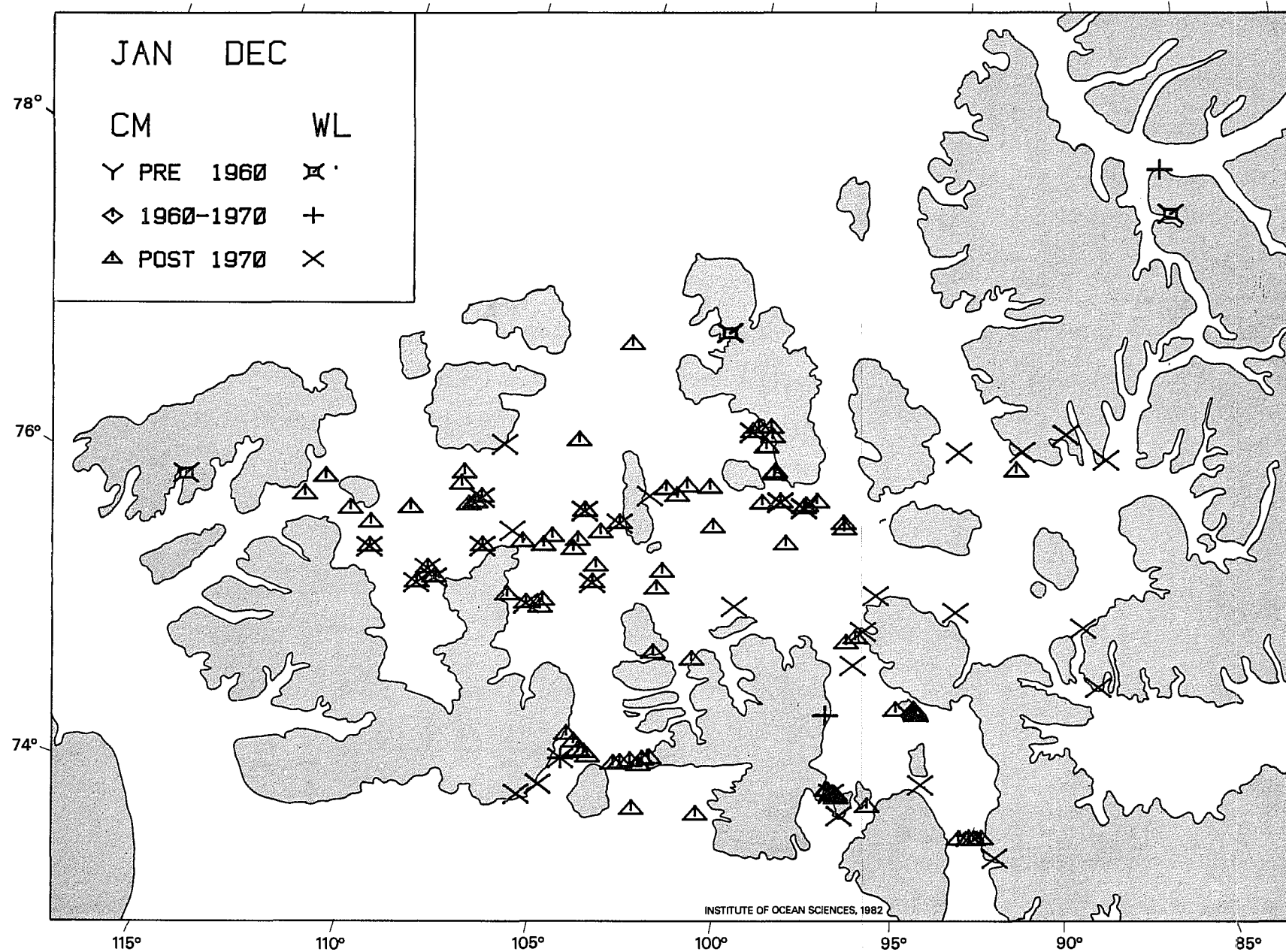


Figure 5a: The locations of all moored current meter and water level measurements.

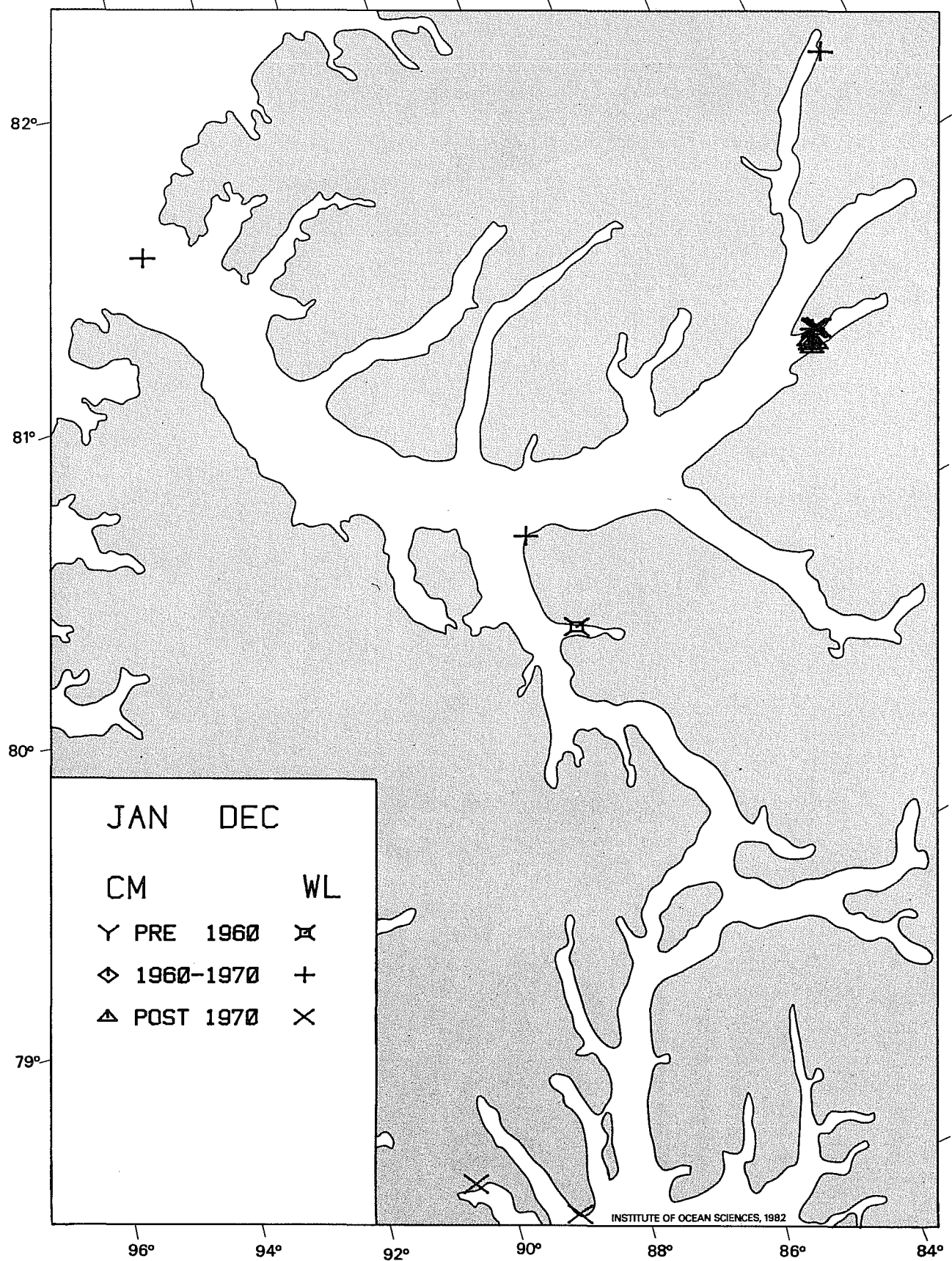


Figure 5b: The locations of all moored current meter and water level measurements.

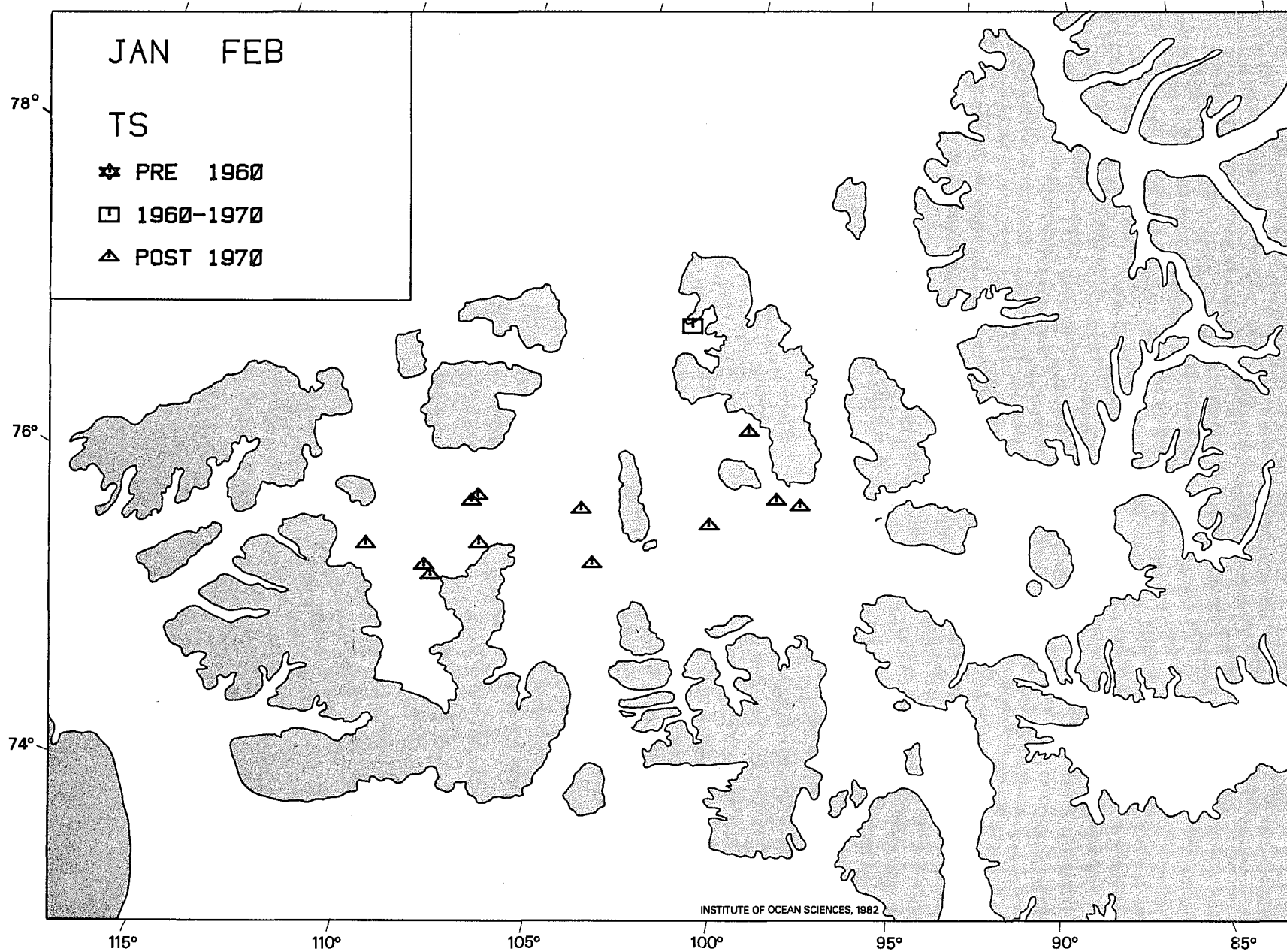


Figure 6a: The locations of temperature/salinity profile data collected during the January-February period, all years.

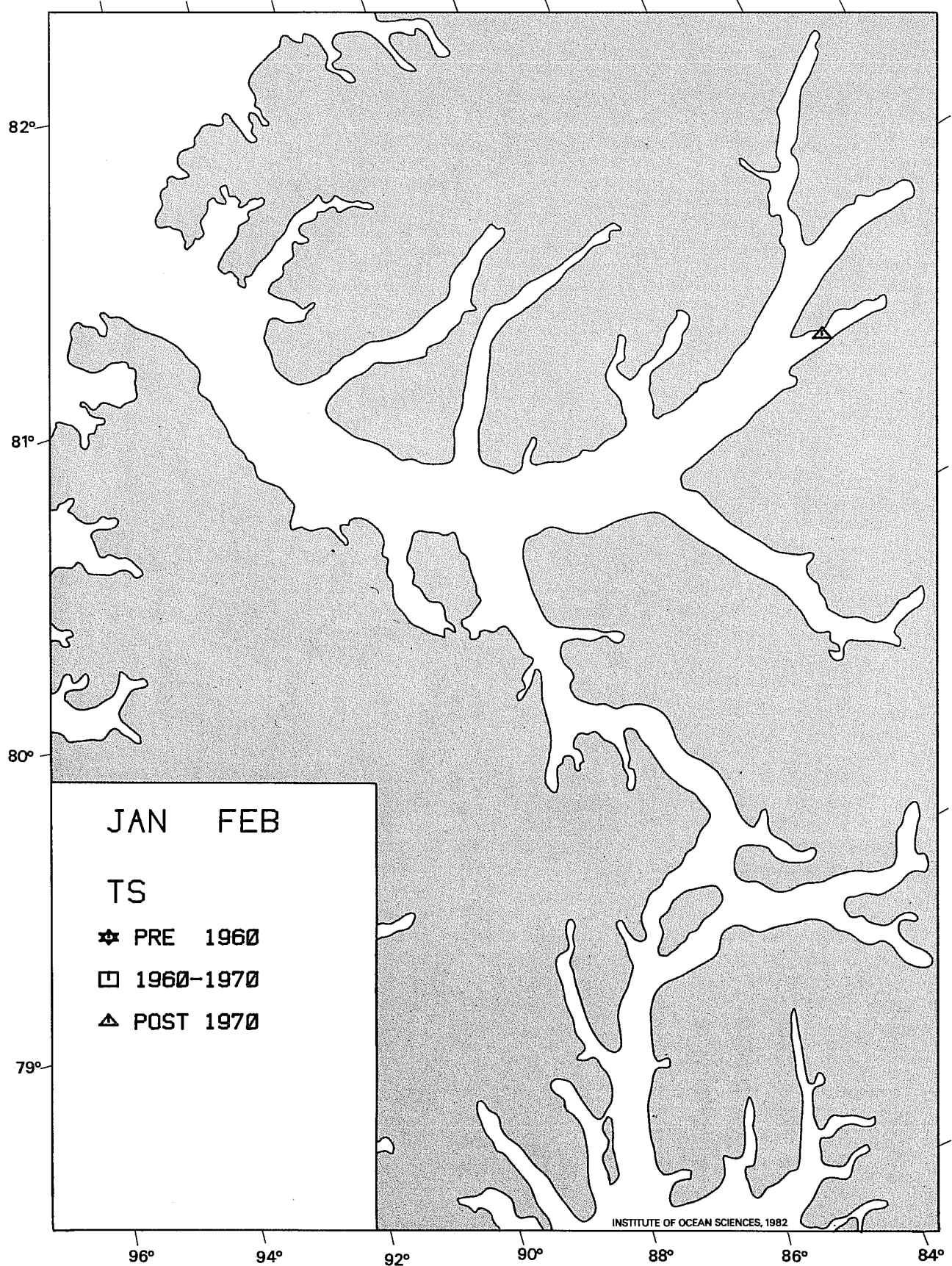


Figure 6b: The locations of temperature/salinity profile data collected during the January-February period, all years.

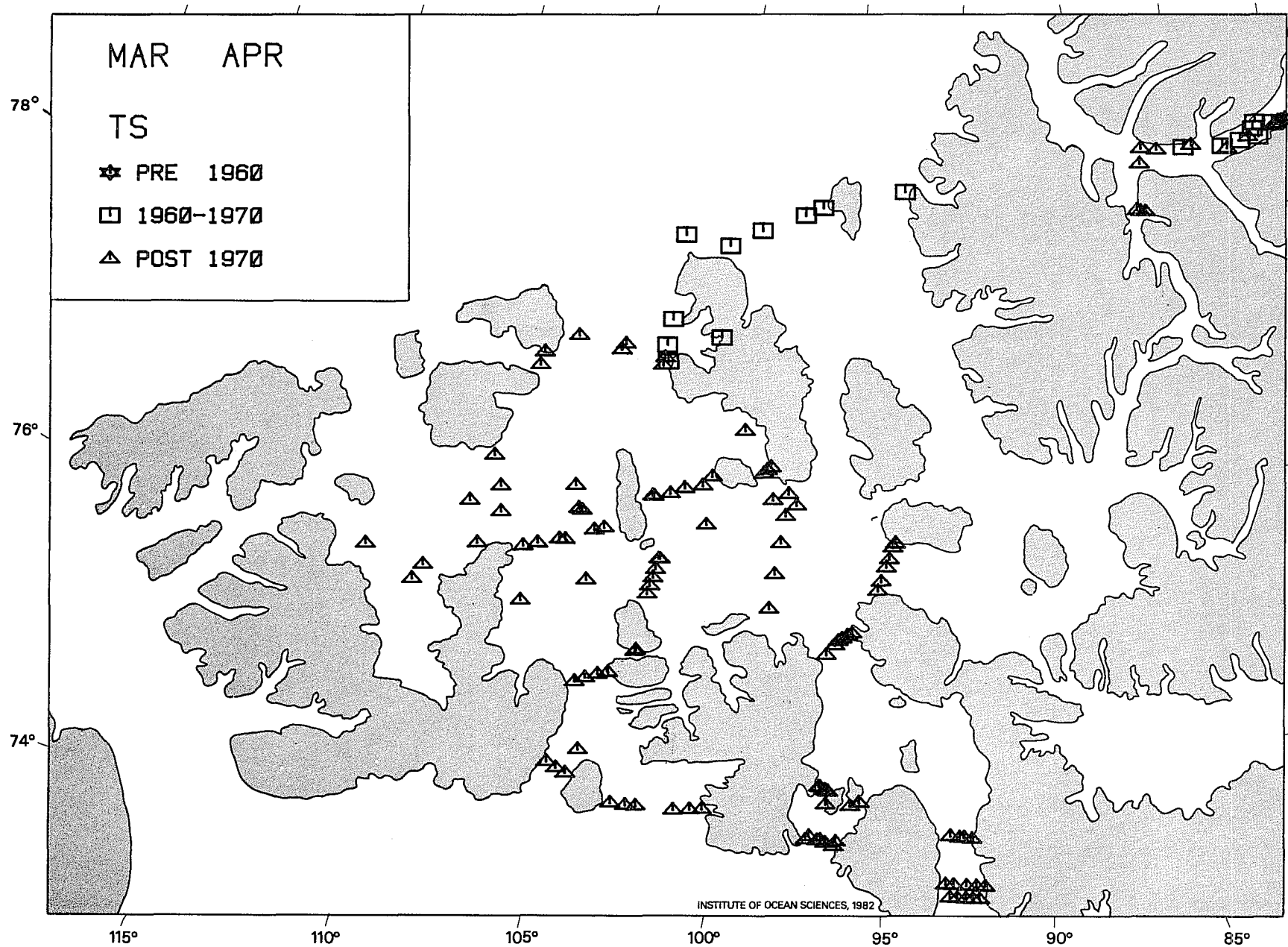


Figure 7a: The locations of temperature/salinity profile data collected during the March-April period, all years.

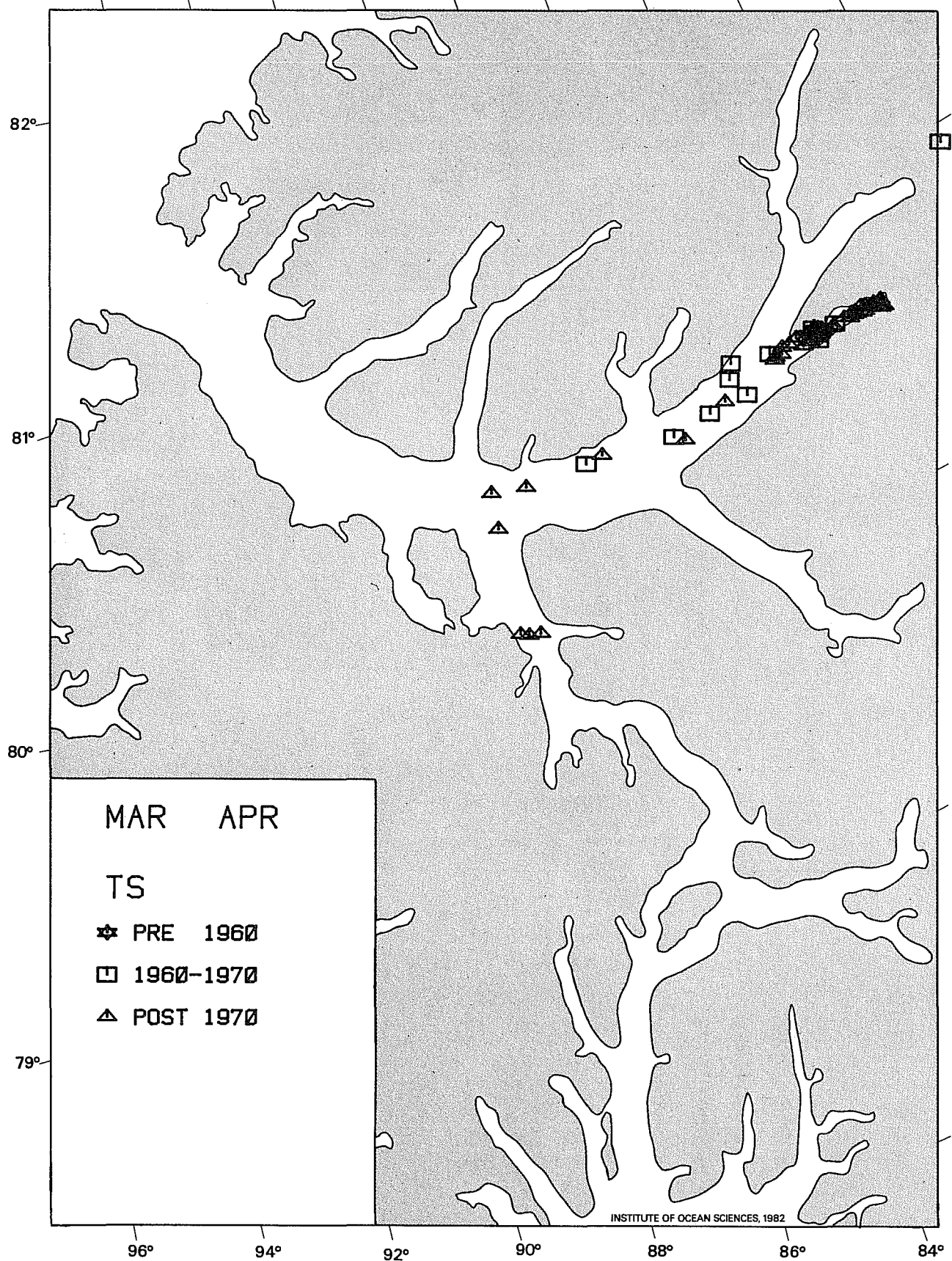


Figure 7b: The locations of temperature/salinity profile data collected during the March-April period, all years.

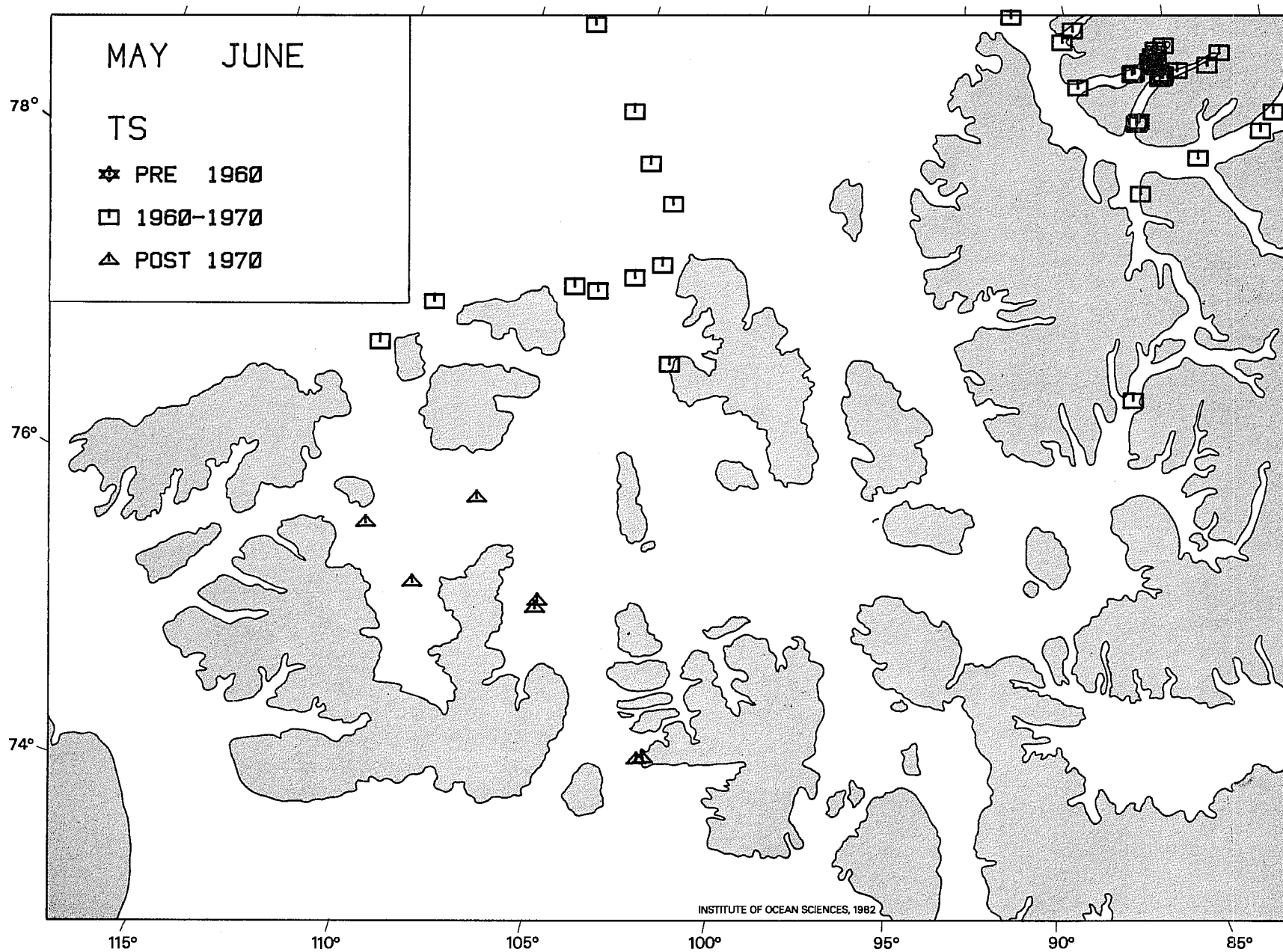


Figure 8a: The locations of temperature/salinity profile data collected during the May-June period, all years.

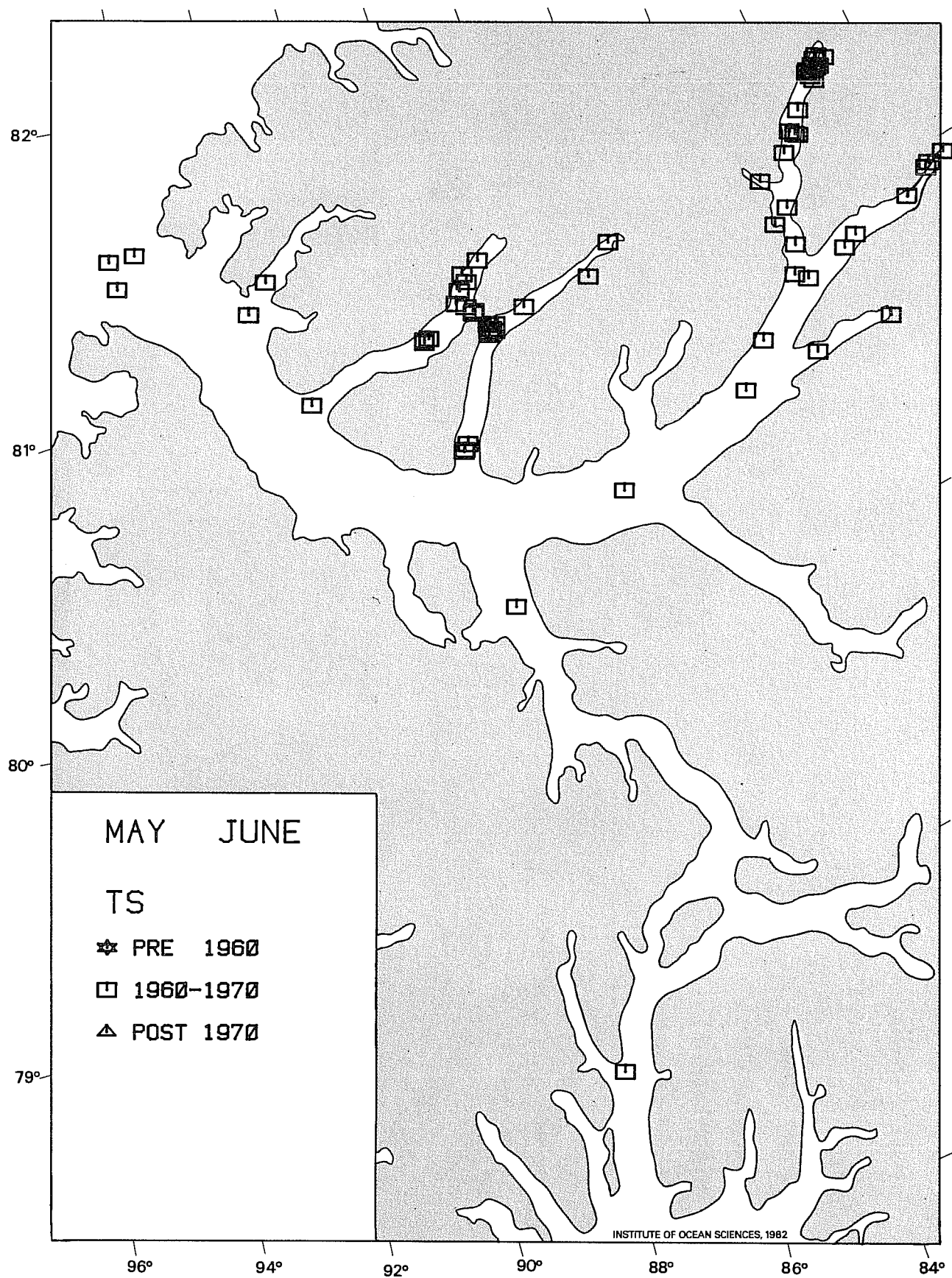


Figure 8b: The locations of temperature/salinity profile data collected during the May-June period, all years.

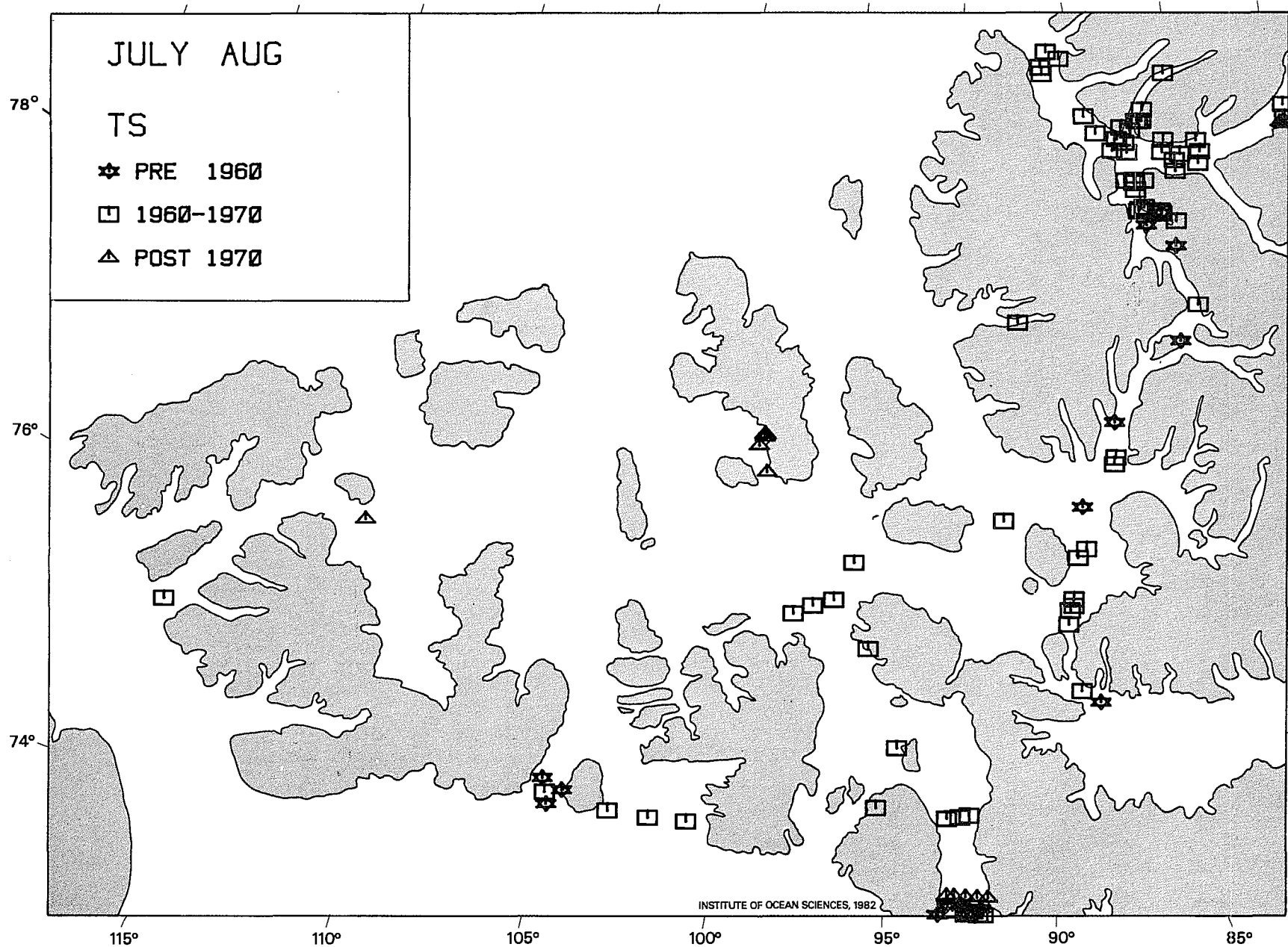


Figure 9a: The locations of temperature/salinity profile data collected during the July-August period, all years.

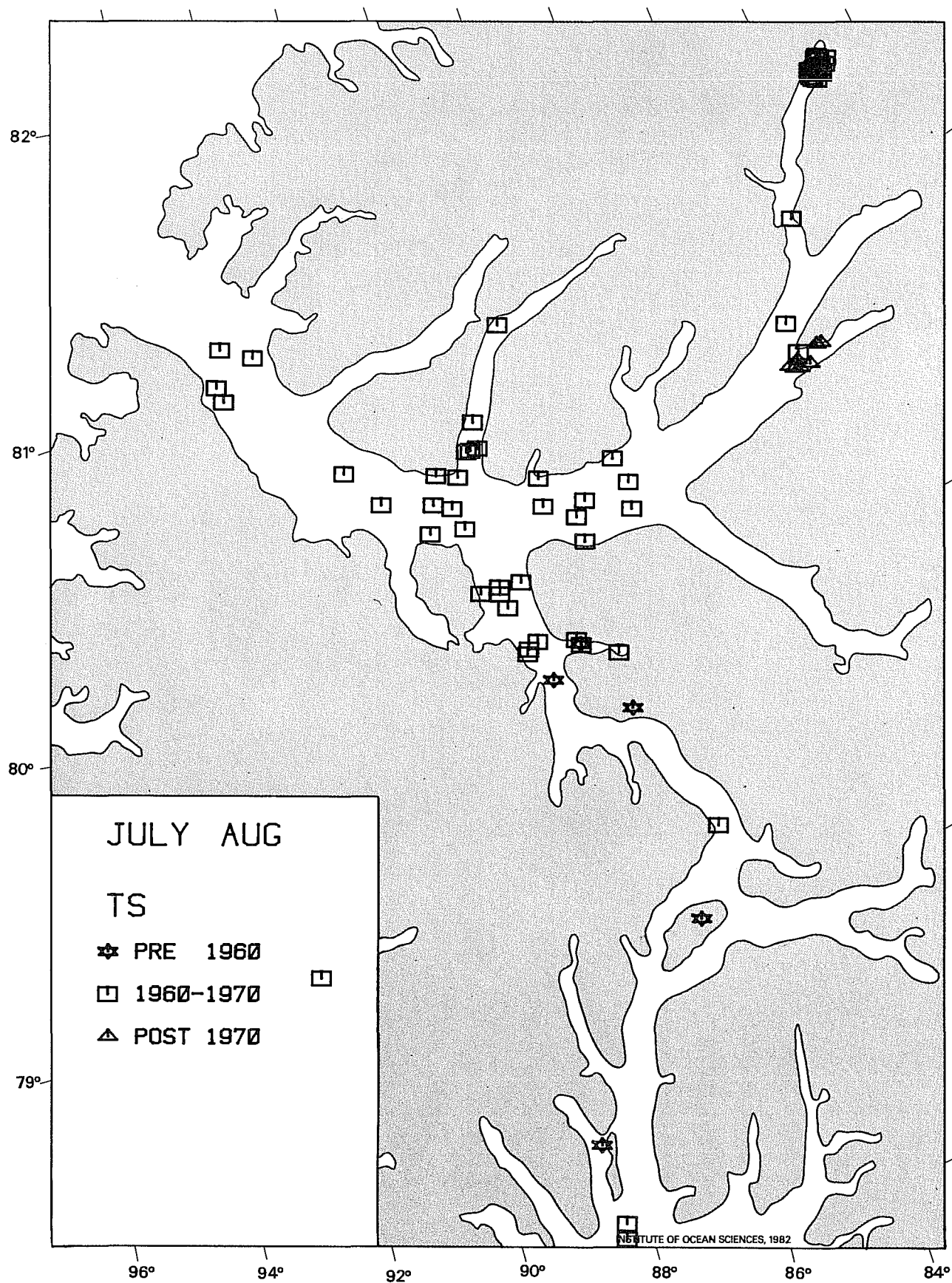


Figure 9b: The locations of temperature/salinity profile data collected during the July-August period, all years.

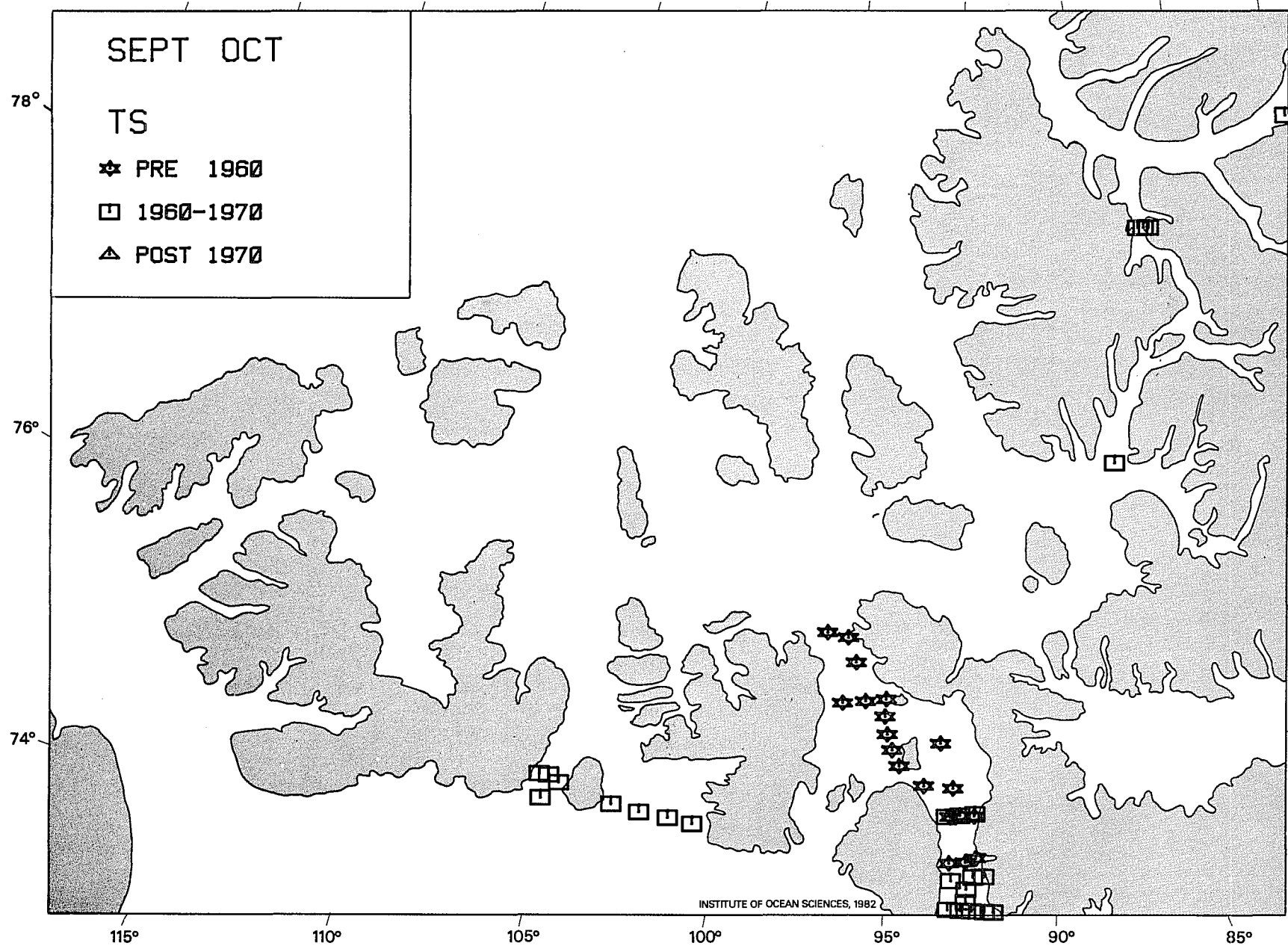


Figure 10a: The locations of temperature/salinity profile data collected during the September-October periods, all years.

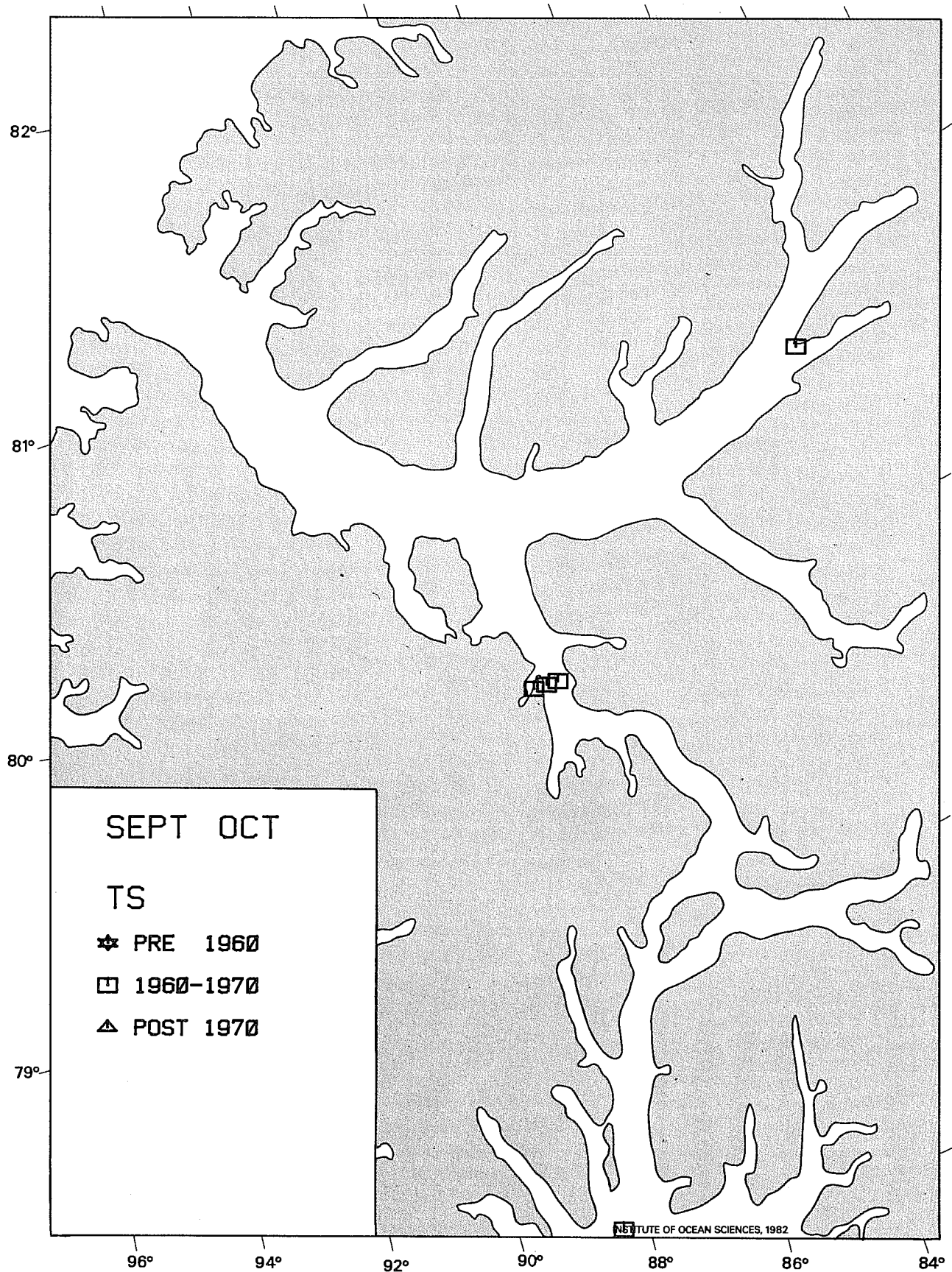


Figure 10b: The locations of temperature/salinity profile data collected during the September-October period, all years.

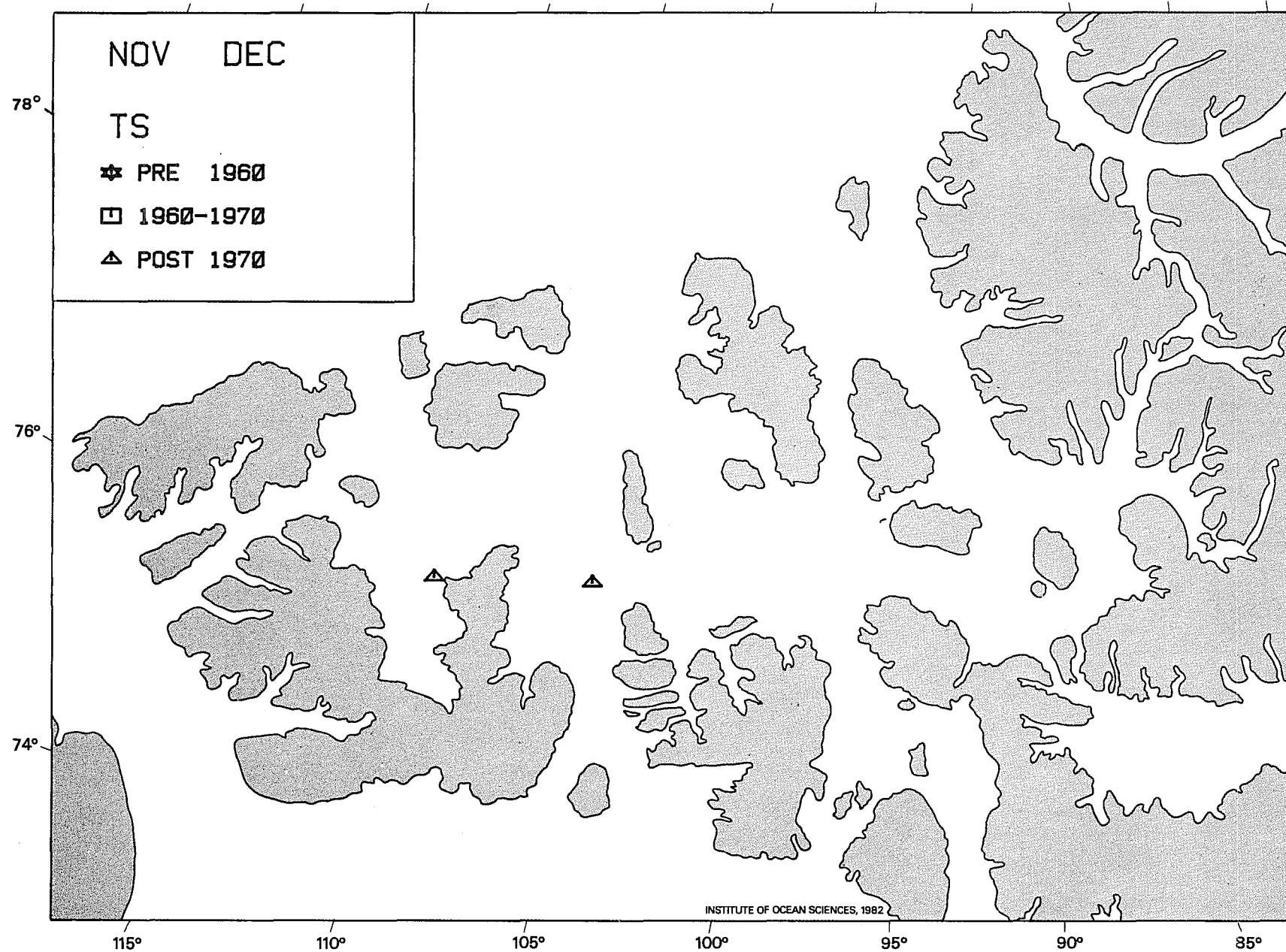


Figure 11a: The locations of temperature/salinity profile data collected during the November-December period, all years.

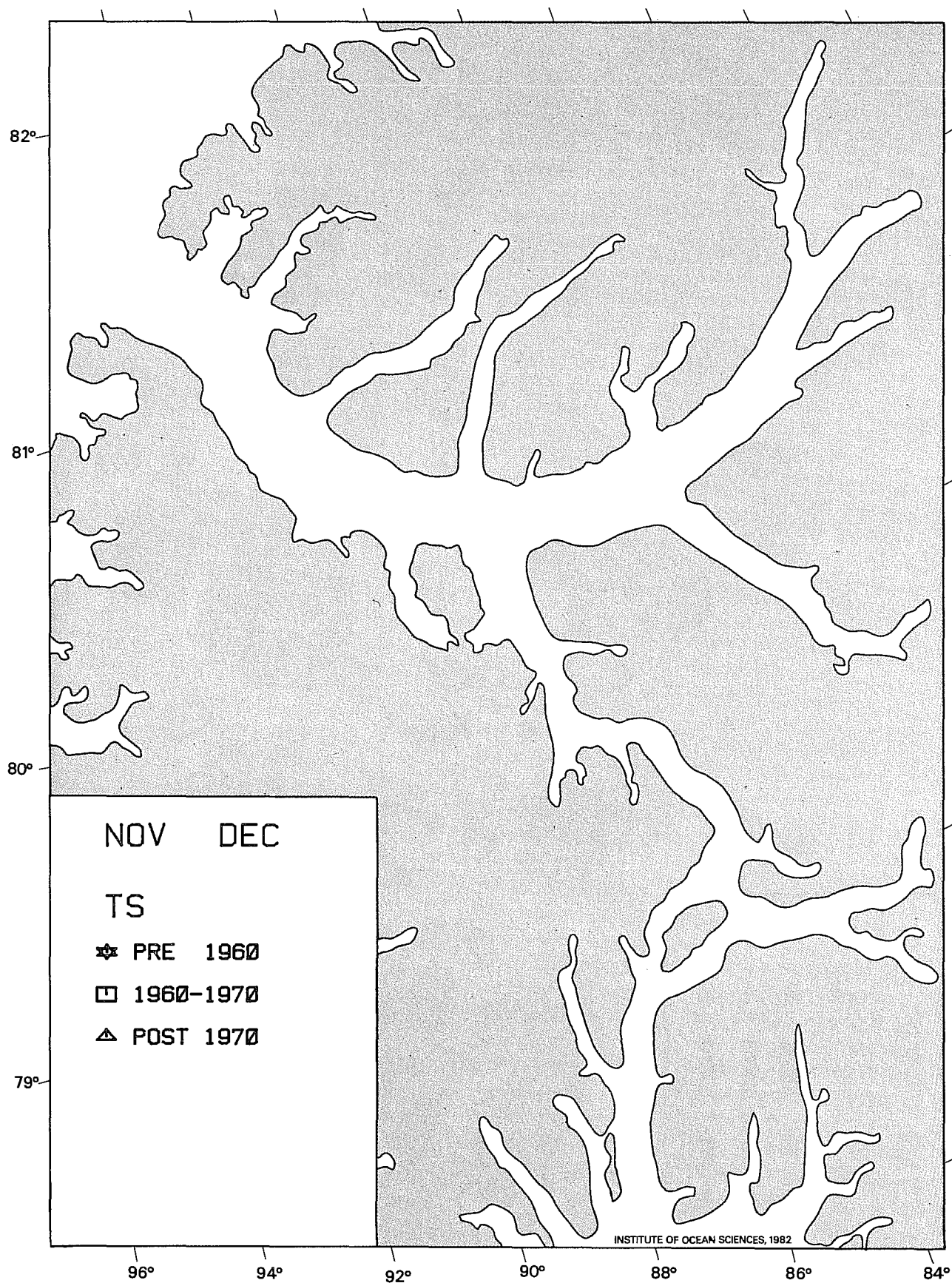


Figure 11b: The locations of temperature/salinity profile data collected during the November-December period, all years.

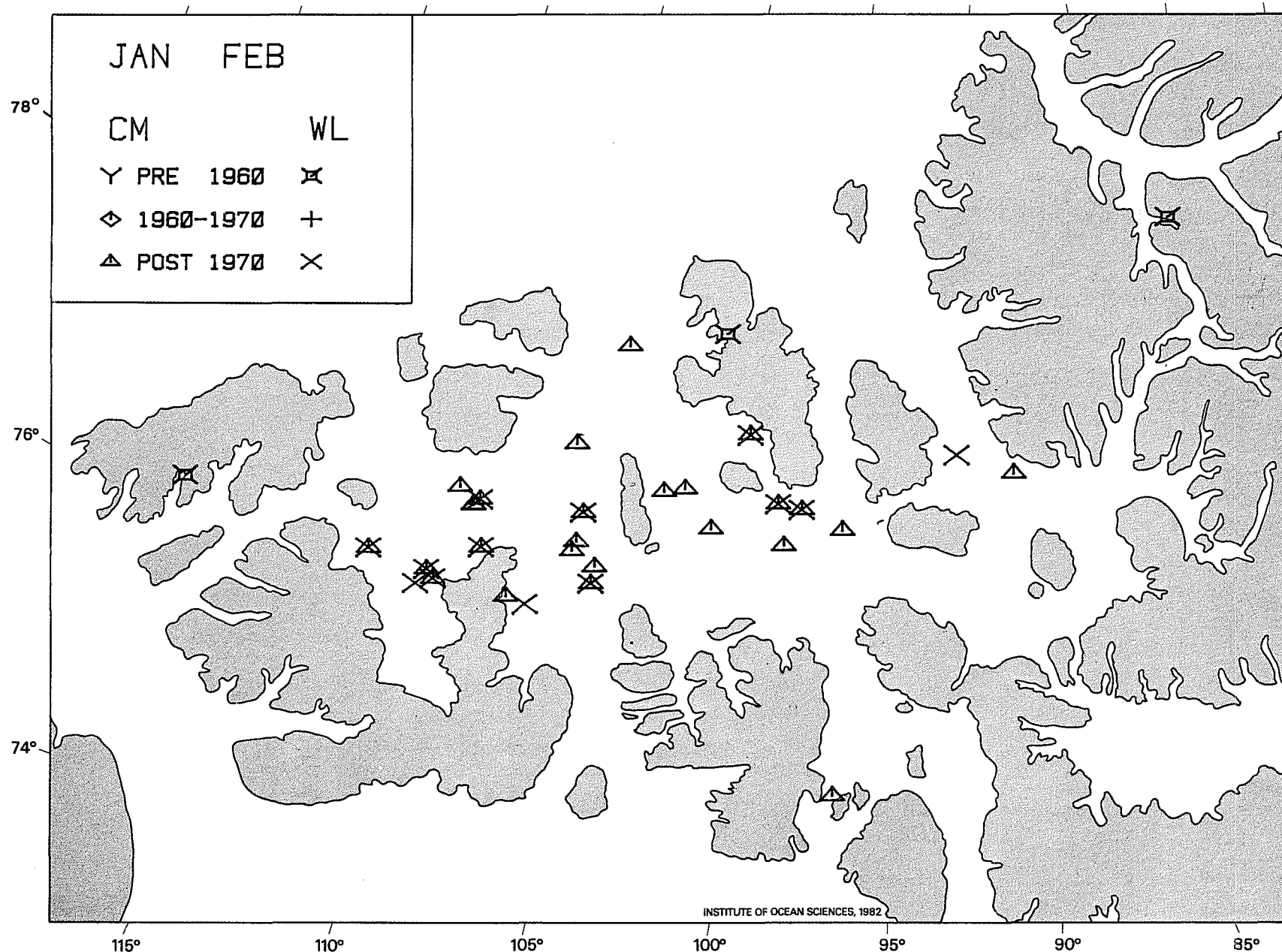


Figure 12a: The locations of all current meter and water level stations in place during the January-February period, all years.

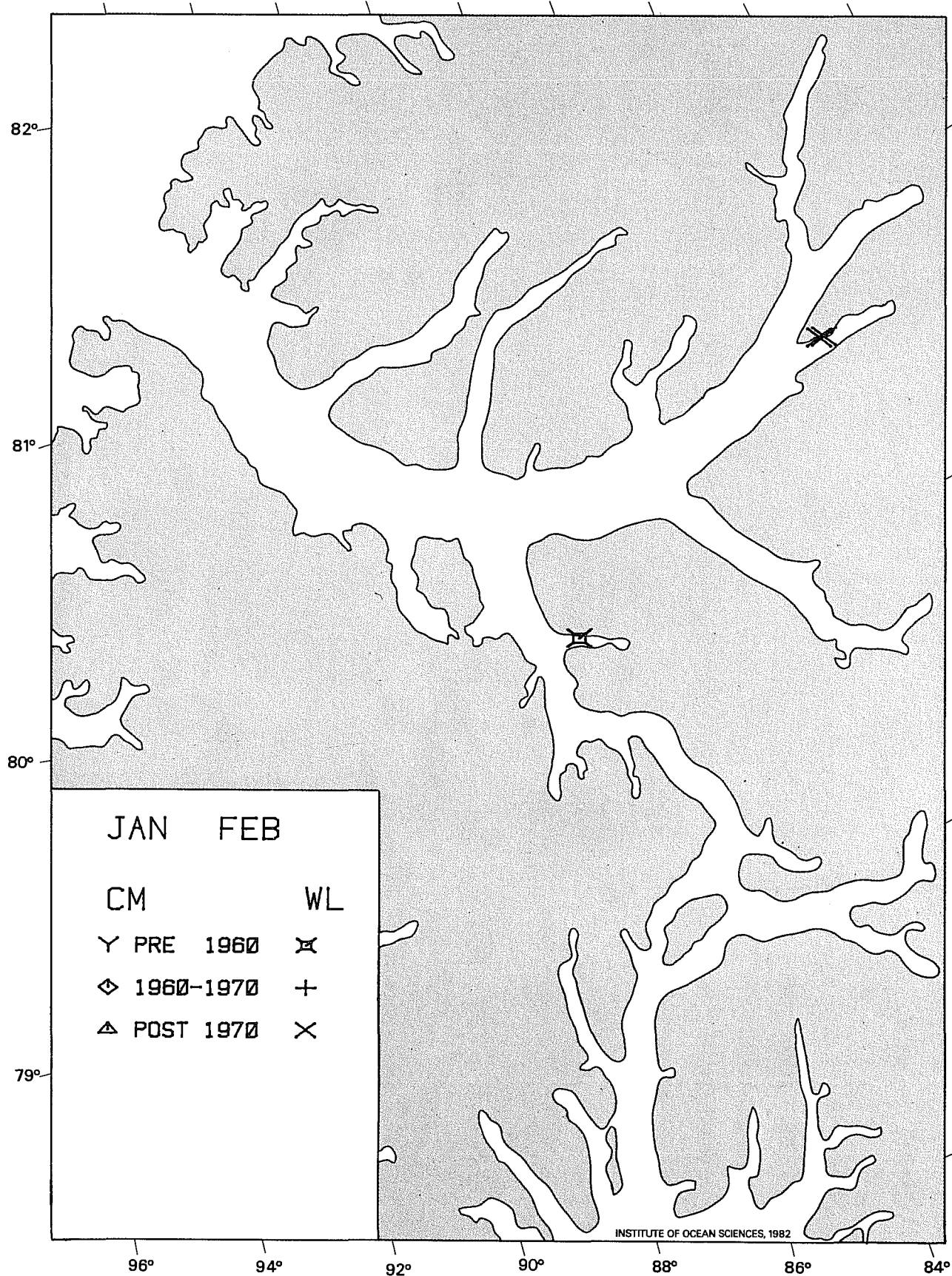


Figure 12b: The locations of all current meter and water level stations in place during the January-February period, all years.

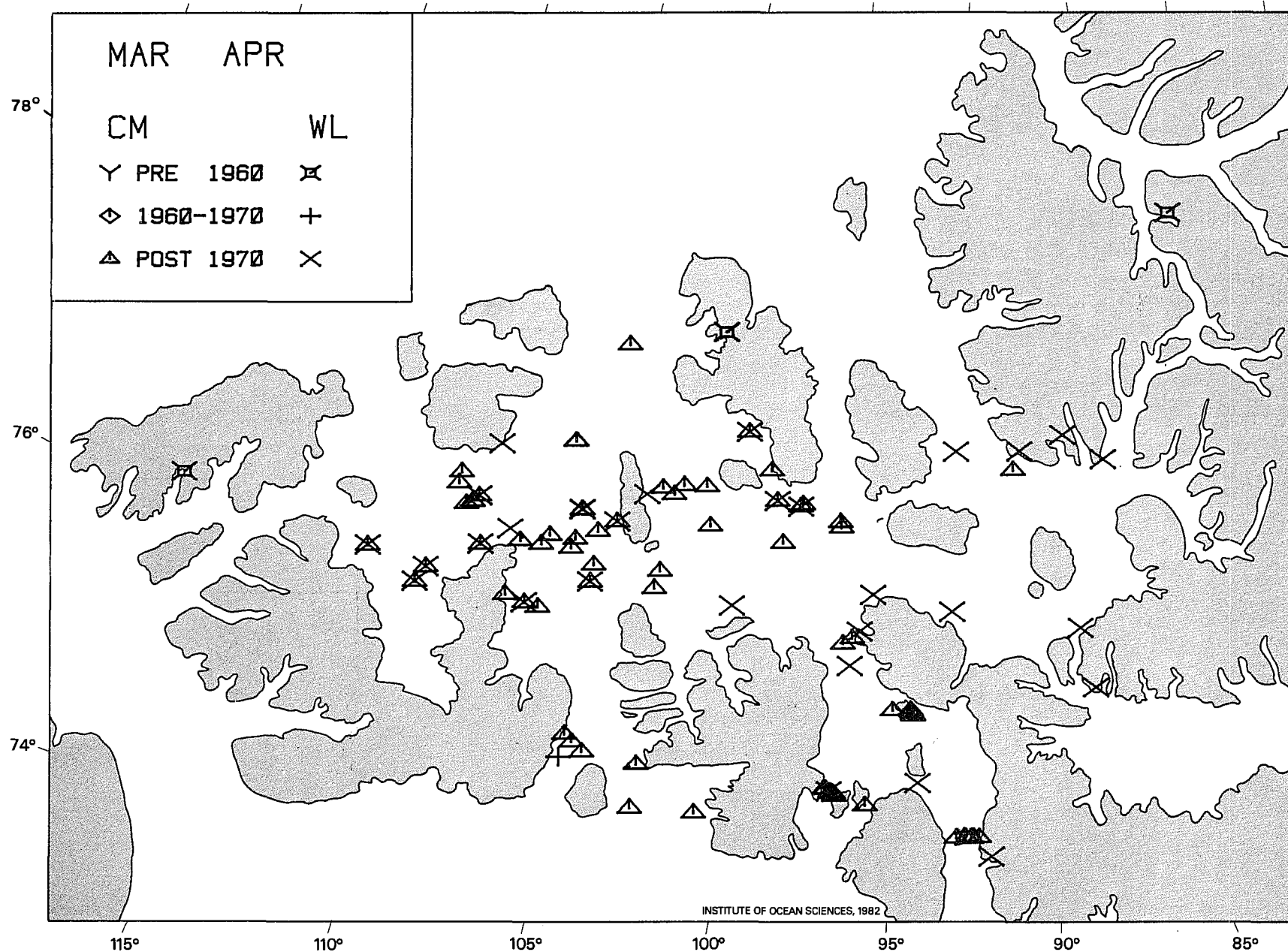


Figure 13a: The locations of all current meter and water level stations in place during the March-April, all years.

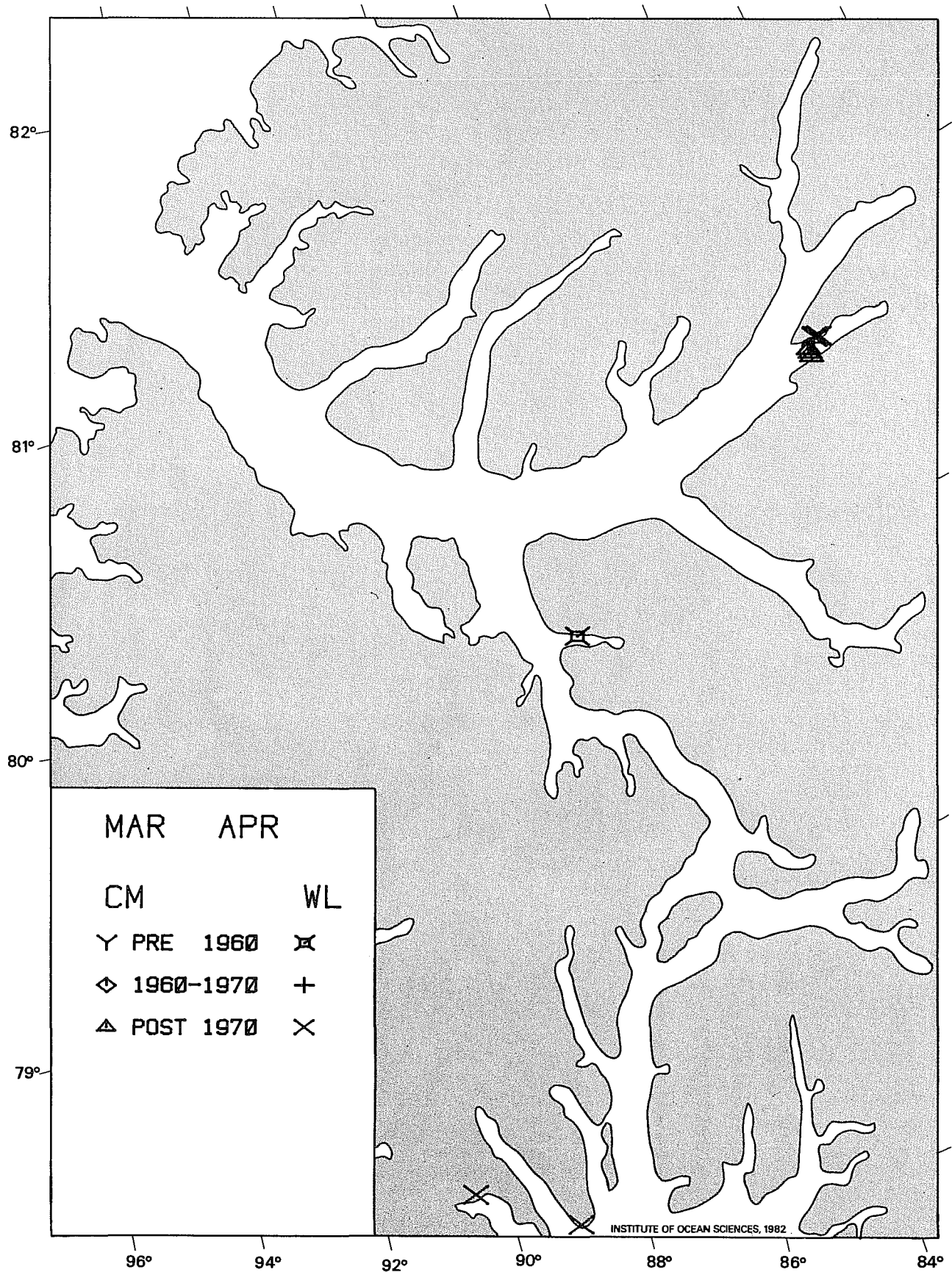


Figure 13b: The locations of all current meter and water level stations in place during the March-April period, all years.

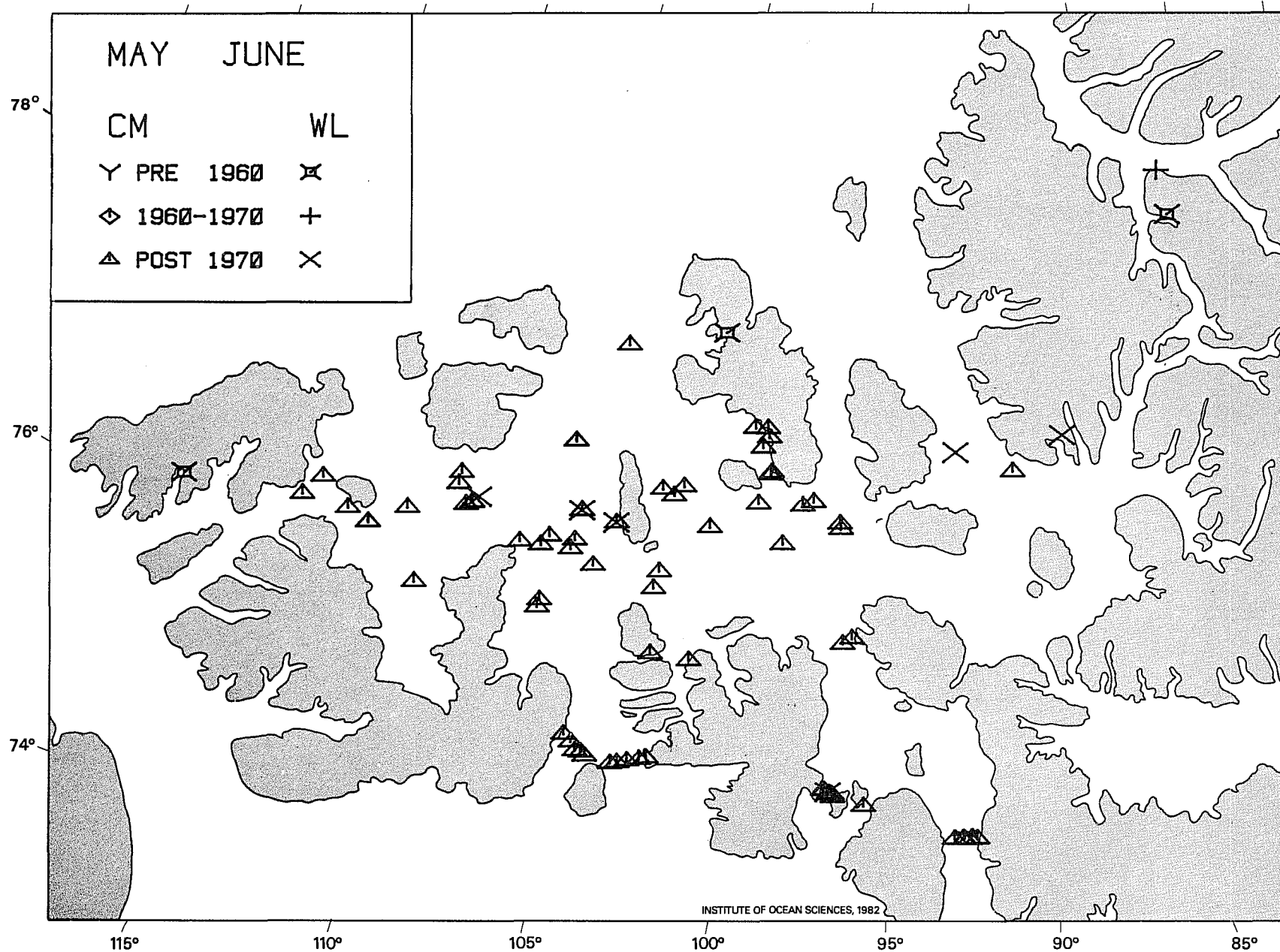


Figure 14a: The locations of all current meter and water level stations in place during the May-June period, all years.

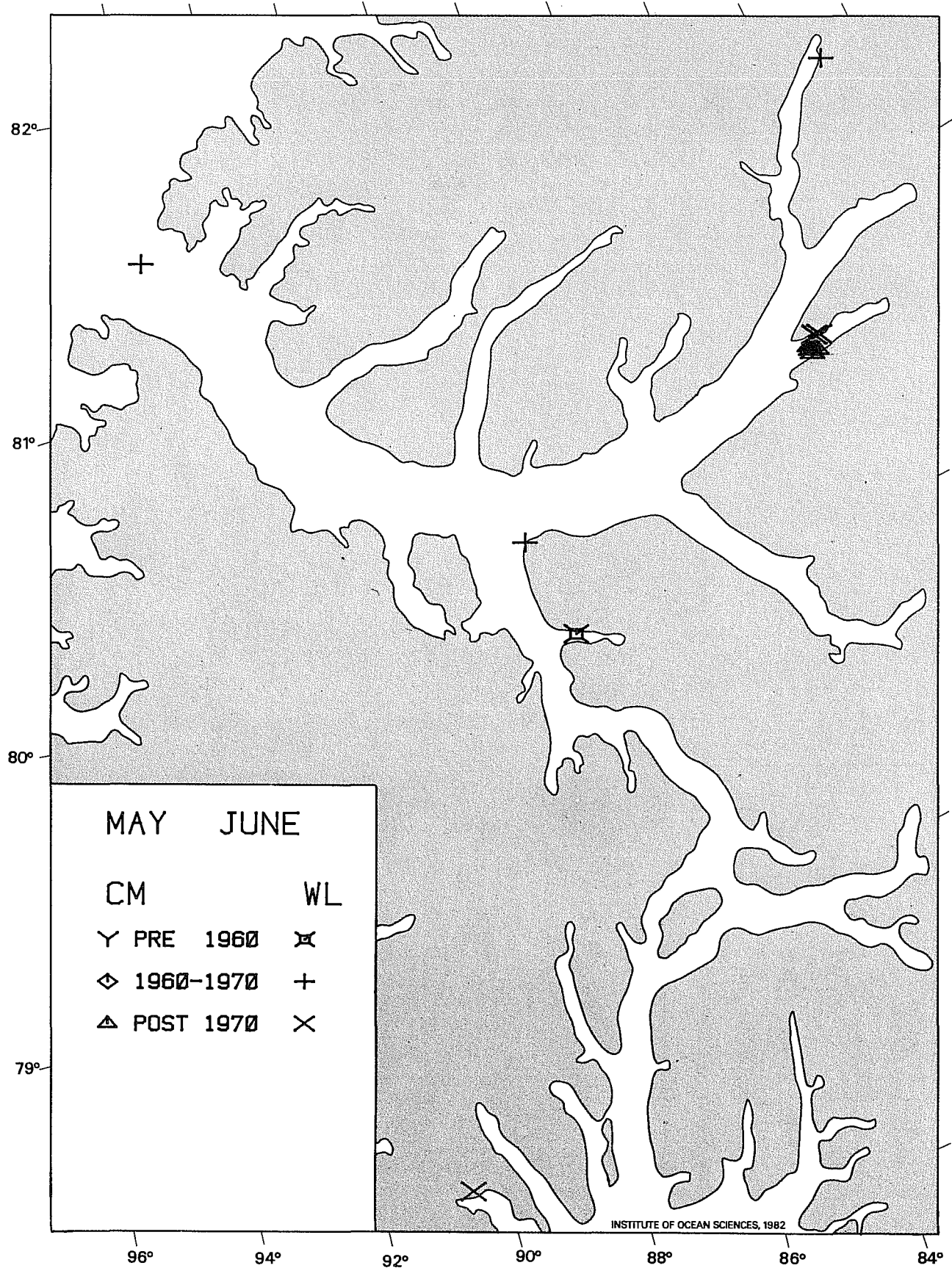


Figure 14b: The locations of all current meter and water level stations in place during the May-June period, all years.

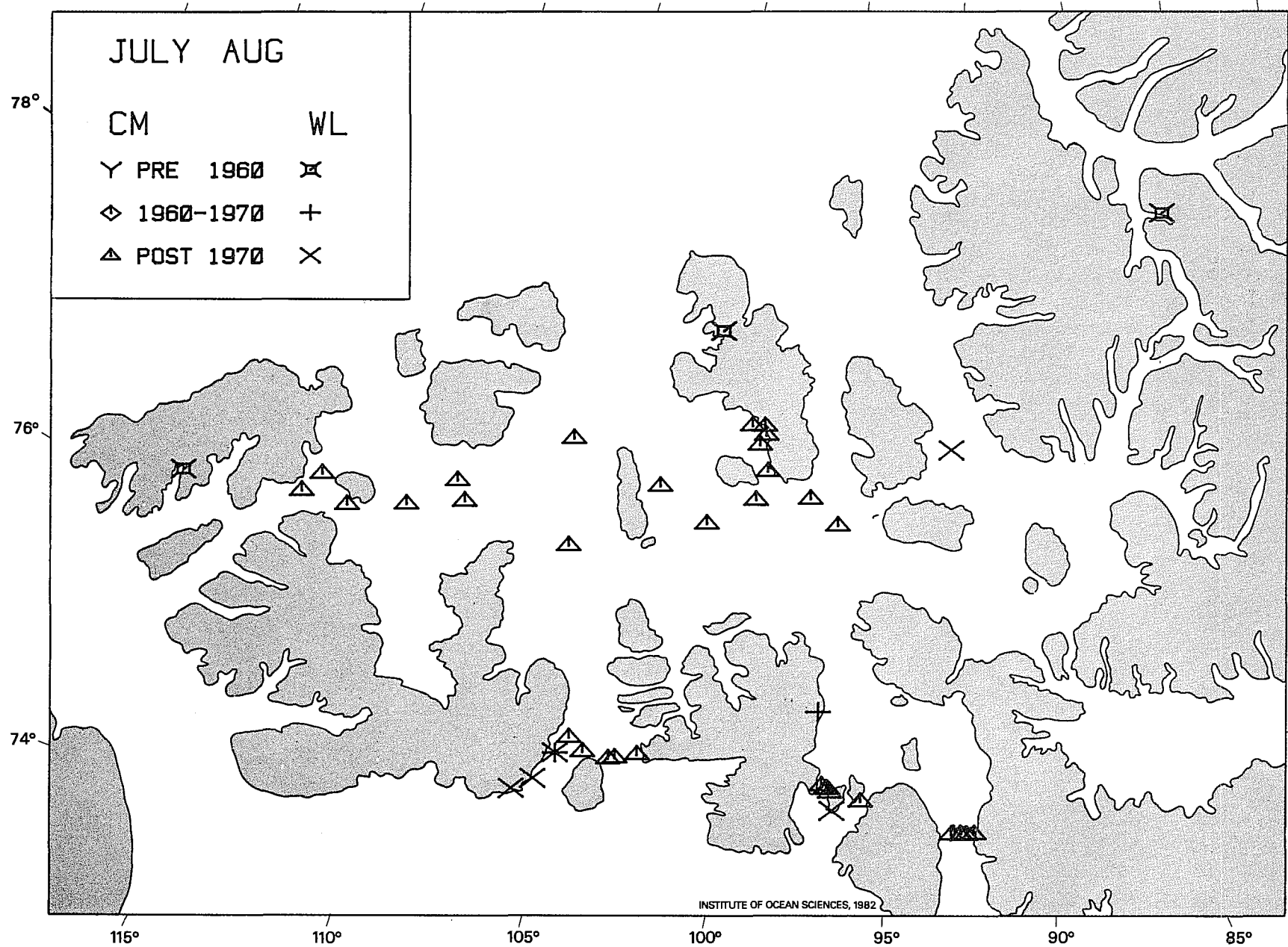


Figure 15a: The locations of all current meter and water level stations in place during the July-August period, all years.

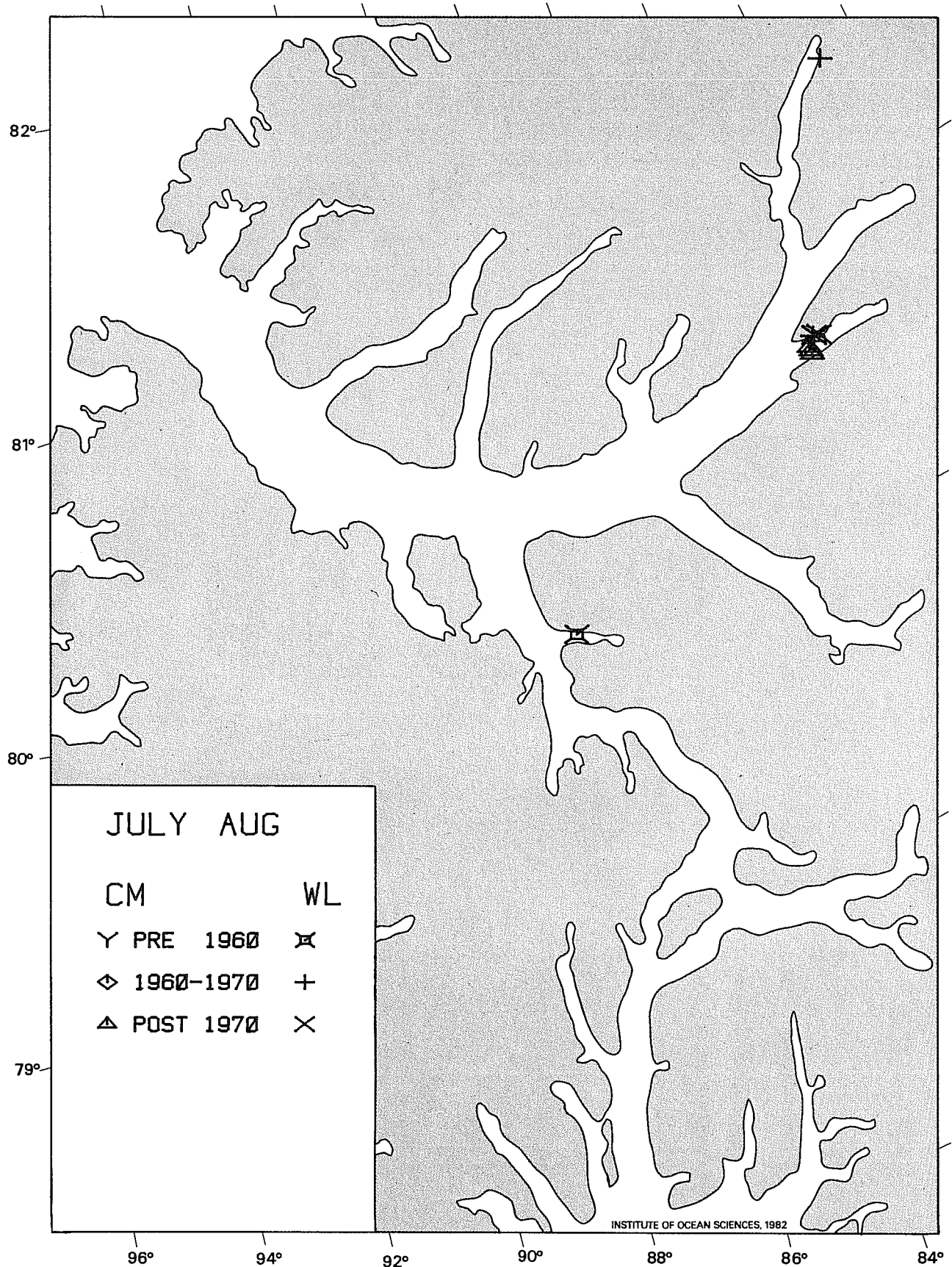


Figure 15b: The locations of all current meter and water level stations in place during the July-August period, all years.

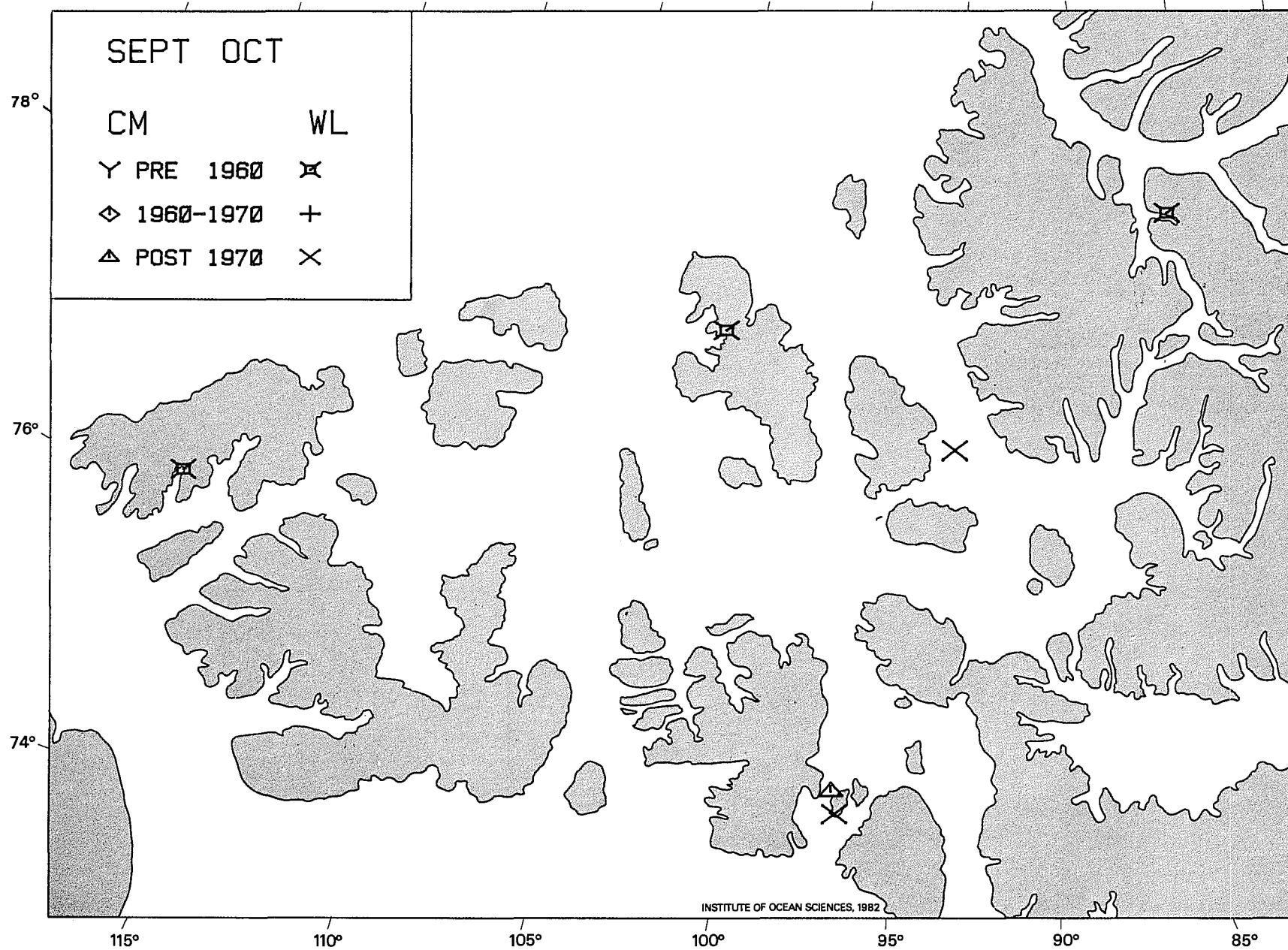


Figure 16a: The locations of all current meter and water level stations in place during the September-October period, all years.

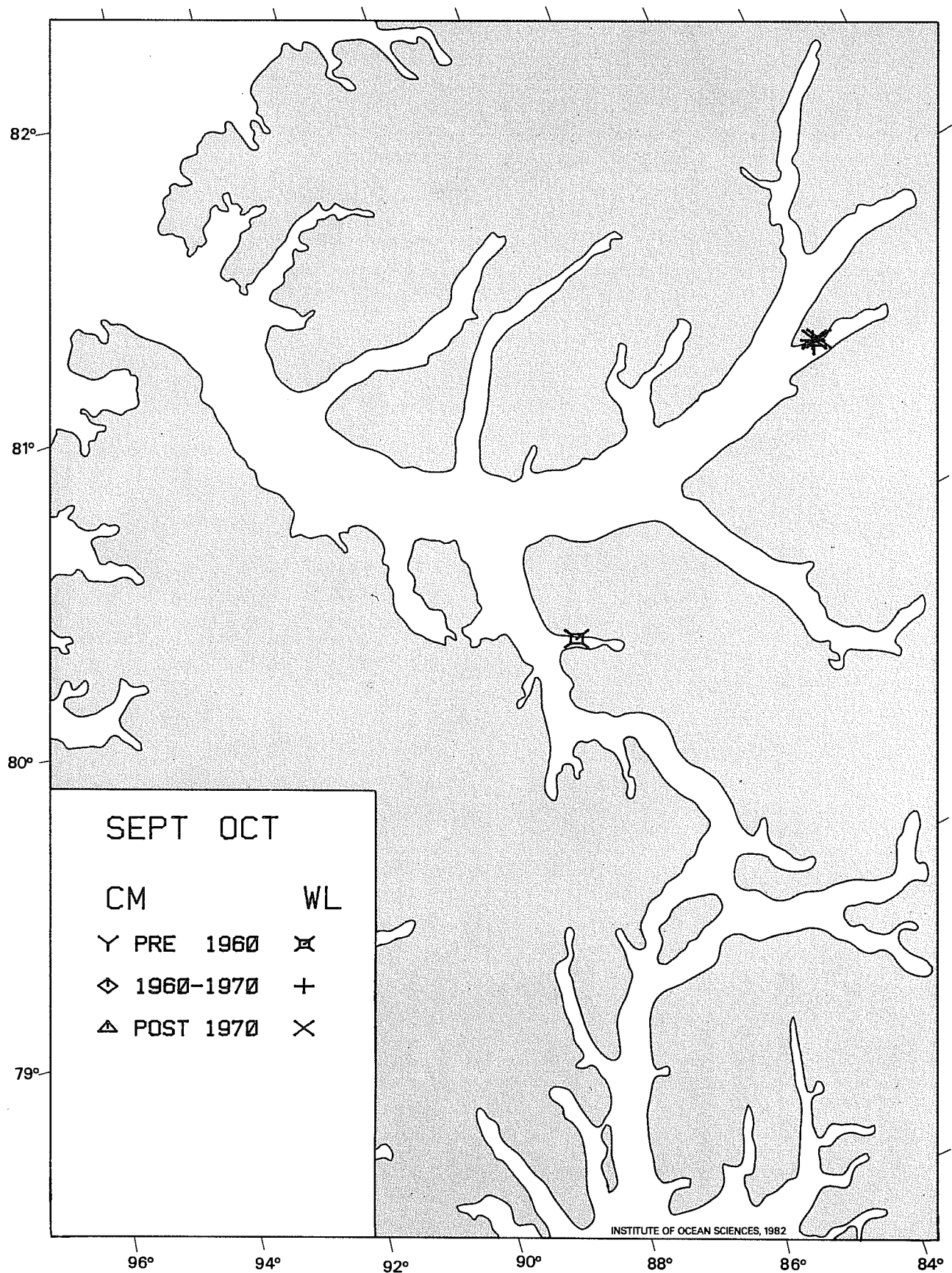


Figure 16b: The locations of all current meter and water level stations in place during the September-October period, all years.

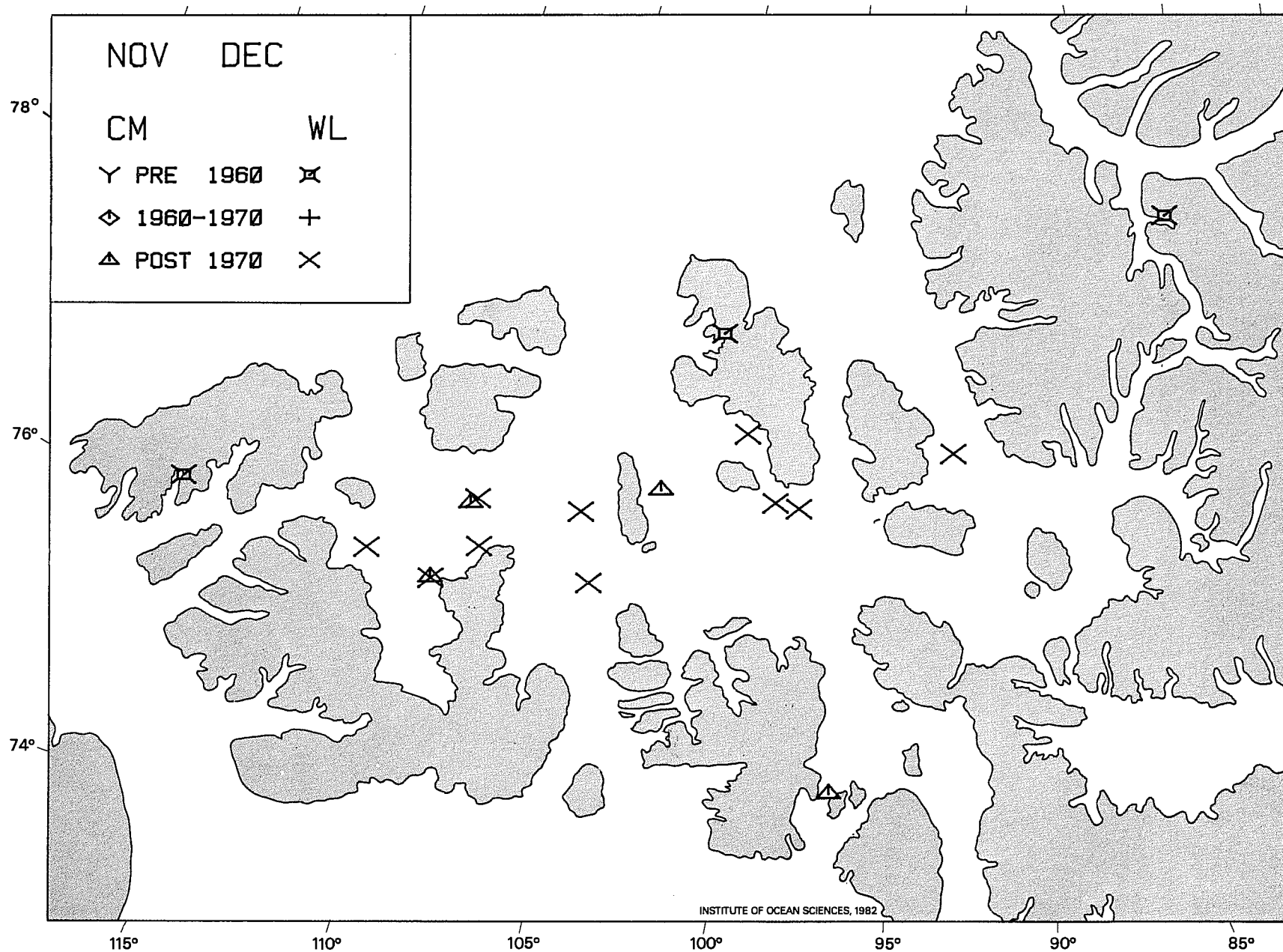


Figure 17a: The locations of all current meter and water level stations in place during the November-December period, all years.

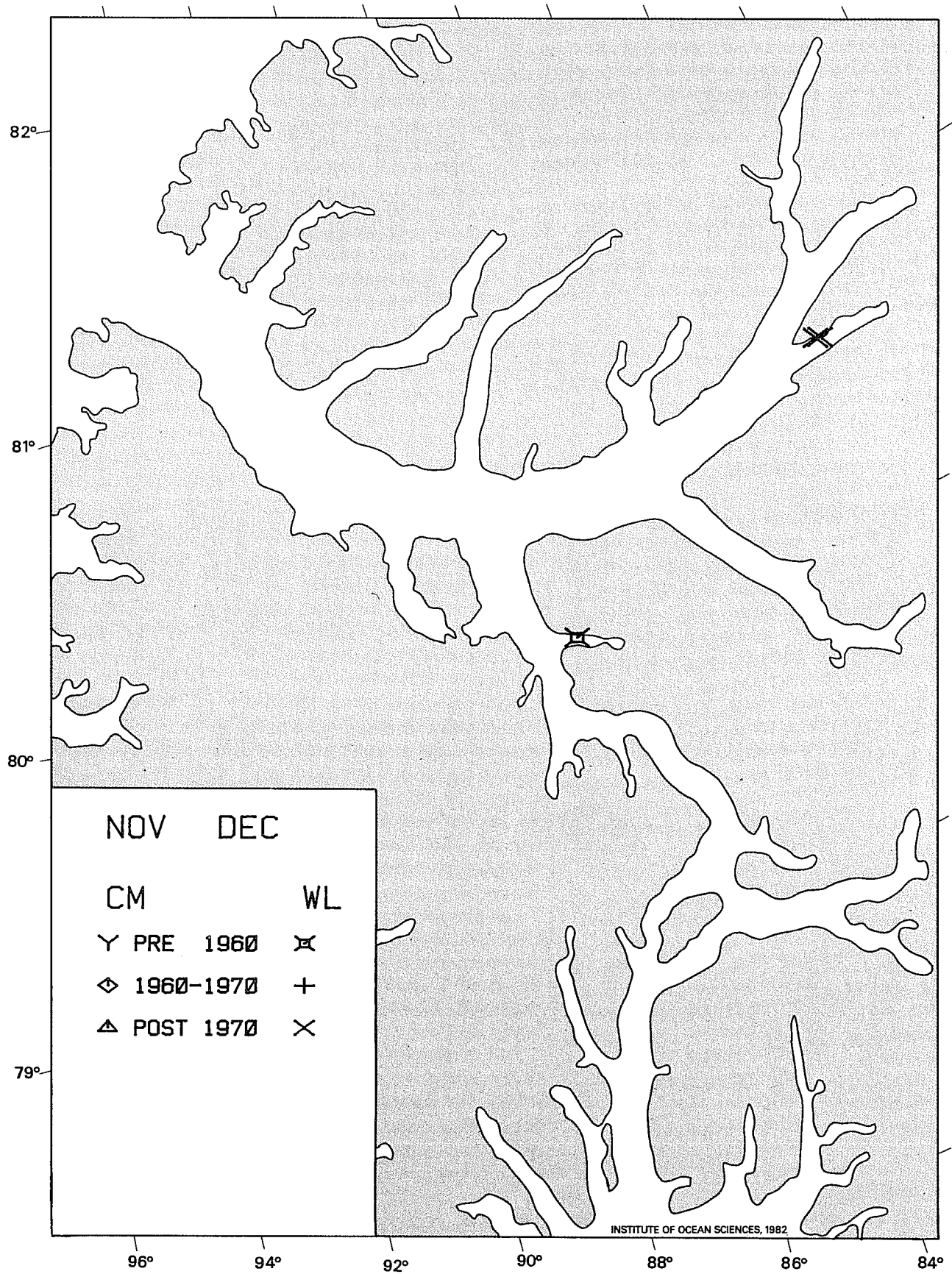


Figure 17b: The locations of all current meter and water level stations in place during the November-December period, all years.

EXTENDED TIME SERIES

Repeated measurements in the same area may allow long-term trends to be detected and levels of variability to be estimated. Repeated temperature and salinity measurements have been made in several areas. The table below lists the areas in which extended time series are available.

| Nansen Sound/ Eureka Sound | | Wellington Channel/ Queens Channel | | Norwegian Bay/ Belcher Channel | Byam Martin Channel |
|-------------------------------|---------|---------------------------------------|--|-----------------------------------|------------------------|
| 48-0001 | 67-0005 | 57-0003 | | 52-0003 | 54-0001 |
| 52-0003 | 69-0014 | 60-0005 | | 61-0003 | 61-0003 |
| 61-0003 | 69-0015 | 61-0003 | | 62-0006 | 62-0006 |
| 62-0005 | 70-0017 | 62-0006 | | 67-0002 | 64-0004 |
| 62-0006 | 71-0015 | 67-0002 | | 68-0001 | 76-0017 |
| 63-0010 | 73-0013 | 68-0001 | | | 78-0012 |
| 64-0008 | 74-0025 | 73-0008 | | | |
| 65-0005 | 75-0039 | 73-0006 | | | |
| 66-0010 | 76-0018 | 78-0012 | | | |
| 67-0002 | 77-0019 | 81-0007 | | | |

6.4 CONCLUSIONS

This catalogue of physical oceanographic data for the Queen Elizabeth Islands allows oceanographers and others to determine the coverage and quality of data pertaining to their areas of interest. The inventory at present contains 86 data sets which have been collected primarily by the oil industry and government agencies. Much of the data consists of temperature/salinity data collected largely since 1960 and current meter time series data commencing in 1974.

Most of the data collection was carried out from January to June using sea-ice as a measurement platform. For only a very limited portion of the study area, in the southeastern channels, have ship-based operations been possible in most years.

Throughout the study area, there is a pronounced lack of data in the summer and autumn months. An analysis of the one available year-long record of currents obtained in the entire area (at a near-bottom site in Crozier Strait, 1977-1978), suggests that there may be a seasonal variation in the circulation of the southern channels: a pronounced increase in the levels of the weekly averaged flow speeds occurred from October to January with weaker net flows during the remainder of the year (Greisman and Lake, 1978). Long-term meter measurements, over a period of a year or more, are required in other areas of the region to see if this same pattern of circulation variability exists.

In the course of preparing this inventory, it was noted that, for many of the data sets, information concerning key parameters was missing or uncertain in the available documentation. Often information as to the measurement, location or depth, time zone of recorded times and calibration procedures were lacking. For example, 27 of the 86 data sets received a rating of 2 due to the absence of essential documentation. Anyone interested in using these data should check directly with the collecting agency and attempt to determine collecting techniques and the quality of the data sets.

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8. DATA INVENTORY TABLE

Table 1 presents a summary listing of the data sets included in this inventory. The table lists all the data contained in the inventory sequentially by data set number. Water property, moored current meter, surface drift and water level data are fully catalogued. BT data, because of their limited usefulness in Arctic waters without accompanying salinity data, have not been catalogued in detail. However their existence has been noted in Table 1, and their general distribution may be deduced from the pattern of stations for a particular cruise, as they were usually collected at and along the track between stations. Over-the-side current measurements of short duration made with fixed-depth or profiling current meters have not been fully inventoried. Attempts were made to include all such data covering a tidal cycle or more.

Each column of the table contains the following information (symbols and abbreviations used in each column are explained as well):

Column 1 - Data Set I.D.

- contains the data set identifier number, which is of the form yy-nnnn, where yy is the last two digits of the year in which the data set was collected, and nnnn is the sequential number of the data set for that particular year. (The series of data set numbers applies to the whole set of inventories; gaps may appear in the sequence in any one inventory where data sets exist only in other areas or disciplines. A data set which appears in two or more areas or disciplines will have the same number in every case.) Data sets may be sub-divided by the addition of a letter at the end of the number. Sub-divisions apply only within this report and are used to separate specific types of physical oceanographic data within a single cruise or study.

Column 2 - Ship or collecting agency

- contains the name of the ship (underlined), platform and/or agency.

Column 3 - Dates of measurements

- gives the dates spanning the period during which measurements were taken in the area covered by the inventory. The year is given by the first two digits of the data set number in column 1, unless the measurement period spans the end of a year, in which case it is given explicitly. Question marks mean the dates could not be confirmed, generally due to poor/lack of documentation.

Column 4 - Quantity measured

- lists the physical parameters measured in the data set. A quantity followed by a ? means that reference to such a measurement was made but no supporting details. Measurements identified as "Currents" are Eulerian, fixed current measurements; "Current drift" refers to Lagrangian measurements. Current profiles are spot measurements at certain depths.

Column 5 - Instruments or methods used

- lists the instruments and methods used to make the measurements. The entries appear opposite the names (in column 3) of the quantities they measure. A question mark after the entry denotes an assumption, i.e. that the method used was not explicitly stated and an assumption was made from standard practice at the time. A question mark alone means that the instrument used is unknown.

Column 6 - Estimate of data precision and accuracy

- lists the estimates of the precision (repeatability) and accuracy for each instrument opposite the entry for that instrument in column 5. For instruments of a digital nature, the precision specified is based on the resolution of the instrument. Where possible, estimates made by the original investigators are used. They are entered as two numbers of the form $\pm n_1, \pm n_2$ where n_1 is the precision and n_2 the accuracy. Where investigator's estimates were not available, the following special symbols and entries have been used:

$\pm n_1, \pm n_2$: standard oceanographic methods were used, which would normally result in these values. The techniques and precision/accuracy used in this context are:

| | |
|---------------------------------|----------------------|
| BT | [0.2C°, 0.2C°] |
| Reversing thermometer | [0.02C°, 0.03C°] |
| Salinity - Hydrometer | [0.2°/oo, 0.2°/oo] |
| Salinity - Refractometer | [0.5°/oo, 0.5°/oo] |
| Salinity - Titration | [0.02°/oo, 0.04°/oo] |
| Salinity - Bench salinometer | [0.01°/oo, 0.02°/oo] |

$\pm n_1$ @: manufacturer's specifications for that instrument.

$\pm n_1$?: an estimate has been given which is questionable for reasons detailed in Appendix 1.

The column is blank where no information was available and no reasonable assumption could be made.

Column 7 - Data rating number

- carries the data rating number assigned as explained in Section 5.

Column 8 - Area

- lists the sub-areas in which the majority of the measurements in the data set were taken. (The sub-areas are defined in Figure 1.)

Column 9 - Concurrent measurements

- lists known measurements in other disciplines taken as part of the data set. Other measurements may have been taken which were not discovered while cataloguing the physical oceanographic data.

Column 10 - Source or reference

- lists a primary source or reference for the data sets. Data sets held in the data banks at the Marine Environmental Data Centre, Ottawa or at the National Oceanographic Data Center, Washington D.C. are identified, respectively by the entries MEDS# and NODC# followed by the data bank's identity number. A MEDS number alone does not necessarily mean that the data are not stored at NODC. If MEDS does not have the data then a NODC number is given if stored there. Appendix 2 lists addresses and contacts for these sources.

TABLE 1: SUMMARY LISTING OF DATA SETS

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|---|------------------------------|-------------------|---------------------------------------|---|--------------------|---|---|---|
| 48-0001 | USCGC <u>EASTWIND</u> WOODS HOLE OCEAN. INST. FOR U.S. NAVY HYDRO. OFF. | Aug. 29 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Eureka Sound | | NODC# 31EW50376 Metcalf (1949) |
| | | | Salinity | BT Knudsen titration | [.2C°, .2C°] [.02°/oo, .04°/oo] | | | | |
| 49-0001 | CANADIAN HYDROGRAPHIC SERVICE | Aug.1,1949- Aug.31,1951 | Water levels | ? | ? | 2 | (Isachsen) Prince Gustaf Adolf Sea | | MEDS WL-ID 06910 |
| 51-0007 | CANADIAN HYDROGRAPHIC SERVICE | July 1,1951- Aug.31,1952 | Water levels | ? | ? | 2 | (Mould Bay) Crozier Channel | | MEDS WL-ID 06955 |
| 52-0003 | USS <u>EDISTO</u> | Aug.17-19 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Norwegian Bay, Eureka Sound | O ₂ ,water transparency, vertical plankton tows | MEDS# 180052040 USNHQ (1954) Pub. 618-A NODC# 31ED50368 |
| | | | Salinity | BT Knudsen titration? | [.2C°, .2C°] [.02°/oo, .04°/oo] | | | | |
| 54-0001 | HMCS <u>LABRADOR</u> | Aug. 18-25 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Wellington Channel, Byam Channel | O ₂ ,plankton hauls,bottom samples, phosphates | MEDS# 180354189, MEDS# 180054040 Bailey (1955) Bailey (1957) |
| | | | Salinity | BT Knudsen titration | [.2C°, .2C°] [.02°/oo, .04°/oo] | | | | |
| 54-0010 | CANADIAN HYDROGRAPHIC SERVICE | July 1,1954- Aug. 31,1958 | Water levels | ? | ? | 2 | Eureka Sound, (Isachsen) Prince Gustaf Adolf Sea | | MEDS# WL-ID 06640, 06910 |
| 57-0003 | CCGS <u>LABRADOR</u> MCGILL UNIV., MONTREAL | Aug. 28- Sept. 17 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Wellington Channel, Queens Channel, Penny Strait | O ₂ , phosphates | MEDS# 180357244 MEDS# 180057040 Collin (1962) |
| | | | Salinity | Knudsen titration? | [.02°/oo, .04°/oo] | | | | |
| 59-0004 | CANADIAN HYDROGRAPHIC SERVICE | Mar. 1- Apr. 30 | Water levels | ? | ? | 2 | (Isachsen) Prince Gustaf Adolf Sea | | MEDS WL-ID 06910 |
| 60-0005 | CCGS <u>LABRADOR</u> | Aug. 30 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Wellington Channel | Plankton | MEDS# 181060340 MEDS# 180060001 CODC (1964) No. 18 |
| | | | Salinity | BT Knudsen titration | [.2C°, .2C°] [.02°/oo, .04°/oo] | | | | |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|---------------------------------------|-----------------------|-------------------|--|---|--------------------|---|---|---|
| 60-0007 | AIRCRAFT POLAR SHELF PROJECT | Apr. 18-May 31 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Sverdrup Channel, Peary Channel, Prince Gustaf Adolf Sea | O ₂ , plankton hauls, sediment cores | MEDS# 181160338 MEDS# 180060040 Collin (1961) |
| | | | Salinity | BT Knudsen titration? | [.2C°, .2C°] [.02°/oo, .04°/oo] | | | | |
| 61-0003 | CCGS SIR JOHN A. MACDONALD | Aug. 24-Sept. 9 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Wellington Channel, Byam Channel, Austin Channel, Norwegian Bay, Queens Channel | | MEDS# 180761344 MEDS# 180061003 MEDS# 180061072 CODC (1966) Barber and Huyer (1971) |
| | | | Salinity | Salinometer | [.02°/oo, .04°/oo] | | | | |
| 61-0004 | CCGS LABRADOR | Sept. 7 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Wellington Channel | O ₂ , plankton tows | MEDS# 181061341 MEDS# 180061001 MEDS# 180061072 CODC (1966) |
| | | | Salinity | Salinometer | [.02°/oo, .04°/oo] | | | | |
| 61-0005 | AIRCRAFT, POLAR SHELF PROJECT | May 8 | Temperature | Reversing thermometers | [.02C°, .03C°] | 2 | Eureka Sound | | MEDS# 180161339 |
| | | | Salinity | Salinometer? | [.01°/oo, .02°/oo] | | | | |
| 61-0009 | ICE CAMP, PACIFIC OCEANOGRAPHIC GROUP | Apr. 13-May 3 | Temperature | Reversing thermometers | .01C°, [.03C°] | 3 | Prince Gustaf Adolf Sea | O ₂ , vertical plankton hauls, acoustics | MEDS# 180961763 Herlinveaux (1961) |
| | | | Salinity | BT | [.2C°, .2C°] | | | | |
| | | | Current meter | Salinometer E-M Induction meter | [.01°/oo, .02°/oo] ? | | | | |
| 62-0005A | LAND BASED ARCTIC UNIT, MONTREAL | July 17 | Temperature | Reversing thermometers | [.02C°, .03°] | 3 | Penny Strait | Plankton, fish, mammals, chemicals | MEDS# 180462363 MEDS# 180062004 |
| | | | Salinity | BT Salinometer? | [.2C°, .2C°] [.01°/oo, .02°/oo] | | | | |
| 62-0005B | LAND-BASED ARCTIC UNIT, MONTREAL | July 2-Aug. 16 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | (Slidre Fiord) Nansen Sound, (Strand Fiord) Massey Sound | Plankton, fish, mammals, chemicals | MEDS# 180462364 MEDS# 180062004 CODC (1963) |
| | | | Salinity | BT Salinometer? | [.2C°, .02C°] [.01°/oo, .02°/oo] | | | | |
| 62-0006 | CCGS SIR JOHN A. MACDONALD | Aug. 7-31 | Temperature | Reversing thermometers | .02C°, [.03C°] | 3 | Wellington Channel, Norwegian Bay, Penny Strait, Austin Channel | O ₂ , vertical plankton hauls | MEDS# 181062359 MEDS# 180062086 Barber and Huyer (1971) CODC (1966b) |
| | | | Salinity | BT Salinometer | [.2C°, .2C°] .004°/oo, [.02°/oo] | | | | |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|--|-----------------------|-------------------|--|---|--------------------|----------------------------|---|---|
| 62-0013 | CANADIAN HYDROGRAPHIC SERVICE | July 1-31 | Water levels | ? | ? | 2 | Queens Channel | | MEDS WL-ID 06765 |
| 63-0010 | MOTOR TOBOGGAN, FREIGHT CANOE, DEFENCE RESEARCH ESTABLISHMENT OTTAWA | May 26-Aug. 18 | Temperature | Reversing thermometers BT | [.02C°, .03C°] | 3 | Nansen Sound | Botany, glaciology | MEDS# 180763001 CODC (1969) Ford and Hattersley-Smith (1965) Hattersley-Smith (1964) |
| | | | Salinity | Salinometer? | [.01°/oo, .02°/oo] | | | | |
| | | | Water levels | Staff | ? | | | | |
| 64-0004 | CCGS SIR JOHN A. MACDONALD | Aug. 28-Sept. 3 | Temperature | Reversing thermometer | [.02C°, .03C°] | 2 | Byam Channel | | MEDS# 180264008 |
| | | | Salinity | Salinometer? | [.01°/oo, .02°/oo] | | | | |
| 64-0005 | ICE CAMP, PACIFIC OCEANOGRAPHIC GROUP | Feb. 3-19 | Temperature | Reversing thermometers BT | [.02C°, .03C°] | 3 | Prince Gustaf Adolf Sea | Vertical plankton hauls, acoustics | Herlinveaux (1965) |
| | | | Salinity | Salinometer | [.01°/oo, .02°/oo] | | | | |
| 64-0008 | MOTOR TOBOGGAN, FREIGHT CANOE, DEFENCE RESEARCH ESTABLISHMENT OTTAWA | May 8-Aug. 25 | Temperature | Reversing thermometers BT | [.02C°, .03C°] | 3 | Nansen Sound | O ₂ , vertical plankton hauls, botany, glaciology, ice physics | MEDS# 180764001 MEDS WL-ID 06680 CODC (1969) Ford and Hattersley-Smith (1965) Hattersley-Smith (1967) |
| | | | Salinity | Salinometer? | [.01°/oo, .02°/oo] | | | | |
| 65-0005 | MOTOR TOBOGGAN, FREIGHT CANOE, DEFENCE RESEARCH ESTABLISHMENT OTTAWA | May 11-Aug. 16 | Temperature | Reversing thermometers BT | [.02C°, .03C°] | 3 | Nansen Sound, Eureka Sound | | MEDS# 180765001 CODC (1969) |
| | | | Salinity | Salinometer? | [.01°/oo, .02°/oo] | | | | |
| 66-0010 | MOTOR TOBOGGAN, FREIGHT CANOE, DEFENCE RESEARCH ESTABLISHMENT OTTAWA | May 1-July 18 | Temperature | Reversing thermometers BT | [.02C°, .03C°] | 3 | Nansen Sound | | MEDS# 180766001 CODC (1969) |
| | | | Salinity | Salinometer | [.01°/oo, .02°/oo] | | | | |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|--|-----------------------|-------------------|--|---|--------------------|---|---|--|
| 67-0002 | CCGS LABRADOR PACIFIC OCEANOGRAPHIC GROUP | Aug. 22-Sept. 9 | Temperature | Reversing thermometers | [0.02C°, .03C°] | 3 | Wellington Channel, Norwegian Bay, Eureka Sound, Nansen Sound | Sediment cores, deuterium | MEDS# 180267013 CODC (1968) Herlinveaux (1974) Redfield and Friedman (1969) |
| | | | | CTD | ? | | | | |
| | | | | BT | [.2C°, .2C°] | | | | |
| | | | Salinity | Salinometer | [.01°/oo, .02°/oo] | | | | |
| | | | | CTD | ? | | | | |
| | | | Currents | Hydroproducts | ?, [+2] (speed) ?, [+10] (direction) | | | | |
| 67-0005 | MOTOR TOBOGGAN, FREIGHT CANOE, DEFENCE RESEARCH ESTABLISHMENT OTTAWA | Apr. 19-Aug. 20 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Nansen Sound, Eureka Sound | | MEDS# 180767002 |
| | | | | BT? | [.2C°, .2C°] | | | | |
| | | | Salinity | Salinometer? | [.01°/oo, .02°/oo] | | | | |
| 68-0001 | CCGS LABRADOR | Aug. 18-Sept. 16 | Temperature | Reversing thermometers | [.02C°, .03C°] | 3 | Wellington Channel, Norwegian Bay | O ₂ , flora & fauna observations from submersible, beach walks | MEDS# 180268013 Herlinveaux (1970) |
| | | | | BT | [.2C°, .2C°] | | | | |
| | | | Salinity | Salinometer | [.01°/oo, .02°/oo] | | | | |
| 68-0008 | CANADIAN HYDROGRAPHIC SERVICE | May 1-Sept. 30 | Water levels | ? | ? | 2 | Nansen Sound, McDougall Sound, Byam Channel | | ID 06660/06680/06757 06833/06834 MEDS file C81173B01 |
| 69-0014 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | Mar. ?-Apr. ? | Temperature | Guildline 8101 CTD | [.01C°], .02C° | 1 | (d'Iberville Fiord) | | Lake and Walker (1973) |
| | | | | Thermistors | ?, .01C° | | | | |
| | | | Salinity | Guildline CTD | [.01°/oo], .04°/oo | | Nansen Sound | | |
| 69-0015 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | Aug. 12-Sept. 19 | Temperature | Thermistors | ?, .01C° | 2 | (d'Iberville Fiord) | | MEDS# 180696670 |
| | | | Salinity | Salinometer? | [.01°/oo, .02°/oo] | | | | Lake and Walker (1973) |
| | | | Currents | ? | ? | | Nansen Sound | | MEDS ID 06670 |
| | | | Water levels | Ottboro recorder | ? | | | | |
| 69-0016 | CANADIAN HYDROGRAPHIC SERVICE | Aug. 1-31 | Water levels | ? | ? | 2 | Byam Channel | | MEDS WL-ID 06835 |
| 70-0017 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | Mar. 12-Apr. 7 | Temperature | Guildline CTD | [.01C°], .02C° | 2 | (d'Iberville Fiord) | | Lake and Walker (1973) |
| | | | | Thermistors | ?, .01C° | | | | |
| | | | Salinity | Guildline CTD | [.01°/oo], .04°/oo | | Nansen Sound | | |
| | | | Water levels | Ottboro recorder | ? | | | | |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|---|-----------------------|---|--|---|--------------------|-------------------------------------|------------------------------|--|
| 70-0018 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | Aug. 15-Oct. 4 | Temperature Salinity Water levels | Thermistor chains Salinometer Ottboro recorder | ?, .01C° [.01°/oo, .02°/oo] ? | 2 | (d'Iberville Fiord) Nansen Sound | | Lake and Walker (1973) |
| 70-0019 | UNKNOWN | May 18-June 1 | Temperature Density | ? | ? | 2 | Sverdrup Channel | | Serson (1974) |
| 71-0015 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | Mar. 17-31 | Temperature Salinity | Guildline CTD | [.01C°], .02C° [.01°/oo], .04°/oo | 2 | (d'Iberville Fiord) Nansen Sound | | Lake and Walker (1973) |
| 72-0023 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | Aug. 20 Dec. 31 | Temperature Water levels | Thermistor Chains FSRG gauge | ?, .01C° 0.004 m, 0.02 m | 2 | (d'Iberville Fiord) Nansen Sound | | Frozen Sea Research Group, Institute of Ocean Sciences |
| 72-0024 | UNKNOWN | May 7 | Salinity | ? | ? | 2 | Sverdrup Channel | | Serson (1974) |
| 73-0006 | ICE CAMP, INSTITUTE OF OCEAN SCIENCES | Apr. 23 | Temperature Salinity | Guildline 8101/8202 CTD | + .01C°, + .03C° + .01°/oo, + .04°/oo | 3 | Wellington Channel | Silicate, nitrate, phosphate | Herlinveaux et al. (1978) |
| 73-0008 | SIR WILLIAM ALEXANDER INSTITUTE OF OCEAN SCIENCES | Aug. 28 | Temperature Salinity | Guildline 8101/8202 CTD | + .01C°, + .04C° + .01°/oo, + .1°/oo | 3 | Wellington Channel | Silicate, nitrate, phosphate | Herlinveaux et al. (in preparation) |
| 73-0012 | UNKNOWN | May 14-17 | Currents | Marsh-McBirney electromagnetic? | ? | 2 | Sverdrup Channel, (Rens Fiord) | | Serson (1974) |
| 73-0013 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | Mar. 31-Apr. 21 | Temperature Salinity Water levels | Guildline 8101A CTD FSRG gauge | + .001C°, + .01C° + .001°/oo, + .02°/oo .004 m, .02 m | 4 2 | (d'Iberville Fiord) Nansen Sound | O ₂ | Frozen Sea Research Group (1973) |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|--|-----------------------|-------------------------------------|--|--|--------------------|--|-------------------------|----------------------------------|
| 73-0014 | CANADIAN HYDROGRAPHIC SERVICE | Apr. 1-May 31 | Water levels | ? | ? | 2 | (Surprise Fiord) Norwegian Bay | | ID 06600 MEDS file C81173B01 |
| 73-0015 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP | June 1-June 19, 1974 | Water levels Temperature | FSRG gauge Thermistor | .004 m, .02 m [?, .01C°] | 2 | (d'Iberville Fiord) Nansen Sound | River runoff | Lake and Walker (1976) |
| 74-0018 | LAND-BASED CAMP, BEAK CONSULTANTS FOR PANARCTIC OILS | June 22-July 8 | Temperature Salinity Currents | ? ? ? | ? ? ? | 2 | Edinburgh Sea, Maclean Strait | | Beak Consultants Ltd. (1974) |
| 74-0025 | TRACKED VEHICLE, SMALL VESSEL, FROZEN SEA RESEARCH GROUP | Mar. 30-Aug. 25 | Temperature | Guildline 8101A | $\pm .001\text{C}^\circ, \pm .01-.05\text{C}^\circ$ | 4 | (d'Iberville Fiord) Nansen Sound | | Frozen Sea Research Group (1975) |
| | | | Salinity Currents | CTD Aanderaa | $\pm .001^\circ/\text{oo}, \pm .005-.05^\circ/\text{oo}$?, [+1] (speed) ? (direction) | 2 | | | Lake and Walker (1976) |
| | | Mar. 28-June 19, 1975 | Water levels | FSRG guauge | .004 m, .02 m | 2 | | | |
| 75-0016 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | June 1-July 30 | Temperature | Aanderaa C.M. Interoccean CTD | [$\pm .02\text{C}^\circ, \pm .15\text{C}^\circ$] [$\pm .02\text{C}^\circ$], ? | 1 | Hazen Strait, Fitzwilliam Strait, Hecla and Griper Bay | | Beak Consultants Ltd. (1976a) |
| | | | Salinity | Aanderaa C.M. Interoccean CTD | [$\pm .1^\circ/\text{oo}$], ? [$\pm .02^\circ/\text{oo}$], ? | | | | |
| | | | Currents | Aanderaa RCM-4 | ? [+1] (speed) ? (direction) | 1 | | | |
| 75-0017 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | Mar. 3-June 17 | Temperature | ? | ? | | Byam Martin Channel | | Beak Consultants (1976b) |
| | | | Salinity | ? | ? | 2 | | | |
| | | | Currents | Aanderaa RCM-4 | ?, [+1] (speed) ? (direction) | 3 | | | |
| | | | Water levels | ? | ? | 2 | | | |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|---|-----------------------------|---|---|--|----------------------|---|-------------------------|---|
| 75-0018 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | Jan. 30- July 6 | Temperature Salinity Currents | Interocean CTD Aanderaa RCM-4 | [+.02C°],? [+.02°/oo],? ?,[+1] (speed) ? (direction) | 1 | MacLean Strait, Desbarats Strait, Hazen Strait | | Beak Consultants (1976c) |
| 75-0019 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | Mar. 2- Apr. 12 | Temperature Salinity Currents | Beckman RS5-3 CTD Cushing | ?,[+.1C°] ?,[+.3°/oo] ? | 2 2 | East Sabine Peninsula | | Beak Consultants (1975b) |
| 75-0020 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | Nov.23,1975- Feb.29,1976 | Currents Temperature Salinity Water levels | Aanderaa Aanderaa Stephen | ?,[+1] (speed) ? (direction) ?,[+.15C°] [+.1°/oo],? ? | 3 1 1 | Hecla and Griper Bay | | Beak Consultants (1976d) |
| 75-0021 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | Dec.13,1975- Apr.21,1976 | Currents Temperature Salinity Water levels | Cushing, Aanderaa Aanderaa Stephen | ? ?,[+1] (speed) ? (direction) ?, [+.15C°] [+.1°/oo], ? ? | 1 3 1 1 | (Danish Strait) Maclean Strait | | Beak Consultants (1976e) |
| 75-0022 | INNOVATIVE VENTURES FOR PANARCTIC OIL LTD. | Dec.4,1975- May 29,1976 | Currents Temperature Salinity Water levels | Cushing Aanderaa Stephen | ? [+.02C°, .15C°] [+.1°/oo],? ? | 2 2 1 | Hazen Strait, MacLean Strait, Prince Gustaf Adolf Sea | Ice motion | Innovative Ventures (1976) |
| 75-0023 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | July 10-16 | Temperature Salinity | Beckman RS5-3 CTD | ?,[+.1C°] ?,[+.3°/oo] | 1 | Danish Strait, MacLean Strait | | Beak Consultants (1975a) |
| 75-0039 | LAND-BASED CAMP, FROZEN SEA RESEARCH GROUP, INSTITUTE OF OCEAN SCIENCES | Mar. 28- June 12 | Temperature Salinity Currents Current profiles Water levels | Guildline 8101A CTD Aanderaa Ultrasonic Christian Michelsen C.M. FSRG gauge | + .001C°, +.005-.1C° +.001°/oo, +.01-.02°/oo ?,[+1] (speed) ? (direction) ?,+.25 (speed) ?,+10 (direction) .004 m, .02 m | 4 2 2 2 | (d'Iberville Flord) Nansen Sound | O ₂ | Frozen Sea Research Group (1976a) Lake and Walker (1976) |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|--|-----------------------------|-------------------|--|---|--------------------|--|--|---|
| 75-0040 | CANADIAN HYDROGRAPHIC SERVICE | Aug.1,1975- Aug.31,1976 | Water levels | ? | ? | 2 | Byam Channel | | MEDS WL-ID 06835 |
| 76-0014 | BEAK CONSULTANTS FOR PANARCTIC OILS LTD. | Jan. 15- Apr. 17 | Currents | Aanderaa | ?,[+1] (speed) ? (direction) | 0 | Hecla and Griper Bay | | Beak Consultants (1976f) |
| | | | Temperature | Aanderaa | [+0.02C°, +0.15C°] | 1 | | | |
| | | | Salinity | | [+0.1°/oo],? | | | | |
| | | | Water levels | Stephen | ? | | | | |
| 76-0015 | INNOVATIVE VENTURES FOR PANARCTIC OILS LTD. | May 15- June 16 | Currents | Aanderaa | ?,[+1] (speed) ? (direction) | 2 | Arnot Strait Erskine Inlet | | Innovative Ventures (1976) |
| 76-0016 | OCEAN AND AQUATIC SCIENCES, CENTRAL REGION | Mar. 16- May 7 | Currents | Marsh-McBirney, Endeco E.M. | ?,[+1](speed) ?,[+2] (speed) | 3 | Penny Strait, Belcher Channel | | Peck (1977) |
| | | | Temperature | Aanderaa | ?,[+0.05C°] | 3 | | | |
| | | | Salinity | | ?,[+0.15°/oo] | | | | |
| | | | Water levels | Aanderaa | ? | 3 | | | |
| 76-0017 | FROZEN SEA RESEARCH GROUP, INSTITUTE OF OCEAN SCIENCES | Apr.20,1976- Aug.11,1977 | Currents | Aanderaa | ?,[+1] (speed) ?,+5-+7 (direction) | 3 | Byam Channel, Austin Channel | | Greisman and Lake (1978) Frozen Sea Research Group (1976b) Frozen Sea Research Group (1978) |
| | | | Temperature | Guildline | +0.002C°, +0.01C° | 4 | | | |
| | | | Salinity | 8101A | +0.004°/oo, +0.02°/oo | | | | |
| 76-0018 | FROZEN SEA RESEARCH GROUP, INSTITUTE OF OCEAN SCIENCES | Mar. 8-31 | Temperature | Guildline? | +0.002C°, +0.005-+0.01C° | 3 | (d'Iberville Fiord, Greely Fiord) Nansen Sound | O ₂ | Frozen Sea Research Group (1976) |
| | | | Salinity | 8101A | +0.004°/oo, +0.01-+0.02°/oo | | | | |
| | | | Water levels | FSRG gauge | .004 m, .02 m | 2 | | | |
| 76-0019 | PANARCTIC OILS LTD. | Dec.21,1976- Apr.26,1977 | Water levels | ? | ? | 3 | Hecla and Griper Bay | | Van Ieperen (1981) |
| 77-0019 | TRACKED VEHICLES, FROZEN SEA RESEARCH GROUP, INSTITUTE OF OCEAN SCIENCES | Mar.4-27 | Temperature | Guildline | +0.002C°, +0.005C° | 4 | (d'Iberville Fiord) | Nutrients, O ₂ , deuterium, tritium | Frozen Sea Research Group (1977) |
| | | | Salinity | 8101A | +0.004°/oo, +0.01°/oo | | | | |
| | | | Water levels | Aanderaa | ? | 2 | | | |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ? = Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|---|--------------------------|---|---|---|--------------------|---|--|--|
| 77-0022 | INNOVATIVE VENTURES LTD. FOR PANARCTIC OILS LTD. | Mar. 24-May 1 | Currents Temperature Salinity | Aanderaa Aanderaa | ? , [+1] (speed) ? (direction) [+.02C°, +.15C°] [+.1°/oo], ? | 3 3 | Hecla and Griper Bay | | Innovative Ventures Ltd. (1977a) |
| 77-0023 | INNOVATIVE VENTURES LTD. FOR PANARCTIC OILS LTD. | Mar. 2-July 1 | Currents Temperature Salinity | Aanderaa ? ? | ? , [+1] (speed) ? (direction) | 2 2 | Hazen Strait, MacLean Strait | | Innovative Ventures Ltd. (1977b) |
| 77-0024 | PANARCTIC OILS LTD. | Dec.19,1977-Apr.17,1978 | Water levels Currents Temperature Salinity | Stephen Aanderaa Guildline 8705 | ? ? , [+1] (speed) ? | 1 3 3 | Hecla and Griper Bay | | Panarctic Oils Ltd. (1978a) |
| 77-0025 | PANARCTIC OILS LTD. | Nov.5,1977-Apr.17,1978 | Water levels Currents Temperature Salinity | Stephen Aanderaa Guildline 8705 | ? ? , [+1] (speed) ? | 1 3 3 | Hazen Strait | | Panarctic Oils Ltd. (1978b) |
| 77-0026 | TRACKED VEHICLE, FROZEN SEA RESEARCH GROUP, INSTITUTE OF OCEAN SCIENCES | Mar.25,1977-Mar.22,1978 | Currents Temperature Salinity Water levels | Aanderaa Guildline 8101A Aanderaa WLR-4 | ? , [+1] (speed) ? (direction) +.002C°, +.005C° +.004°/oo, +.01°/oo [.002 m, .02 m] | 3 4 3 | Crozier Strait, Pullen Strait | | Frozen Sea Research Group (1977) Greisman and Lake (1978) |
| 77-0033 | PETRO-CANADA | Nov.28,1977-July 18,1978 | Currents | Aanderaa RCM 4 | ? , [+1] (speed) ? (direction) | 0 | Maclean Strait, Hazen Strait, Edinburgh Sea, Prince Gustaf Adolf Sea, West Loughheed Island | Ice motions, wind speed & direction, air temperature | Fissel (1982) |
| 78-0007 | OCEAN AND AQUATIC SCIENCES, CENTRAL REGION | Mar. 15-Apr. 26 | Currents Temperature Salinity | Aanderaa Guildline 8706 | ? , [+1] (speed) ? (direction) [+.0005C°], +.01C° [+.001°/oo], +.01°/oo | 3 | Byam Channel, Austin Channel, McDougall Sound | | Prinsenbergs (1978) Peck (1980a) |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|--|----------------------------|----------------------|--|---|--------------------|---|--|----------------------------------|
| 78-0010 | PANARCTIC OILS LTD. | Jan. 21-Apr. 29 | Currents | Aanderaa | ?, [+1] (speed) ? (direction) | 3 | East Sabine Peninsula | | Van Ieperen (1981) |
| | | | Water levels | ? | ? | 2 | | | |
| 78-0011 | PANARCTIC OILS LTD. | Jan. 23-June 24 | Currents | Aanderaa | ?, [+1] (speed) ? (direction) | 1 | Edinburgh Sea, Norwegian Bay | | Panarctic Oils Ltd. (1979d) |
| 78-0012 | FROZEN SEA RESEARCH GROUP, INSTITUTE OF OCEAN SCIENCES | Mar. 19-July 9 | Currents | Aanderaa | ?, [+1] (speed) ? (direction) | 3 | Wellington Channel, Crozier Strait, Pullen Strait | | Frozen Sea Research Group (1981) |
| | | | Temperature Salinity | Guildline 8101A | +0.002C°, +0.005C° +0.004°/oo, +0.01°/oo | 4 | | | |
| 78-0013 | PANARCTIC OILS LTD. | Dec. 3, 1978-May 3, 1979 | Currents | Aanderaa | ?, [+1] (speed) ? (direction) | 3 | Hazen Strait | | Panarctic Oils Ltd. (1979a) |
| | | | Temperature Salinity | Guildline model 8705 | [+0.0005C°, +0.005C°] [+0.001°/oo, +0.005°/oo] | 3 | | | |
| | | | Water levels | Stephen | ? | 1 | | | |
| 78-0014 | PANARCTIC OILS LTD. | Dec. 19, 1978-Apr. 6, 1979 | Currents | Aanderaa | ?, [+1] (speed) ? (direction) | 3 | Desbarats Strait | | Panarctic Oils Ltd. (1979b) |
| | | | Temperature Salinity | Guildline model 8705 | [+0.005C°, +0.005C°] [+0.001°/oo, +0.005°/oo] | 3 | | | |
| | | | Water levels | Stephen 2A-35 | ? | 1 | | | |
| 78-0016 | PANARCTIC OILS LTD. | Jan. 21-Apr. 29 | Water levels | ? | ? | 2 | Byam Martin Channel | | Van Ieperen (1981) |
| 79-0017 | PETRO-CANADA | Jan. 25-June 22 | Currents | Aanderaa | ?, [+1] (speed) ? (direction) | 2 | Maclean Strait, Hazen Strait, Edinburgh Sea, Prince Gustaf Adolf Sea, West Loughheed Island | Ice motions, wind speed & direction, air temperature | Fissel (1982) |
| 79-0018 | PANARCTIC OILS LTD. | Jan. 9-May 9 | Currents | Aanderaa | ?, [+1] (speed) ? (direction) | 3 | West Loughheed Island | | Panarctic Oils Ltd. (1979c) |
| | | | Temperature Salinity | Guildline model 8705 | [+0.0005C°, +0.005C°] [+0.001°/oo, +0.005°/oo] | 3 | | | |
| | | | Water levels | Stephen, Aanderaa | | 1 | | | |

TABLE 1: SUMMARY LISTING OF DATA SETS (Cont'd)

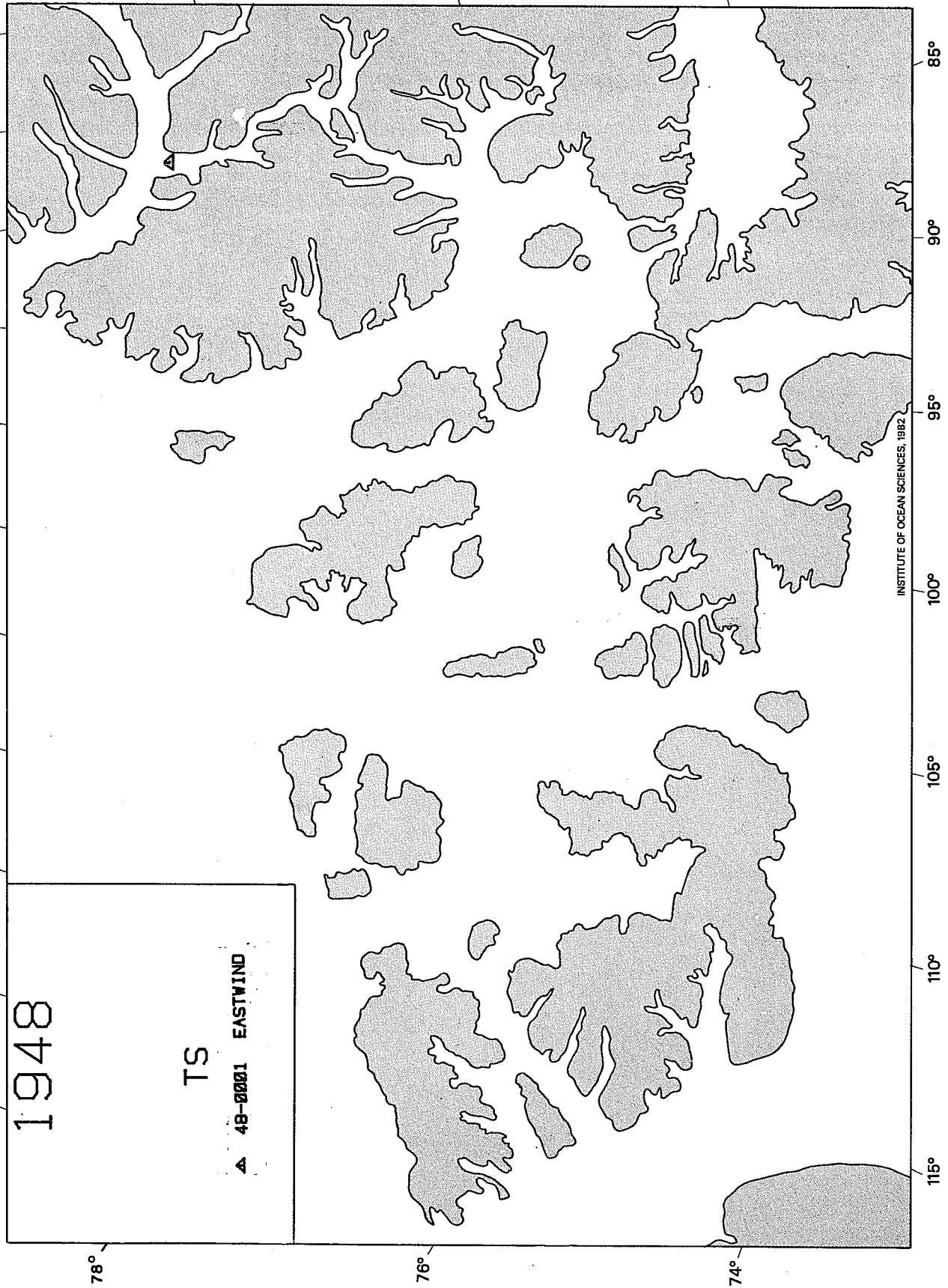
| Data Set I.D. | Ship or collecting agency | Dates of measurements | Quantity measured | Instruments or methods used ?=Unknown | Estimate of Data precision and accuracy | Data rating number | Area | Concurrent measurements | Source or reference |
|---------------|--|----------------------------|---|---|--|--------------------|---|---|---|
| 79-0019 | OCEAN AND AQUATIC SCIENCES CENTRAL REGION | Apr. 3-May 9 | Current meter Temperature Salinity | Aanderaa Guildline model 8706 | ?, [+1] (speed) ? (direction) [+0.0005C°, +.01C°] [+0.001°/oo, +.01°/oo] | 3 | Byam Martin Channel, Hazen Strait, Wilkens Strait, Desbarats Strait | | Peck (1980a) Peck (1980b) |
| 79-0020 | PANARCTIC OILS LTD. | Nov. 11, 1979-May 13, 1980 | Currents Temperature Salinity Water levels | Aanderaa Guildline model 8705 Stephen | ?, [+1] (speed) ? (direction) [+0.0005C°, +.005C°] [+0.001°/oo, +.005°/oo] ? | 3 1 1 | Hazen Strait, West Loughheed Island | | Panarctic Oils Ltd. (1980a) |
| 79-0021 | CANADIAN HYDROGRAPHIC SERVICE | Mar. 1-Apr. 23 | Water levels | Aanderaa WLR-5 or Applied Microsystems TG-12A | [.002, .02 m] | 3 | Hazen Strait, MacLean Strait, Edinburgh Sea, Penny Strait, Belcher Channel, Wellington Channel, | | Canadian Hydrographic Service |
| 79-0022 | PANARCTIC OILS LTD. | Dec. 5, 1979-Apr. 27, 1980 | Currents Temperature Salinity Water levels | Aanderaa Guildline model 8705 Stephen, Aanderaa | ?, [+1] (speed) ? (direction) [+0.0005C°, +.005C°] [+0.001°/oo, +.005°/oo] ? | 0 1 2 | Hazen Strait, Edinburgh Sea | | Panarctic Oils Ltd. (1980b) Van Ieperen (1981) |
| 80-0013 | FROZEN SEA RESEARCH GROUP, INSTITUTE OF OCEAN SCIENCES | Mar. 8-Apr. 12 | Currents | Aanderaa | ?, [+2] (speed) ? (direction) | 3 | (Dundas Island) Queens Channel | Meteorological and turbulent atmospheric fluxes | Topham et al. (1983) |
| 80-0014 | DOBROCKY SEATECH LTD. FOR POLAR GAS | Apr. 10-May 1 | Currents Water levels | Aanderaa Aanderaa WLR5A | ?, [+1] (speed) ? (direction) [.002, .02 m] | 3 | West Loughheed Island | | Juhasz (1980) |
| 80-0015 | CANADIAN HYDROGRAPHIC SERVICE | Mar. 24-Apr. 26 | Water levels | Aanderaa WLR-5 | [.002, .02 m] | 3 | (Stuart Bay) Queens Channel, Wellington Channel | | Canadian Hydrographic Service |

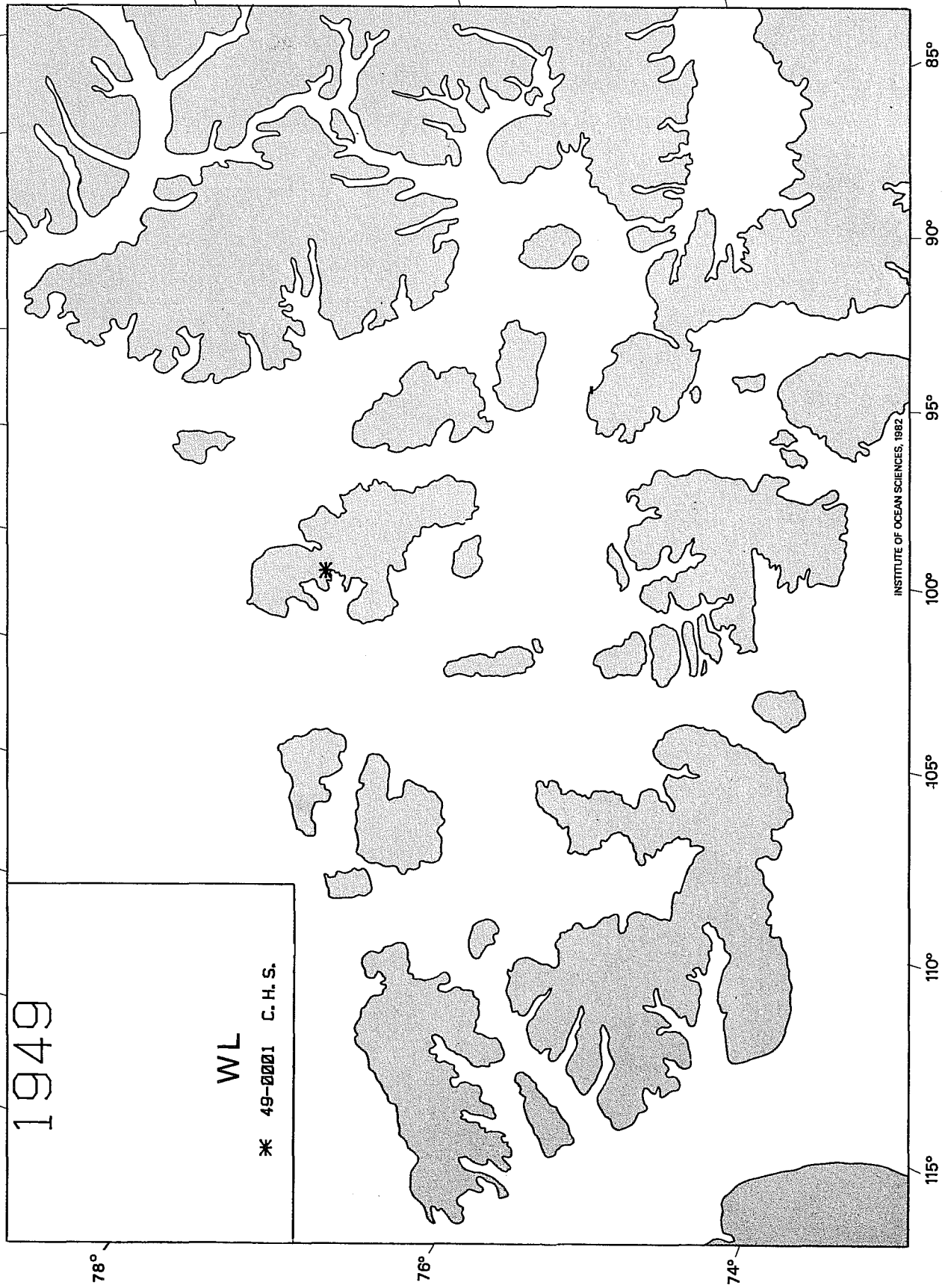
9. MAPS

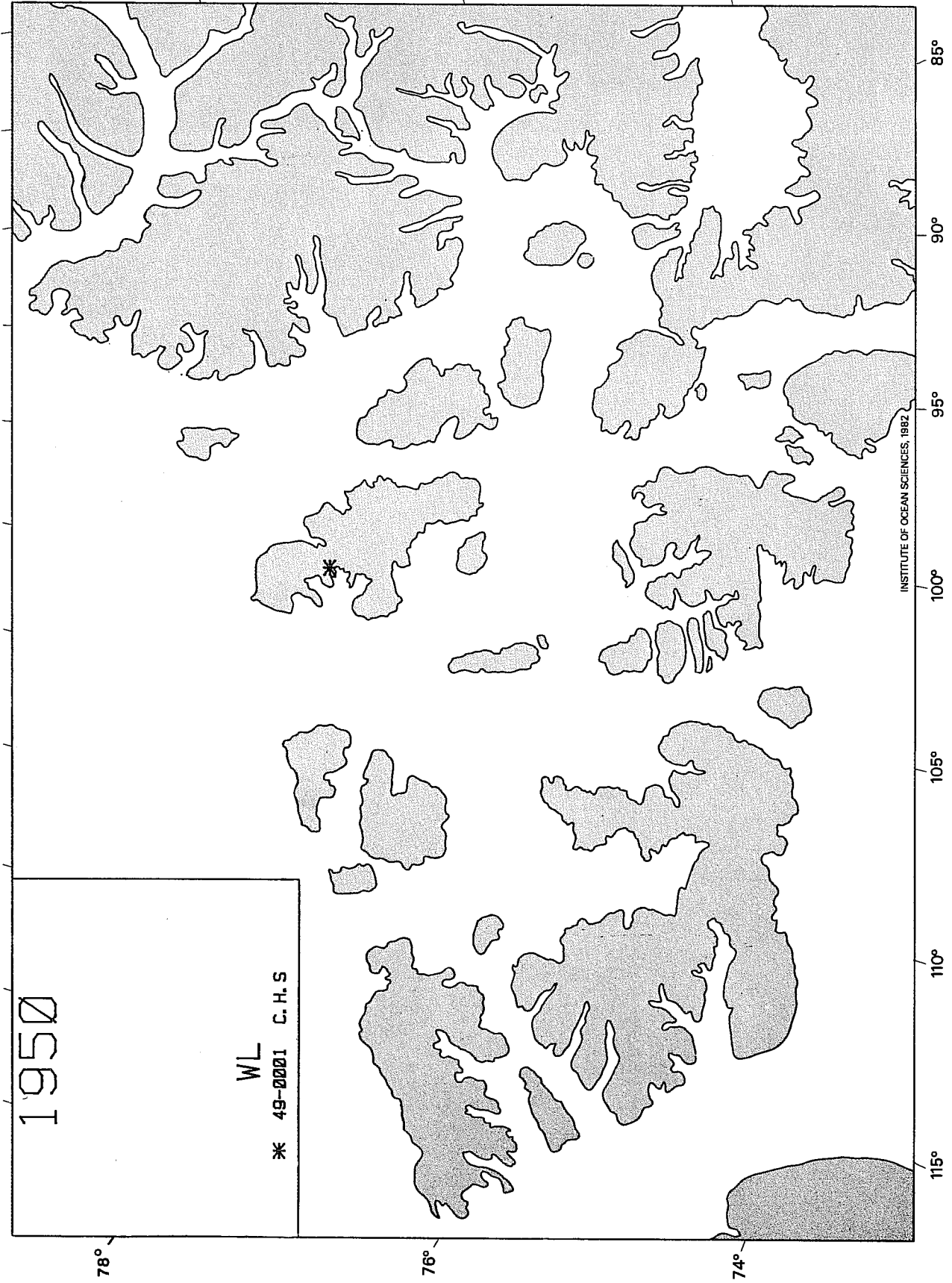
This section contains maps showing the yearly distribution of temperature, salinity, current, water level, and surface drift measurements. Two base maps are used, an overall 1:4,750,000 scale map and an enlarged 1:2,000,000 scale map of the Nansen-Eureka sounds area. Temperature-salinity and water level data are plotted together if no current meter data existed in that year. If current meter data were collected in that year, then the first map(s) will show only temperature and salinity data, and a second map will show the current meter data, as well as any water level or drifter data. The areas of Lagrangian drifter data are indicated by hatching. The legend indicates the following data types:

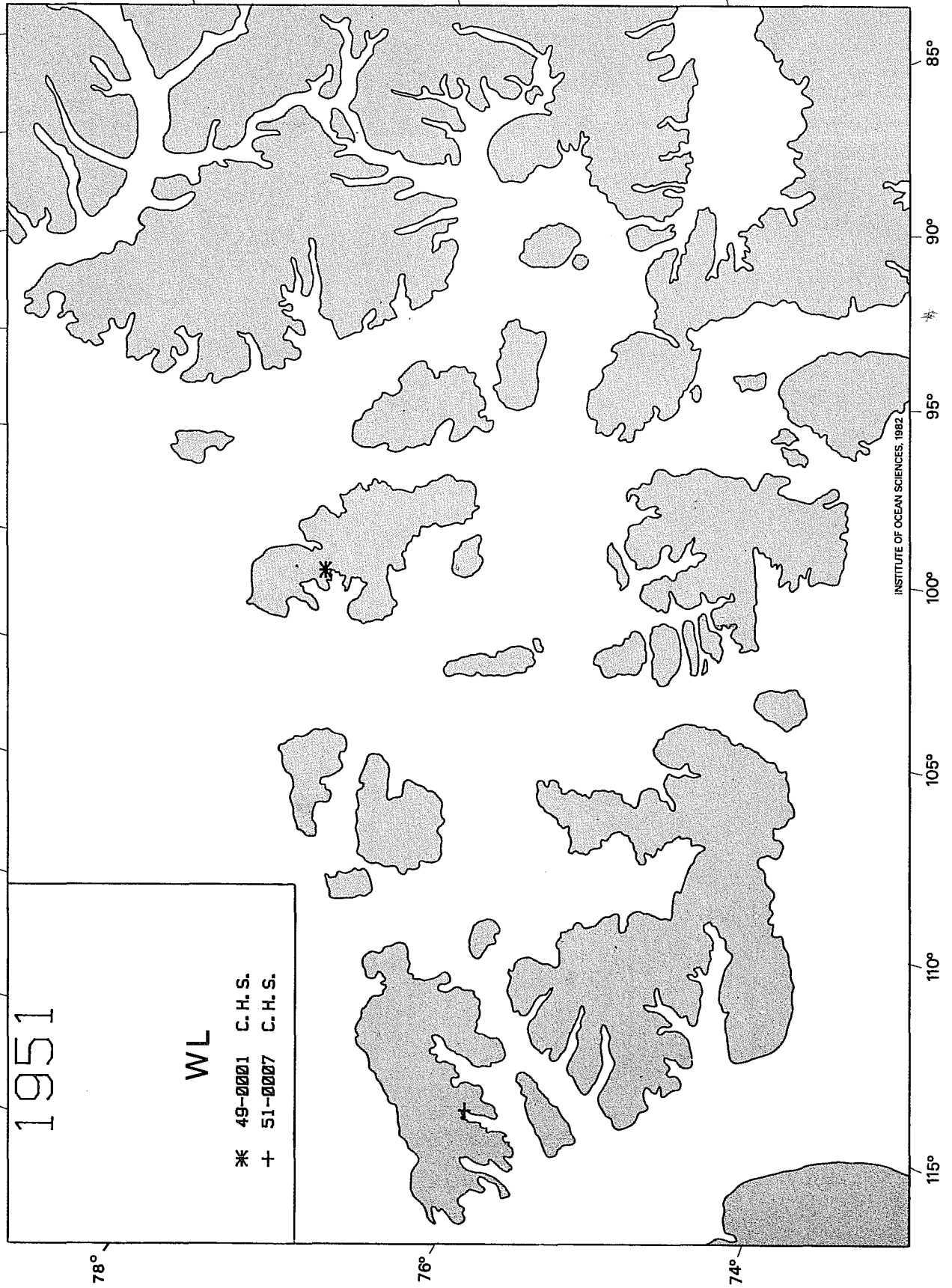
- CM - current meter data
- DRF - drifter data
- TS - temperature-salinity data
- WL - water level data

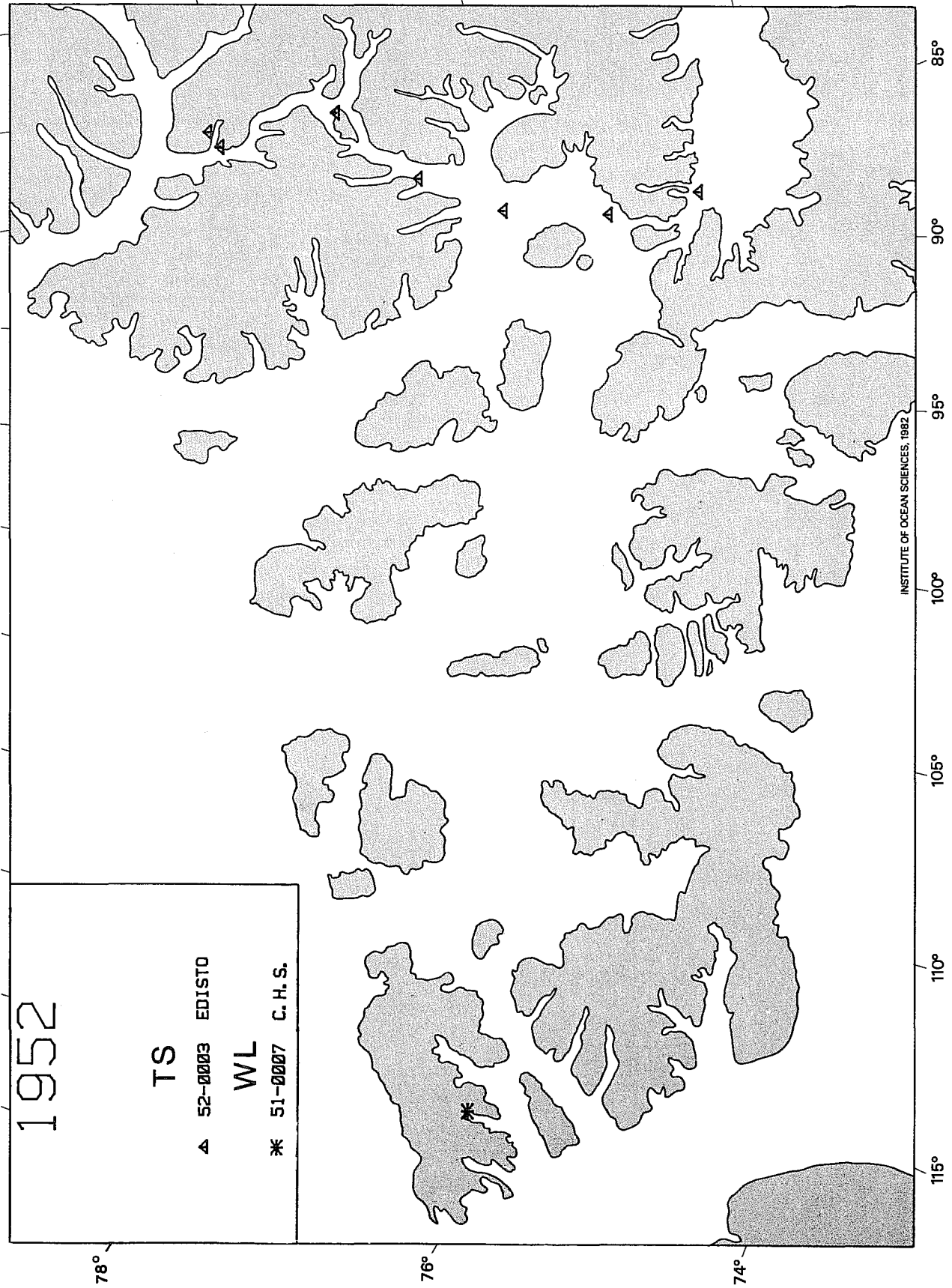
The coastlines have been smoothed and small islands removed. Vessel/agencies in the legend are abbreviations. Note that cruise station symbols may be different on two different maps.

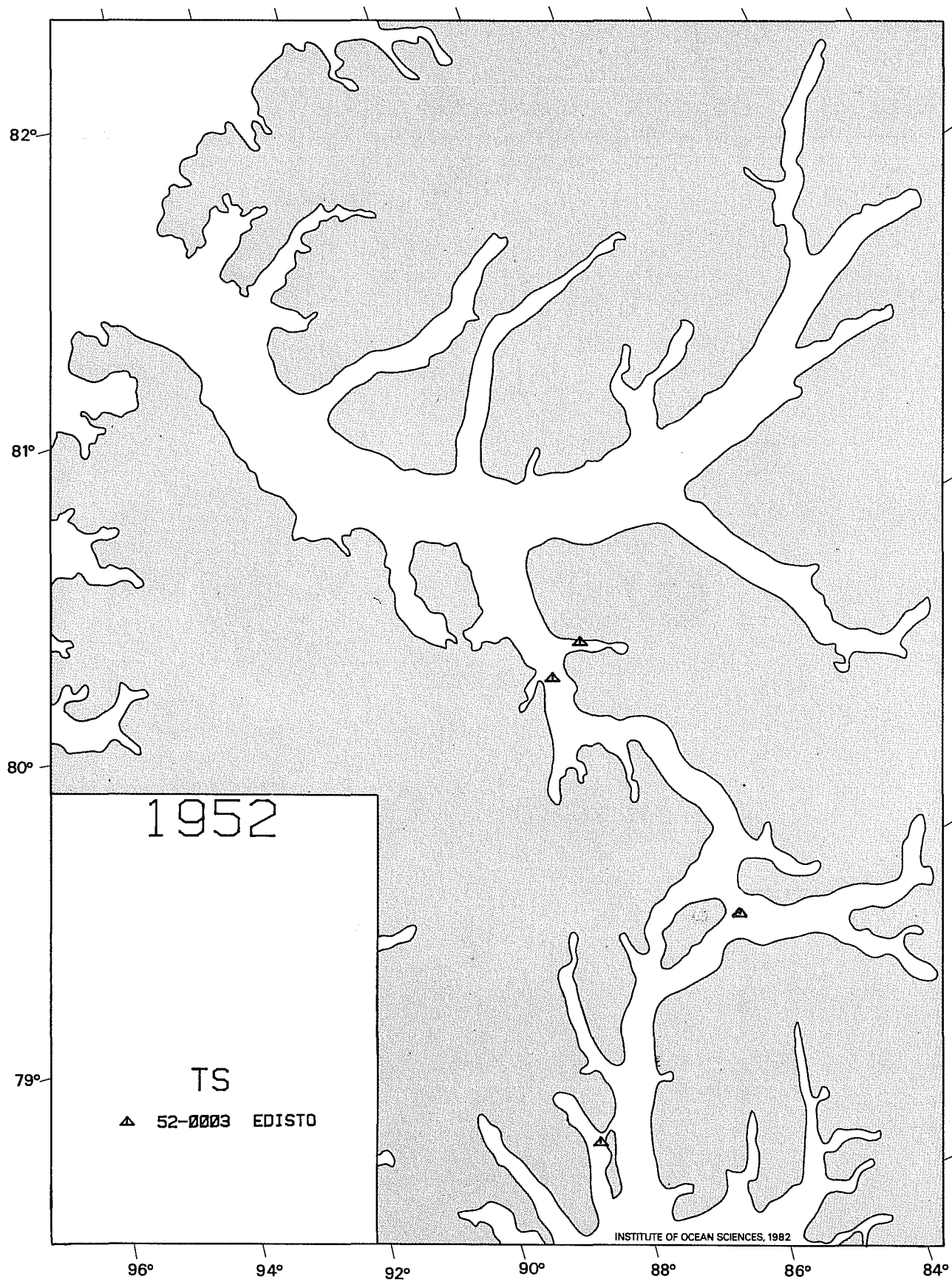


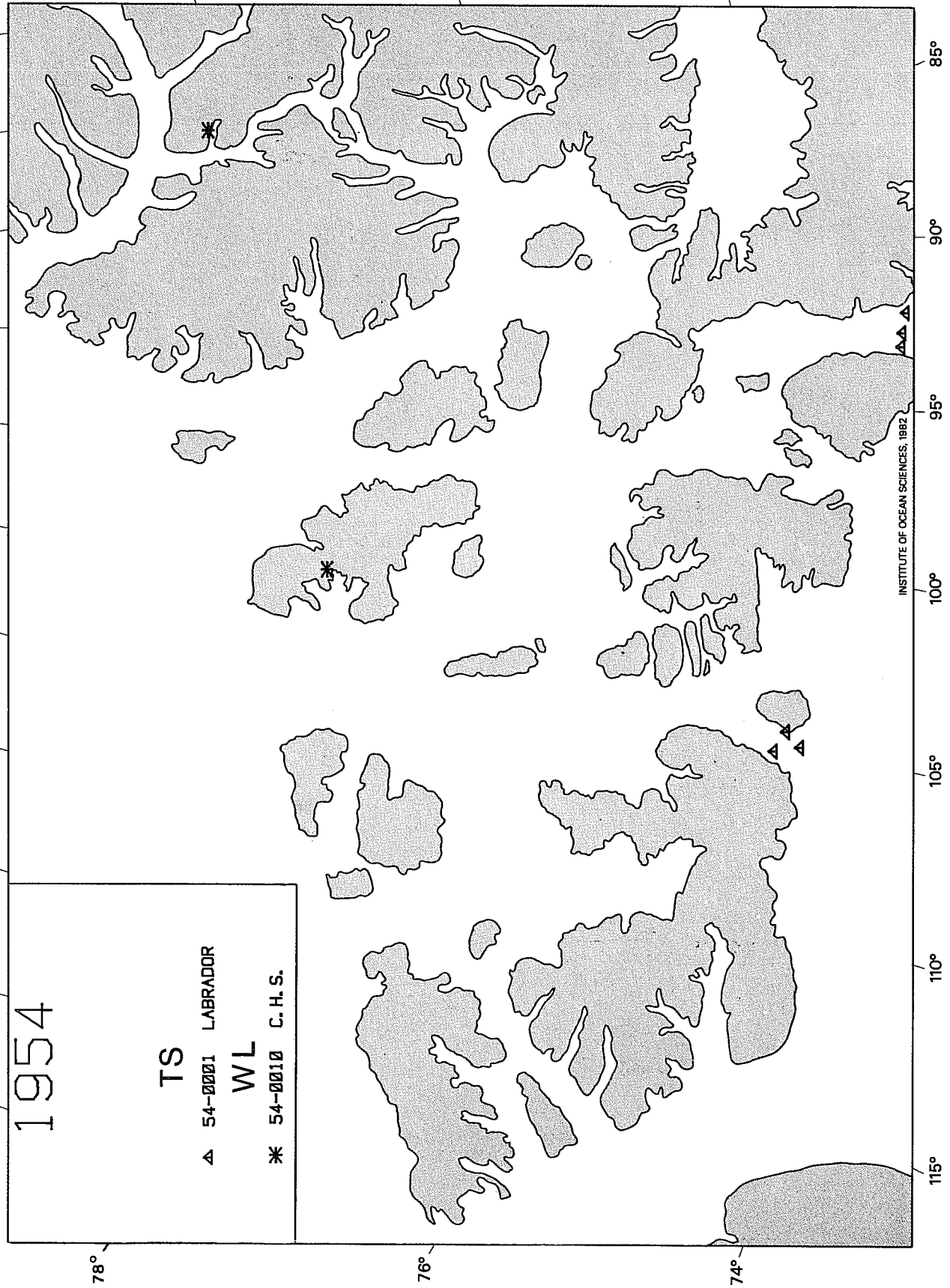


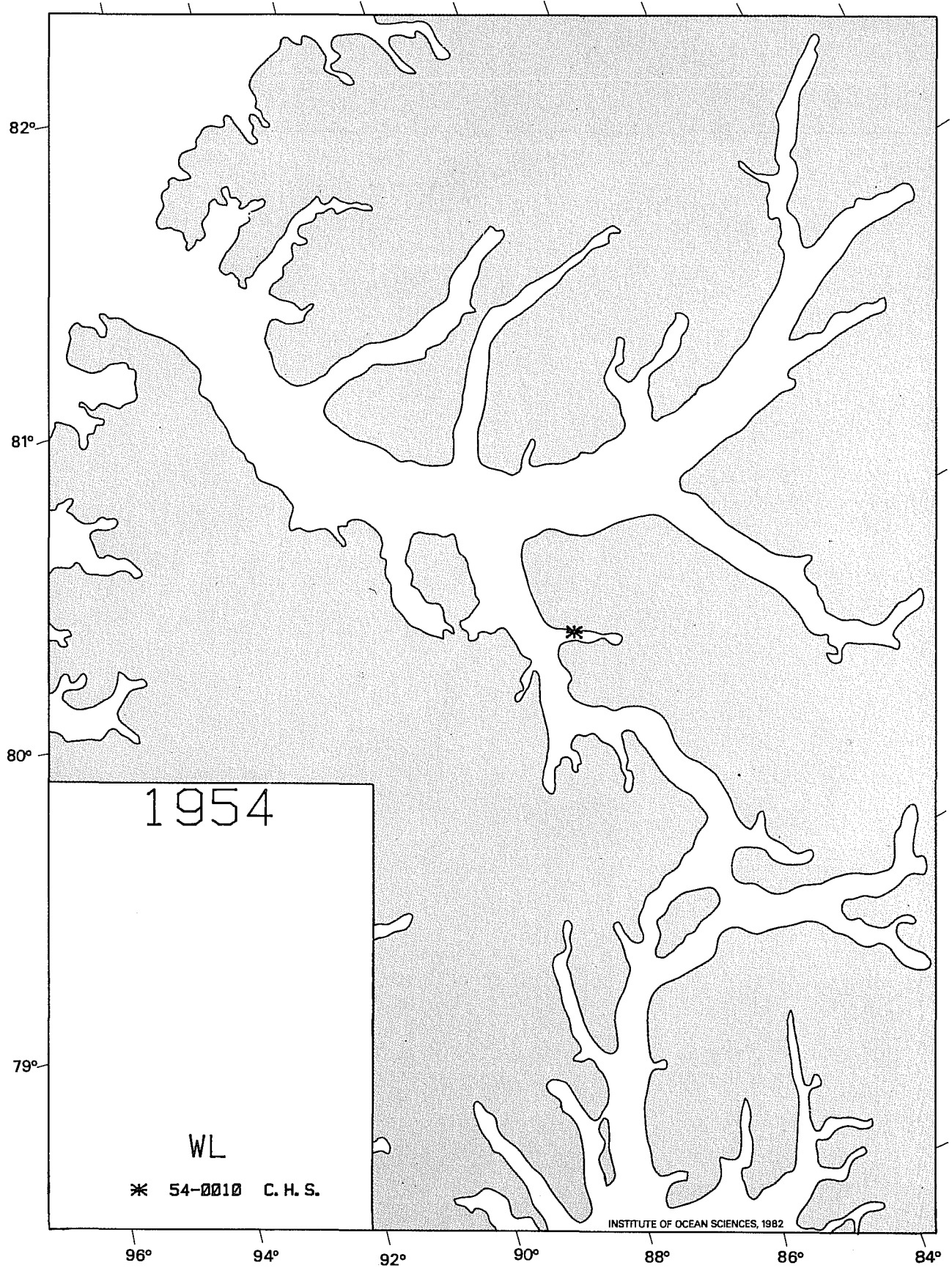


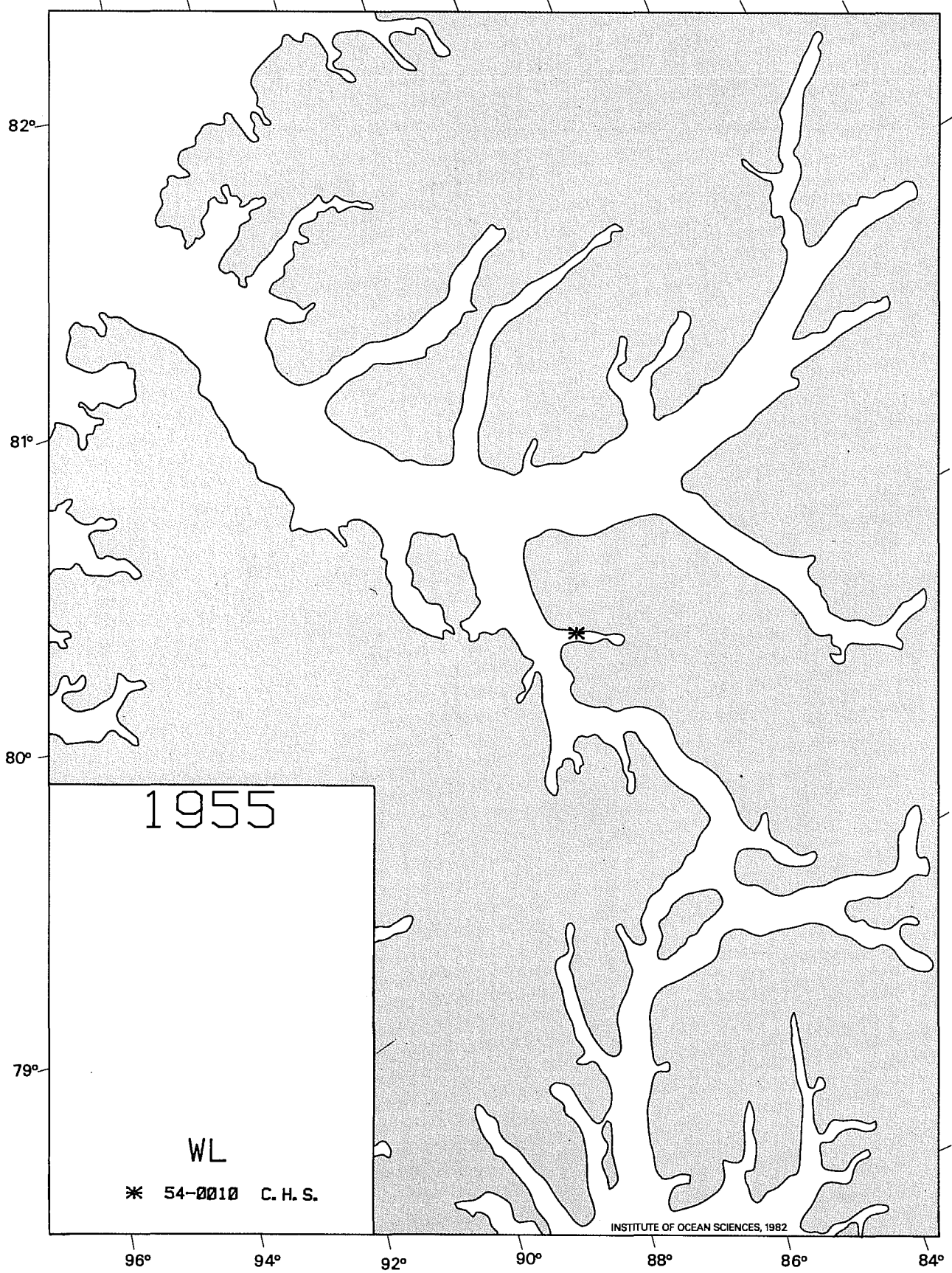


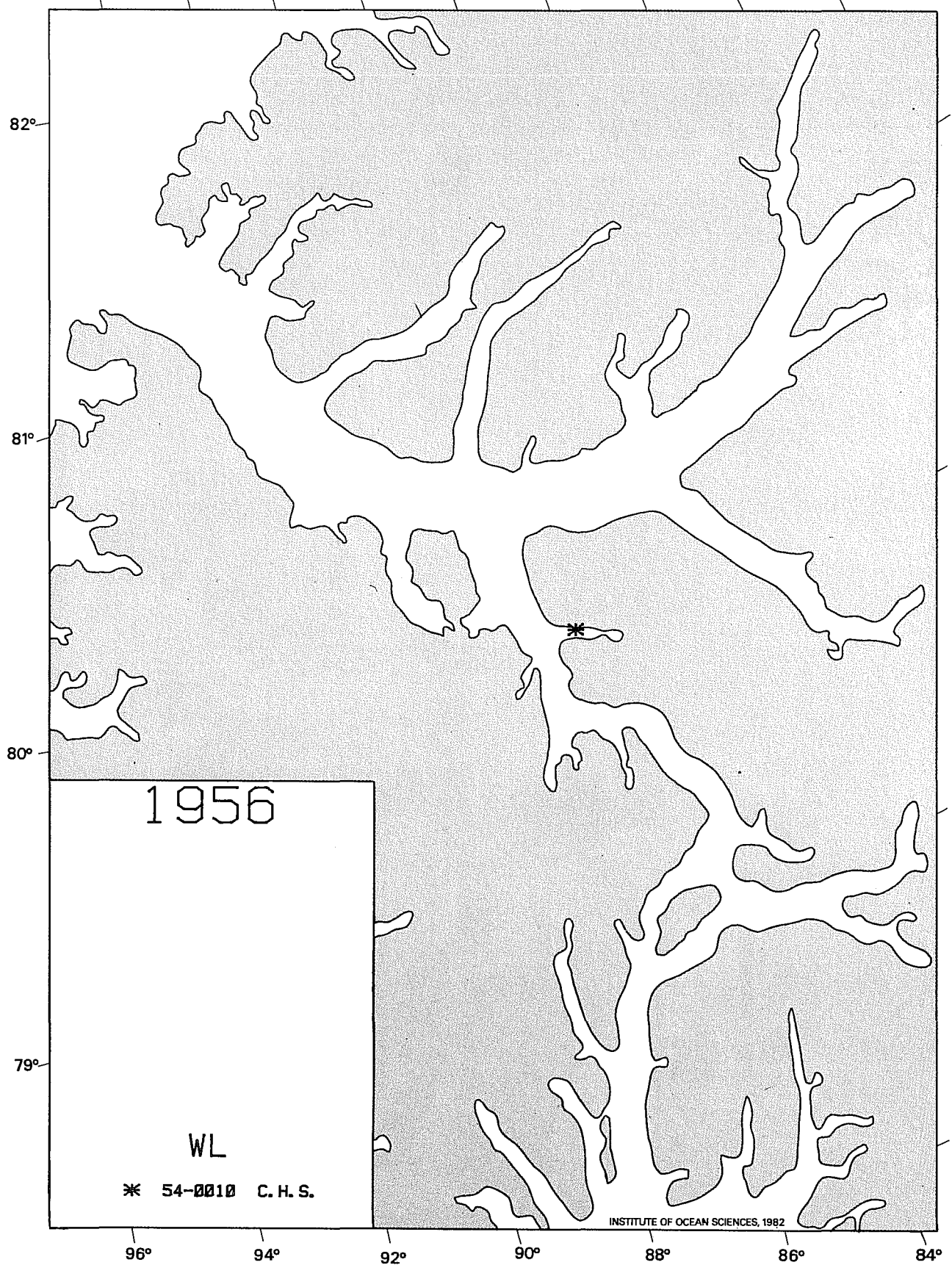


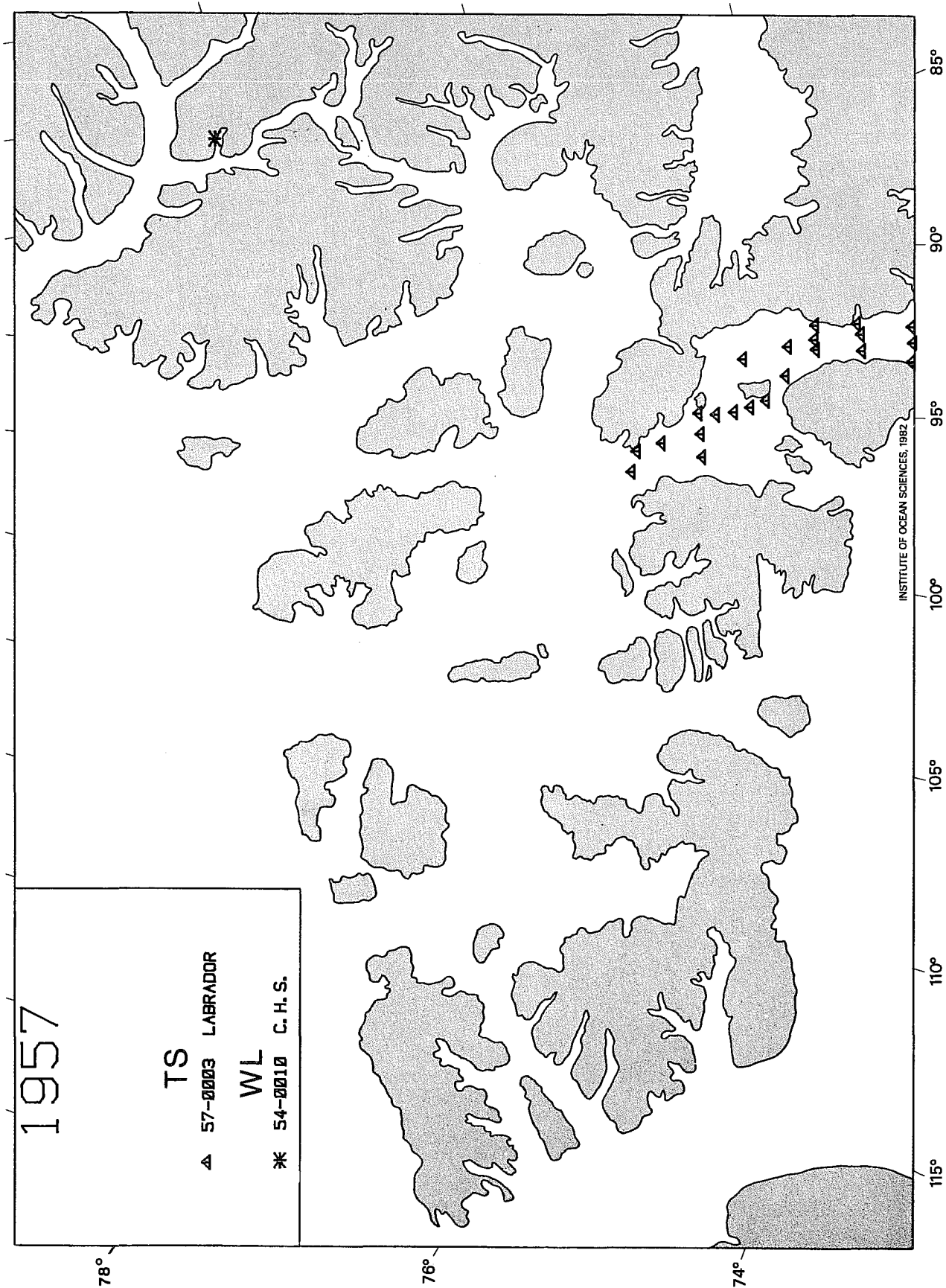


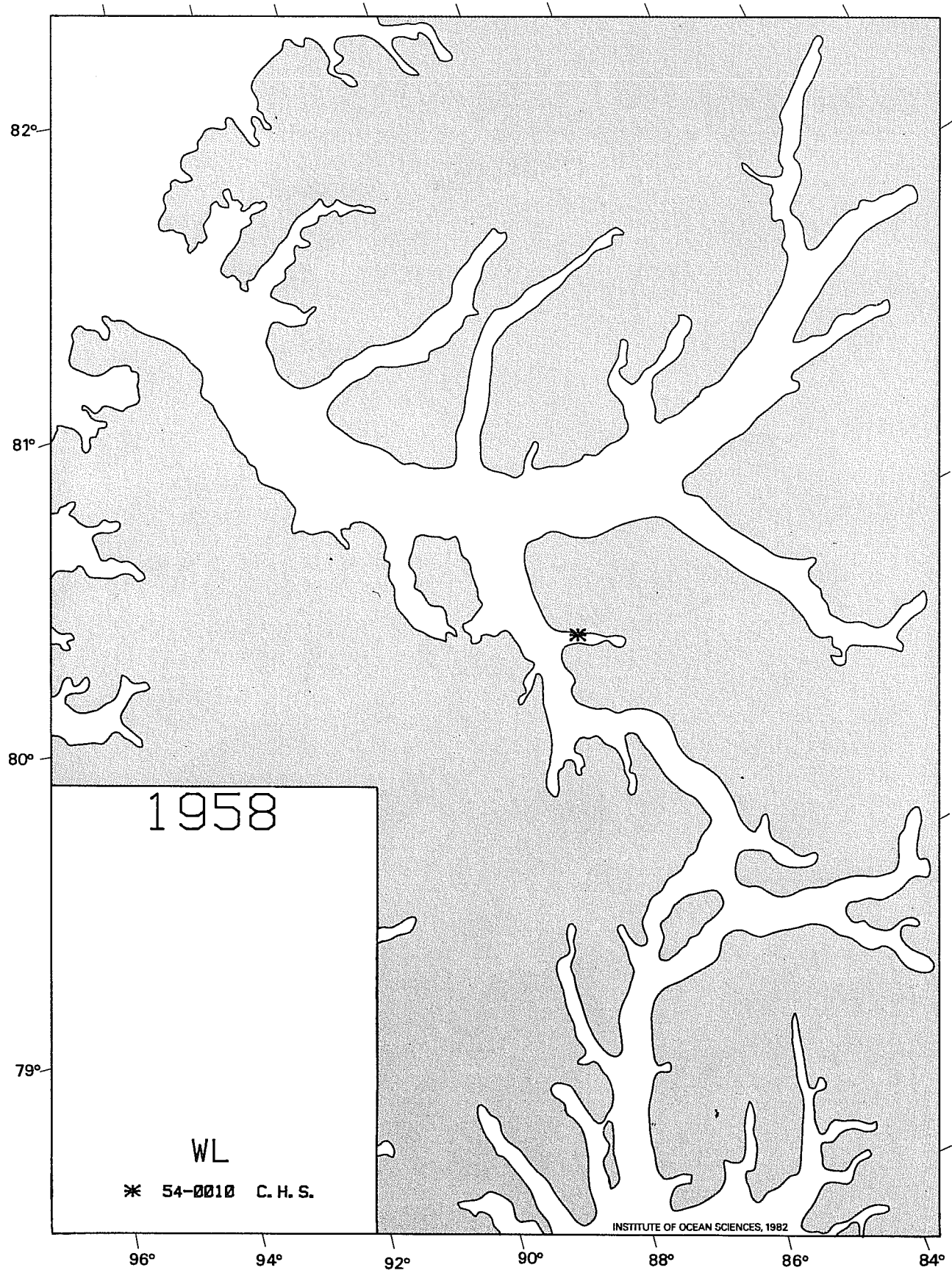


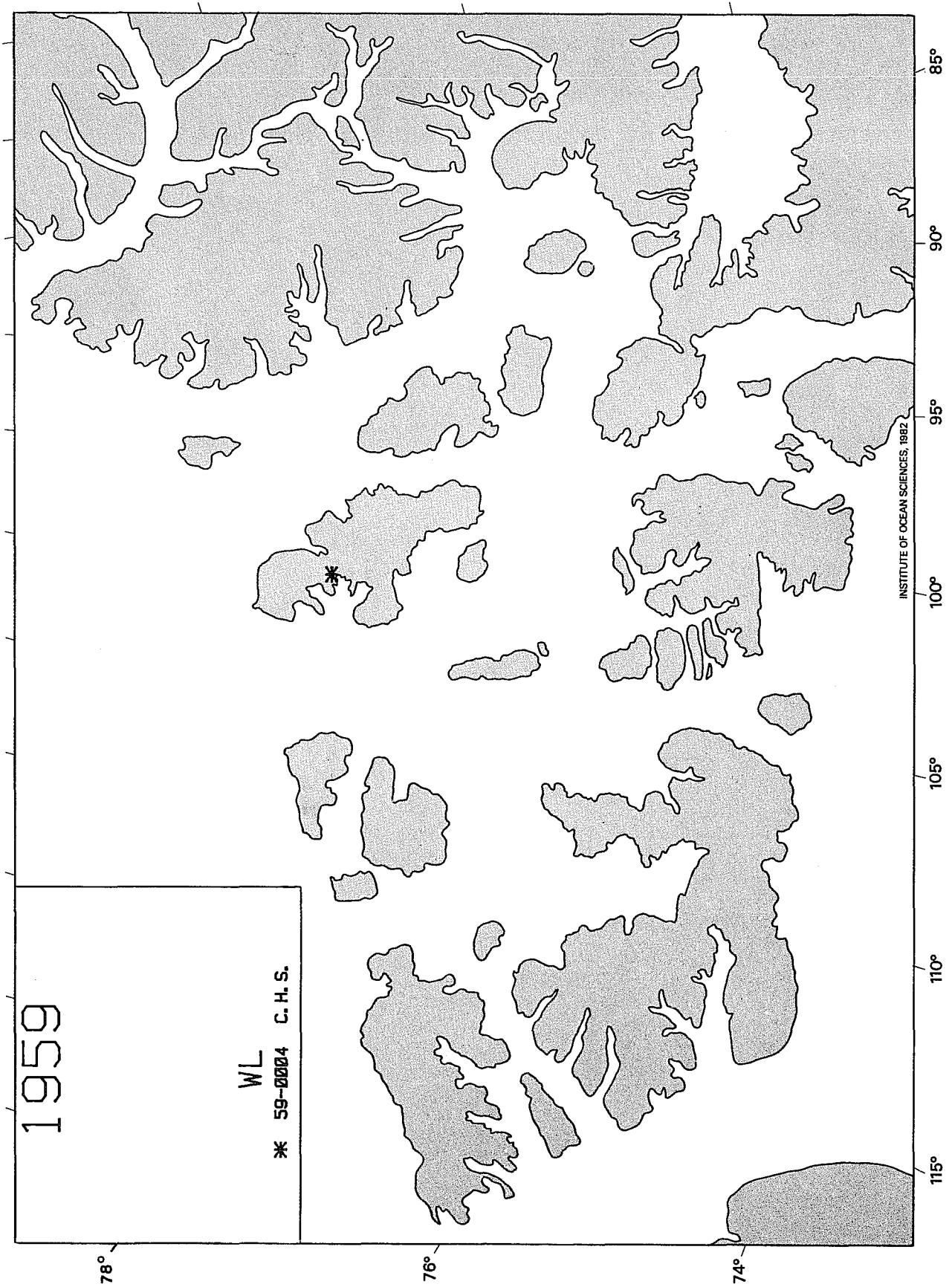


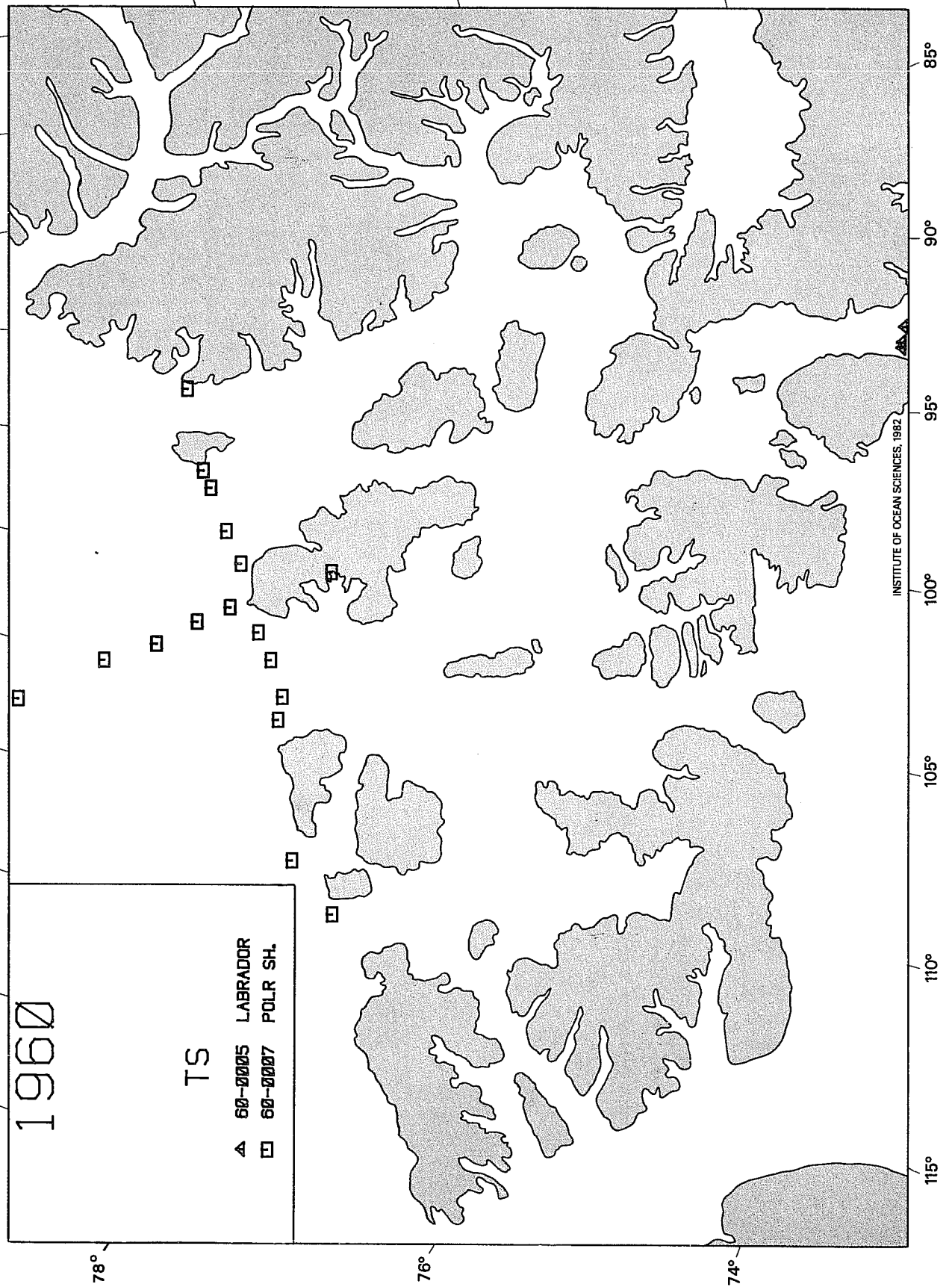


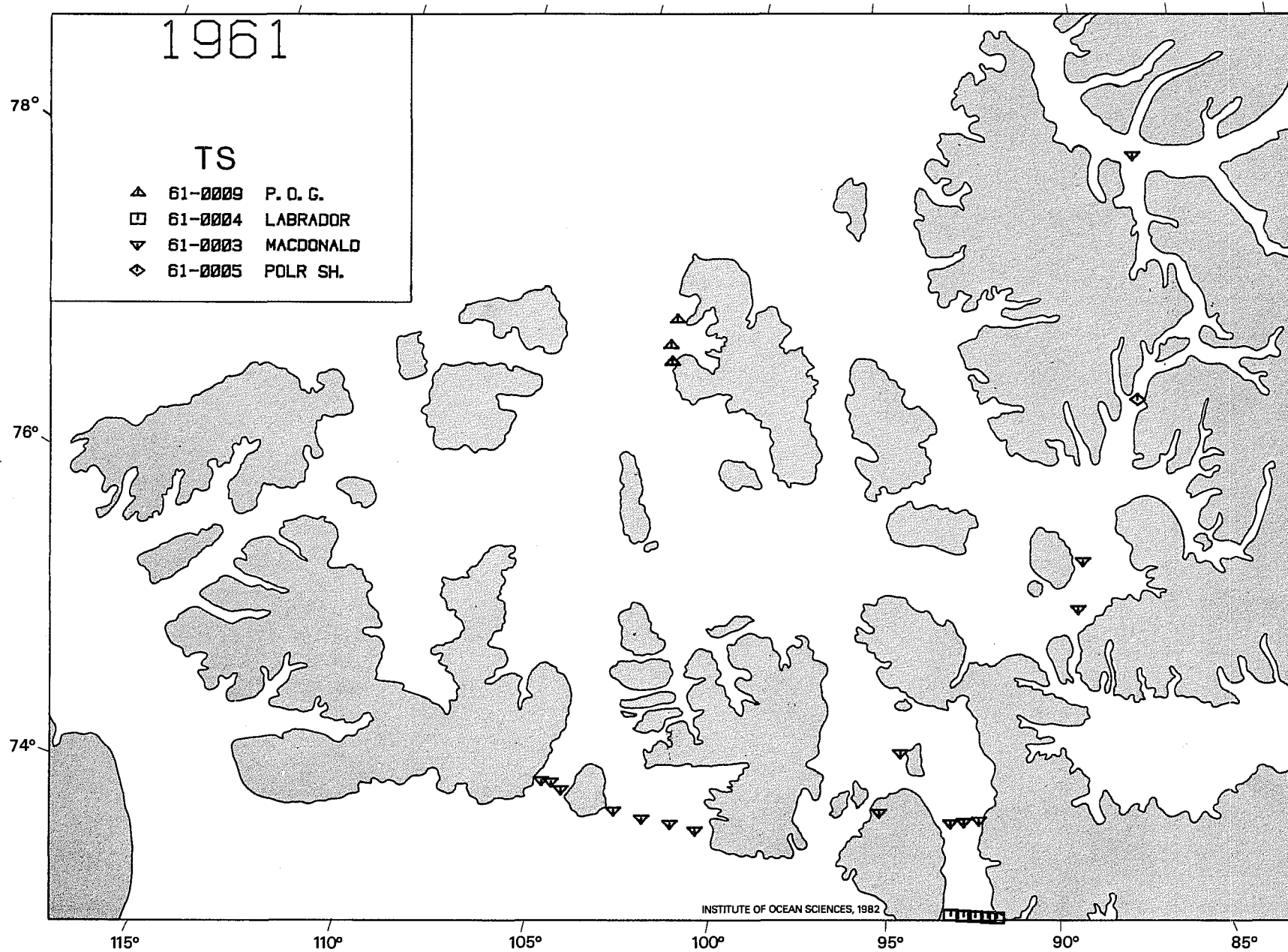


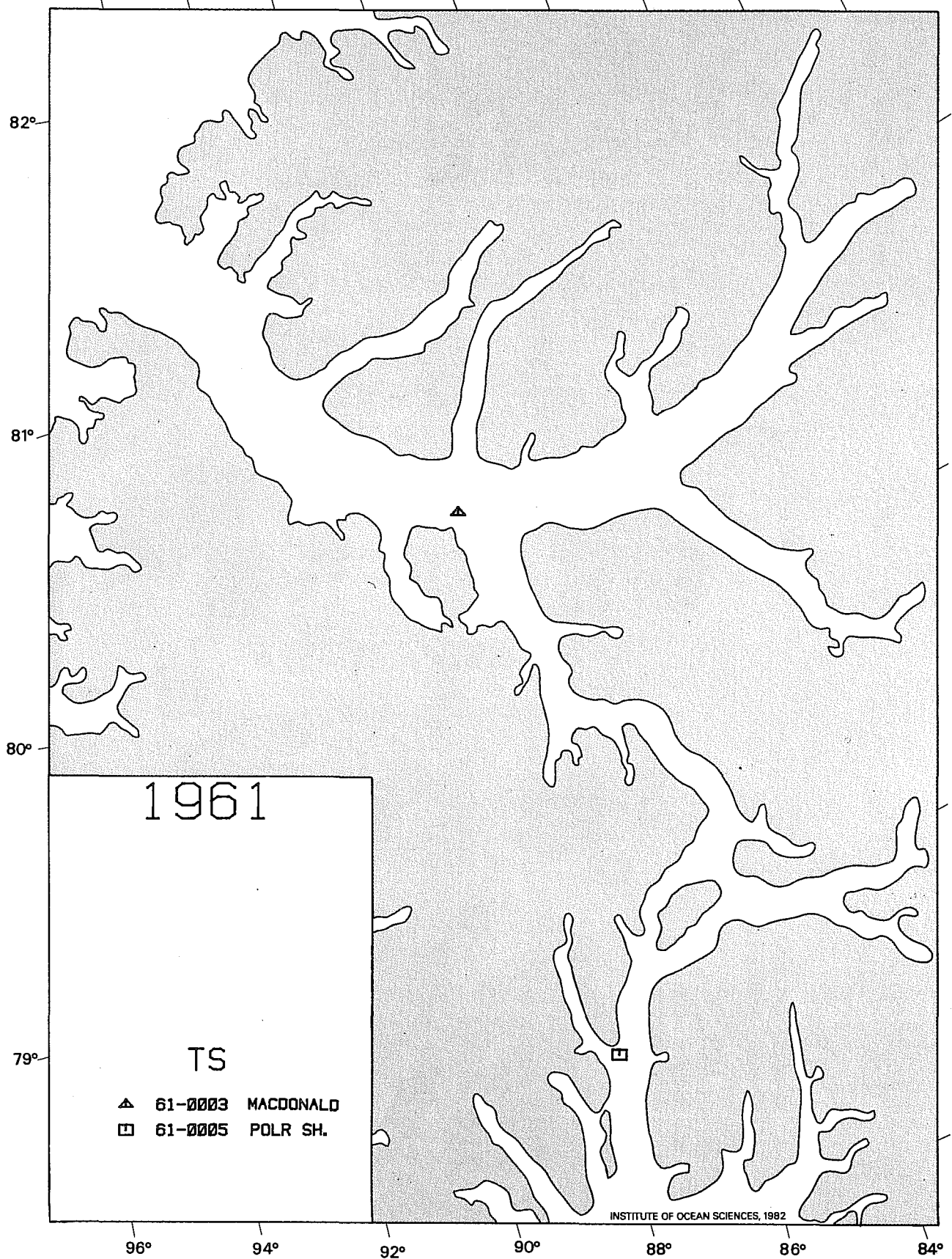


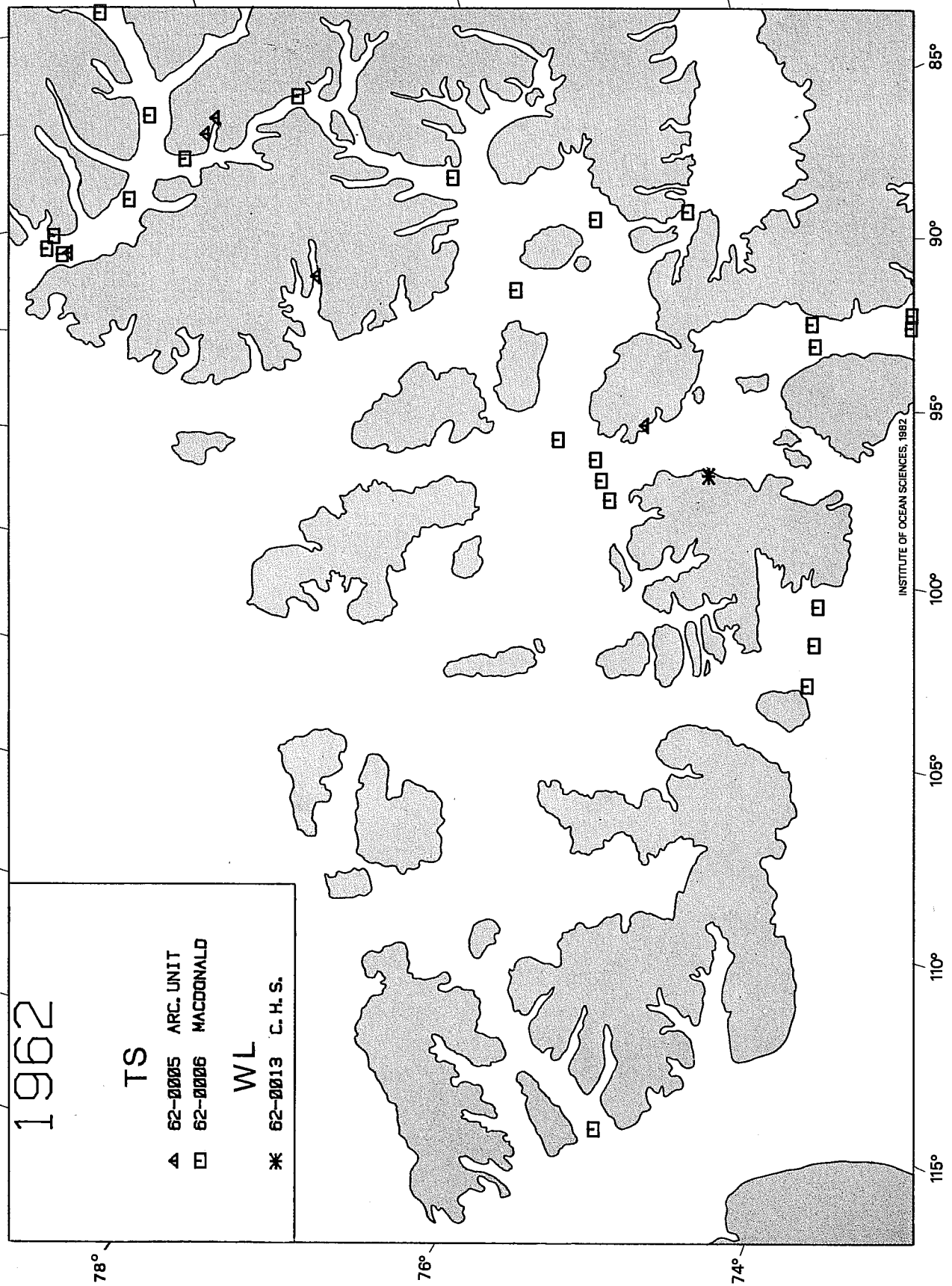


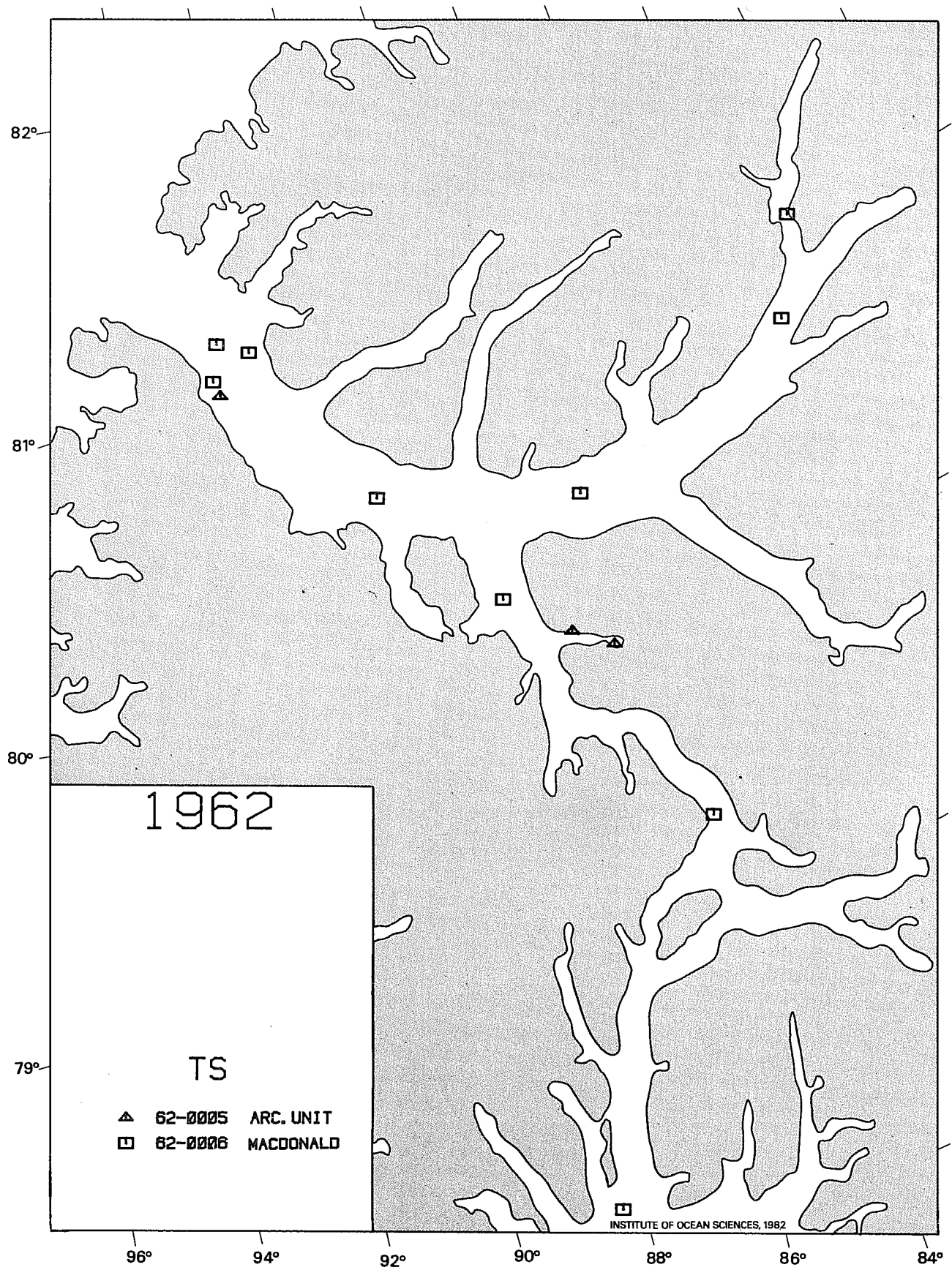


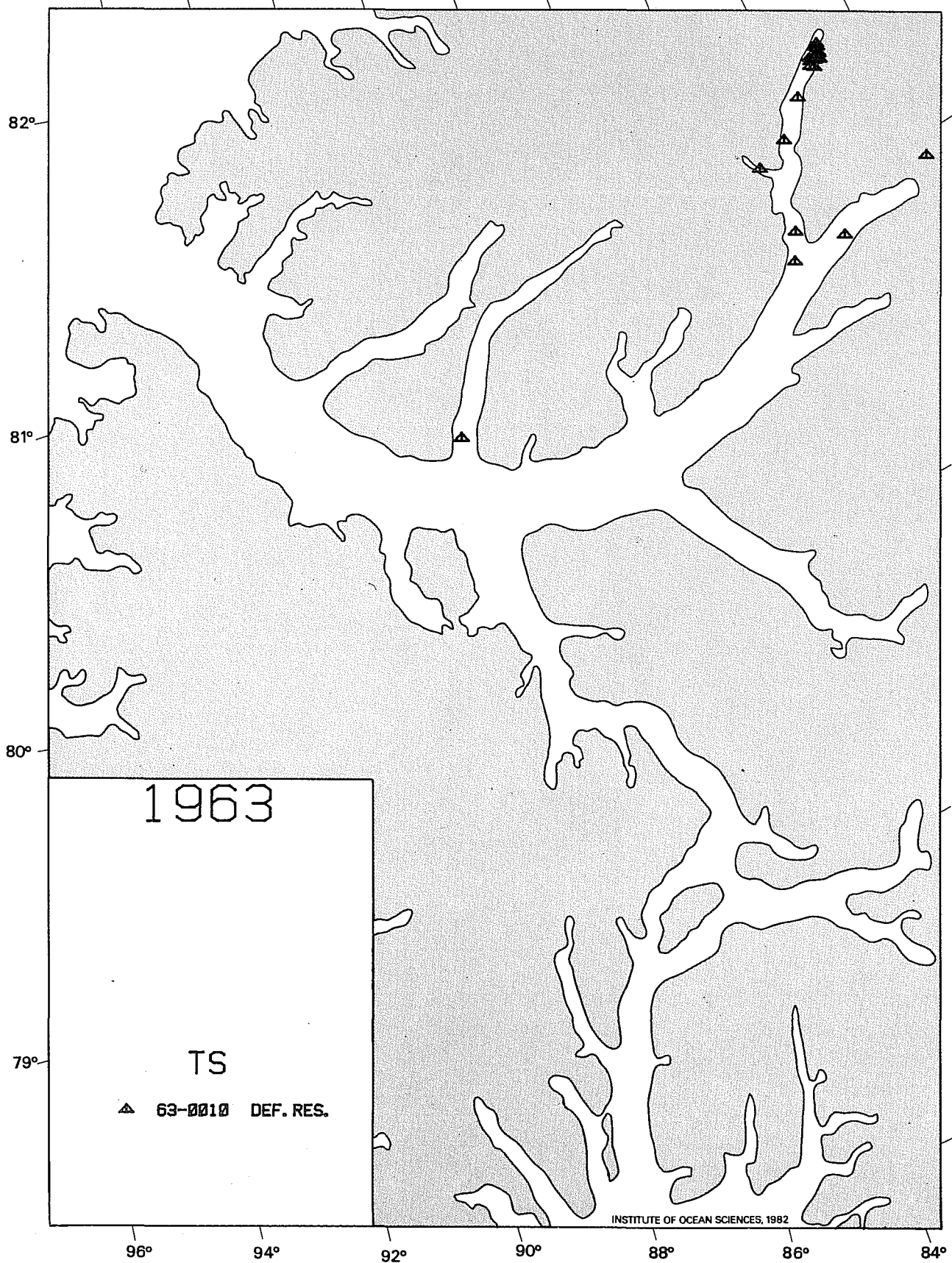


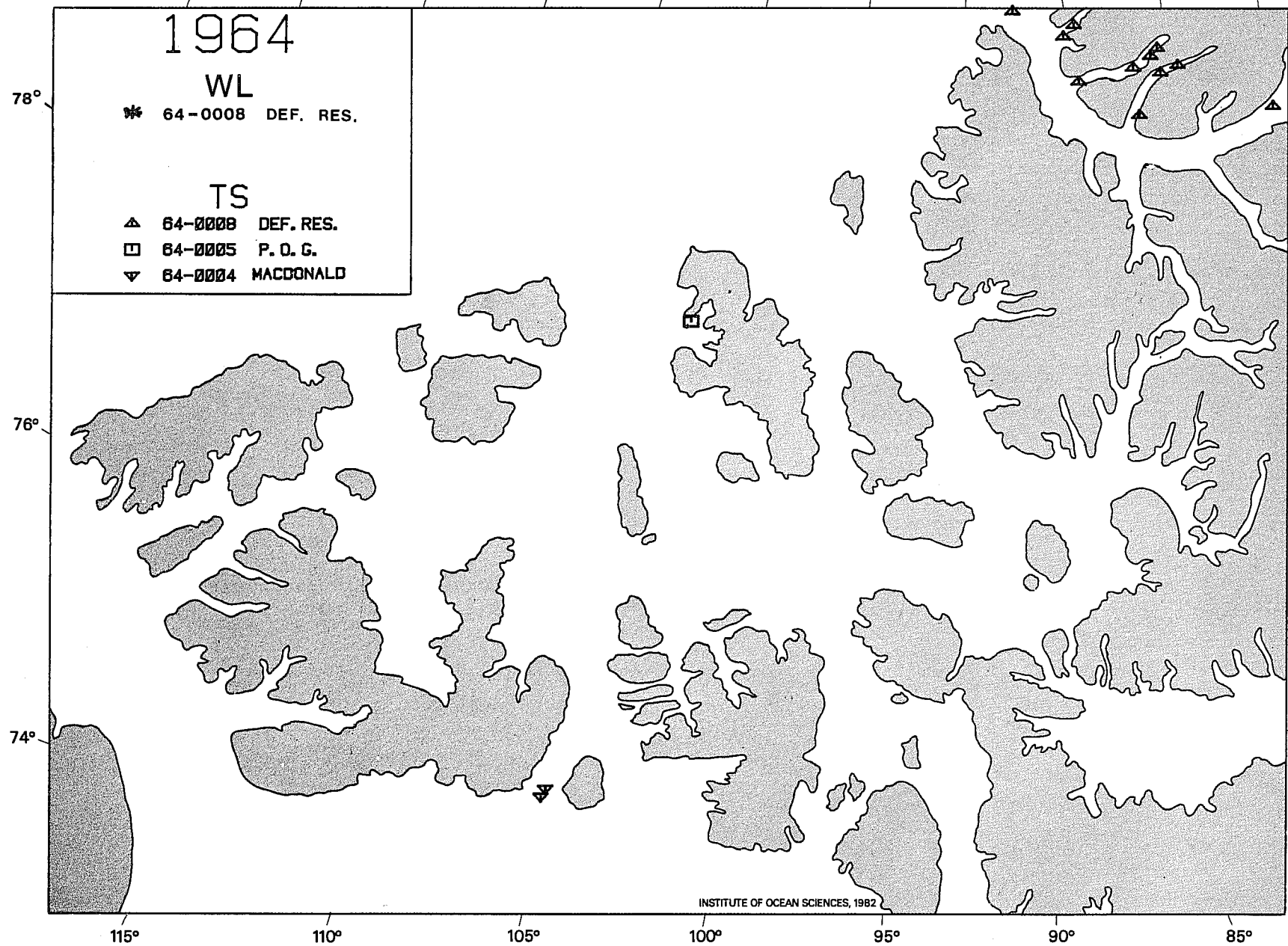


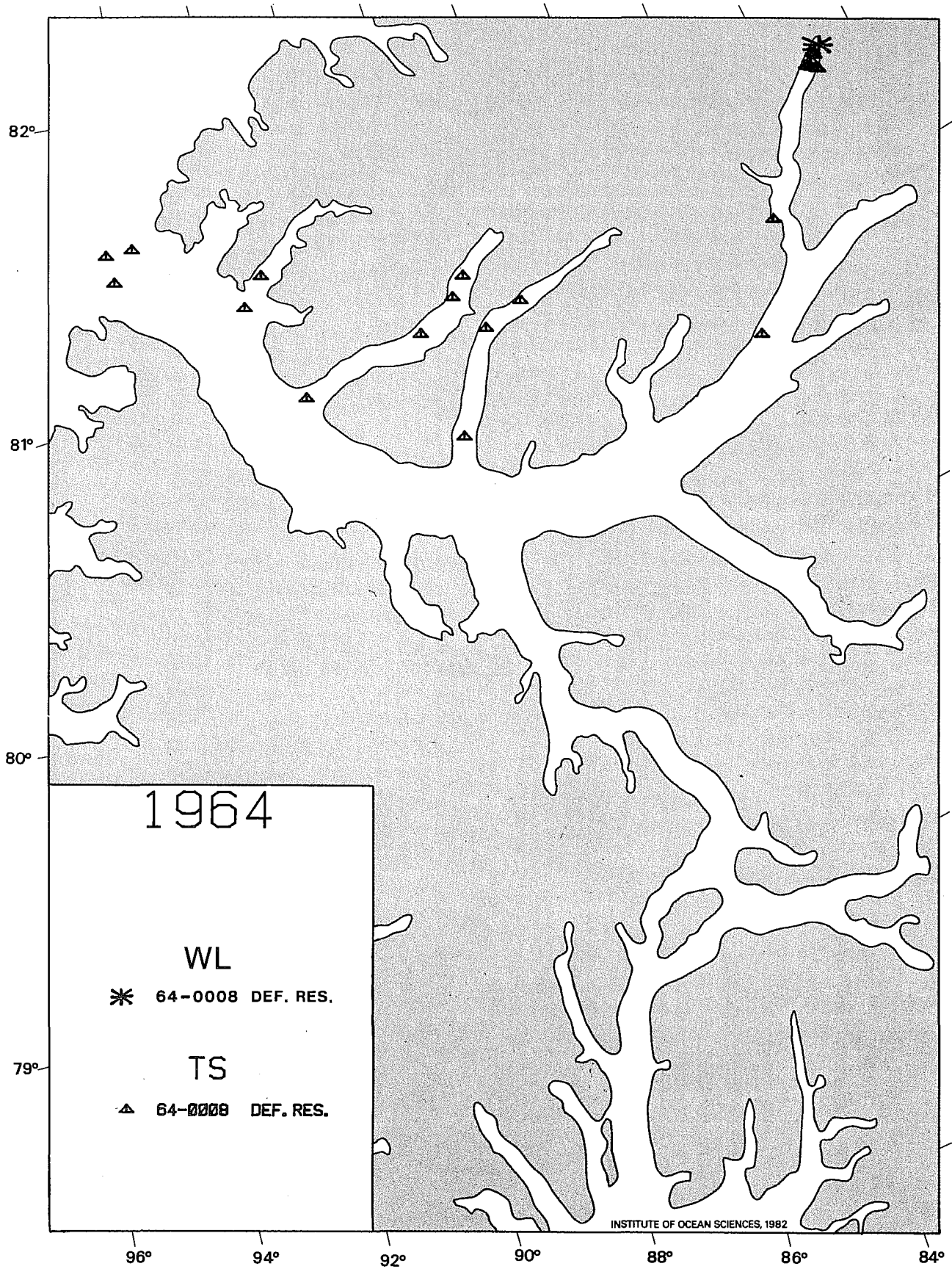


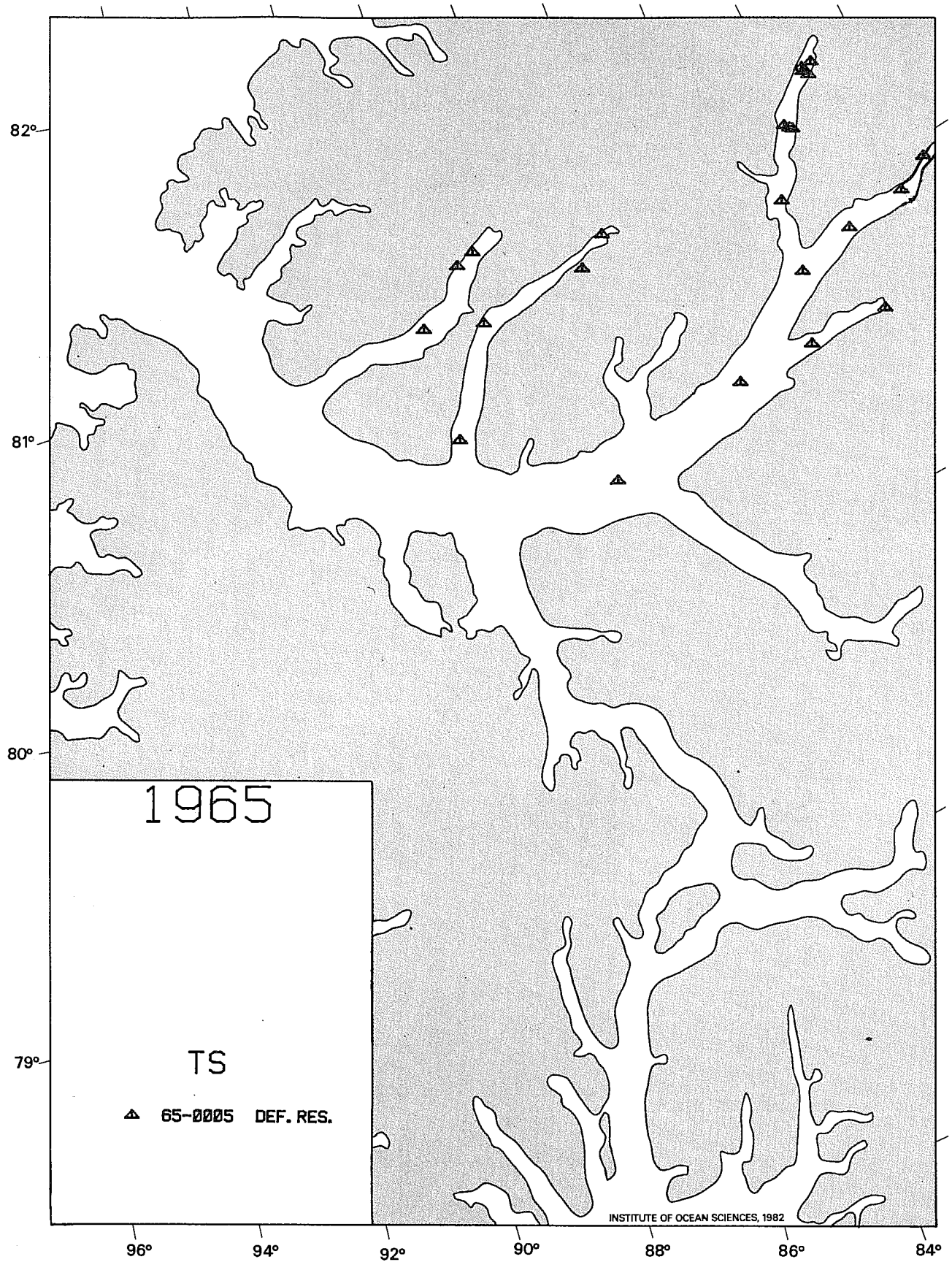


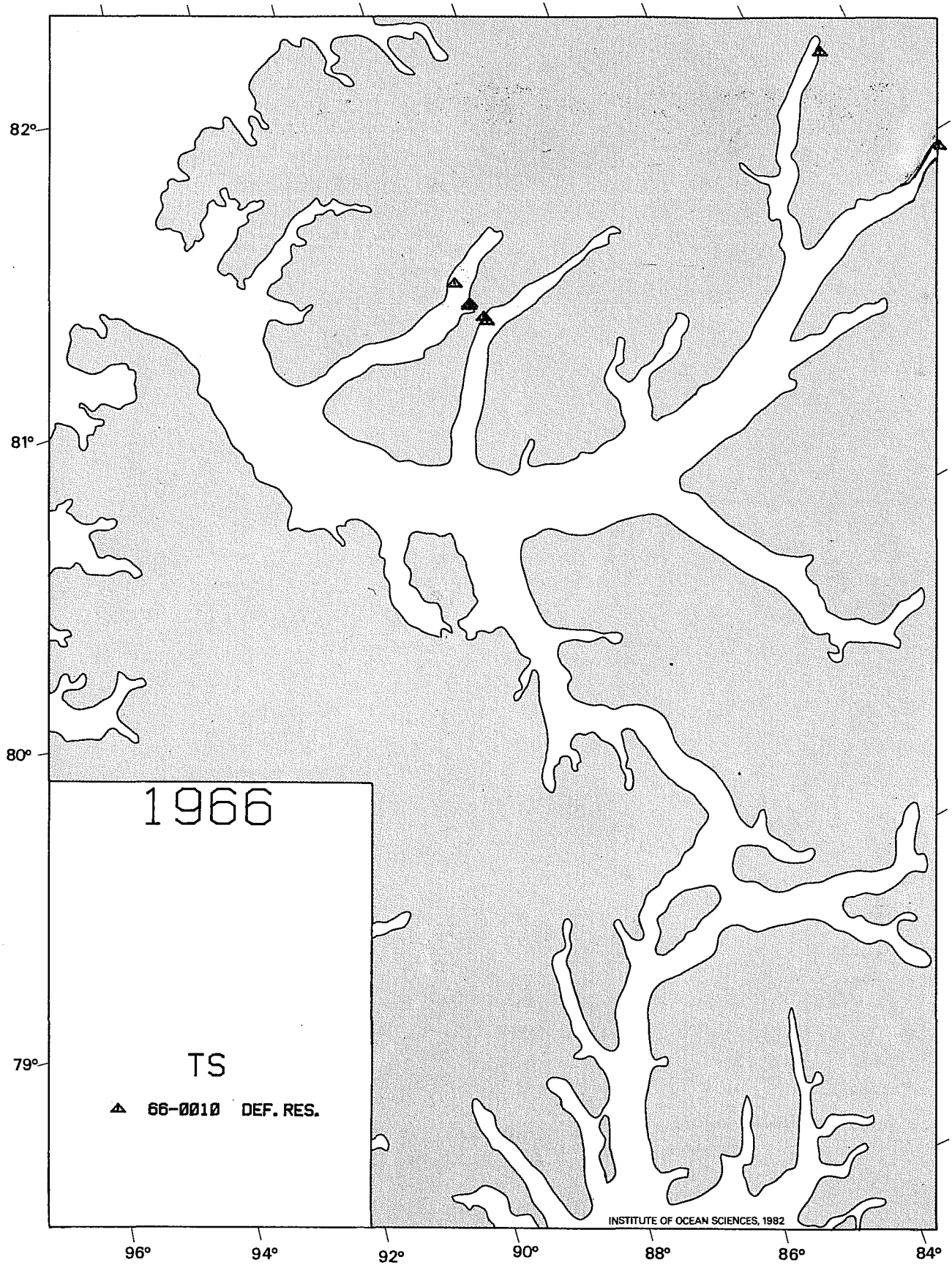


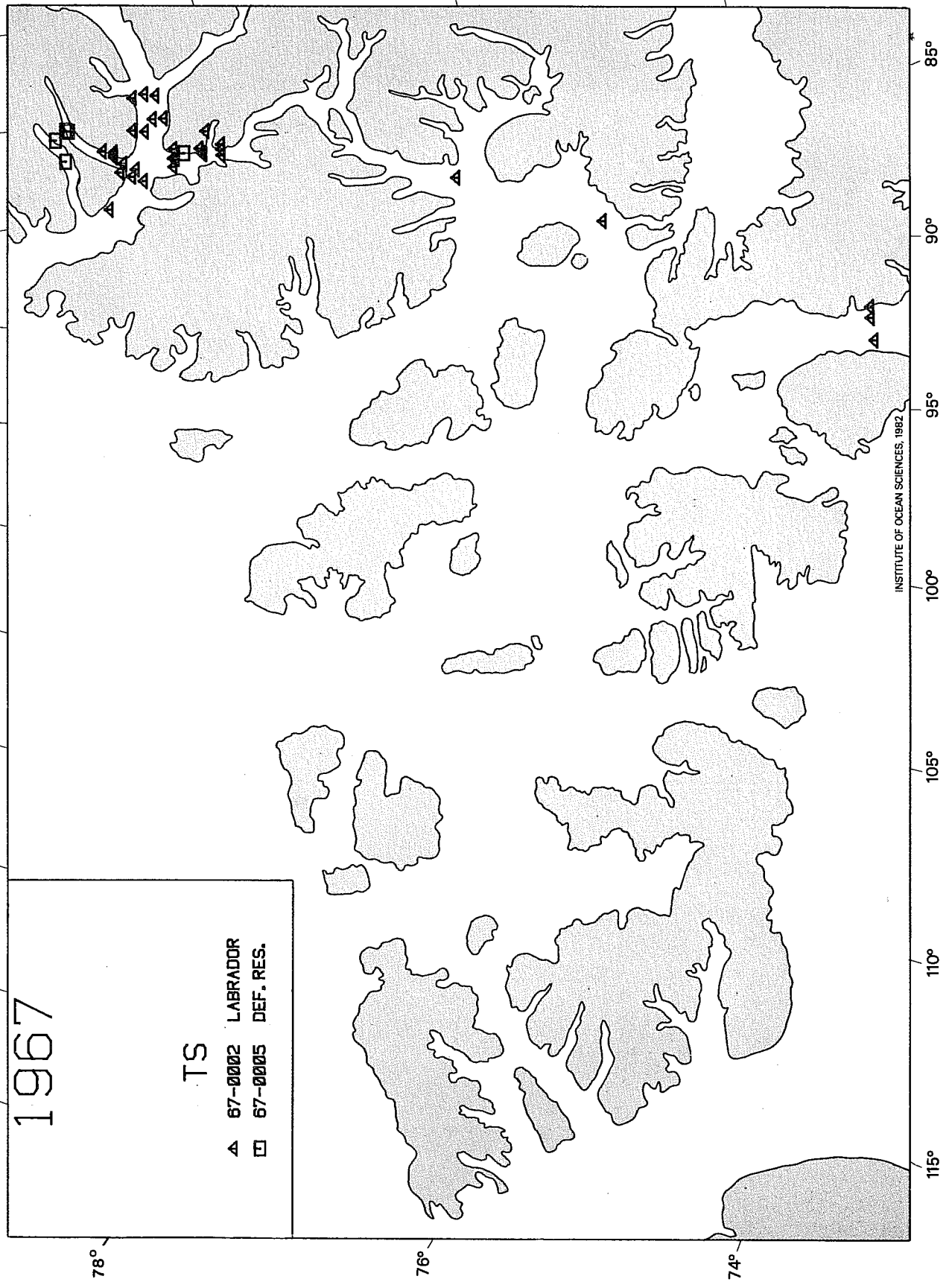


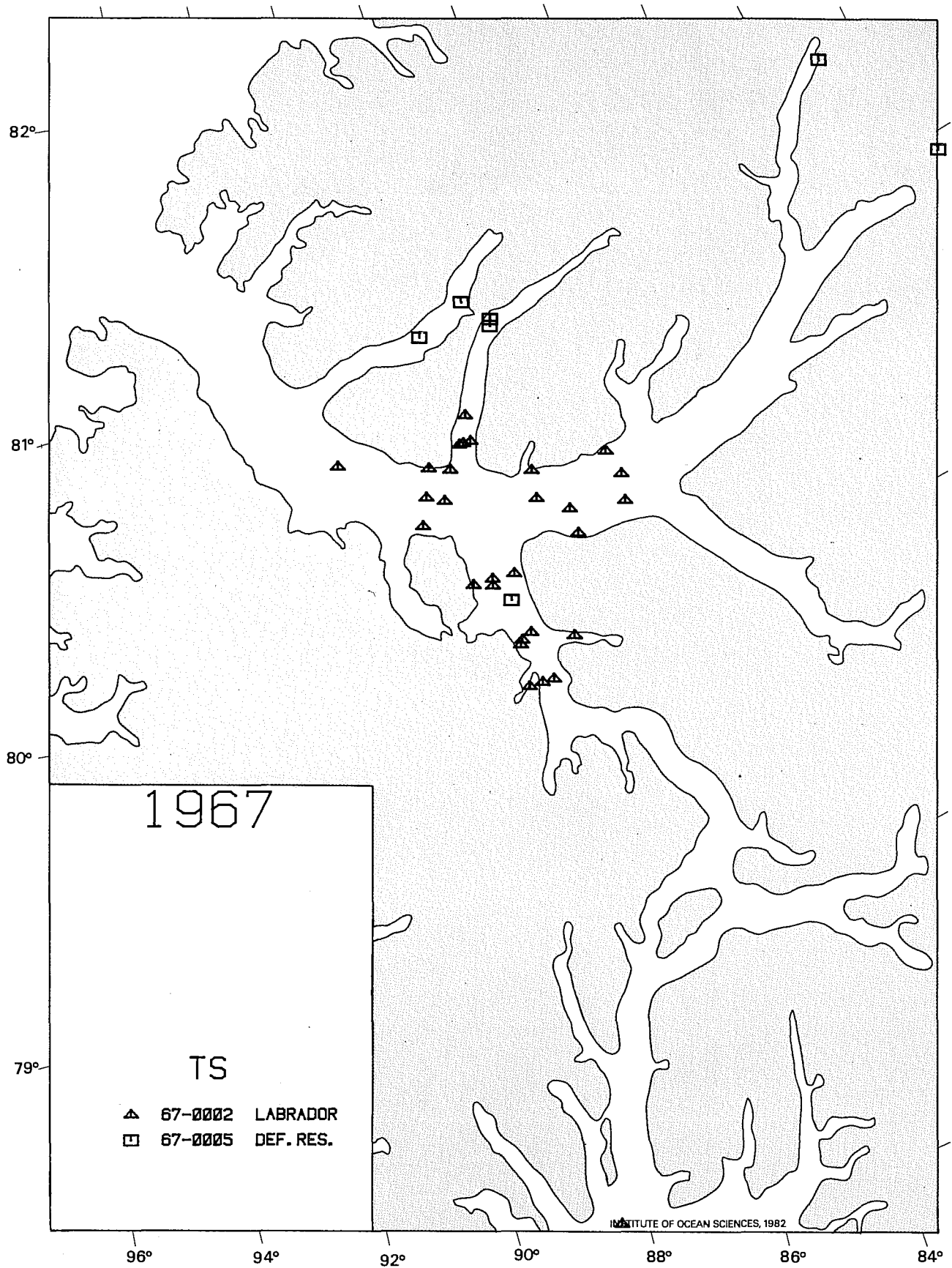


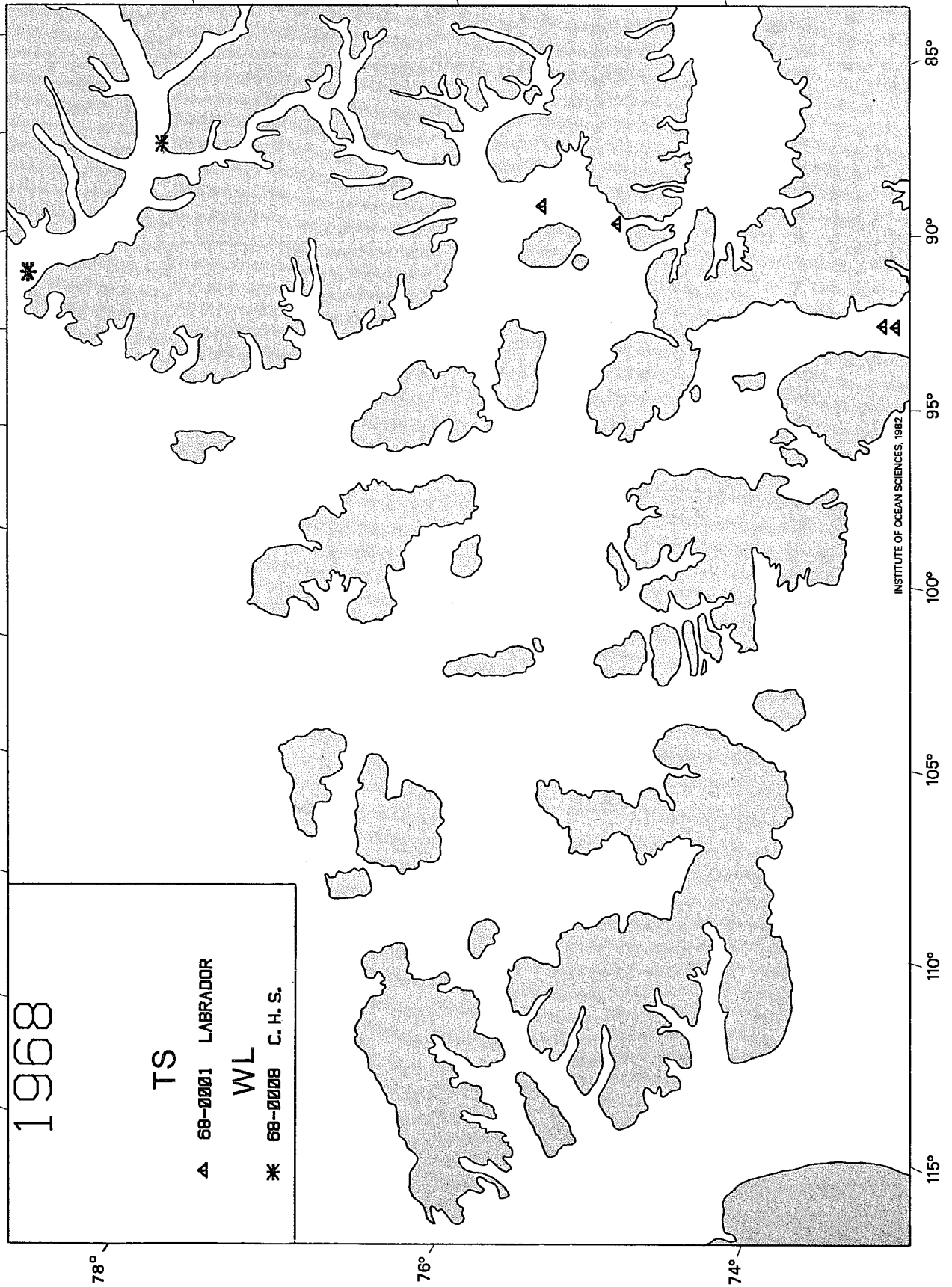


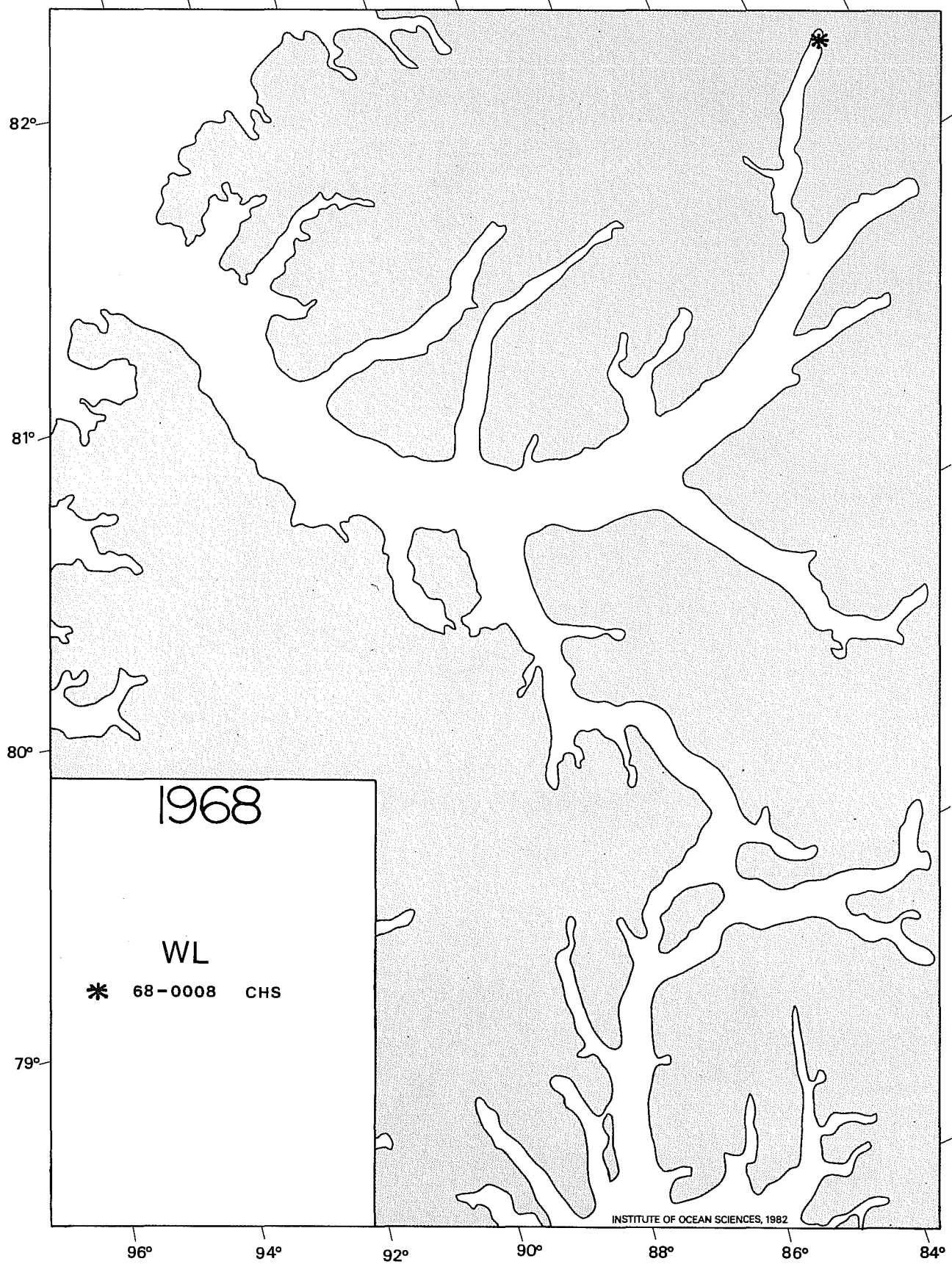


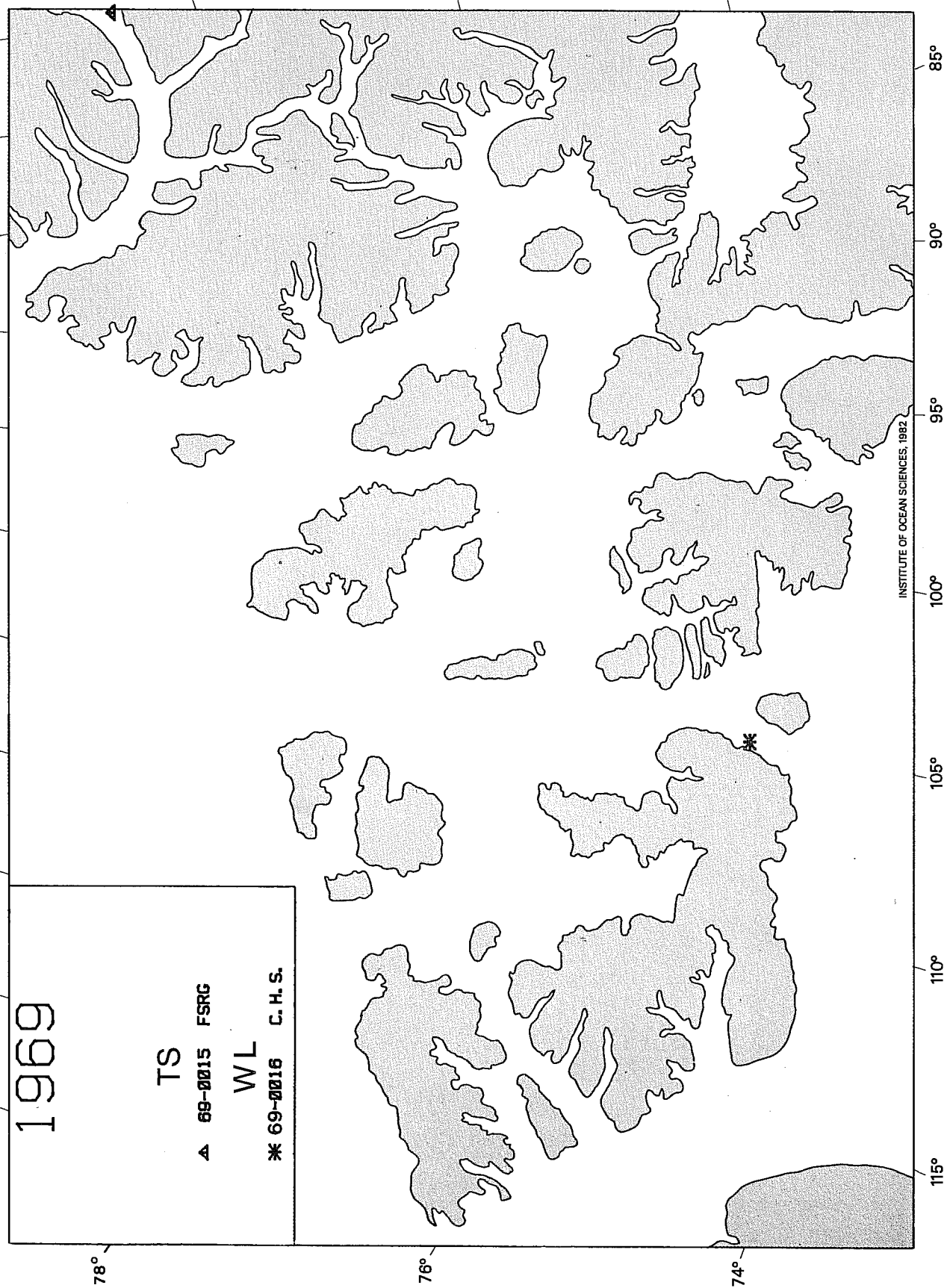


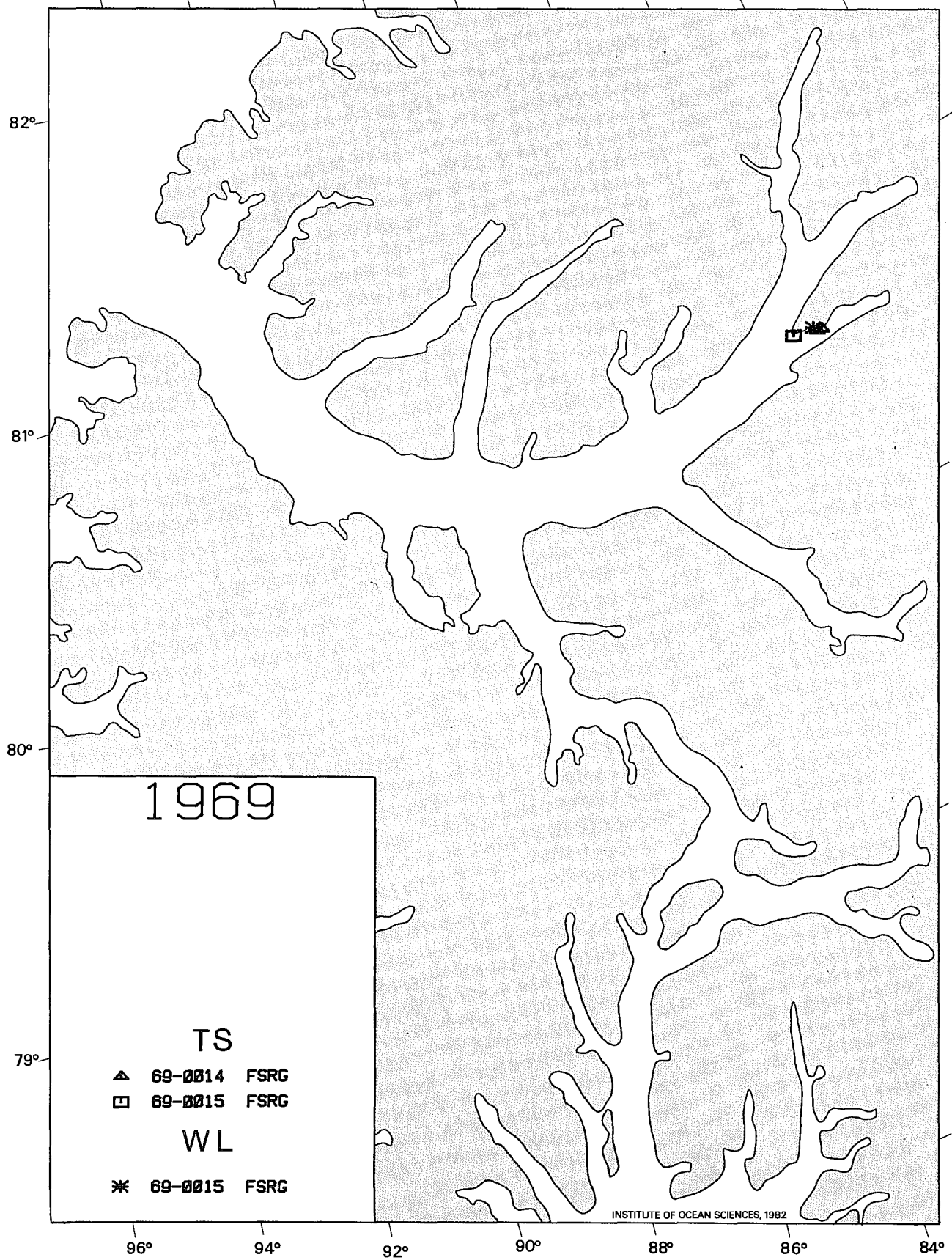


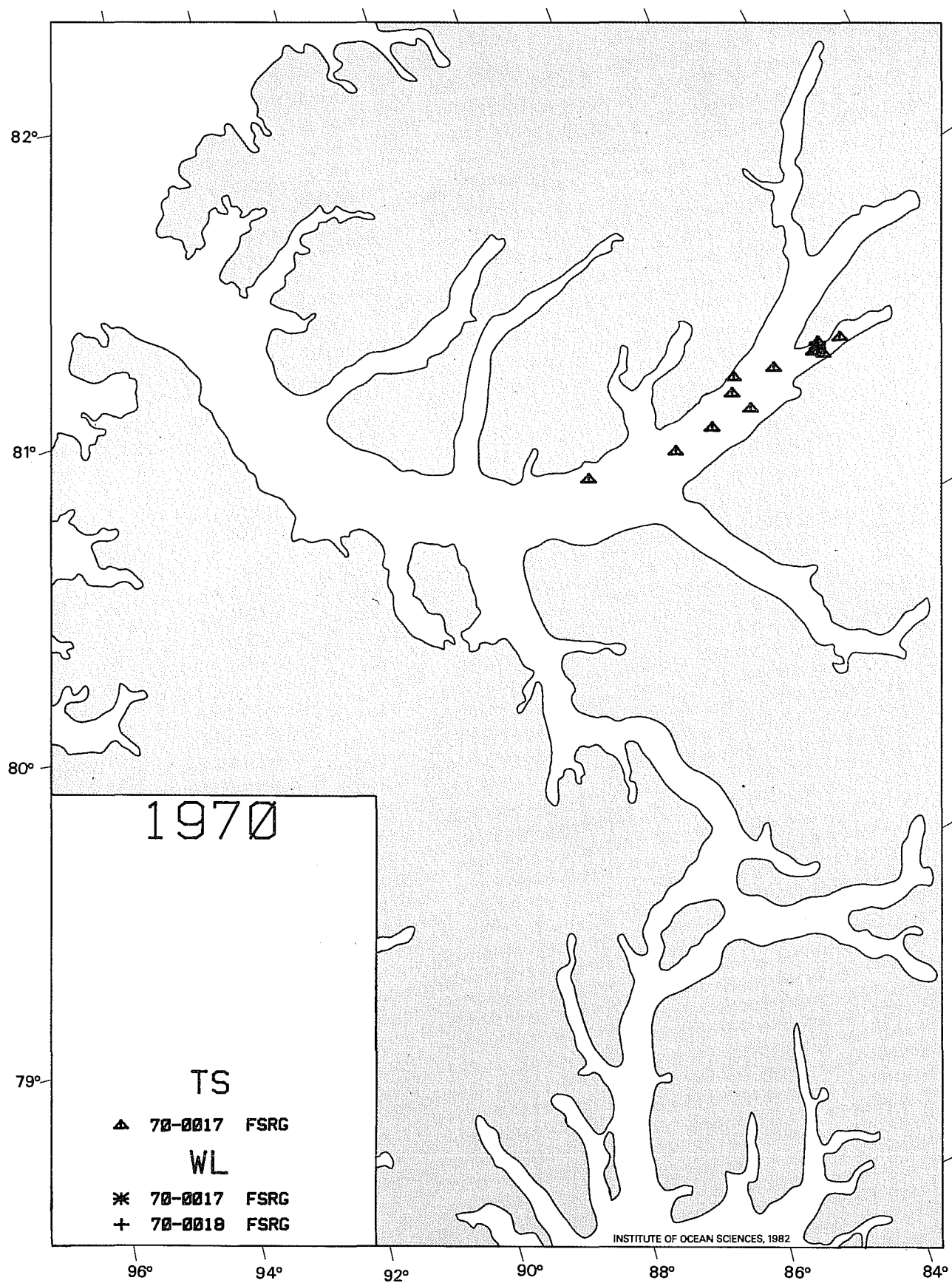


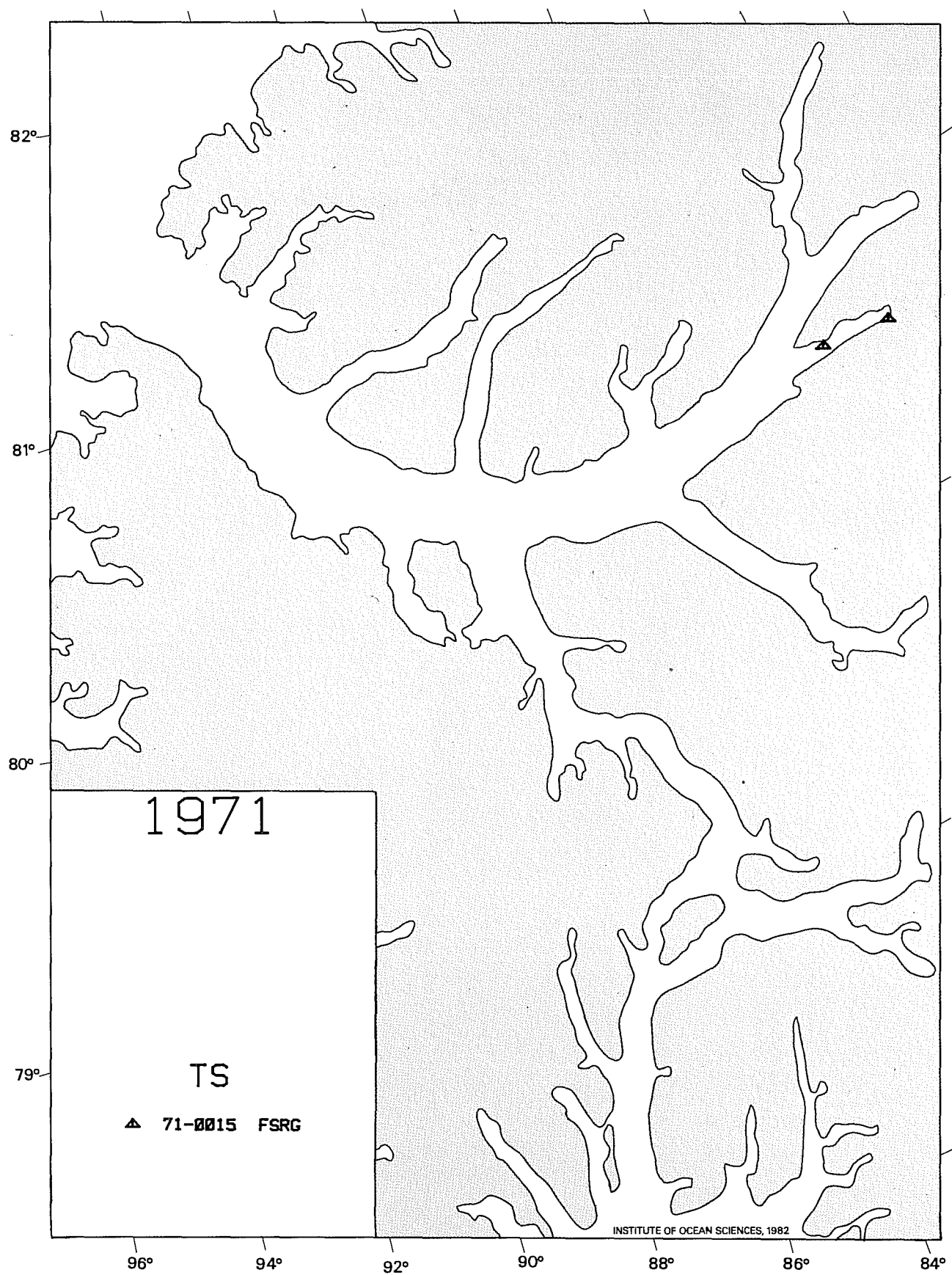


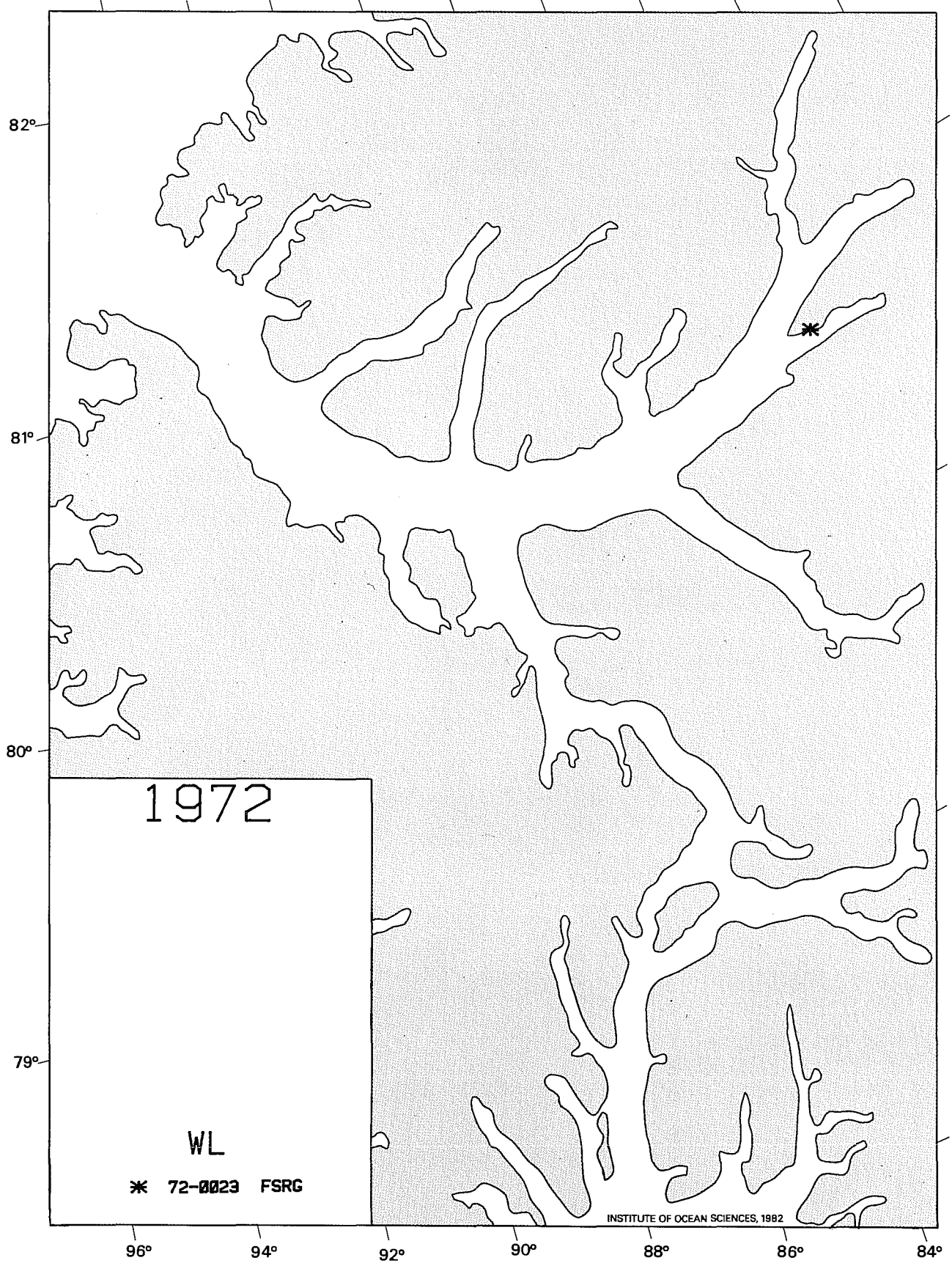


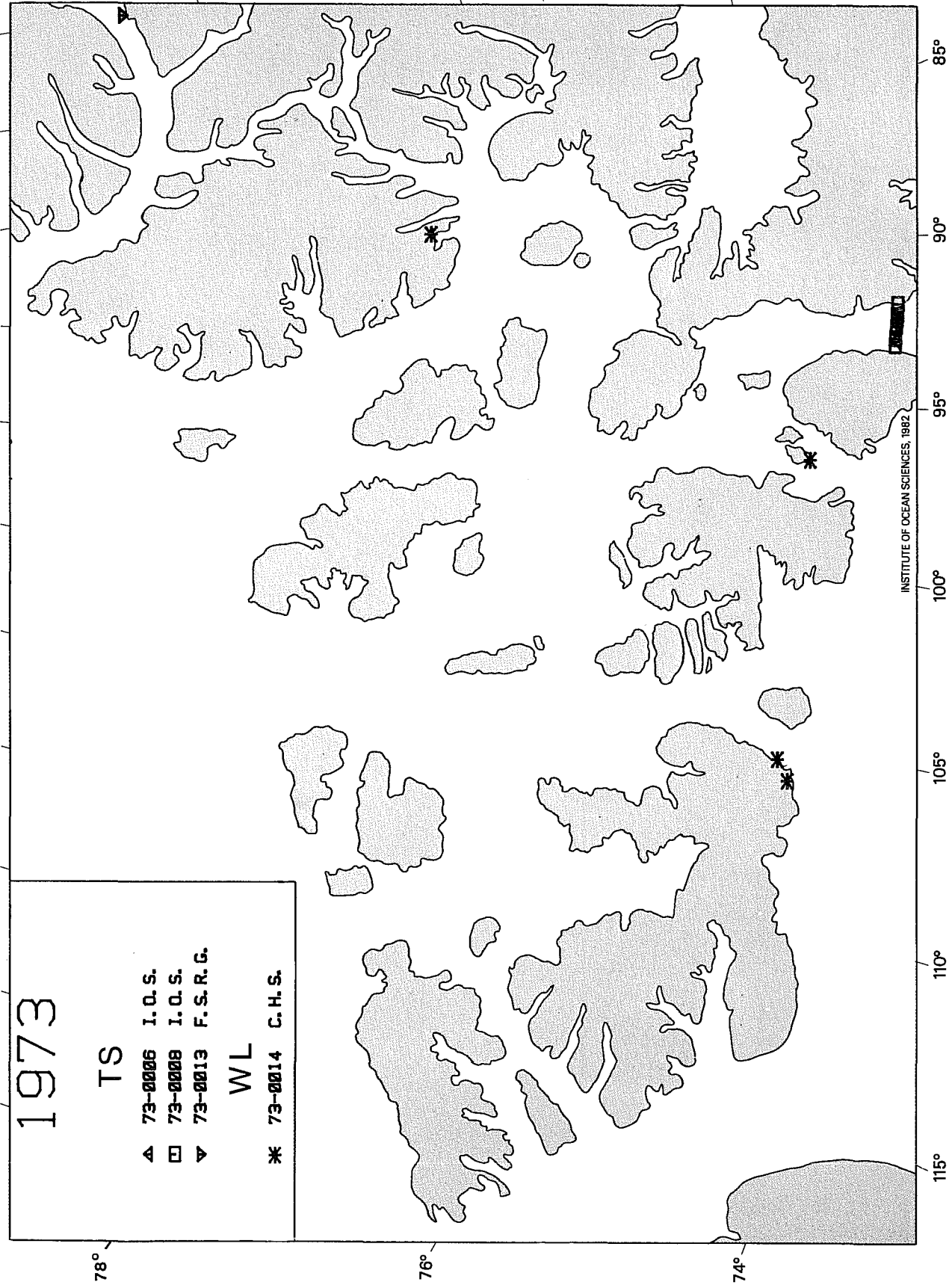


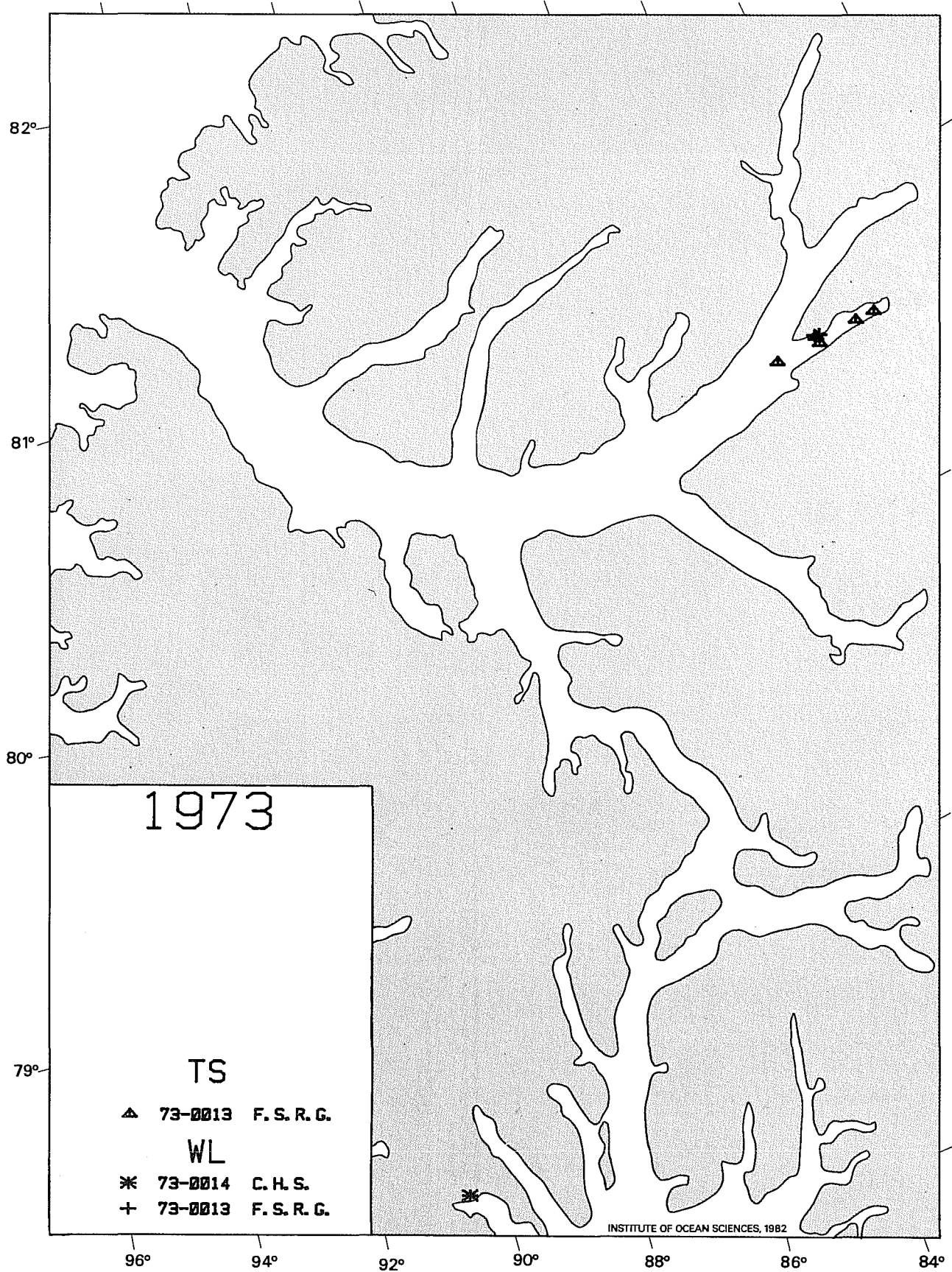


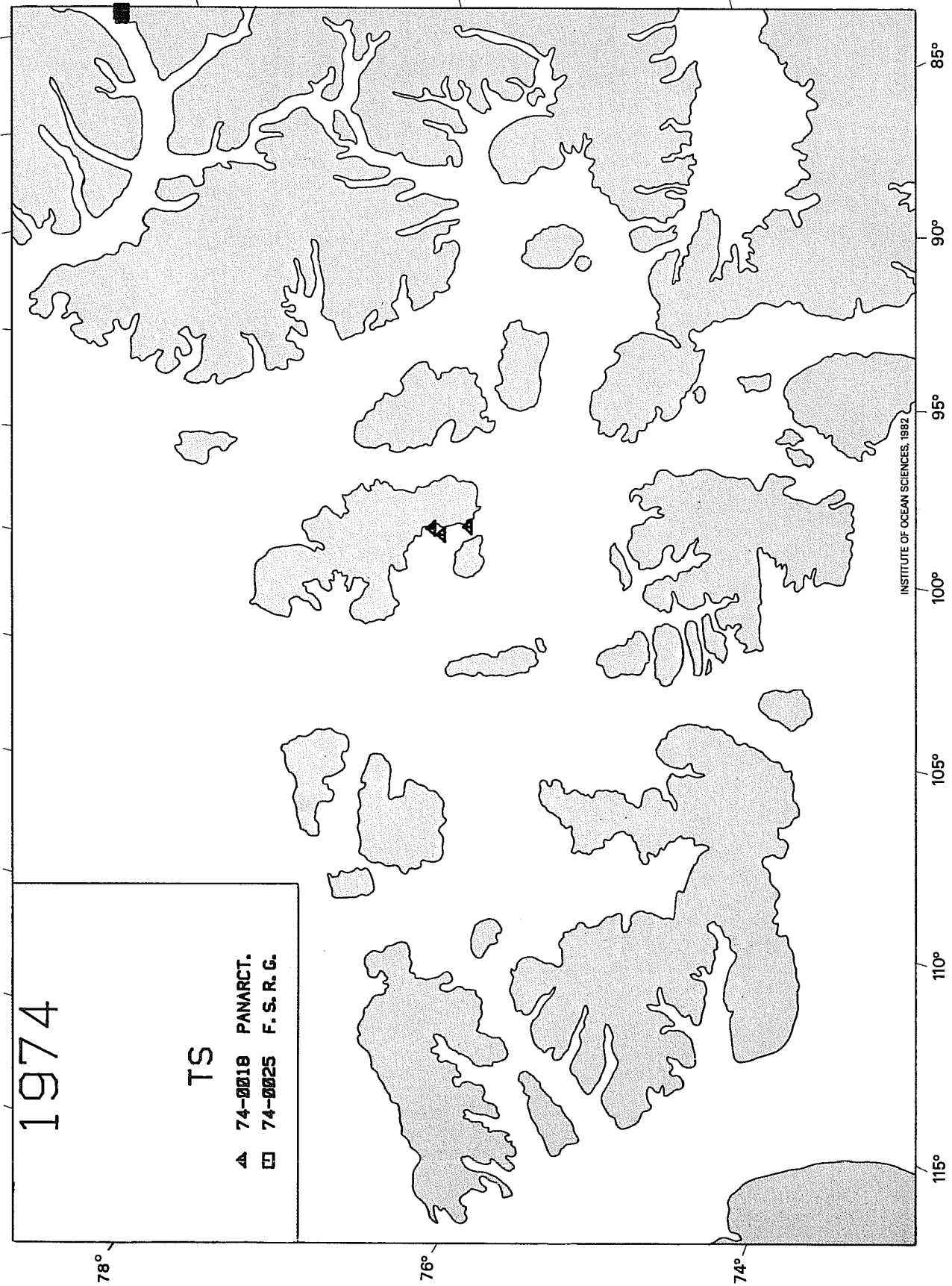


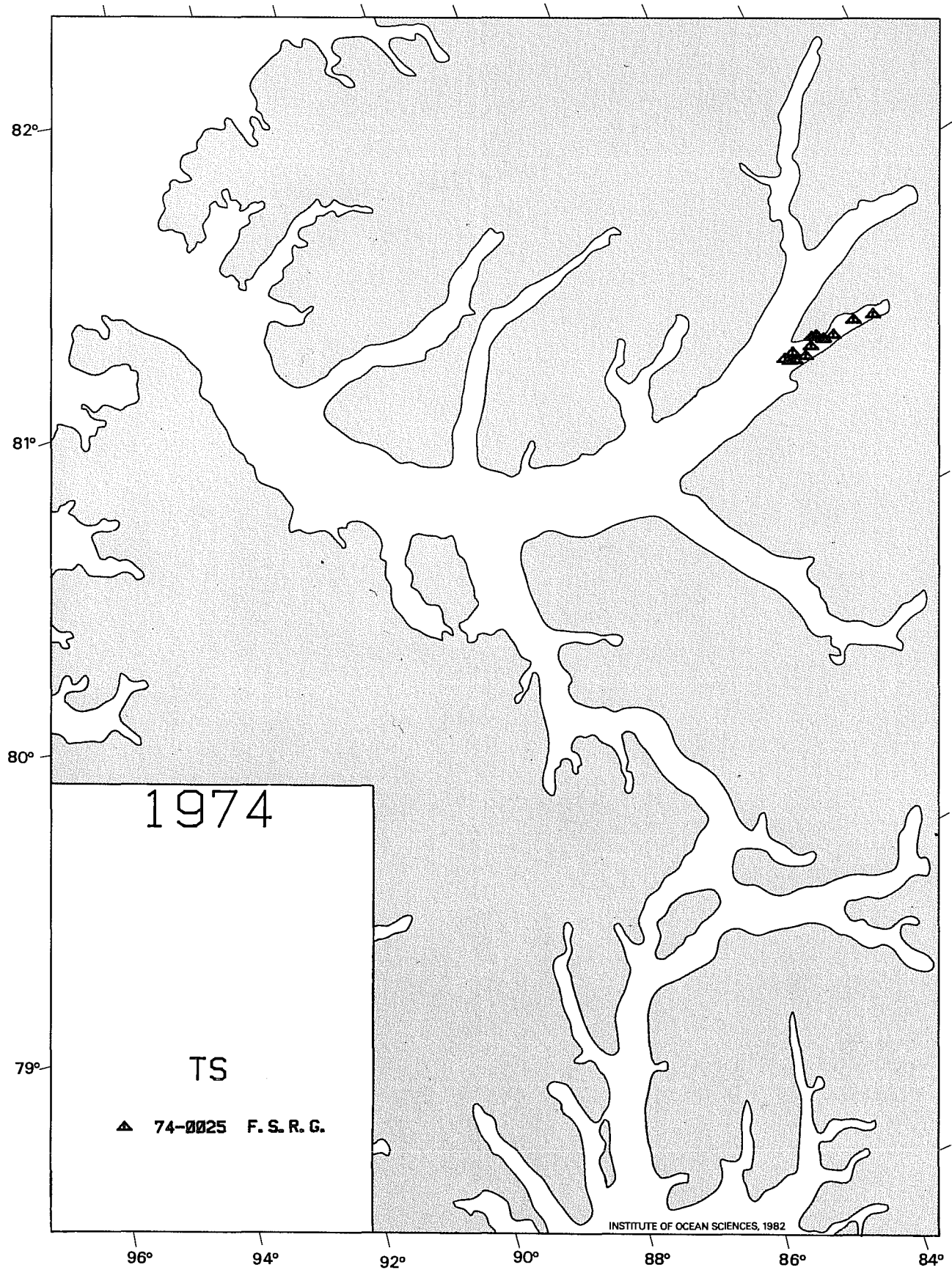


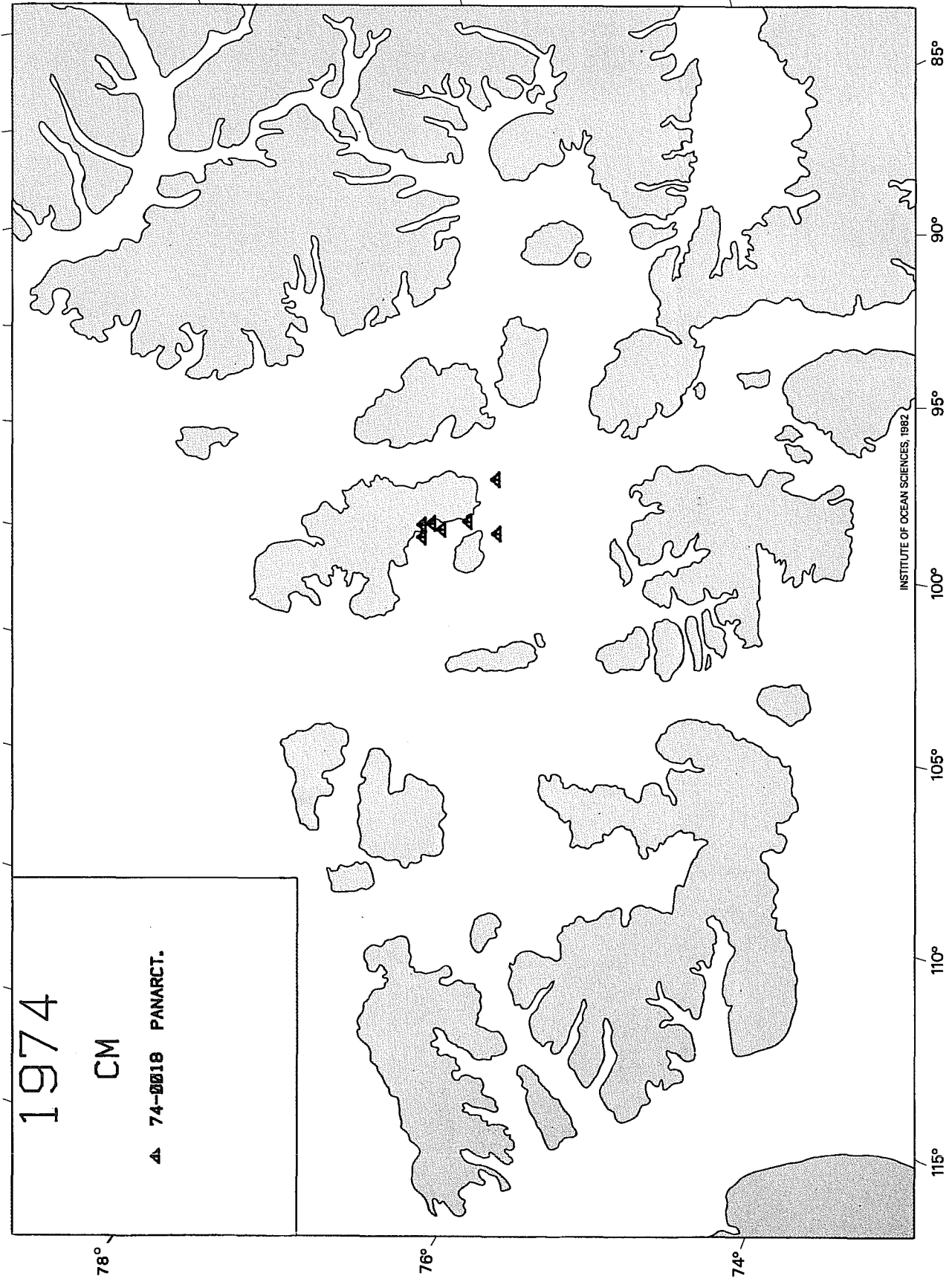


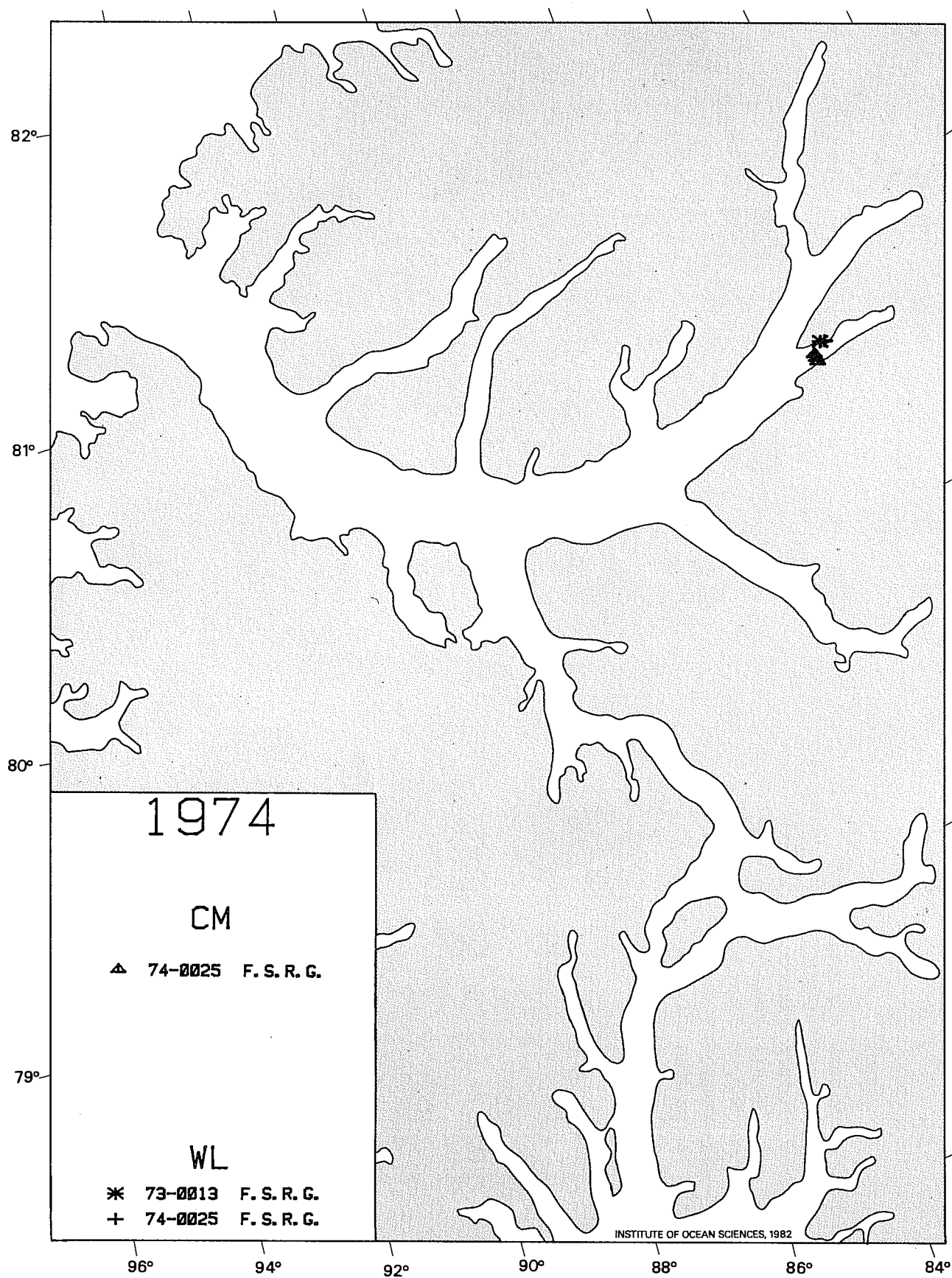


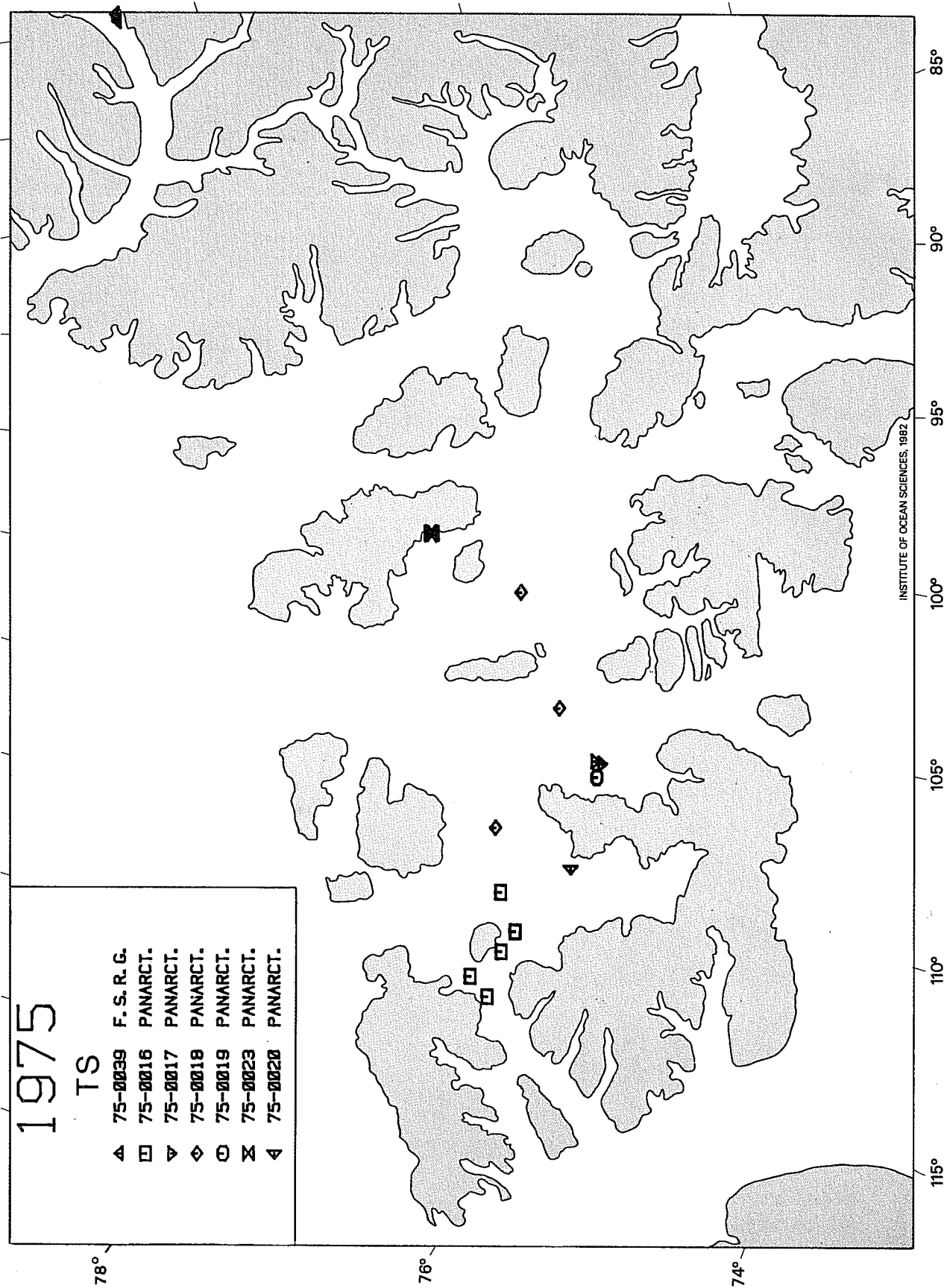


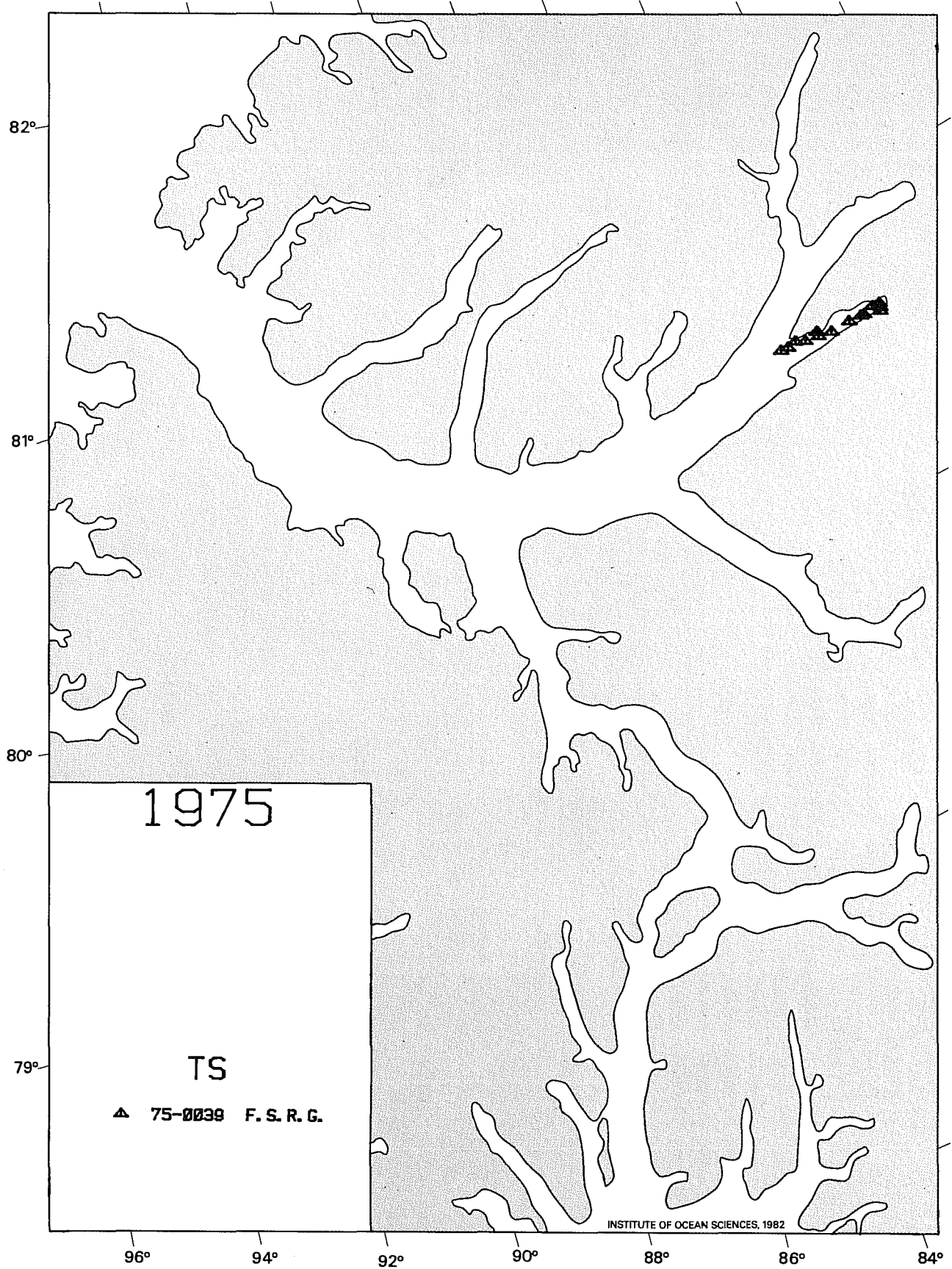


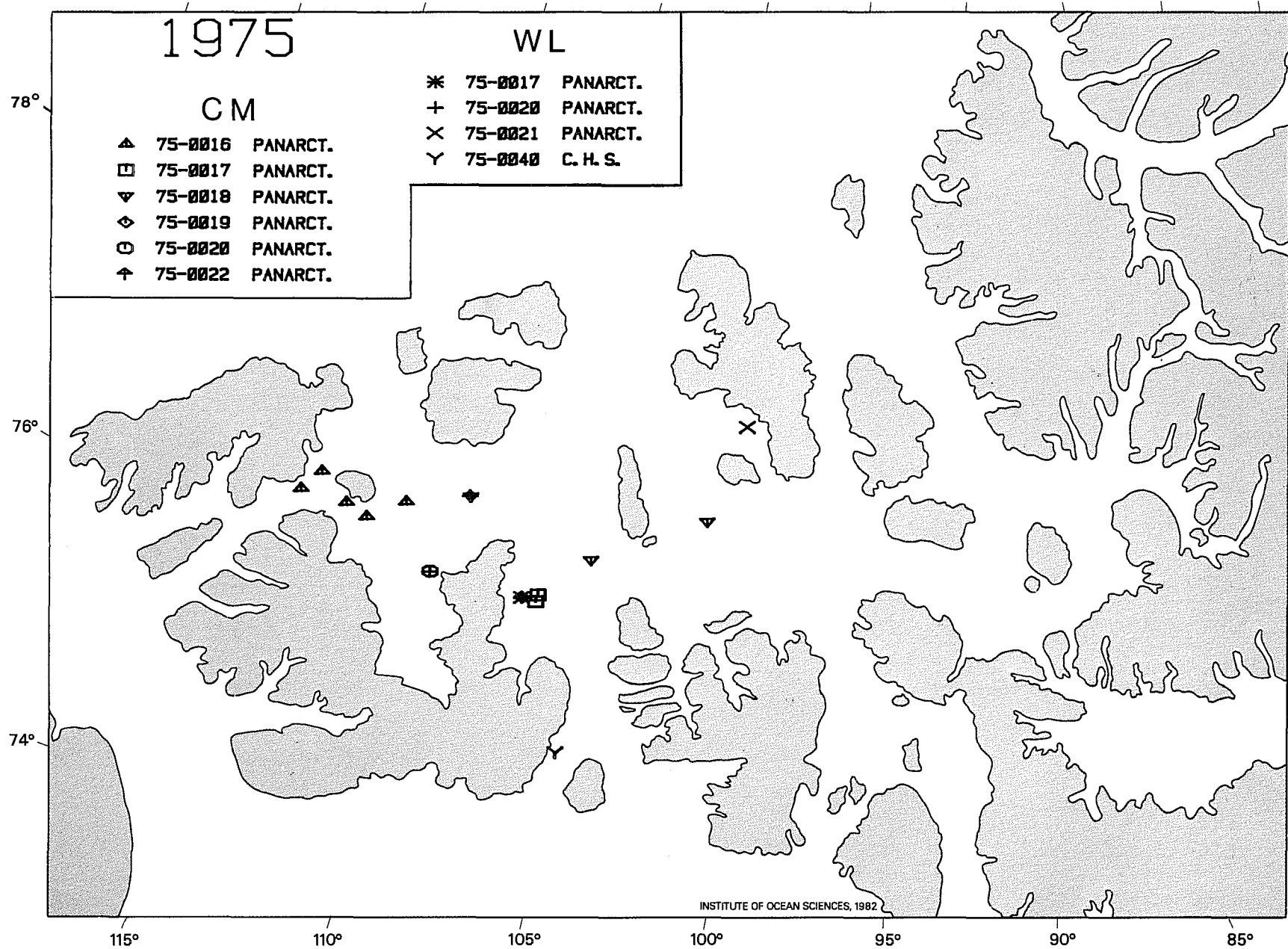


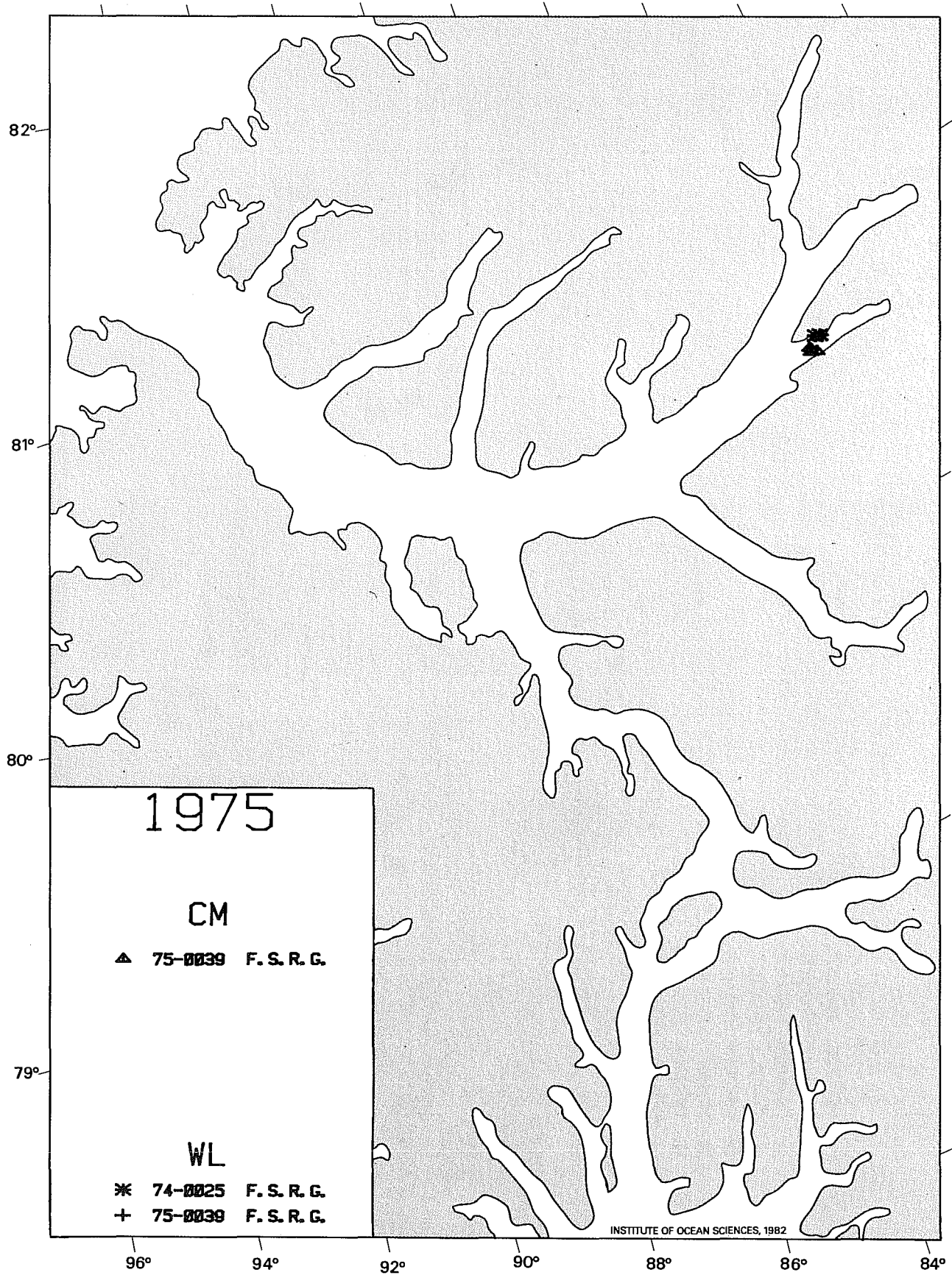


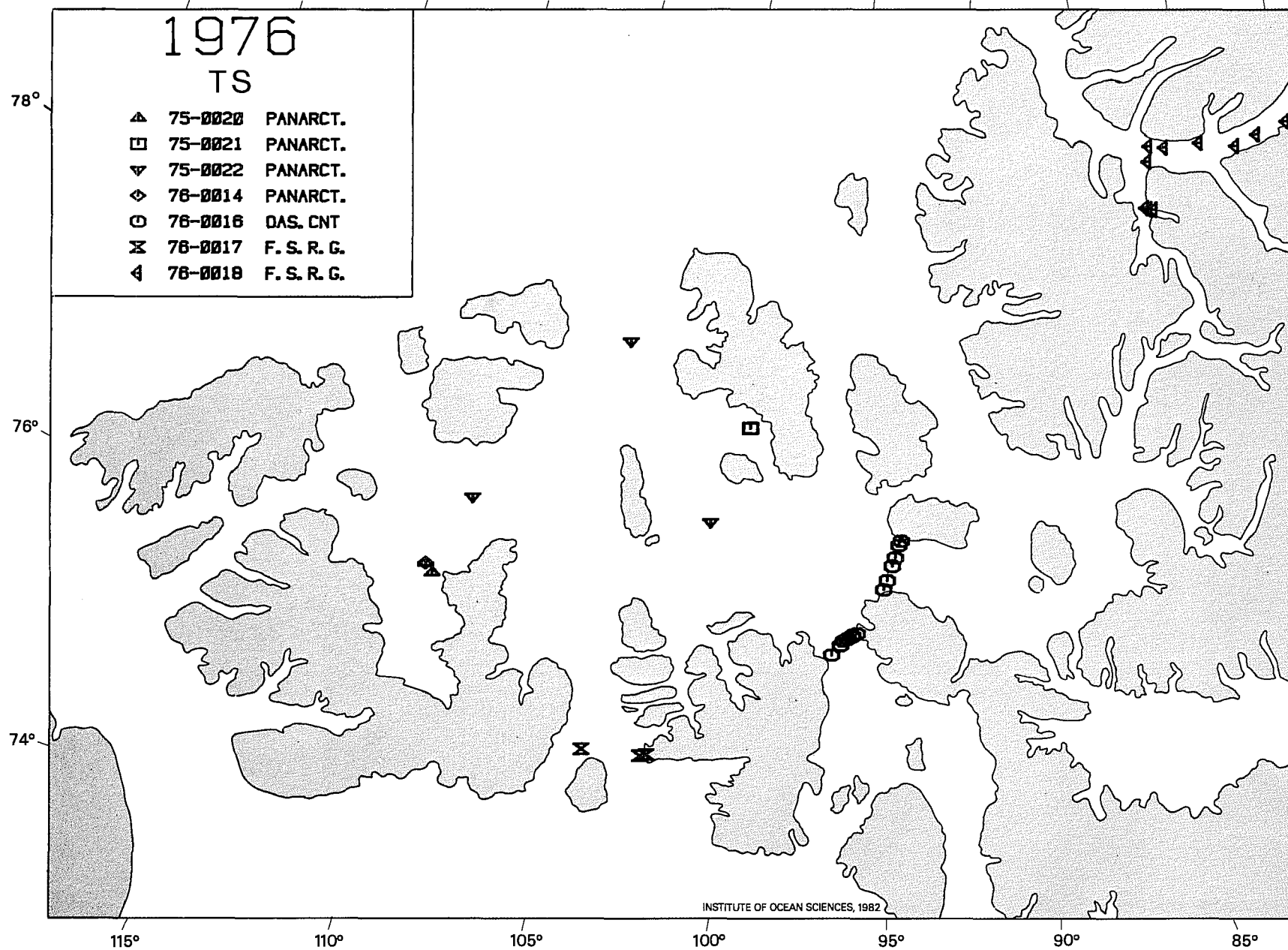


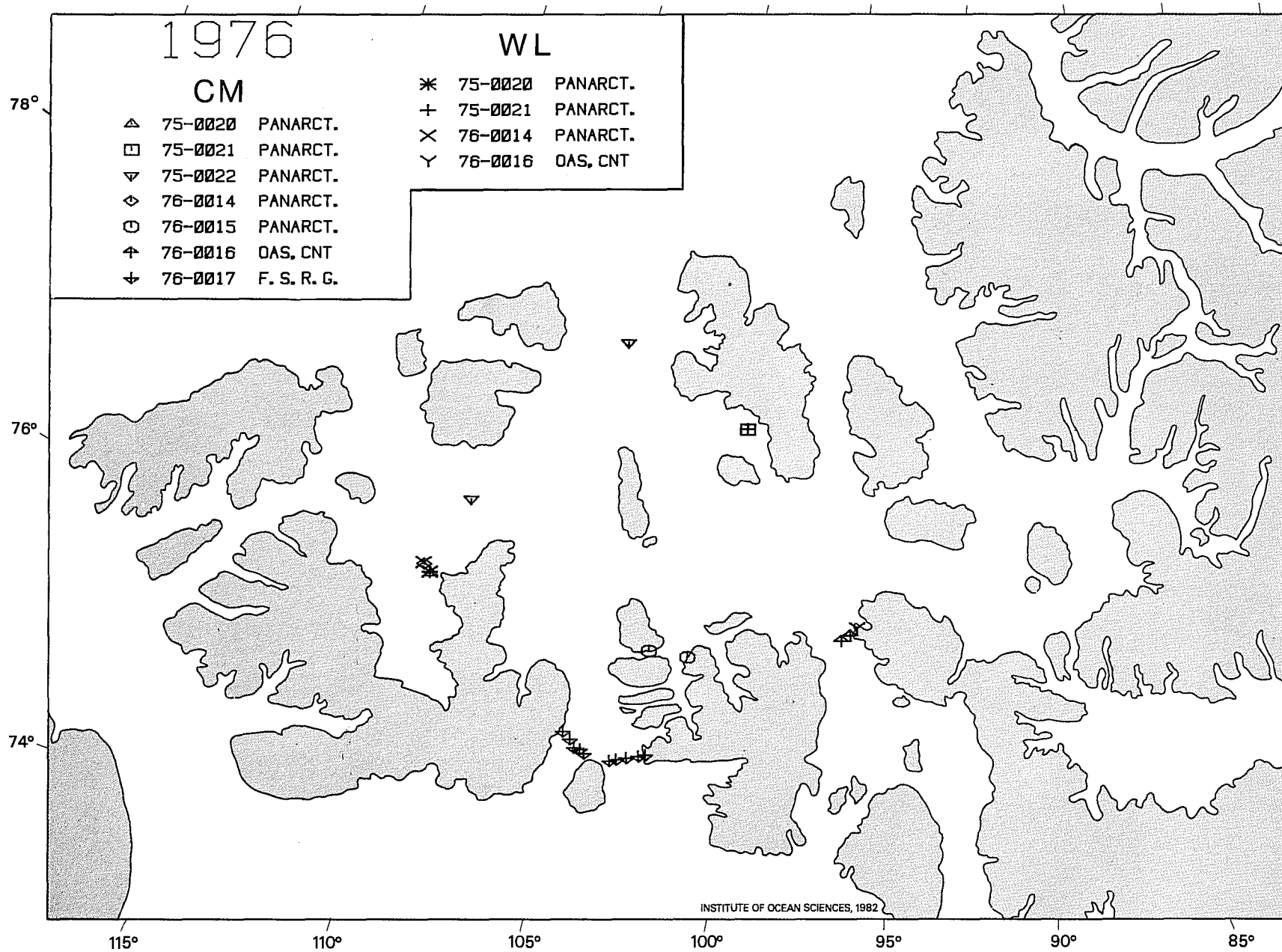


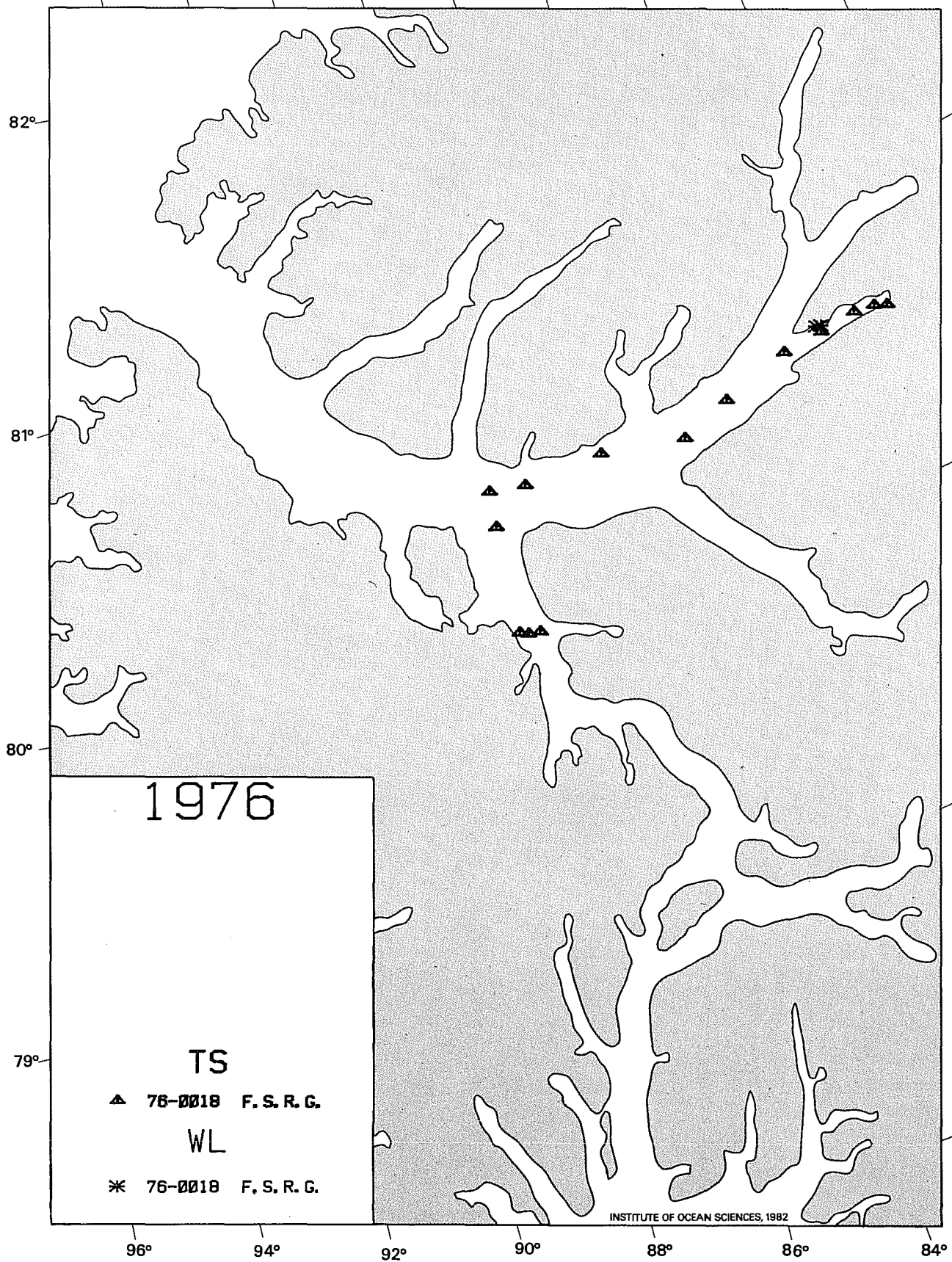


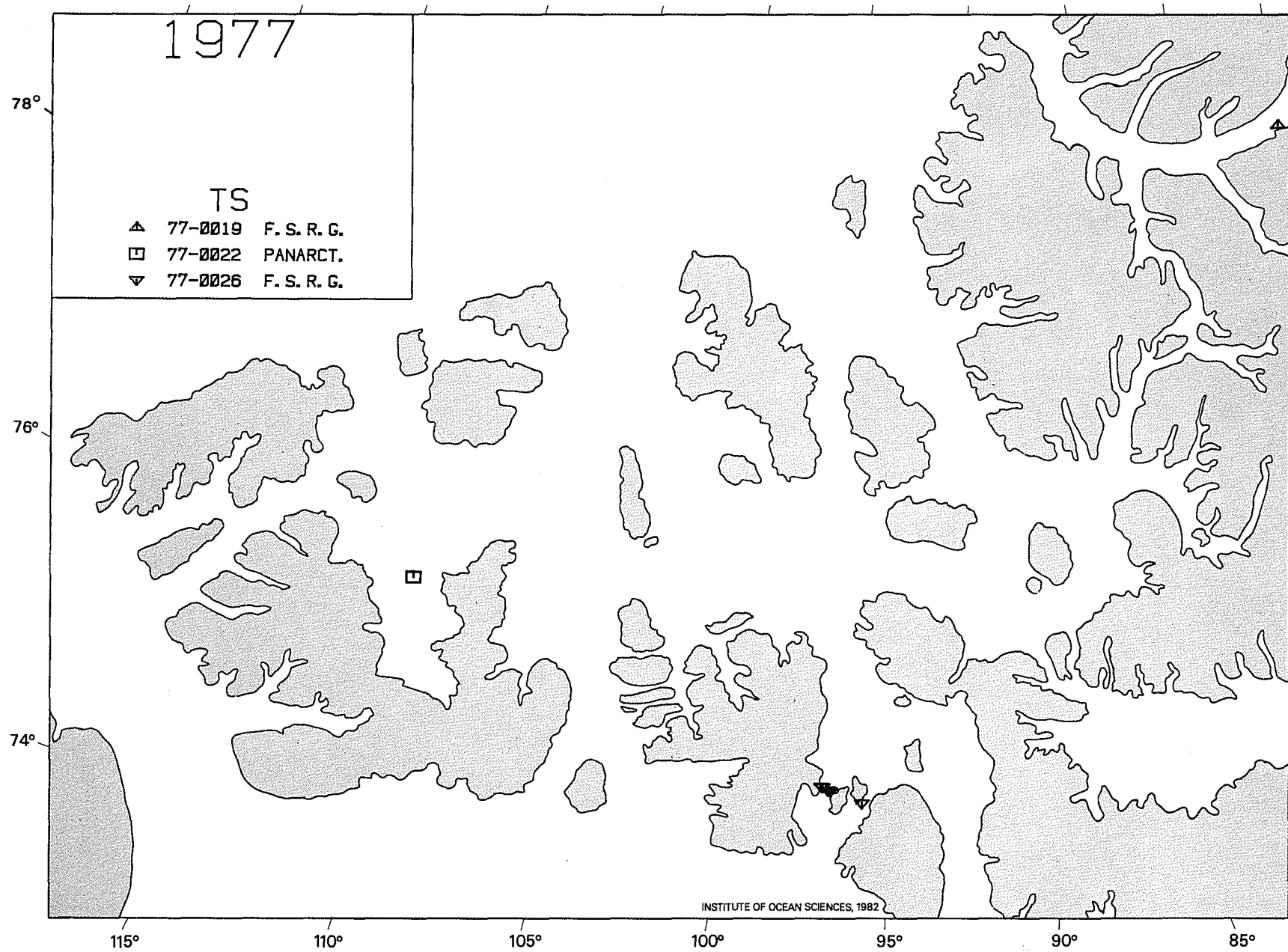


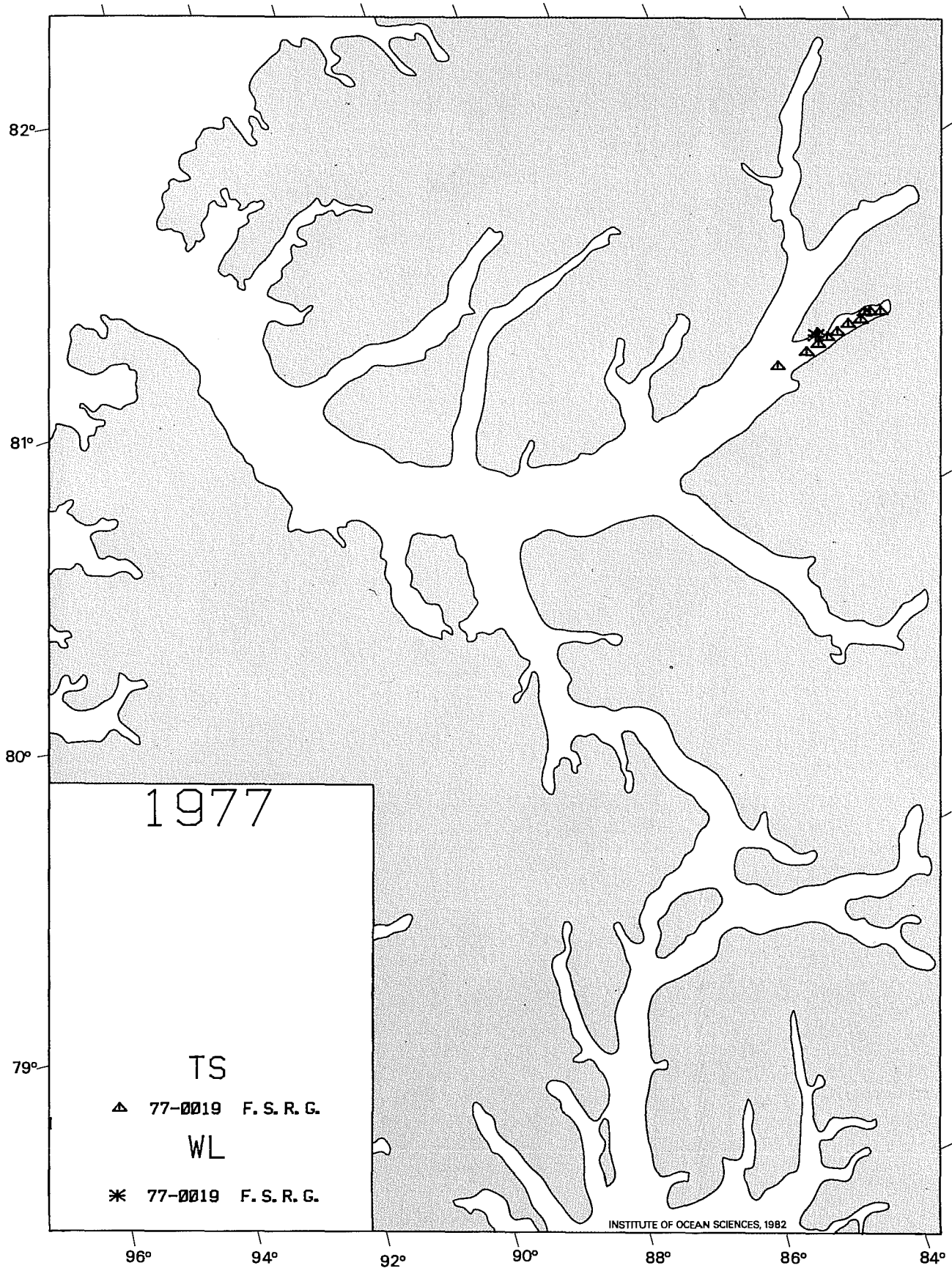


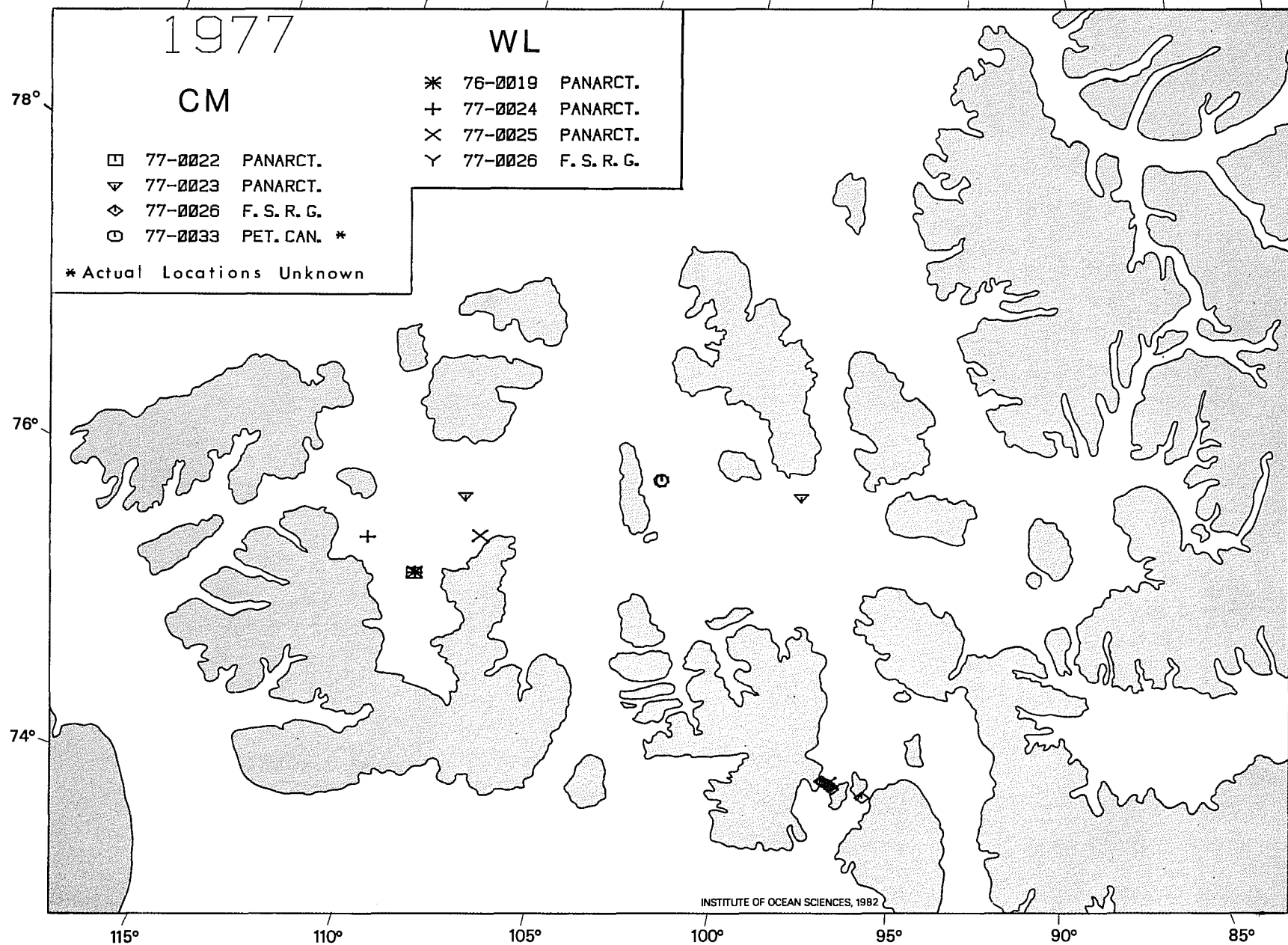


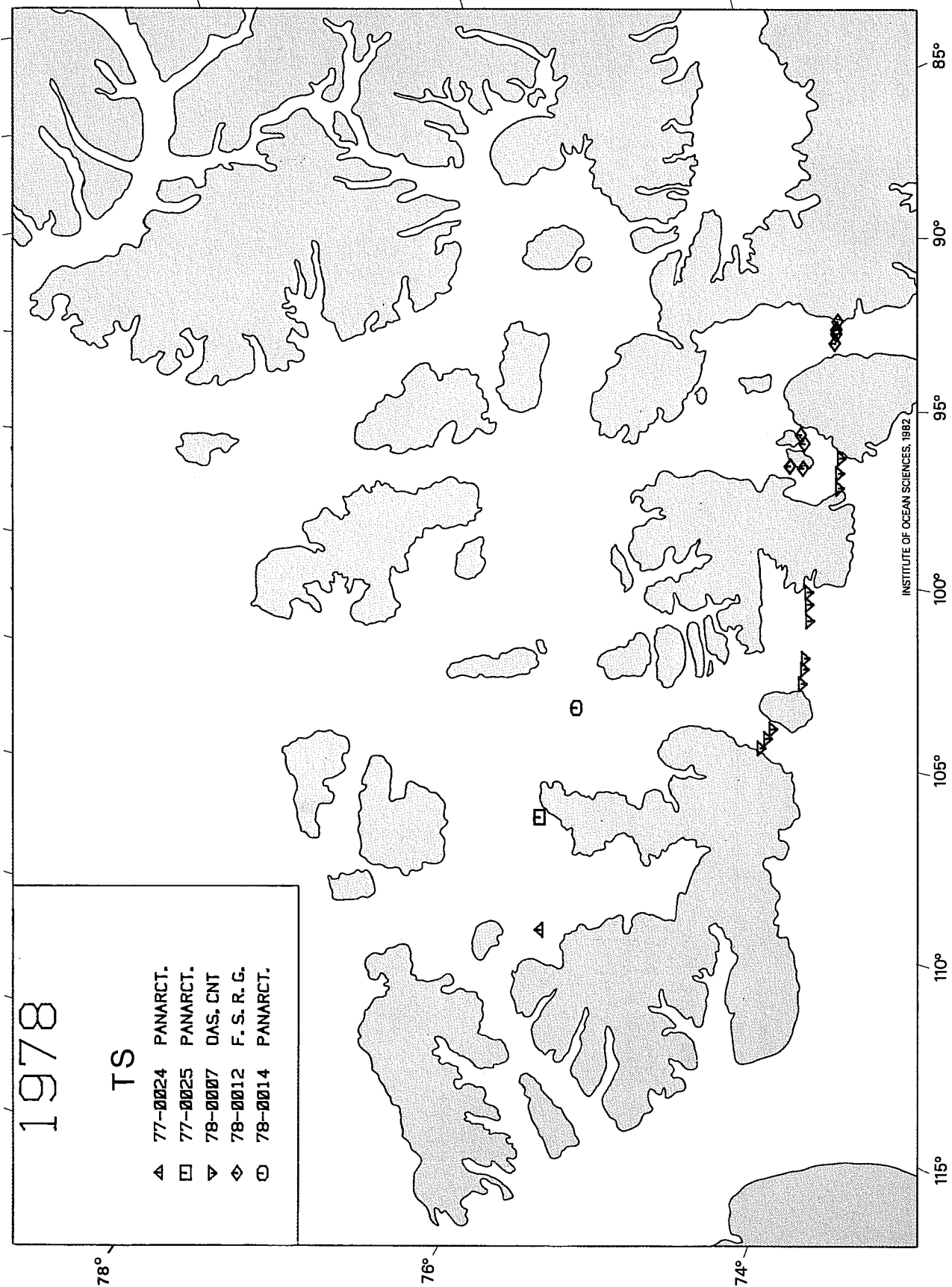


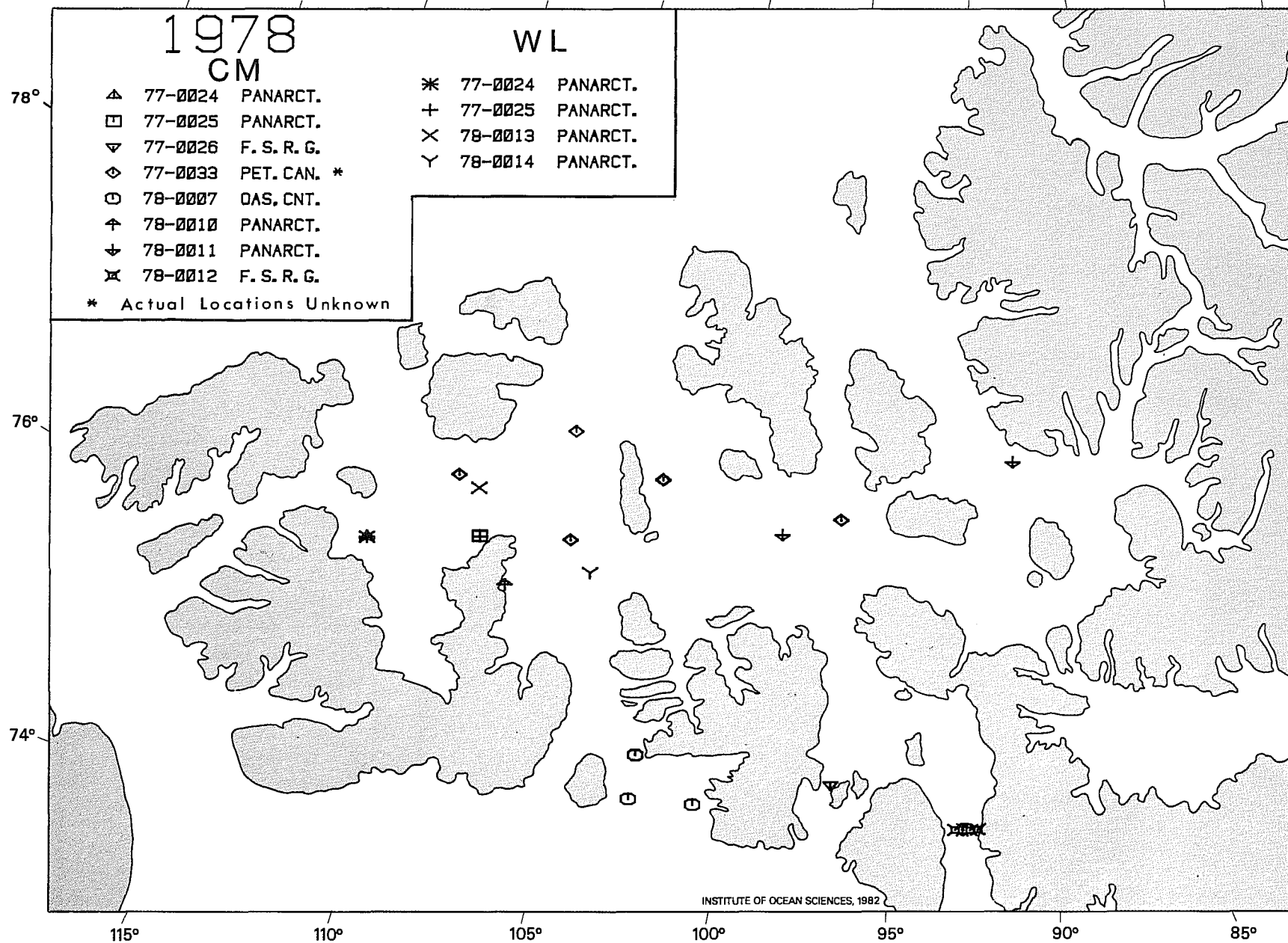


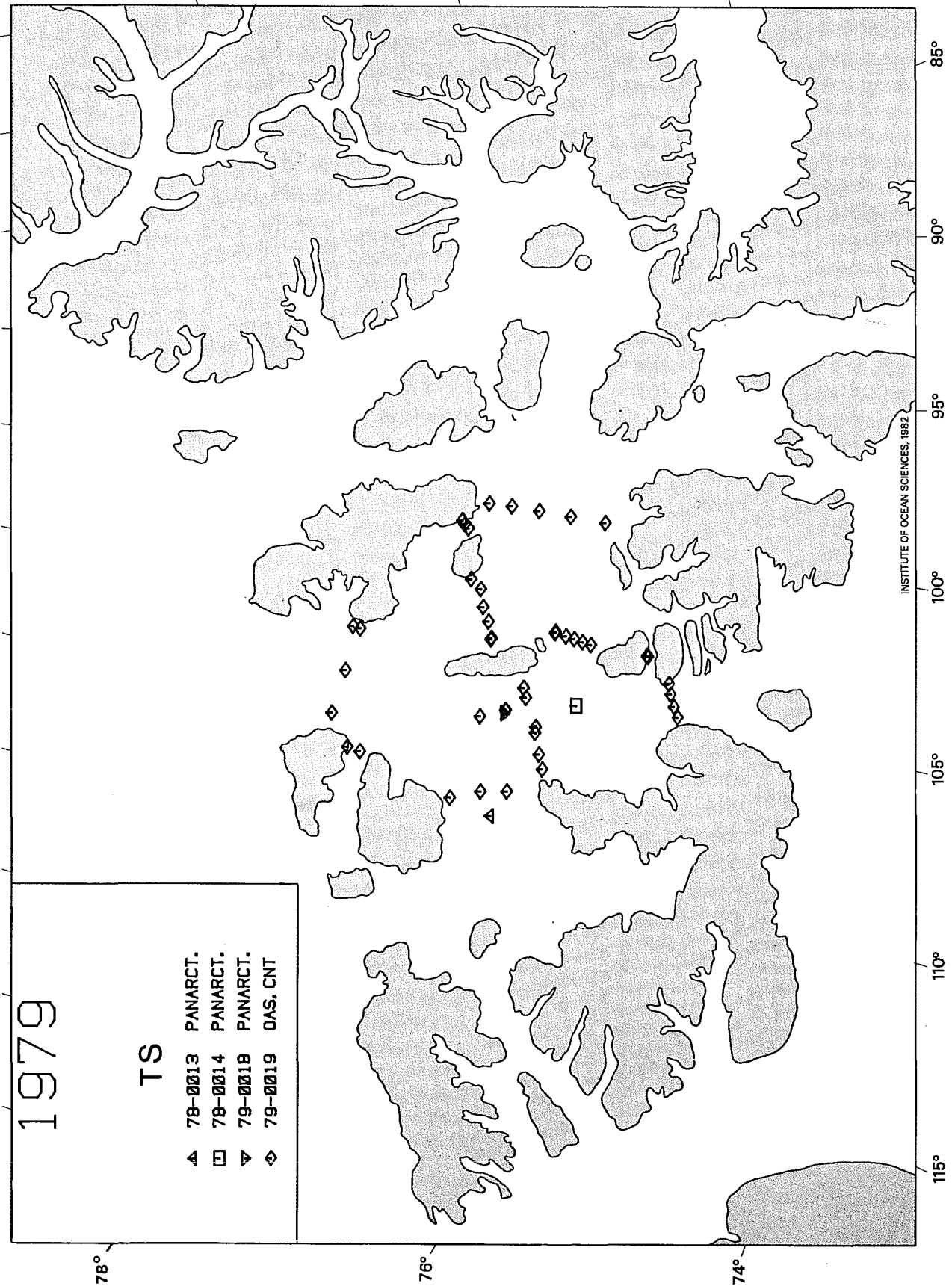


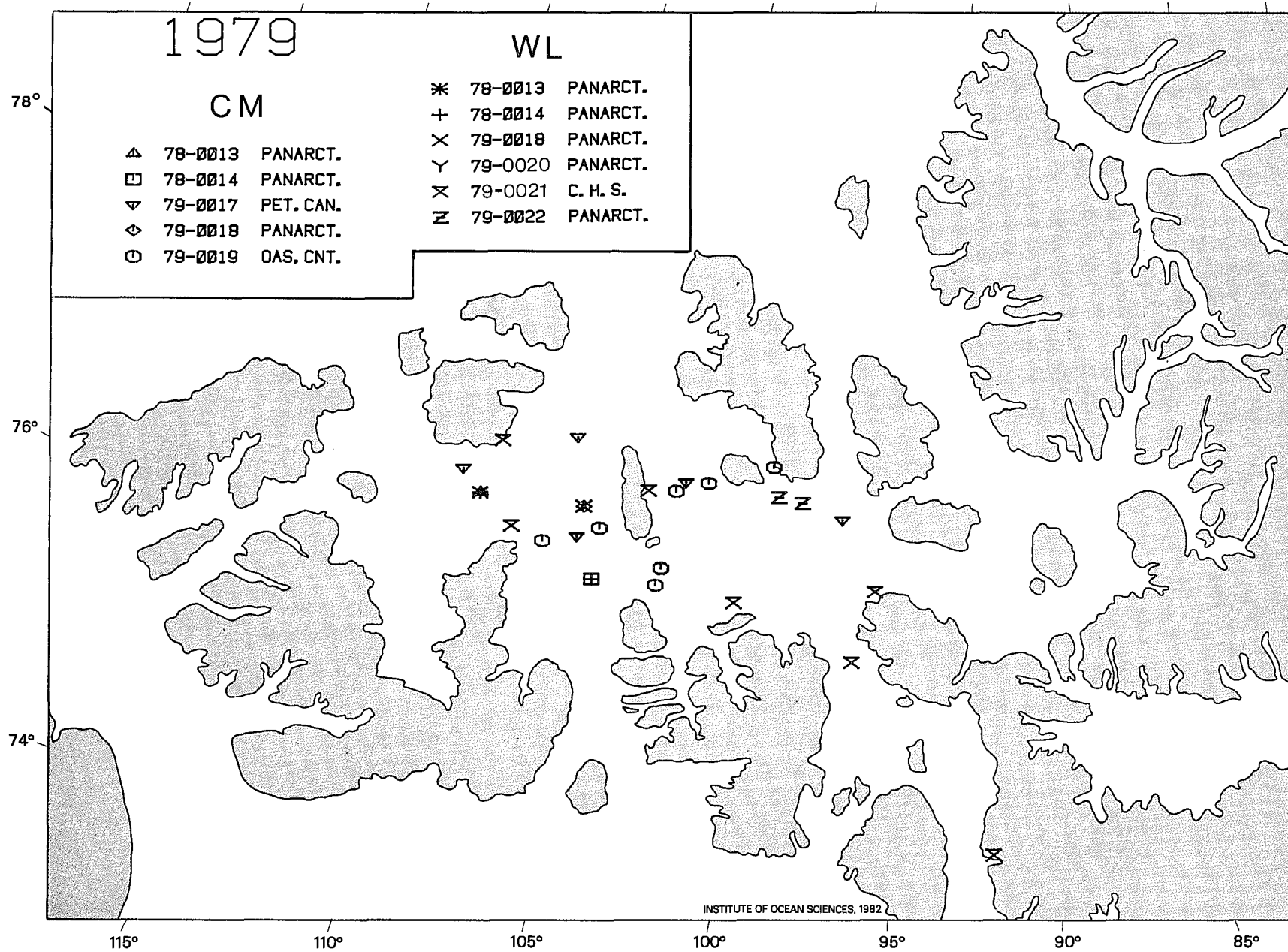


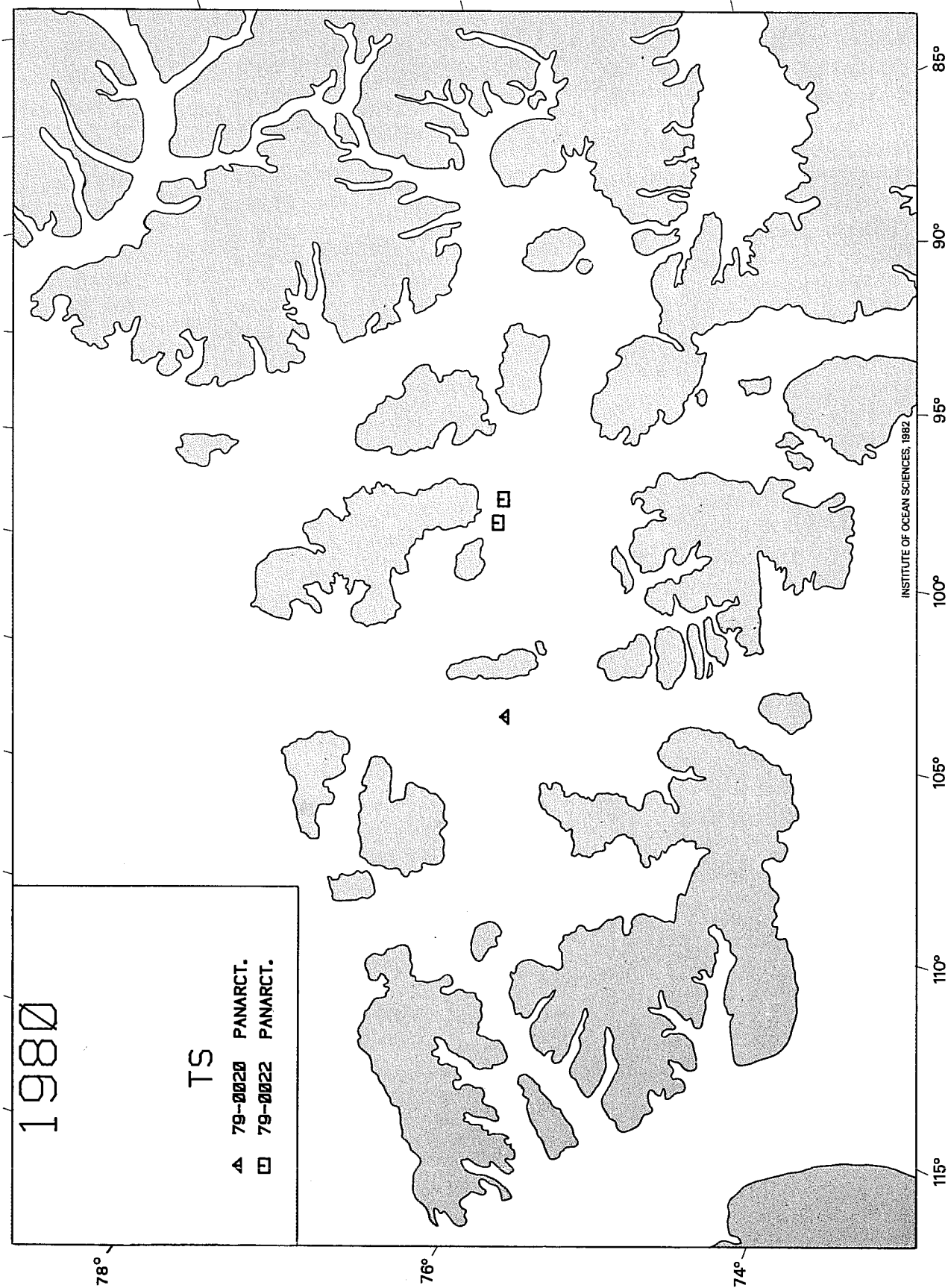


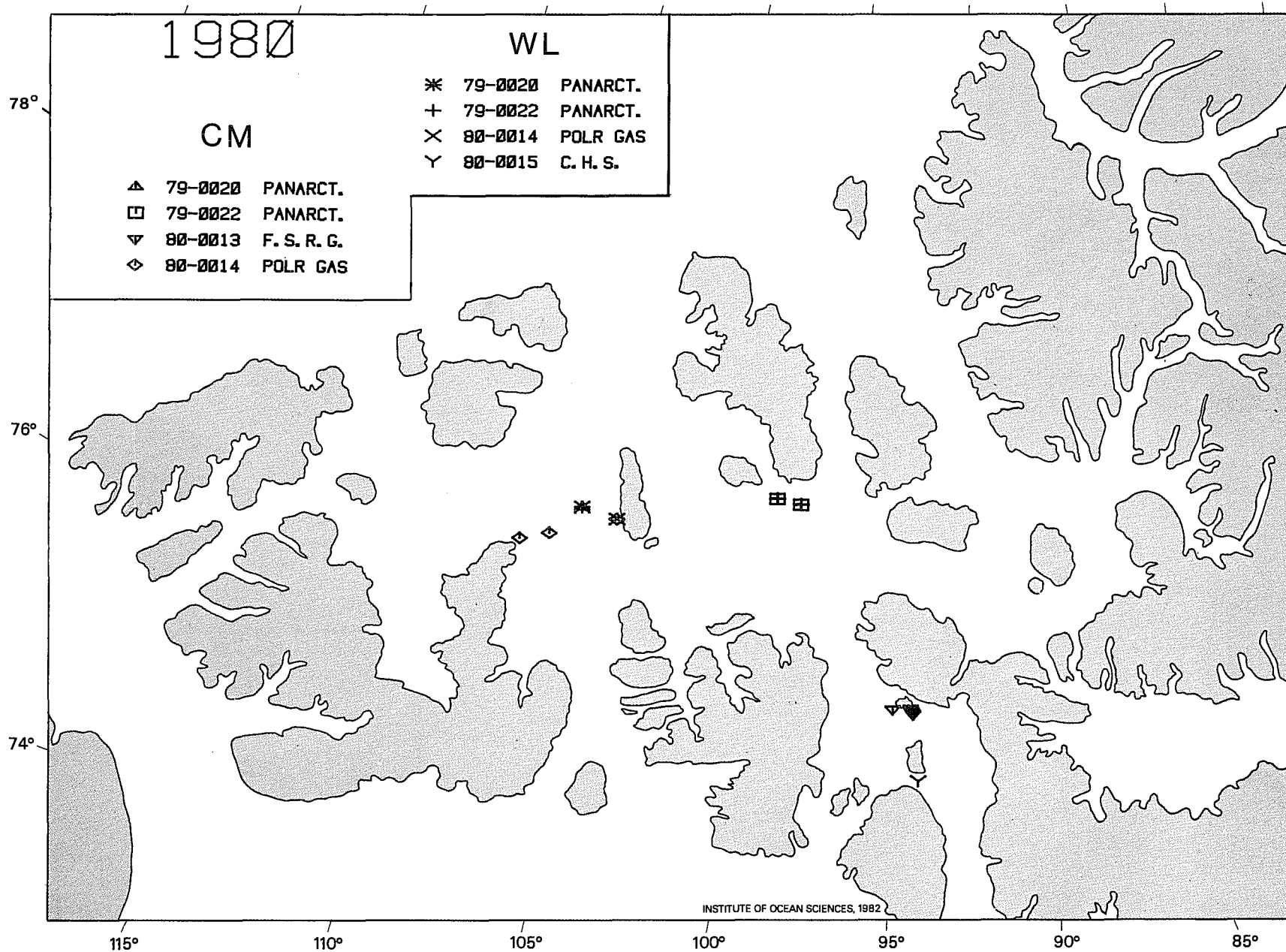


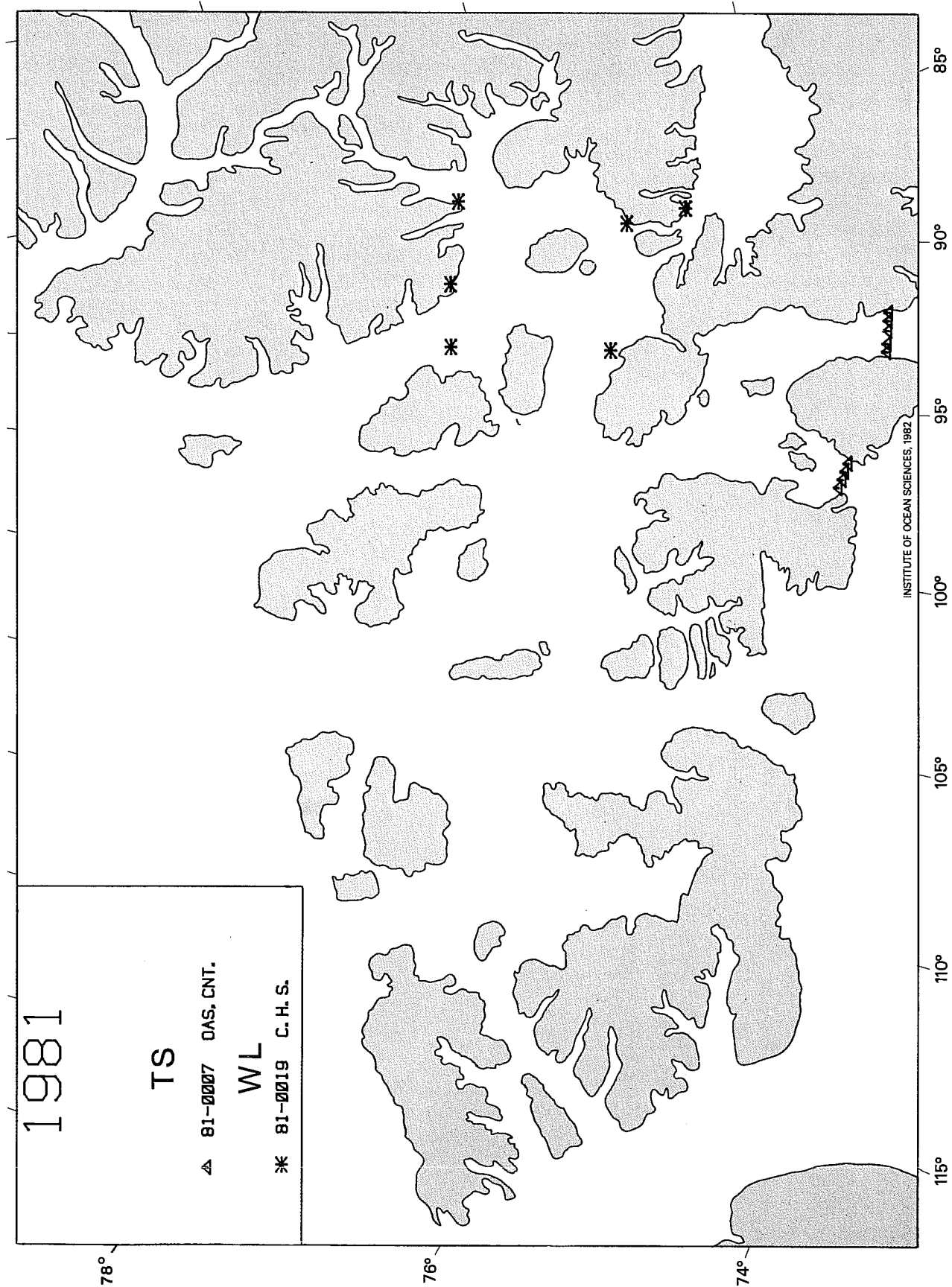












10. INDEXES

This section contains three indexes to the data sets. The first is a geographical index which provides a listing by sub-areas (Figure 1). All data sets with any measurements in a particular sub-area are listed by number under that sub-area. The second index classifies the data sets by measurement type, under the following headings:

| | |
|--|---|
| Temperature and salinity-bottle | : measurements at discrete points in the water column |
| Profiles of temperature and salinity | : measurements made with a profiling instrument such as a CTD. |
| Water levels, bottom pressure | : measurements from shore-based tide stations or bottom pressure gauges |
| Eulerian currents | : measurements of current velocity at a fixed point with a current meter |

The third index lists references for each data set by number. The data set number appears at the left hand side of the page, with references listed to the right. The main references are listed followed by other interpretive or analytical references, indented with respect to the main references. The list of interpretive or analytical references may not be complete.

10.1 GEOGRAPHICAL INDEX

| Ballantyne Strait | Wilkins Strait | Hazen Strait | West Lougheed Island | Prince Gustaf Adolf Sea | MacLean Strait | Arnot Strait- Erskine Inlet | Peary Channel | Sverdrup Channel | Massey Sound | Nansen Sound | Greely Fiord | Fitzwilliam Strait | Hecla & Griper Bay | E.Sabine Peninsula |
|-------------------------------|---|--|---|--|--|--|--------------------|---|---------------------------|---|--|-------------------------------|--|--|
| 60-0007 | 60-0007 | 75-0016 75-0018 75-0022 77-0023 77-0024 77-0025 77-0033 78-0013 79-0017 79-0019 79-0020 79-0021 79-0022? | 77-0033 79-0017 79-0018 79-0019 79-0020 79-0021 80-0014 | 49-0001 54-0010 59-0004 60-0007 61-0009 64-0005 75-0022 79-0019 | 74-0018 75-0021 75-0022 75-0023 77-0033 79-0017 79-0019 79-0021 | 76-0015 | 60-0007 | 60-0007 62-0058 73-0012 70-0019 72-0024 | 77-0026 | 62-0005B 62-0006 63-0010 64-0008 65-0005 66-0010 67-0002 67-0005 68-0008 69-0014 69-0015 70-0017 70-0018 71-0015 72-0023 73-0013 74-0025 75-0039 76-0018 77-0019 | 62-0006 | 75-0016 | 75-0016 75-0020 76-0014 76-0019 77-0022 77-0024 | 75-0017 75-0019 78-0010 |
| Desbarats Strait | Edinburgh Sea | Penny Strait | Queens Channel | Belcher Channel | Norwegian Bay | Eureka Sound | Crozier Channel | Kellett Strait | Byam Martin Channel | Byam Channel | Austin Channel | Crozier & Pullen Strait | McDougall Sound | Wellington Channel |
| 75-0018 78-0014 79-0019 | 74-0018 75-0018 77-0023 77-0033 78-0011 79-0017 79-0019 79-0021 79-0022 | 57-0003 62-0005A 62-0006 76-0016 79-0021 | 57-0003 61-0003 62-0013 80-0013 | 76-0016 81-0019 | 52-0003 61-0003 62-0006 67-0002 68-0001 78-0011 81-0019 | 48-0001 52-0003 54-0010 61-0005 62-0006 67-0002 | 51-0007 | 62-0006 | 78-0016 79-0019 | 54-0001 61-0003 64-0004 69-0016 73-0014 75-0040 76-0017 78-0007 | 61-0003 62-0006 76-0017 78-0007 | 77-0026 78-0012 | 73-0014 78-0007 81-0007 | 54-0001 57-0003 60-0005 61-0003 61-0004 62-0006 67-0002 68-0001 73-0006 73-0008 78-0012 79-0021 80-0015 81-0007 |

10.2 MEASUREMENT TYPE INDEX

| Profiles of Temperature & Salinity | Water Levels, Bottom Pressure | Eulerian Currents | Temperature & Salinity |
|---|--|------------------------------|---------------------------------------|
| 67-0002 | 49-0001 | 61-0009 | 48-0001 |
| 69-0014 | 51-0007 | 67-0002 | 52-0003 |
| 70-0017 | 54-0010 | 73-0012 | 54-0001 |
| 71-0015 | 59-0004 | 74-0018 | 57-0003 |
| 72-0023? | 62-0013 | 74-0025 | 60-0005 |
| 73-0006 | 63-0010 | 75-0016 | 60-0007 |
| 73-0008 | 64-0008 | 75-0017 | 61-0003 |
| 73-0012 | 68-0008 | 75-0018 | 61-0004 |
| 73-0013 | 69-0015 | 75-0019 | 61-0005 |
| 74-0018? | 69-0016 | 75-0020 | 61-0009 |
| 74-0025 | 70-0017 | 75-0021 | 62-0005 |
| 75-0016 | 70-0018 | 75-0022 | 62-0006 |
| 75-0017? | 72-0023 | 75-0039 | 63-0010 |
| 75-0018 | 73-0013 | 76-0014 | 64-0004 |
| 75-0019 | 73-0014 | 76-0015 | 64-0005 |
| 75-0020 | 74-0025 | 76-0016 | 64-0008 |
| 75-0021 | 75-0017 | 76-0017 | 65-0005 |
| 75-0022 | 75-0020 | 77-0022 | 66-0010 |
| 75-0023 | 75-0021 | 77-0023 | 67-0002 |
| 75-0039 | 75-0022 | 77-0024 | 67-0005 |
| 76-0014 | 75-0040 | 77-0025 | 68-0001 |
| 76-0016 | 76-0014 | 77-0026 | 69-0015 |
| 76-0017 | 76-0016 | 77-0033 | 70-0018 |
| 76-0018 | 76-0018 | 78-0007 | |
| 77-0019 | 76-0019 | 78-0010 | |
| 77-0022 | 77-0019 | 78-0011 | |
| 77-0026 | 77-0024 | 78-0012 | |
| 78-0007 | 77-0025 | 78-0013 | |
| 78-0012 | 77-0026 | 78-0014 | |
| 78-0013 | 78-0013 | 79-0017 | |
| 78-0014 | 78-0014 | 79-0018 | |
| 79-0018 | 78-0016 | 79-0019 | |
| 79-0019 | 79-0018 | 79-0020 | |
| 79-0020 | 79-0020 | 79-0022 | |
| 79-0022 | 79-0021 | 80-0013 | |
| | 79-0022 | 80-0014 | |
| | 80-0014 | | |
| | 80-0015 | | |
| | 81-0019 | | |

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- 71-0015** See 69-0014.
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11. LISTING OF MEASUREMENT LOCATIONS AND OTHER PARAMETERS, BY YEAR

This section gives detailed listings of measurement locations and times for each of the data sets plotted on the maps in Section 9. (Drifter data sets whose measurement locations were plotted as shaded areas only are not listed.) There are separate listings for temperature-salinity data, current meter data and water level data. Each listing is ordered by data set number. An explanation of the format appears at the start of each listings. Only data collected within the area of this inventory is listed here; measurements taken elsewhere may be found in the inventories for those areas.

11.1 TEMPERATURE-SALINITY DATA

The listings contain the following information:

| | |
|-------------|--|
| AREA | General area of station. |
| STN | Station number; wherever possible it is the station number assigned in the original data source. |
| LAT, LONG | In degrees and minutes. |
| YR | Year |
| MO | Month |
| DY | Day |
| HR | Hour (GMT) |
| CAST TO | Maximum depth of data, in metres. |
| WATER DEPTH | In metres, if available. |
| PARAM MEAS | Parameters measured - conductivity, salinity, temperature. Each parameter measured is qualified by one of the following: X - measurements of this parameter were made CA - possible calibration problems S - suspect readings C - constant readings over parts of record O - zero or obviously bad readings |
| INSTR | Instrument type: BOT - bottle sample GLDL - Guideline CTD AAND - Aanderaa current meter BECK - Beckman INTO - Interocean CTD YSIC - Yellow Springs Instruments Co. BISS - Bisset Berman STD AMS - Applied Microsystems CTD HYT - Hytech induction salinometer |
| INT(HR) | The time period between repeat stations. |
| NO | The number of repeat stations. |

Blank entries indicate unavailable or inapplicable data.
? implies suspect data, but the only/best data available.

BOTTLE/CTD DATA SET NUMBER: 48-0001
 YEAR:1948 VESSEL/AGENCY: EASTWIND

| AREA | STN | LAT | | LONG | | DATE | | | | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|-----|------|------|------|------|----|----|----|-------------------|-----------------------|------------------------|-------|--------------|
| | | DEG | MIN | DEG | MIN | YR | MO | DY | HR | | | | | |
| EUREKA SD | 12 | 79 | 44.0 | 85 | 25.0 | 48 | 8 | 29 | ? | 111 | 349 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 52-0003
 YEAR:1952 VESSEL/AGENCY: EDISTO

| AREA | STN | LAT | | LONG | | DATE | | | | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|-----|------|------|------|------|----|----|----|-------------------|-----------------------|------------------------|-------|--------------|
| | | DEG | MIN | DEG | MIN | YR | MO | DY | HR | | | | | |
| NORWEG BAY | 48 | 76 | 18.0 | 88 | 46.0 | 52 | 8 | 19 | 16 | 150 | 182 | X X | BOT | |
| NORWEG BAY | 47 | 76 | 59.0 | 89 | 30.0 | 52 | 8 | 19 | 11 | 250 | 292 | X X | BOT | |
| NORWEG BAY | 46 | 77 | 47.0 | 89 | 22.0 | 52 | 8 | 19 | 6 | 300 | 310 | X X | BOT | |
| EUREKA SD | 45 | 78 | 25.0 | 88 | 10.0 | 52 | 8 | 19 | 3 | 145 | 329 | X X | BOT | |
| EUREKA SD | 42 | 79 | 59.0 | 85 | 57.0 | 52 | 8 | 17 | 17 | 50 | 64 | X X | BOT | |
| EUREKA SD | 44 | 79 | 1.0 | 85 | 28.0 | 52 | 8 | 18 | 21 | 97 | 118 | X X | BOT | |
| EUREKA SD | 43 | 79 | 54.0 | 86 | 38.0 | 52 | 8 | 18 | 15 | 300 | 347 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 54-0001
 YEAR:1954 VESSEL/AGENCY: LABRADOR

| AREA | STN | LAT | | LONG | | DATE | | | | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|-----|------|------|------|------|----|----|----|-------------------|-----------------------|------------------------|-------|--------------|
| | | DEG | MIN | DEG | MIN | YR | MO | DY | HR | | | | | |
| WELL.CHAN. | 42 | 74 | 44.0 | 93 | 16.0 | 54 | 8 | 18 | 18 | 100 | 155 | X X | BOT | |
| WELL.CHAN. | 43 | 74 | 44.0 | 92 | 52.0 | 54 | 8 | 18 | 19 | 75 | 115 | X X | BOT | |
| WELL.CHAN. | 44 | 74 | 43.0 | 92 | 17.0 | 54 | 8 | 18 | 21 | 50 | 97 | X X | BOT | |
| BYAM CH. | 53 | 75 | 07.0 | 104 | 54.0 | 54 | 8 | 25 | 2 | 75 | 50 | X X | BOT | |
| BYAM CH. | 53 | 75 | 10.0 | 105 | 33.0 | 54 | 8 | 25 | 4 | 150 | 150 | X X | BOT | |
| BYAM CH. | 54 | 74 | 59.0 | 105 | 14.0 | 54 | 8 | 25 | 6 | 100 | 119 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 57-0003
 YEAR:1957 VESSEL/AGENCY: LABRADOR

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| WELL.CH. | 66 | 74 40.0 | 92 30.0 | 57 8 28 17 | 100 | 132 | X X | BOT | |
| WELL.CH. | 67 | 74 39.0 | 92 58.0 | 57 8 28 18 | 150 | 152 | X X | BOT | |
| WELL.CH. | 68 | 74 39.0 | 93 31.0 | 57 8 28 19 | 150 | 177 | X X | BOT | |
| WELL.CH. | 107 | 75 2.0 | 93 17.0 | 57 9 15 1 | 250 | 265 | X X | BOT | |
| WELL.CH. | 108 | 75 3.0 | 92 48.0 | 57 9 15 2 | 150 | 159 | X X | BOT | |
| WELL.CH. | 109 | 75 5.0 | 92 30.0 | 57 9 15 3 | 100 | 132 | X X | BOT | |
| WELL.CH. | 110 | 75 23.0 | 93 20.0 | 57 9 15 7 | 200 | 238 | X X | BOT | |
| WELL.CH. | 111 | 75 24.0 | 93 2.0 | 57 9 15 8 | 150 | 150 | X X | BOT | |
| WELL.CH. | 112 | 75 24.0 | 92 36.0 | 57 9 15 10 | 100 | 137 | X X | BOT | |
| WELL.CH. | 113 | 75 36.0 | 93 18.0 | 57 9 15 12 | 200 | 230 | X X | BOT | |
| WELL.CH. | 114 | 75 36.0 | 94 12.0 | 57 9 15 15 | 50 | 68 | X X | BOT | |
| QUEENS CH. | 115 | 75 44.0 | 95 0.0 | 57 9 15 16 | 100 | 112 | X X | BOT | |
| QUEENS CH. | 116 | 75 51.0 | 95 16.0 | 57 9 15 17 | 30 | 51 | X X | BOT | |
| QUEENS CH. | 117 | 75 58.0 | 95 28.0 | 57 9 15 18 | 75 | 88 | X X | BOT | |
| QUEENS CH. | 118 | 76 6.0 | 95 36.0 | 57 9 15 20 | 150 | 165 | X X | BOT | |
| QUEENS CH. | 119 | 76 14.0 | 95 37.0 | 57 9 15 21 | 50 | 68 | X X | BOT | |
| QUEENS CH. | 120 | 76 12.0 | 96 16.0 | 57 9 15 22 | 200 | 229 | X X | BOT | |
| QUEENS CH. | 121 | 76 10.0 | 96 59.0 | 57 9 15 23 | 121 | 137 | X X | BOT | |
| PENNY ST. | 122 | 76 29.0 | 96 43.0 | 57 9 16 01 | 150 | 176 | X X | BOT | |
| PENNY ST. | 123 | 76 40.0 | 97 5.0 | 57 9 16 16 | 250 | 276 | X X | BOT | |
| QUEENS CH. | 124 | 76?41.0 | 97?47.0 | 57 9 16 22 | 100 | 104 | X | BOT | |
| WELL. CH | 125 | 75 56.0 | 93 47.0 | 57 9 17 02 | 250 | 293 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 60-0005
 YEAR:1960 VESSEL/AGENCY: LABRADOR

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| WELL.CH. | 6 | 74 41.5 | 93 14.0 | 60 8 30 13 | 75 | 146 | X X | BOT | |
| WELL.CH. | 7 | 74 41.5 | 93 05.0 | 60 8 30 14 | 100 | 146 | X X | BOT | |
| WELL.CH. | 8 | 74 41.0 | 92 38.0 | 60 8 30 15 | 75 | 123 | X X | BOT | |
| WELL.CH. | 9 | 74 40.0 | 92 12.0 | 60 8 30 17 | 75 | 119 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 60-0007
 YEAR:1960 VESSEL/AGENCY: POLAR SHELF

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| PEARY CH. | 5 | 79 46.5 | 101 14.0 | 60 4 29 20 | 500 | 527 | X X | BOT | |
| PEARY CH. | 6 | 79 51.5 | 100 34.0 | 60 4 30 19 | 530 | 534 | X X | BOT | |
| PR. GUSTAF | 1 | 78 44.5 | 103 30.0 | 60 4 18 20 | 180 | 184 | X X | BOT | |
| ARCTIC OC. | 2 | 79 25.0 | 105 56.0 | 60 4 23 20 | 140 | 143 | X X | BOT | |
| PEARY CH. | 3 | 79 25.5 | 104 4.0 | 60 4 26 3 | 330 | 331 | X X | BOT | |
| PEARY CH. | 4 | 79 35.5 | 102 53.0 | 60 4 28 9 | 380 | 387 | X X | BOT | |
| PEARY CH. | 5 | 79 46.5 | 101 14.0 | 60 4 29 20 | 500 | 527 | X X | BOT | |
| PEARY CH. | 6 | 79 51.5 | 100 34.0 | 60 4 30 19 | 530 | 534 | X X | BOT | |
| SVRDRP CH. | 7 | 80 4.5 | 97 10.0 | 60 4 30 19 | 190 | 192 | X X | BOT | |
| PR. GUSTAF | 8 | 79 9.5 | 106 35.0 | 60 5 4 5 | 450 | 458 | X X | BOT | |
| PR. GUSTAF | 9 | 79 0.5 | 107 30.0 | 60 5 18 0 | 440 | 444 | X X | BOT | |
| PR. GUSTAF | 10 | 78 50.0 | 108 44.0 | 60 5 19 7 | 490 | 492 | X X | BOT | |
| PR. GUSTAF | 11 | 78 48.5 | 109 39.0 | 60 5 20 9 | 470 | 472 | X X | BOT | |
| WILKINS ST. | 12 | 78 18.5 | 114 25.0 | 60 5 23 4 | 340 | 344 | X X | BOT | |
| BLLNTYNE | 13 | 77 51.5 | 115 36.0 | 60 5 23 8 | 160 | 166 | X X | BOT | |
| ARCTIC OC. | 14 | 80 42.0 | 112 50.0 | 60 5 30 10 | 1200 | 1239 | X X | BOT | |
| ARCTIC OC. | 15 | 80 12.0 | 109 45.0 | 60 5 30 17 | 490 | 499 | X X | BOT | |
| ARCTIC OC. | 16 | 79 37.5 | 106 54.0 | 60 5 30 23 | 330 | 340 | X X | BOT | |
| ARCTIC OC. | 17 | 79 52.0 | 108 20.0 | 60 5 31 22 | 480 | 487 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 61-0003
 YEAR:1961 VESSEL/AGENCY: MACDONALD

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| NORWEG.BY. | 2 | 77 24.00 | 89 30.00 | 61 08 24 05 | 75 | 95 | X | BOT | |
| NORWEG.BY. | 3 | 77 02.00 | 89 39.00 | 61 08 24 13 | 200 | 285 | X | BOT | |
| SOPHIA CH. | 4 | 75 53.00 | 95 08.00 | 61 08 28 20 | 50 | 55 | X | BOT | 1 24 |
| WELL.CH. | 28 | 75 25.00 | 95 35.00 | 61 08 30 02 | 123 | 132 | X | BOT | |
| WELL.CH. | 29 | 75 24.00 | 93 02.00 | 61 08 30 03 | 148 | 161 | X | BOT | |
| WELL.CH. | 30 | 75 23.00 | 93 26.00 | 61 08 30 05 | 200 | 250 | X | BOT | |
| BYAM CH. | 31 | 75 11.00 | 105 22.50 | 61 09 03 01 | 50 | 70 | X | BOT | |
| BYAM CH. | 32 | 75 10.40 | 105 39.50 | 61 09 03 03 | 50 | 55 | X | BOT | |
| BYAM CH. | 33 | 75 08.80 | 105 01.90 | 61 09 03 04 | 150 | 160 | X | BOT | |
| AUSTIN CH. | 34 | 75 05.30 | 103 22.50 | 61 09 03 13 | 100 | 100 | X | BOT | |
| AUSTIN CH. | 35 | 75 04.60 | 102 31.00 | 61 09 03 15 | 100 | 121 | X | BOT | |
| AUSTIN CH. | 36 | 75 05.00 | 101 40.00 | 61 09 03 18 | 100 | 112 | X | BOT | |
| AUSTIN CH. | 37 | 75 04.50 | 100 55.00 | 61 09 03 20 | 75 | 75 | X | BOT | |
| WELL.CH. | 38 | 75 25.00 | 92 35.00 | 61 09 09 13 | 100 | 146 | X X | BOT | |
| WELL.CH. | 39 | 75 24.00 | 93 02.00 | 61 09 09 14 | 150 | 176 | X X | BOT | |
| WELL.CH. | 40 | 75 23.00 | 93 26.00 | 61 09 09 16 | 148 | 272 | X X | BOT | |
| NANSEN SD | 1 | 80 27.0 | 87 23.5 | 61 8 22 17 | 394 | 713 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 61-0004
 YEAR:1961 VESSEL/AGENCY: LABRADOR

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| WELL.CH. | 25 | 74 41.00 | 93 14.00 | 61 09 07 16 | 100 | 128 | X X | BOT | |
| WELL.CH. | 26 | 74 41.00 | 92 52.00 | 61 09 07 17 | 100 | 137 | X X | BOT | |
| WELL.CH. | 27 | 74 41.00 | 92 32.00 | 61 09 07 18 | 125 | 144 | X X | BOT | |
| WELL.CH. | 28 | 74 41.00 | 92 10.00 | 61 09 07 20 | 100 | 130 | X X | BOT | |
| WELL.CH. | 29 | 74 41.00 | 91 55.00 | 61 09 07 21 | 125 | 141 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 61-0005
YEAR:1961 VESSEL/AGENCY: POLAR SHELF

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| EUREKA SD | 5 | 78 36.4 | 87 28.0 | 61 5 8 21 | 250 | 253 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 61-0009
YEAR:1961 VESSEL/AGENCY: P.O.G.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| PR.GUSTAF | 1 | 78 28.00 | 105 16.00 | 61 04 13 22 | 456 | 478 | X X | BOT | |
| PR.GUSTAF | 2 | 78 47.00 | 105 31.00 | 61 04 25 21 | 300 | 298 | X X | BOT | |
| PR.GUSTAF | 3 | 78 35.00 | 105 28.00 | 61 04 30 03 | 425 | 403 | X X | BOT | |
| PR.GUSTAF | 4 | 78 28.00 | 105 16.00 | 61 05 03 21 | 462 | 478 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 62-0005
 YEAR:1962 VESSEL/AGENCY: ARCTIC UNIT

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| EUREKA SD | 15 | 79 55.0 | 85 20.0 | 62 8 11 0 | 47 | 48 | X X | BOT | |
| MASSEY SD | 7 | 79 10.0 | 92 0.0 | 62 7 18 21 | 50 | 57 | X X | BOT | |
| EUREKA SD | 1 | 80 0.0 | 86 0.0 | 62 7 2 22 | 50 | 59 | X X | BOT | |
| EUREKA SD | 2 | 80 0.0 | 86 0.0 | 62 7 6 15 | 50 | 70 | X X | BOT | |
| EUREKA SD | 3 | 80 0.0 | 86 0.0 | 62 7 9 20 | 50 | 56 | X X | BOT | |
| EUREKA SD | 5 | 80 0.0 | 86 0.0 | 62 7 13 21 | 50 | 56 | X X | BOT | |
| EUREKA SD | 6 | 80 0.0 | 86 0.0 | 62 7 16 15 | 50 | 59 | X X | BOT | |
| EUREKA SD | 8 | 80 0.0 | 86 0.0 | 62 7 21 20 | 50 | 59 | X X | BOT | |
| EUREKA SD | 9 | 80 0.0 | 86 0.0 | 62 7 25 15 | 50 | 66 | X X | BOT | |
| EUREKA SD | 10 | 80 0.0 | 86 0.0 | 62 7 28 20 | 50 | 56 | X X | BOT | |
| EUREKA SD | 11 | 80 0.0 | 86 0.0 | 62 7 31 6 | 50 | 56 | X X | BOT | |
| EUREKA SD | 12 | 80 0.0 | 86 0.0 | 62 8 4 0 | 50 | 51 | X X | BOT | |
| EUREKA SD | 13 | 80 0.0 | 86 0.0 | 62 8 6 15 | 50 | 63 | X X | BOT | |
| EUREKA SD | 14 | 80 0.0 | 86 0.0 | 62 8 10 1 | 50 | 66 | X X | BOT | |
| EUREKA SD | 16 | 80 0.0 | 86 0.0 | 62 8 13 22 | 50 | 69 | X X | BOT | |
| EUREKA SD | 17 | 80 0.0 | 86 0.0 | 62 8 16 18 | 48 | 50 | X X | BOT | |
| NANSEN SD | 4 | 81 3.0 | 91 25.0 | 62 7 11 6 | 25 | 29 | X X | BOT | |
| PENNY ST. | 4 | 76 36.70 | 96 23.80 | 62 07 17 03 | 60 | ? | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 62-0006
 YEAR:1962 VESSEL/AGENCY: MACDONALD

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| JONES SD | 29 | 76 23.0 | 89 22.0 | 62 8 15 15 | 150 | 181 | X X | BOT | |
| EUREKA SD | 40 | 78 9.0 | 88 8.0 | 62 8 25 15 | 200 | 249 | X X | BOT | |
| EUREKA SD | 39 | 79 17.0 | 84 40.0 | 62 8 25 6 | 200 | 227 | X X | BOT | |
| GREELY FD | 32 | 81 0.0 | 79 0.0 | 62 8 23 17 | 275 | 300 | X X | BOT | |
| GREELY FD | 33 | 80 42.0 | 80 0.0 | 62 8 23 20 | 350 | 369 | X X | BOT | |
| GREELY FD | 31 | 80 25.0 | 85 0.0 | 62 8 22 16 | 600 | 658 | X X | BOT | |
| EUREKA SD | 38 | 80 10.0 | 87 3.0 | 62 8 24 23 | 600 | 618 | X X | BOT | |
| NANSEN SD | 37 | 80 36.0 | 88 50.0 | 62 8 24 19 | 700 | 732 | X X | BOT | |
| NANSEN SD | 35 | 81 10.0 | 90 37.0 | 62 8 24 10 | 700 | 713 | X X | BOT | |
| NANSEN SD | 34 | 81 13.0 | 91 15.0 | 62 8 24 8 | 700 | 786 | X X | BOT | |
| NANSEN SD | 36 | 81 6.0 | 91 30.0 | 62 8 24 12 | 600 | 701 | X X | BOT | |
| WELL.CH. | 10 | 74 40.0 | 92 00.0 | 62 08 07 07 | 100 | 121 | X X | BOT | |
| WELL.CH. | 11 | 74 40.0 | 92 43.0 | 62 08 07 08 | 150 | 157 | X X | BOT | |
| WELL.CH. | 12 | 74 40.0 | 92 21.0 | 62 08 07 10 | 100 | 135 | X X | BOT | |
| NORWEG.BY. | 30 | 77 05.0 | 89 38.0 | 62 08 15 20 | 300 | 348 | X X | BOT | |
| NORWEG.BY. | 41 | 77 40.0 | 92 10.0 | 62 08 25 20 | 350 | 379 | X X | BOT | |
| BELCHER CH. | 42 | 77 15.0 | 97 14.0 | 62 08 26 10 | 150 | 192 | X X | BOT | |
| PENNY ST. | 43 | 76 57.0 | 97 44.0 | 62 08 26 13 | 200 | 234 | X X | BOT | |
| PENNY ST. | 44 | 76 53.0 | 98 24.0 | 62 08 26 14 | 250 | 311 | X X | BOT | |
| PENNY ST. | 45 | 76 48.0 | 99 00.0 | 62 08 26 16 | 450 | 460 | X X | BOT | |
| WELL.CH. | 46 | 75 25.0 | 92 46.0 | 62 08 27 04 | 150 | 194 | X X | BOT | |
| WELL.CH. | 47 | 75 23.0 | 93 26.0 | 62 08 27 06 | 250 | 252 | X X | BOT | |
| AUSTIN CH. | 48 | 75 06.0 | 101 07.0 | 62 08 28 13 | 100 | 132 | X X | BOT | |
| AUSTIN CH. | 49 | 75 04.0 | 102 15.0 | 62 08 28 15 | 100 | 130 | X X | BOT | |
| AUSTIN CH. | 50 | 75 03.0 | 103 27.0 | 62 08 28 18 | 100 | 137 | X X | BOT | |
| KELLETT ST | 55 | 75 22.0 | 118 05.0 | 62 08 31 01 | 250 | 256 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 63-0010
 YEAR:1963 VESSEL/AGENCY: DEF. RES. EST. OTTAWA

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 6 | 80 56.7 | 76 0.0 | 63 6 3 1 | 57 | 60 | X X | BOT | |
| GREELY FD | 5 | 80 50.1 | 78 14.0 | 63 6 1 21 | 238 | 238 | X X | BOT | |
| GREELY FD | 4 | 80 54.8 | 79 7.0 | 63 6 1 4 | 137 | 154 | X X | BOT | |
| GREELY FD | 7 | 80 49.6 | 79 23.0 | 63 6 6 4 | 128 | 128 | X X | BOT | |
| GREELY FD | 19 | 81 26.0 | 76 58.0 | 63 6 29 21 | 119 | 122 | X X | BOT | |
| GREELY FD | 30 | 81 25.4 | 76 59.0 | 63 8 16 23 | 60 | 62 | X X | BOT | |
| GREELY FD | 1 | 81 23.7 | 77 10.0 | 63 5 26 22 | 183 | 203 | X X | BOT | |
| GREELY FD | 2 | 81 18.1 | 77 51.0 | 63 5 28 17 | 46 | 59 | X X | BOT | |
| GREELY FD | 10 | 81 18.1 | 77 51.0 | 63 6 9 12 | 46 | 59 | X X | BOT | |
| GREELY FD | 18 | 81 25.5 | 77 2.0 | 63 6 27 18 | 183 | 199 | X X | BOT | |
| GREELY FD | 20 | 81 24.0 | 77 1.0 | 63 6 30 21 | 82 | 84 | X X | BOT | |
| GREELY FD | 21 | 81 23.2 | 77 9.0 | 63 7 7 22 | 53 | 55 | X X | BOT | |
| GREELY FD | 22 | 81 24.2 | 77 10.0 | 63 7 9 20 | 104 | 106 | X X | BOT | |
| GREELY FD | 23 | 81 24.0 | 77 14.0 | 63 7 10 0 | 177 | 180 | X X | BOT | |
| GREELY FD | 24 | 81 23.0 | 77 3.0 | 63 7 11 21 | 60 | 61 | X X | BOT | |
| GREELY FD | 25 | 81 22.0 | 77 14.0 | 63 7 11 23 | 29 | 31 | X X | BOT | |
| GREELY FD | 26 | 81 22.5 | 77 18.0 | 63 7 13 21 | 130 | 131 | X X | BOT | |
| GREELY FD | 27 | 81 23.3 | 77 15.0 | 63 7 14 0 | 227 | 228 | X X | BOT | |
| GREELY FD | 28 | 81 24.2 | 77 8.0 | 63 7 15 1 | 79 | 81 | X X | BOT | |
| GREELY FD | 29 | 81 24.6 | 77 5.0 | 63 8 16 16 | 18 | 62 | X X | BOT | |
| GREELY FD | 31 | 81 24.2 | 77 1.0 | 63 8 18 17 | 110 | 112 | X X | BOT | |
| GREELY FD | 32 | 81 23.8 | 77 7.0 | 63 8 18 21 | 142 | 159 | X X | BOT | |
| GREELY FD | 3 | 81 11.8 | 78 31.0 | 63 5 30 0 | 183 | 227 | X X | BOT | |
| GREELY FD | 8 | 81 11.8 | 78 31.0 | 63 6 6 10 | 183 | 227 | X X | BOT | |
| GREELY FD | 9 | 81 8.8 | 79 14.0 | 63 6 8 1 | 46 | 73 | X X | BOT | |
| GREELY FD | 11 | 80 41.0 | 86 55.0 | 63 6 13 0 | 183 | 183 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 64-0004
YEAR:1964 VESSEL/AGENCY: MACDONALD

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| BYAM CH. | 5 | 75 4.0 | 105 22.0 | 64 08 28 22 | 250 | 303 | X X | BOT | |
| BYAM CH. | 9 | 75 0.0 | 105 26.0 | 64 09 3 23 | 200 | 223 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 64-0005
YEAR:1964 VESSEL/AGENCY: DEF. RES. EST. OTTAWA

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| PR.GUSTAF | 1 | 78 45.00 | 104 51.00 | 64 02 03 01 | 225 | 224 | X X | BOT | |
| PR.GUSTAF | 2 | 78 45.00 | 104 51.00 | 64 02 10 00 | 225 | 224 | X X | BOT | |
| PR.GUSTAF | 3 | 78 45.00 | 104 51.00 | 64 02 19 00 | 225 | 224 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 64-0008
 YEAR:1964 VESSEL/AGENCY: DEF. RES. EST. OTTAWA

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 32 | 81 26.1 | 76 59.7 | 64 7 29 11 | 50 | 64 | X X | BOT | |
| GREELY FD | 1 | 81 24.6 | 77 8.0 | 64 5 8 5 | 50 | 65 | X X | BOT | |
| GREELY FD | 4 | 81 24.6 | 77 8.0 | 64 5 15 9 | 50 | 65 | X X | BOT | |
| GREELY FD | 10 | 81 24.1 | 77 17.0 | 64 5 24 8 | 170 | 231 | X X | BOT | |
| GREELY FD | 14 | 81 24.1 | 77 17.0 | 64 5 31 9 | 100 | 231 | X X | BOT | |
| GREELY FD | 19 | 81 24.1 | 77 17.0 | 64 6 7 12 | 100 | 231 | X X | BOT | |
| GREELY FD | 20 | 81 24.1 | 77 17.0 | 64 6 15 6 | 100 | 231 | X X | BOT | |
| GREELY FD | 21 | 81 24.1 | 77 17.0 | 64 6 22 11 | 100 | 231 | X X | BOT | |
| GREELY FD | 22 | 81 24.1 | 77 17.0 | 64 6 29 12 | 202 | 231 | X X | BOT | |
| GREELY FD | 23 | 81 24.1 | 77 17.0 | 64 6 29 21 | 231 | 231 | X X | BOT | |
| GREELY FD | 24 | 81 24.1 | 77 17.0 | 64 6 30 2 | 100 | 231 | X X | BOT | |
| GREELY FD | 25 | 81 24.1 | 77 17.0 | 64 6 30 14 | 100 | 231 | X X | BOT | |
| GREELY FD | 26 | 81 24.3 | 77 16.9 | 64 7 3 16 | 75 | 78 | X X | BOT | |
| GREELY FD | 27 | 81 23.9 | 77 15.3 | 64 7 3 19 | 200 | 225 | X X | BOT | |
| GREELY FD | 28 | 81 23.5 | 77 12.1 | 64 7 3 23 | 60 | 65 | X X | BOT | |
| GREELY FD | 29 | 81 22.8 | 77 6.4 | 64 7 4 2 | 30 | 43 | X X | BOT | |
| GREELY FD | 30 | 81 24.1 | 77 17.0 | 64 7 6 17 | 200 | 231 | X X | BOT | |
| GREELY FD | 31 | 81 22.6 | 77 4.8 | 64 7 22 9 | 50 | 63 | X X | BOT | |
| GREELY FD | 33 | 81 24.0 | 77 13.4 | 64 8 5 14 | 100 | 192 | X X | BOT | |
| GREELY FD | 34 | 81 25.4 | 77 .3 | 64 8 5 17 | 75 | 79 | X X | BOT | |
| GREELY FD | 36 | 81 25.3 | 77 .6 | 64 8 25 8 | 100 | 153 | X X | BOT | |
| GREELY FD | 2 | 81 0.0 | 79 20.0 | 64 5 12 11 | 145 | 145 | X X | BOT | |
| GREELY FD | 3 | 80 40.5 | 80 31.0 | 64 5 14 7 | 316 | 316 | X X | BOT | |
| NANSEN SD | 5 | 80 42.2 | 86 48.0 | 64 5 19 17 | 355 | 355 | X X | BOT | |
| NANSEN SD | 18 | 80 58.0 | 89 40.0 | 64 6 7 1 | 596 | 597 | X X | BOT | |
| NANSEN SD | 7 | 81 4.0 | 84 50.0 | 64 5 21 19 | 101 | 127 | X X | BOT | |
| NANSEN SD | 6 | 81 1.1 | 85 42.0 | 64 5 21 10 | 199 | 199 | X X | BOT | |
| NANSEN SD | 9 | 81 12.2 | 85 48.0 | 64 5 23 14 | 501 | 502 | X X | BOT | |
| NANSEN SD | 8 | 81 8.8 | 86 9.0 | 64 5 22 18 | 504 | 505 | X X | BOT | |
| NANSEN SD | 11 | 81 3.9 | 87 1.0 | 64 5 24 18 | 506 | 552 | X X | BOT | |
| NANSEN SD | 12 | 81 23.4 | 89 57.0 | 64 5 29 20 | 356 | 357 | X X | BOT | |
| NANSEN SD | 13 | 81 18.1 | 90 28.0 | 64 5 30 17 | 158 | 158 | X X | BOT | |
| NANSEN SD | 15 | 81 34.2 | 92 35.0 | 64 6 2 8 | 291 | 292 | X X | BOT | |
| NANSEN SD | 16 | 81 28.5 | 93 6.0 | 64 6 2 15 | 506 | 507 | X X | BOT | |
| NANSEN SD | 17 | 81 34.0 | 93 10.0 | 64 6 3 16 | 404 | 405 | X X | BOT | |
| GREELY FD | 35 | 81 25.8 | 77 2.4 | 64 8 18 15 | 100 | 100 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 65-0005
 YEAR:1965 VESSEL/AGENCY: DEF. RES. EST. OTTAWA

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 22 | 80 57.3 | 75 54.0 | 65 6 2 22 | 75 | 96 | X X | BOT | |
| GREELY FD | 20 | 80 53.5 | 76 37.0 | 65 5 27 16 | 50 | 61 | X X | BOT | |
| GREELY FD | 18 | 80 34.3 | 77 59.0 | 65 5 25 23 | 102 | 112 | X X | BOT | |
| GREELY FD | 21 | 80 51.5 | 77 55.0 | 65 5 27 22 | 304 | 372 | X X | BOT | |
| GREELY FD | 8 | 80 47.8 | 79 10.0 | 65 5 14 16 | 203 | 265 | X X | BOT | |
| GREELY FD | 19 | 80 34.1 | 79 36.5 | 65 5 26 22 | 152 | 171 | X X | BOT | |
| GREELY FD | 1 | 81 22.9 | 77 17.0 | 65 5 11 20 | 202 | 229 | X X | BOT | |
| GREELY FD | 2 | 81 21.9 | 77 15.0 | 65 5 11 23 | 77 | 90 | X X | BOT | |
| GREELY FD | 3 | 81 23.8 | 77 19.0 | 65 5 12 2 | 146 | 170 | X X | BOT | |
| GREELY FD | 23 | 81 24.0 | 77 5.0 | 65 6 7 1 | 100 | 108 | X X | BOT | |
| GREELY FD | 24 | 81 24.0 | 77 5.0 | 65 6 14 20 | 100 | 108 | X X | BOT | |
| GREELY FD | 25 | 81 24.0 | 77 5.0 | 65 6 22 19 | 100 | 108 | X X | BOT | |
| GREELY FD | 26 | 81 24.0 | 77 5.0 | 65 6 29 19 | 100 | 108 | X X | BOT | |
| GREELY FD | 27 | 81 23.0 | 77 20.0 | 65 8 16 1 | 100 | 138 | X X | BOT | |
| GREELY FD | 4 | 81 14.2 | 78 8.0 | 65 5 12 23 | 152 | 170 | X X | BOT | |
| GREELY FD | 5 | 81 2.0 | 78 57.0 | 65 5 13 16 | 203 | 296 | X X | BOT | |
| GREELY FD | 6 | 81 13.8 | 78 5.0 | 65 5 13 19 | 51 | 66 | X X | BOT | |
| GREELY FD | 7 | 81 15.1 | 78 13.0 | 65 5 13 22 | 152 | 196 | X X | BOT | |
| GREELY FD | 9 | 80 32.9 | 81 13.5 | 65 5 15 20 | 406 | 422 | X X | BOT | |
| GREELY FD | 10 | 80 23.8 | 84 11.5 | 65 5 16 16 | 500 | 526 | X X | BOT | |
| NANSEN FD | 11 | 80 41.3 | 86 53.5 | 65 5 17 1 | 406 | 406 | X X | BOT | |
| NANSEN FD | 13 | 81 10.0 | 82 43.0 | 65 5 20 13 | 76 | 88 | X X | BOT | |
| NANSEN FD | 14 | 81 5.2 | 83 22.0 | 65 5 20 19 | 152 | 169 | X X | BOT | |
| NANSEN FD | 12 | 81 15.5 | 85 26.0 | 65 5 19 19 | 406 | 419 | X X | BOT | |
| NANSEN FD | 16 | 81 1.6 | 85 41.0 | 65 5 21 15 | 151 | 187 | X X | BOT | |
| NANSEN FD | 17 | 81 13.9 | 85 50.0 | 65 5 21 18 | 406 | 447 | X X | BOT | |
| NANSEN FD | 15 | 81 4.0 | 86 55.0 | 65 5 20 22 | 200 | 258 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 66-0010
 YEAR:1966 VESSEL/AGENCY: DEF. RES. EST. OTTAWA

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 1 | 80 57.9 | 75 32.4 | 66 5 1 17 | 110 | 113 | X X | BOT | |
| GREELY FD | 2 | 81 25.0 | 76 50.0 | 66 5 19 20 | 100 | 141 | X X | BOT | |
| GREELY FD | 4 | 81 25.0 | 76 50.0 | 66 5 22 21 | 100 | 141 | X X | BOT | |
| GREELY FD | 8 | 81 25.0 | 76 50.0 | 66 5 25 18 | 140 | 141 | X X | BOT | |
| GREELY FD | 11 | 81 25.0 | 76 50.0 | 66 6 1 2 | 140 | 141 | X X | BOT | |
| GREELY FD | 12 | 81 25.0 | 76 50.0 | 66 6 7 2 | 140 | 141 | X X | BOT | |
| GREELY FD | 16 | 81 25.0 | 76 50.0 | 66 6 14 17 | 140 | 141 | X X | BOT | |
| GREELY FD | 18 | 81 25.0 | 76 50.0 | 66 6 21 20 | 140 | 141 | X X | BOT | |
| GREELY FD | 19 | 81 25.0 | 76 50.0 | 66 6 28 20 | 140 | 141 | X X | BOT | |
| GREELY FD | 20 | 81 25.0 | 76 50.0 | 66 7 5 18 | 140 | 141 | X X | BOT | |
| GREELY FD | 21 | 81 25.0 | 76 50.0 | 66 7 12 17 | 140 | 141 | X X | BOT | |
| GREELY FD | 22 | 81 25.0 | 76 50.0 | 66 7 16 15 | 100 | 113 | X X | BOT | |
| GREELY FD | 23 | 81 25.0 | 76 50.0 | 66 7 18 15 | 43 | 45 | X X | BOT | |
| GREELY FD | 24 | 81 25.0 | 76 50.0 | 66 7 18 17 | 70 | 71 | X X | BOT | |
| GREELY FD | 25 | 81 25.0 | 76 50.0 | 66 7 18 19 | 199 | 200 | X X | BOT | |
| NANSEN SD | 3 | 81 2.0 | 85 37.0 | 66 5 21 16 | 150 | 165 | X X | BOT | |
| NANSEN SD | 6 | 81 6.4 | 85 50.0 | 66 5 25 16 | 5 | 9 | X X | BOT | |
| NANSEN SD | 7 | 81 6.2 | 85 51.0 | 66 5 25 17 | 30 | 33 | X X | BOT | |
| NANSEN SD | 9 | 81 6.0 | 85 52.0 | 66 5 25 19 | 30 | 40 | X X | BOT | |
| NANSEN SD | 10 | 81 3.0 | 85 39.0 | 66 5 29 16 | 75 | 133 | X X | BOT | |
| NANSEN SD | 5 | 81 11.0 | 86 0.0 | 66 5 23 19 | 600 | 627 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 67-0002
 YEAR:1967 VESSEL/AGENCY: LABRADOR

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| EUREKA SD | 18 | 79 58.8 | 85 56.8 | 67 8 26 17 | 50 | ? | X X | BOT | |
| EUREKA SD | 39 | 79 52.0 | 86 34.0 | 67 9 1 2 | 50 | ? | X X | BOT | |
| EUREKA SD | 40 | 79 52.0 | 86 47.0 | 67 9 1 2 | 50 | ? | X X | BOT | |
| EUREKA SD | 41 | 79 52.0 | 87 2.0 | 67 9 1 2 | 50 | ? | X X | BOT | |
| GREELY FD | 33 | 80 30.8 | 84 13.0 | 67 8 30 17 | 50 | ? | X X | BOT | |
| GREELY FD | 34 | 80 25.5 | 84 5.0 | 67 8 30 17 | 50 | ? | X X | BOT | |
| GREELY FD | 35 | 80 20.4 | 84 12.0 | 67 8 30 18 | 50 | ? | X X | BOT | |
| GREELY FD | 32 | 80 32.0 | 85 43.0 | 67 8 30 15 | 50 | ? | X X | BOT | |
| GREELY FD | 36 | 80 26.5 | 85 48.0 | 67 8 30 19 | 50 | ? | X X | BOT | |
| GREELY FD | 37 | 80 22.5 | 85 15.0 | 67 8 30 20 | 50 | ? | X X | BOT | |
| GREELY FD | 38 | 80 17.5 | 85 15.0 | 67 8 31 22 | 50 | ? | X X | BOT | |
| NANSEN SD | 14 | 80 46.3 | 86 37.0 | 67 8 25 14 | 50 | ? | X X | BOT | |
| EUREKA SD | 19 | 80 .3 | 86 57.0 | 67 8 27 21 | 50 | ? | X X | BOT | |
| EUREKA SD | 20 | 80 1.1 | 86 54.0 | 67 8 27 22 | 50 | ? | X X | BOT | |
| EUREKA SD | 21 | 80 1.1 | 86 54.0 | 67 8 27 23 | 400 | 466 | X X | BOT | |
| EUREKA SD | 22 | 80 2.0 | 86 42.0 | 67 8 27 23 | 50 | ? | X X | BOT | |
| EUREKA SD | 23 | 80 14.0 | 86 40.0 | 67 8 30 1 | 48 | ? | X X | BOT | |
| NANSEN SD | 29 | 80 41.2 | 86 55.0 | 67 8 30 13 | 50 | ? | X X | BOT | |
| NANSEN SD | 30 | 80 41.2 | 86 50.0 | 67 8 30 13 | 50 | ? | X X | BOT | |
| NANSEN SD | 31 | 80 41.2 | 86 41.0 | 67 8 30 13 | 50 | ? | X X | BOT | |
| NANSEN SD | 15 | 80 37.0 | 87 14.0 | 67 8 25 16 | 47 | 612 | X X | BOT | |
| NANSEN SD | 16 | 80 31.5 | 87 31.0 | 67 8 25 23 | 50 | ? | X X | BOT | |
| EUREKA SD | 17 | 80 13.0 | 87 7.0 | 67 8 26 13 | 47 | ? | X X | BOT | |
| EUREKA SD | 24 | 80 14.3 | 87 5.0 | 67 8 30 2 | 50 | ? | X X | BOT | |
| EUREKA SD | 25 | 80 14.2 | 87 28.0 | 67 8 30 2 | 50 | ? | X X | BOT | |
| NANSEN SD | 27 | 80 33.2 | 87 51.0 | 67 8 30 11 | 50 | 841 | X X | BOT | |
| NANSEN SD | 28 | 80 38.5 | 87 38.0 | 67 8 30 11 | 50 | ? | X X | BOT | |
| NANSEN SD | 26 | 80 28.0 | 88 4.0 | 67 8 30 10 | 50 | ? | X X | BOT | |
| NANSEN SD | 13 | 80 43.8 | 89 23.0 | 67 8 25 10 | 700 | 746 | X X | BOT | |
| NORWEG BY. | 11 | 77 00.00 | 89 46.00 | 67 08 22 19 | 200 | 237 | X X | BOT | |
| NORWEG BY. | 12 | 78 06.10 | 88 12.00 | 67 08 23 22 | 297 | 305 | X X | BOT | |
| NORWEG BY. | 42 | 78 06.00 | 88 12.00 | 67 09 01 13 | 50 | ? | X X | BOT | |
| WELL.CH. | 62 | 74 56.5 | 92 33.0 | 67 09 9 14 | 150 | 164 | X X | BOT | |
| WELL.CH. | 63 | 74 56.5 | 92 33.0 | 67 09 9 14 | 50 | 164 | X X | BOT | |
| WELL.CH. | 64 | 74 57.00 | 92 14.00 | 67 09 09 15 | 50 | 148 | X X | BOT | |
| WELL.CH. | 65 | 74 54.20 | 93 12.00 | 67 09 09 17 | 48 | 212 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 67-0005
 YEAR:1967 VESSEL/AGENCY: DEF. RES. EST. OTTAWA

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 1 | 80 57.5 | 75 34.0 | 67 4 19 13 | 65 | 68 | X X | BOT | |
| GREELY FD | 44 | 81 24.0 | 76 55.0 | 67 7 19 16 | 20 | 34 | X X | BOT | |
| GREELY FD | 45 | 81 24.0 | 76 55.0 | 67 7 22 20 | 20 | 22 | X X | BOT | |
| GREELY FD | 46 | 81 24.0 | 76 55.0 | 67 7 25 1 | 10 | 14 | X X | BOT | |
| GREELY FD | 47 | 81 24.0 | 76 55.0 | 67 8 1 13 | 15 | 18 | X X | BOT | |
| GREELY FD | 48 | 81 24.0 | 76 55.0 | 67 8 11 17 | 25 | 25 | X X | BOT | |
| GREELY FD | 49 | 81 24.0 | 76 55.0 | 67 8 20 18 | 20 | 24 | X X | BOT | |
| EUREKA SD | 12 | 80 9.2 | 86 52.0 | 67 5 28 16 | 200 | ? | X X | BOT | |
| NANSEN SD | 24 | 81 2.7 | 85 31.0 | 67 6 3 19 | 150 | 153 | X X | BOT | |
| NANSEN SD | 28 | 81 2.7 | 85 31.0 | 67 6 9 19 | 150 | 154 | X X | BOT | |
| NANSEN SD | 38 | 81 1.4 | 85 34.0 | 67 6 25 19 | 190 | 192 | X X | BOT | |
| NANSEN SD | 40 | 81 7.6 | 85 58.5 | 67 6 28 19 | 75 | 85 | X X | BOT | |
| NANSEN SD | 42 | 81 2.7 | 85 31.0 | 67 7 8 17 | 150 | 154 | X X | BOT | |
| NANSEN SD | 2 | 81 3.5 | 87 2.0 | 67 5 20 5 | 100 | 550 | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 68-0001
 YEAR:1968 VESSEL/AGENCY: LABRADOR

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| NORWEG.BAY | 6 | 77 28.0 | 89 13.0 | 68 8 18 17 | 300 | ? | X X | BOT | |
| NORWEG.BAY | 7 | 76 53.6 | 89 49.0 | 68 8 20 1 | 125 | ? | X X | BOT | |
| WELL.CH. | 19 | 74 50.8 | 92 44.0 | 68 9 8 19 | 75 | ? | X X | BOT | |
| WELL.CH. | 20 | 74 45.0 | 92 44.0 | 68 9 8 16 | 75 | ? | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 69-0014
 YEAR:1969 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 101 | 80 35.0 | 79 32.0 | 69 3 ? ? | 187 | ? | X X | GLDL | |
| GREELY FD | 102 | 80 35.0 | 79 26.0 | 69 3 ? ? | 506 | ? | X X | GLDL | |
| GREELY FD | 103 | 80 35.0 | 79 32.0 | 69 3 ? ? | 510 | ? | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 69-0015
 YEAR:1969 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT | | LONG | | DATE | | | | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|-----|------|------|-----|------|----|----|----|-------------------|-----------------------|------------------------|-------|--------------|
| | | DEG | MIN | DEG | MIN | YR | MO | DY | HR | | | | | |
| GREELY FD | 1 | 80 | 36.0 | 80 | 0.0 | 69 | 8 | 12 | ? | 20 | ? | X X | BOT | |
| GREELY FD | 1 | 80 | 36.0 | 80 | 0.0 | 69 | 8 | 17 | ? | 35 | ? | X X | BOT | |
| GREELY FD | 1 | 80 | 36.0 | 80 | 0.0 | 69 | 8 | 23 | ? | 35 | ? | X X | BOT | |
| GREELY FD | 1 | 80 | 36.0 | 80 | 0.0 | 69 | 9 | 5 | ? | 35 | ? | X X | BOT | |
| GREELY FD | 1 | 80 | 36.0 | 80 | 0.0 | 69 | 9 | 19 | ? | 5 | ? | X X | BOT | |

BOTTLE/CTD DATA SET NUMBER: 70-0017
 YEAR:1970 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT | | LONG | | DATE | | | | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|-----|-------|------|------|------|----|----|----|-------------------|-----------------------|------------------------|-------|--------------|
| | | DEG | MIN | DEG | MIN | YR | MO | DY | HR | | | | | |
| GREELY FD | 1 | 80 | 36.0 | 79 | 33.0 | 70 | 3 | 12 | ? | 110 | 142 | X X | GLDL | |
| GREELY FD | 1 | 80 | 36.0 | 79 | 33.0 | 70 | 4 | 6 | ? | 110 | 142 | X X | GLDL | |
| GREELY FD | 2 | 80 | 33.5 | 79 | 32.5 | 70 | 3 | 14 | ? | 300 | 384 | X X | GLDL | |
| GREELY FD | 3 | 80 | 34.75 | 79 | 42.5 | 70 | 3 | 15 | ? | 150 | 174 | X X | GLDL | |
| GREELY FD | 3 | 80 | 34.75 | 79 | 42.5 | 70 | 3 | 19 | ? | 150 | 174 | X X | GLDL | |
| GREELY FD | 3 | 80 | 34.75 | 79 | 42.5 | 70 | 3 | 29 | ? | 150 | 174 | X X | GLDL | |
| GREELY FD | 4 | 80 | 35.0 | 80 | 33.0 | 70 | 3 | 20 | ? | 500 | 604 | X X | GLDL | |
| GREELY FD | 4 | 80 | 35.0 | 80 | 33.0 | 70 | 3 | 29 | ? | 500 | 604 | X X | GLDL | |
| GREELY FD | 5 | 80 | 29.5 | 81 | 17.0 | 70 | 3 | 20 | ? | 400 | 521 | X X | GLDL | |
| GREELY FD | 5 | 80 | 29.5 | 81 | 17.0 | 70 | 3 | 21 | ? | 350 | 521 | X X | GLDL | |
| GREELY FD | 6 | 80 | 36.42 | 81 | 21.0 | 70 | 3 | 22 | ? | 350 | 415 | X X | GLDL | |
| GREELY FD | 6 | 80 | 36.42 | 81 | 21.0 | 70 | 3 | 28 | ? | 350 | 415 | X X | GLDL | |
| GREELY FD | 7 | 80 | 33.67 | 81 | 30.0 | 70 | 3 | 22 | ? | 400 | 521 | X X | GLDL | |
| GREELY FD | 8 | 80 | 29.0 | 82 | 7.5 | 70 | 3 | 24 | ? | 400 | 567 | X X | GLDL | |
| GREELY FD | 8 | 80 | 29.0 | 82 | 7.5 | 70 | 3 | 28 | ? | 400 | 567 | X X | GLDL | |
| GREELY FD | 9 | 80 | 27.42 | 82 | 57.5 | 70 | 3 | 24 | ? | 500 | 644 | X X | GLDL | |
| GREELY FD | 9 | 80 | 27.42 | 82 | 57.5 | 70 | 3 | 27 | ? | 500 | 644 | X X | GLDL | |
| GREELY FD | 10 | 80 | 28.42 | 84 | 45.0 | 70 | 3 | 26 | ? | 500 | 640 | X X | GLDL | |
| GREELY FD | 11 | 80 | 35.0 | 79 | 7.0 | 70 | 3 | 30 | ? | 400 | 485 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 71-0015
 YEAR:1971 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 17 22 | 415 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 18 16 | 412 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 18 21 | 405 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 19 21 | 343 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 30 19 | 411 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 30 20 | 150 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 30 20 | 152 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 30 21 | 150 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 30 21 | 150 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 30 21 | 412 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 30 22 | 150 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 31 16 | 454 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 31 20 | 410 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 31 21 | 152 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.75 | 79 29.0 | 71 3 31 21 | 152 | 476 | X X | GLDL | |
| GREELY FD | 1 | 80 34.0 | 78 5.0 | 71 3 31 21 | 170 | 197 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 73-0006
 YEAR:1973 VESSEL/AGENCY: INST. OC. SC.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| WELL.CH. | 1 | 74 47.0 | 93 11.0 | 73 04 23 20 | 136 | ? | X X | GLDL | |
| WELL.CH. | 2 | 74 47.0 | 92 58.0 | 73 04 23 20 | 150 | ? | X X | GLDL | |
| WELL.CH. | 3 | 74 47.0 | 92 43.0 | 73 04 23 21 | 133 | ? | X X | GLDL | |
| WELL.CH. | 4 | 74 47.0 | 92 31.0 | 73 04 23 21 | 105 | ? | X X | GLDL | |
| WELL.CH. | 5 | 74 47.0 | 92 19.0 | 73 04 23 22 | 78 | ? | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 73-0008
 YEAR:1973 VESSEL/AGENCY: SIR WILLIAM ALEXANDER (IOS)

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| WELL.CH. | 6 | 74 48.0 | 92 06.0 | 73 08 28 19 | 65 | ? | X X | GLDL | |
| WELL.CH. | 7 | 74 48.0 | 92 25.0 | 73 08 28 19 | 99 | ? | X X | GLDL | |
| WELL.CH. | 8 | 74 48.0 | 92 45.0 | 73 08 28 20 | 118 | ? | X X | GLDL | |
| WELL.CH. | 9 | 74 48.0 | 93 05.0 | 73 08 28 20 | 162 | ? | X X | GLDL | |
| WELL.CH. | 10 | 74 48.0 | 93 18.0 | 73 08 28 21 | 118 | ? | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 73-0013
 YEAR:1973 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 703 | 80 35.5 | 79 34.0 | 73 03 31 17 | 160 | 166 | X X | GLDL | |
| GREELY FD | 710 | 80 35.5 | 79 34.0 | 73 04 02 17 | 160 | 166 | X X | GLDL | |
| GREELY FD | 710 | 80 35.5 | 79 34.0 | 73 04 02 17 | 160 | 166 | X X | GLDL | |
| GREELY FD | 710 | 80 35.5 | 79 34.0 | 73 04 02 17 | 160 | 166 | X X | GLDL | |
| GREELY FD | 711 | 80 35.5 | 79 34.0 | 73 04 02 22 | 160 | 166 | X X | GLDL | |
| GREELY FD | 713 | 80 35.5 | 79 34.0 | 73 04 03 17 | 160 | 166 | X X | GLDL | |
| GREELY FD | 716 | 80 34.0 | 79 33.0 | 73 04 04 21 | 496 | 519 | X X | GLDL | |
| GREELY FD | 718 | 80 35.5 | 79 34.0 | 73 04 05 17 | 151 | 166 | X X | GLDL | |
| GREELY FD | 719 | 80 35.5 | 79 34.0 | 73 04 06 16 | 159 | 166 | X X | GLDL | |
| GREELY FD | 719 | 80 35.5 | 79 34.0 | 73 04 06 17 | 160 | 166 | X X | GLDL | |
| GREELY FD | 722 | 80 35.0 | 78 18.0 | 73 04 06 22 | 179 | 184 | X X | GLDL | |
| GREELY FD | 720 | 80 35.5 | 79 34.0 | 73 04 07 16 | 160 | 166 | X X | GLDL | |
| GREELY FD | 720 | 80 35.5 | 79 34.0 | 73 04 07 17 | 161 | 166 | X X | GLDL | |
| GREELY FD | 721 | 80 35.5 | 79 34.0 | 73 04 07 20 | 161 | 166 | X X | GLDL | |
| GREELY FD | 721 | 80 35.5 | 79 34.0 | 73 04 08 00 | 78 | 166 | X X | GLDL | |
| GREELY FD | 723 | 80 35.0 | 78 42.0 | 73 04 07 17 | 166 | 384 | X X | GLDL | |
| GREELY FD | 724 | 80 35.0 | 78 42.0 | 73 04 07 18 | 146 | 384 | X X | GLDL | |
| GREELY FD | 728 | 80 35.5 | 79 34.0 | 73 04 09 17 | 161 | 166 | X X | GLDL | |
| GREELY FD | 748 | 80 34.0 | 80 28.0 | 73 04 15 17 | 501 | 601 | X X | GLDL | |
| GREELY FD | 749 | 80 34.0 | 80 28.0 | 73 04 15 20 | 300 | 601 | X X | GLDL | |
| GREELY FD | 757 | 80 35.5 | 79 34.0 | 73 04 16 16 | 159 | 166 | X X | GLDL | |
| GREELY FD | 759 | 80 35.5 | 79 34.0 | 73 04 16 21 | 160 | 166 | X X | GLDL | |
| GREELY FD | 766 | 80 35.5 | 79 34.0 | 73 04 18 21 | 158 | 166 | X X | GLDL | |
| GREELY FD | 770 | 80 35.5 | 79 34.0 | 73 04 20 17 | 160 | 166 | X X | GLDL | |
| GREELY FD | 711 | 80 35.5 | 79 34.0 | 73 04 21 17 | 160 | 166 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 74-0018
 YEAR:1974 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| MACLEAN ST | 3 | 78 00.00 | 101 15.00 | 74 07 08 ? | 58 | 262 | X X | ? | |
| MACLEAN ST | 4 | 77 49.00 | 100 47.00 | 74 07 08 ? | 58 | 230 | X X | ? | |
| MACLEAN ST | 7 | 78 05.00 | 101 06.00 | 74 07 08 ? | 58 | 60 | X X | ? | |

BOTTLE/CTD DATA SET NUMBER: 74-0025
 YEAR:1974 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|------|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 910 | 80 34.7 | 79 25.0 | 74 3 30 21 | 403 | 519 | X X | GLDL | |
| GREELY FD | 913 | 80 34.7 | 79 25.0 | 74 3 31 15 | 504 | 519 | X X | GLDL | |
| GREELY FD | 923 | 80 34.4 | 79 42.0 | 74 4 1 19 | 182 | 203 | X X | GLDL | |
| GREELY FD | 934 | 80 34.7 | 79 25.0 | 74 2 16 ? | 434 | 519 | X X | GLDL | |
| GREELY FD | 936 | 80 34.6 | 79 12.5 | 74 4 2 20 | 443 | 493 | X X | GLDL | |
| GREELY FD | 937 | 80 34.8 | 78 19.2 | 74 4 5 1 | 153 | 199 | X X | GLDL | |
| GREELY FD | 940 | 80 35.5 | 78 43.0 | 74 4 5 21 | 306 | ? | X X | GLDL | |
| GREELY FD | 963 | 80 34.7 | 79 25.0 | 74 4 9 19 | 509 | 519 | X X | GLDL | |
| GREELY FD | 1050 | 80 34.2 | 80 16.2 | 74 8 23 ? | 484 | 510 | X X | GLDL | |
| GREELY FD | 1052 | 80 34.7 | 80 4.7 | 74 8 23 ? | 150 | 250 | X X | GLDL | |
| GREELY FD | 1053 | 80 36.0 | 79 36.7 | 74 8 23 ? | 402 | 435 | X X | GLDL | |
| GREELY FD | 1054 | 80 33.5 | 80 11.5 | 74 8 25 ? | 405 | 399 | X X | GLDL | |
| GREELY FD | 1055 | 80 33.2 | 80 5.5 | 74 8 25 ? | 206 | 220 | X X | GLDL | |
| GREELY FD | 1056 | 80 33.1 | 79 52.5 | 74 8 25 ? | 202 | 222 | X X | GLDL | |
| GREELY FD | 1057 | 80 35.9 | 79 31.0 | 74 8 25 ? | 421 | 501 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 75-0016
 YEAR:1975 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HAZEN ST | 1.1 | 76 34.0 | 113 28.0 | 75 06 19 ? | 340 | 355 | X X | AAND | |
| HAZEN ST | 1.2 | 76 34.0 | 113 28.0 | 75 07 02 ? | 340 | 355 | X X | AAND | |
| HAZEN ST | 1.3 | 76 34.0 | 113 28.0 | 75 07 19 ? | 340 | 355 | X X | AAND | |
| HAZEN ST | 1.4 | 76 34.0 | 113 28.0 | 75 ? ? ? | 9 | 355 | X X | INTO | |
| HAZEN ST | 2 | 76 47.0 | 112 27.0 | 75 ? ? ? | 8 | 390 | X X | INTO | |
| FITZWILL.S | 3 | 76 36.0 | 114 15.0 | 75 ? ? ? | 8 | 320 | X X | INTO | |
| FITZWILL.S | 4 | 76 44.0 | 115 25.0 | 75 ? ? ? | 8 | 305 | X X | INTO | |
| FITZWILL.S | 5 | 76 33.0 | 115 47.0 | 75 ? ? ? | 8 | 335 | X X | INTO | |

BOTTLE/CTD DATA SET NUMBER: 75-0017
 YEAR:1975 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| E.SAB PEN | 6.1 | 76 24.60 | 107 20.83 | 75 05 09 ? | 350 | 355 | X X | ? | |
| E.SAB PEN | 6.2 | 76 24.60 | 107 20.83 | 75 05 09 ? | 10 | 355 | X X | ? | |
| E.SAB PEN | 7 | 76 27.95 | 107 20.58 | 75 05 09 ? | 350 | 357 | X X | ? | |

BOTTLE/CTD DATA SET NUMBER: 75-0018
 YEAR:1975 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HAZEN ST | 8 | 77 00.0 | 110 30.0 | 75 02 23 ? | 10 | 433 | X X | INTO | |
| DESBARATS | 9 | 76 50.0 | 106 00.0 | 75 01 30 ? | 10 | 155 | X X | INTO | |
| MACLEAN ST | 10 | 77 20.0 | 102 30.0 | 75 02 06 ? | 10 | 229 | X X | INTO | |

BOTTLE/CTD DATA SET NUMBER: 75-0019
YEAR:1975 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|------|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| E.SAB PEN | 11.1 | 76 24.67 | 107 48.78 | 75 03 04 ? | 36 | ? | X X | BECK | |
| E.SAB PEN | 11.2 | 76 24.67 | 107 48.78 | 75 03 09 ? | 132 | ? | X X | BECK | 2 12 |

BOTTLE/CTD DATA SET NUMBER: 75-0020
YEAR:1975 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HEC.& GR.B | 1.1 | 76 21.92 | 110 53.08 | 75 12 06 ? | 150 | ? | X X | AAND | |
| HEC.& GR.B | 1.2 | 76 21.92 | 110 53.08 | 76 02 11 ? | 160 | ? | X X | AAND | |
| HEC.& GR.B | 2.1 | 76 24.90 | 111 11.22 | 76 01 15 ? | 380 | ? | X X | AAND | |

BOTTLE/CTD DATA SET NUMBER: 75-0021
YEAR:1976 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| MACLEAN ST | 3.1 | 78 05.37 | 101 50.67 | 76 02 03 ? | 50 | 60 | X X | AAND | |
| MACLEAN ST | 3.2 | 78 05.37 | 101 50.67 | 76 04 20 ? | 50 | 60 | X X | AAND | |

BOTTLE/CTD DATA SET NUMBER: 75-0022
YEAR:1976 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| PR GUSTAF | 7 | 78 30.0 | 107 00.0 | 76 03 28 ? | 350 | 385 | X X | AAND | |
| HAZEN ST | 8 | 77 00.0 | 110 30.0 | 76 04 09 ? | 257 | 325 | X X | AAND | |
| MACLEAN STR | 9 | 77 20.0 | 102?30.0 | 76 03 24 ? | 220 | 226 | X X | AAND | |

BOTTLE/CTD DATA SET NUMBER: 75-0023
YEAR:1975 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| E.SAB PEN | 12 | 78 05.77 | 101 06.83 | 75 07 16 18 | 50 | 55 | X X | BECK | |
| E.SAB PEN | 13 | 78 05.37 | 101 05.00 | 75 07 11 18 | 40 | 45 | X X | BECK | |
| E.SAB PEN | 14 | 78 04.32 | 101 06.37 | 75 07 10 18 | 70 | 75 | X X | BECK | |
| E.SAB PEN | 15 | 78 05.37 | 101 08.66 | 75 07 16 13 | 60 | 65 | X X | BECK | |

BOTTLE/CTD DATA SET NUMBER: 75-0039
 YEAR:1975 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|------|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 1060 | 80 34.8 | 79 28.0 | 75 3 28 17 | 420 | 534 | X X | GLDL | |
| GREELY FD | 1061 | 80 34.0 | 78 9.0 | 75 4 6 18 | 170 | 170 | X X | GLDL | |
| GREELY FD | 1062 | 80 34.8 | 78 28.0 | 75 4 3 20 | 500 | 534 | X X | GLDL | |
| GREELY FD | 1063 | 80 34.7 | 78 7.0 | 75 4 6 22 | 195 | 196 | X X | GLDL | |
| GREELY FD | 1064 | 80 35.0 | 79 45.0 | 75 4 7 21 | 200 | 214 | X X | GLDL | |
| GREELY FD | 1065 | 80 35.5 | 78 6.0 | 75 4 7 17 | 165 | 168 | X X | GLDL | |
| GREELY FD | 1066 | 80 35.2 | 80 16.0 | 75 4 8 21 | 450 | 500 | X X | GLDL | |
| GREELY FD | 1067 | 80 35.5 | 78 15.0 | 75 4 8 15 | 180 | 200 | X X | GLDL | |
| GREELY FD | 1068 | 80 35.2 | 80 7.0 | 75 4 10 18 | 330 | 369 | X X | GLDL | |
| GREELY FD | 1070 | 80 35.7 | 79 56.0 | 75 4 10 20 | 210 | 241 | X X | GLDL | |
| GREELY FD | 1071 | 80 34.8 | 78 32.0 | 75 4 8 17 | 270 | 282 | X X | GLDL | |
| GREELY FD | 1073 | 80 34.8 | 78 48.0 | 75 4 8 20 | 380 | 420 | X X | GLDL | |
| GREELY FD | 1074 | 80 35.7 | 79 28.0 | 75 4 12 16 | 415 | 534 | X X | GLDL | |
| GREELY FD | 1075 | 80 34.5 | 79 12.0 | 75 4 8 22 | 425 | 455 | X X | GLDL | |
| GREELY FD | 1076 | 80 35.7 | 79 28.0 | 75 4 12 17 | 500 | 534 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 76-0014
 YEAR:1976 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HEC.& GR.B | 2.2 | 76 24.90 | 111 11.22 | 76 02 10 ? | 280 | ? | X X | AAND | |
| HEC.& GR.B | 2.3 | 76 24.90 | 111 11.22 | 76 04 04 ? | 60 | ? | X X | AAND | |

BOTTLE/CTD DATA SET NUMBER: 76-0016
 YEAR:1976 VESSEL/AGENCY: OC. & AQ. SC., CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|------|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| PENNY ST | 12.1 | 76 41.5 | 97 07.0 | 76 04 13 17 | 155 | 187 | X X | AAND | 1 14 |
| PENNY ST | 12.2 | 76 41.5 | 97 07.0 | 76 04 20 19 | 183 | 187 | X X | AAND | |
| PENNY ST | 14.1 | 76 38.5 | 97 23.8 | 76 04 16 16 | 210 | 260 | X X | AAND | 1 14 |
| PENNY ST | 14.2 | 76 38.5 | 97 23.8 | 76 04 20 18 | 210 | 260 | X X | AAND | |
| PENNY ST | 11.1 | 76 42.8 | 96 58.7 | 76 04 18 15 | 200 | 192 | X X | AAND | |
| PENNY ST | 11.2 | 76 42.8 | 96 58.7 | 76 04 20 20 | 183 | 192 | X X | AAND | |
| PENNY ST | 12.3 | 76 41.5 | 97 07.0 | 76 04 18 16 | 200 | 187 | X X | AAND | |
| PENNY ST | 15.1 | 76 36.3 | 97 28.5 | 76 04 20 15 | 155 | 157 | X X | AAND | |
| PENNY ST | 16.1 | 76 31.4 | 97 42.8 | 76 04 20 15 | 210 | 225 | X X | AAND | |
| PENNY ST | 16.2 | 76 31.4 | 97 42.8 | 76 04 21 20 | 210 | 225 | X X | AAND | |
| PENNY ST | 15.2 | 76 36.3 | 97 28.5 | 76 04 20 16 | 100 | 108 | X X | AAND | |
| PENNY ST | 13 | 76 39.8 | 97 16.6 | 76 04 20 18 | 210 | 220 | X X | AAND | |
| PENNY ST | 13 | 76 39.8 | 97 16.6 | 76 04 20 23 | 210 | 220 | X X | AAND | |
| BELCHER C | 21 | 77 26.0 | 95 53.1 | 76 04 24 19 | 56 | 59 | X X | AAND | |
| BELCHER C | 22 | 77 24.0 | 95 57.0 | 76 04 24 20 | 100 | 68 | X X | AAND | |
| BELCHER C | 23 | 77 18.3 | 96 1.8 | 76 04 24 21 | 125 | 127 | X X | AAND | |
| BELCHER C | 24 | 77 14.5 | 96 5.9 | 76 04 24 22 | 200 | 220 | X X | AAND | |
| BELCHER C | 25 | 77 7.9 | 96 13.0 | 76 04 24 23 | 175 | 180 | X X | AAND | |
| BELCHER C | 26 | 77 3.6 | 96 17.7 | 76 04 25 00 | 200 | 200 | X X | AAND | |

BOTTLE/CTD DATA SET NUMBER: 76-0017
 YEAR:1976 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| BYAM CH | 4 | 75 26.75 | 104 46.53 | 76 04 29 21 | 140 | 150 | X X | GLDL | 1 2 |
| AUSTIN CH | 5 | 75 30.27 | 103 01.43 | 76 05 03 22 | 220 | 240 | X X | GLDL | 1 21 |
| AUSTIN CH | 6 | 75 31.37 | 102 50.35 | 76 05 04 22 | ? | 54 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 76-0018
 YEAR:1976 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|------|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 2010 | 80 34.7 | 79 29.0 | 76 3 8 20 | 474 | 495 | X X | GLDL | |
| GREELY FD | 2015 | 80 35.5 | 78 44.0 | 76 3 14 20 | 350 | 375 | X X | GLDL | |
| GREELY FD | 2017 | 80 34.0 | 78 5.0 | 76 3 15 14 | 100 | 113 | X X | GLDL | |
| GREELY FD | 2019 | 80 35.0 | 78 19.0 | 76 3 15 21 | 190 | 210 | X X | GLDL | |
| GREELY FD | 2021 | 80 34.0 | 80 20.0 | 76 3 22 14 | 525 | 562 | X X | GLDL | |
| GREELY FD | 2023 | 80 30.0 | 81 45.0 | 76 3 23 14 | 470 | 492 | X X | GLDL | |
| GREELY FD | 2024 | 80 26.0 | 82 46.0 | 76 3 24 14 | 580 | 620 | X X | GLDL | |
| GREELY FD | 2025 | 80 29.0 | 84 24.0 | 76 3 25 1 | 650 | 696 | X X | GLDL | |
| GREELY FD | 2026 | 80 28.0 | 86 0.0 | 76 3 26 17 | 650 | 680 | X X | GLDL | |
| NANSEN SD | 2028 | 80 29.0 | 86 42.0 | 76 3 27 14 | 578 | 627 | X X | GLDL | |
| NANSEN SD | 2029 | 80 22.0 | 86 47.0 | 76 3 29 14 | 329 | 366 | X X | GLDL | |
| EUREKA SD | 2031 | 80 1.0 | 86 58.0 | 76 3 30 17 | 500 | 530 | X X | GLDL | |
| EUREKA SD | 2032 | 80 0.3 | 86 49.0 | 76 3 30 19 | 500 | 534 | X X | GLDL | |
| EUREKA SD | 2033 | 80 0.0 | 86 36.0 | 76 3 31 14 | 329 | 354 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 77-0019
 YEAR:1977 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|------|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| GREELY FD | 2301 | 80 36.2 | 79 31.2 | 77 3 4 21 | 231 | 231 | X X | GLDL | |
| GREELY FD | 2302 | 80 34.8 | 78 12.5 | 77 3 16 22 | 110 | 118 | X X | GLDL | |
| GREELY FD | 2303 | 80 35.7 | 78 23.8 | 77 3 17 5 | 182 | 186 | X X | GLDL | |
| GREELY FD | 2304 | 80 36.0 | 78 30.0 | 77 3 17 20 | 159 | 165 | X X | GLDL | |
| GREELY FD | 2305 | 80 35.0 | 78 38.0 | 77 3 17 23 | 242 | 247 | X X | GLDL | |
| GREELY FD | 2306 | 80 33.5 | 80 30.0 | 77 3 21 21 | 237 | 241 | X X | GLDL | |
| GREELY FD | 2307 | 80 33.7 | 79 51.8 | 77 3 22 1 | 180 | 190 | X X | GLDL | |
| GREELY FD | 2308 | 80 35.3 | 78 53.8 | 77 3 24 19 | 365 | 369 | X X | GLDL | |
| GREELY FD | 2309 | 80 34.8 | 79 9.5 | 77 3 24 23 | 479 | 480 | X X | GLDL | |
| GREELY FD | 2310 | 80 34.2 | 79 35.3 | 77 3 26 1 | 513 | 513 | X X | GLDL | |
| GREELY FD | 2311 | 80 34.7 | 79 22.5 | 77 3 27 19 | 450 | 464 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 77-0022
 YEAR:1977 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HEC.& GR.B | 1.1 | 76 17.0 | 111 21.0 | 77 03 23 14 | ? | ? | X X | AAND | |
| HEC.& GR.B | 1.2 | 76 17.0 | 111 21.0 | 77 04 16 10 | 280 | ? | X X | AAND | |
| HEC.& GR.B | 1.3 | 76 17.0 | 111 21.0 | 77 05 01 14 | 290 | ? | X X | AAND | |

BOTTLE/CTD DATA SET NUMBER: 77-0024
 YEAR:1978 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HAZEN ST | 1.1 | 76 24.0 | 113 11.0 | 78 01 16 00 | 200 | 232 | X X | GLDL | 4 10 |
| HAZEN ST | 1.2 | 76 24.0 | 113 11.0 | 78 04 22 20 | 200 | 232 | X X | GLDL | 4 13 |

BOTTLE/CTD DATA SET NUMBER: 77-0025
 YEAR:1978 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HAZEN ST | 2.1 | 76 43.0 | 109 46.0 | 78 01 11 03 | 150 | 165 | X X | GLDL | 4 13 |
| HAZEN ST | 2.2 | 76 43.0 | 109 46.0 | 78 04 07 20 | 150 | 165 | X X | GLDL | 4 13 |

BOTTLE/CTD DATA SET NUMBER: 77-0026
 YEAR:1977 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| CROZIER ST. | C1 | 75 31.6 | 97 22.2 | 77 03 28 22 | 60 | 62 | X X | GLDL | |
| CROZIER ST. | C2 | 75 31.5 | 97 19.8 | 77 03 30 22 | 50 | 52 | X X | GLDL | |
| CROZIER ST. | C3 | 75 30.5 | 97 10.4 | 77 04 13 3 | 89 | 92 | X X | GLDL | |
| CROZIER ST. | C4 | 75 30.3 | 97 08.0 | 77 04 10 22 | 280 | 286 | X X | GLDL | |
| CROZIER ST. | C5 | 75 30.0 | 97 05.1 | 77 04 07 20 | 4 | 317 | X | GLDL | |
| CROZIER ST. | C6 | 75 29.8 | 97 02.9 | 77 04 03 20 | 270 | 271 | X X | GLDL | 1 13 |
| PULLEN ST. | P3 | 75 26.5 | 96 05.9 | 77 04 21 21 | 50 | 54 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 78-0007
 YEAR:1978 VESSEL/AGENCY: OC.&AQ.SC, CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| MCDOUG SD | 31 | 75 7.71 | 96 39.30 | 78 04 06 19 | 120 | 126 | X X | GLDL | |
| MCDOUG SD | 32 | 75 7.65 | 97 6.57 | 78 04 06 20 | 170 | 175 | X X | GLDL | |
| MCDOUG SD | 33 | 75 6.80 | 97 32.70 | 78 04 06 18 | 58 | 61 | X X | GLDL | |
| AUSTIN CH | 91 | 75 12.90 | 100 44.09 | 78 04 14 16 | 90 | 96 | X X | GLDL | |
| AUSTIN CH | 92 | 75 11.65 | 101 5.50 | 78 04 14 16 | 150 | 155 | X X | GLDL | |
| AUSTIN CH | 93 | 75 09.96 | 101 34.26 | 78 04 14 17 | 125 | 132 | X X | GLDL | |
| AUSTIN CH | 94 | 75 08.11 | 102 40.90 | 78 04 14 17 | 98 | 107 | X | GLDL | |
| AUSTIN CH | 95 | 75 7.48 | 102 59.55 | 78 04 14 18 | 135 | 147 | X | GLDL | |
| AUSTIN CH | 96 | 75 6.80 | 103 25.80 | 78 04 14 18 | 93 | 97 | X | GLDL | |
| BYAM CH | 86 | 75 17.60 | 105 35.21 | 78 04 14 20 | 74 | 77 | X | GLDL | |
| BYAM CH | 85 | 75 15.90 | 105 15.50 | 78 04 14 21 | 73 | 77 | X | GLDL | |
| BYAM CH | 84 | 75 14.70 | 104 56.94 | 78 04 14 21 | 220 | 225 | X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 78-0012
YEAR:1978 VESSEL/AGENCY: FROZEN SEA RES.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| CROZIER ST | C5 | 75 29.97 | 97 5.08 | 78 03 19 17 | 307 | 310 | X X | GLDL | |
| CROZIER ST | C5 | 75 29.97 | 97 5.08 | 78 03 19 20 | 300 | 310 | X X | GLDL | |
| CROZIER ST | C5 | 75 29.97 | 97 5.08 | 78 03 19 ? | 300 | 310 | X X | GLDL | |
| CROZIER ST | C6 | 75 24.0 | 97 6.0 | 78 03 23 4 | 360 | 369 | X X | GLDL | |
| PULLEN ST | P1 | 75 24.62 | 96 21.35 | 78 03 24 4 | 35 | 54 | X X | GLDL | |
| PULLEN ST | P2 | 75 26.83 | 96 6.17 | 78 03 25 3 | 47 | 48 | X X | GLDL | |
| WELL.CH | 4 | 75 14.33 | 92 37.5 | 78 04 05 15 | 180 | 188 | X X | GLDL | 1 25 |
| WELL.CH | 4 | 75 14.33 | 92 37.5 | 78 04 06 21 | 180 | 188 | X X | GLDL | |
| WELL.CH | 4 | 75 14.33 | 92 37.5 | 78 04 17 21 | 180 | 188 | X X | GLDL | |
| WELL.CH | 3 | 75 14.92 | 92 52.0 | 78 04 04 17 | 155 | 160 | X X | GLDL | |
| WELL.CH | 3 | 75 14.92 | 92 52.0 | 78 04 18 21 | 155 | 160 | X X | GLDL | |
| WELL.CH | 2 | 75 14.83 | 93 00.5 | 78 04 21 21 | 140 | 146 | X X | GLDL | |
| WELL.CH | 1 | 75 15.25 | 93 17.0 | 78 04 25 15 | 225 | 232 | X X | GLDL | 1 31 |

BOTTLE/CTD DATA SET NUMBER: 78-0013
YEAR:1979 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| HAZEN ST | 1.1 | 77 03.26 | 110 21.16 | 79 01 03 20 | 200 | 225 | X X | GLDL | 4 13 |
| HAZEN ST | 1.2 | 77 03.26 | 110 21.16 | 79 05 02 04 | 200 | 225 | X X | GLDL | 4 11 |

BOTTLE/CTD DATA SET NUMBER: 78-0014
YEAR:1978 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT HR | NO |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|-----------|----|
| DESBARATS | 2.1 | 76 42.21 | 105 57.25 | 78 12 30 03 | 150 | 150 | X X | GLDL | 4 | 18 |
| DESBARATS | 2.2 | 76 42.21 | 105 57.25 | 79 04 03 22 | 150 | 150 | X X | GLDL | 4 | 13 |

BOTTLE/CTD DATA SET NUMBER: 79-0018
YEAR:1979 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT HR | NO |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|-----------|----|
| W.LOUGH IS | 3.1 | 77 12.30 | 106 52.88 | 79 01 09 11 | 240 | 240 | X X | GLDL | 4 | 17 |
| W.LOUGH IS | 3.2 | 77 12.30 | 106 52.88 | 79 04 29 12 | 240 | 240 | X X | GLDL | 4 | 13 |

BOTTLE/CTD DATA SET NUMBER: 79-0019
 YEAR:1979 VESSEL/AGENCY: OC.&AQ.SC., CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|------|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| DESBARATS | 1 | 77 12.0 | 106 46.0 | 79 04 06 23 | 347 | 353 | X X | GLDL | |
| DESBARATS | 1 | 77 12.0 | 106 46.0 | 79 04 14 19 | 347 | 353 | X X | GLDL | 1 14 |
| DESBARATS | 21 | 77 7.2 | 105 52.0 | 79 04 08 18 | 180 | 192 | X X | GLDL | |
| DESBARATS | 22 | 77 5.0 | 106 10.0 | 79 04 08 19 | 195 | 199 | X X | GLDL | |
| DESBARATS | 23.1 | 76 57.0 | 107 1.0 | 79 04 08 21 | 170 | 185 | X X | GLDL | |
| DESBARATS | 23.2 | 76 56.5 | 107 12.5 | 79 04 11 0 | 385 | 388 | X X | GLDL | |
| DESBARATS | 24.1 | 76 51.8 | 107 52.0 | 79 04 08 23 | 430 | 439 | X X | GLDL | |
| DESBARATS | 24.2 | 76 51.8 | 107 52.0 | 79 04 10 23 | 400 | 439 | X X | GLDL | |
| DESBARATS | 25 | 76 48.5 | 108 18.0 | 79 04 10 22 | 395 | 450 | X X | GLDL | |
| DESBARATS | 11.1 | 77 0.0 | 103 45.0 | 79 04 13 18 | 165 | 175 | X X | GLDL | |
| DESBARATS | 11.2 | 77 0.0 | 103 48.0 | 79 4 15 16 | 145 | 155 | X X | GLDL | |
| DESBARATS | 11.3 | 77 0.0 | 103 48.0 | 79 4 16 18 | 145 | 160 | X X | GLDL | |
| ARNOT ST. | 16 | 76 17.0 | 103 48.0 | 79 04 13 22 | 64 | 68 | X X | GLDL | |
| ARNOT ST. | 17 | 76 16.4 | 103 49.0 | 79 04 13 22 | 90 | 95 | X X | GLDL | |
| DESBARATS | 15.1 | 76 43.0 | 103 53.0 | 79 04 14 0 | 260 | 270 | X X | GLDL | |
| DESBARATS | 15.2 | 76 43.0 | 103 53.0 | 79 4 15 21 | 285 | 300 | X X | GLDL | |
| DESBARATS | 15.3 | 76 43.0 | 103 53.0 | 79 4 17 0 | 260 | 280 | X X | GLDL | |
| DESBARATS | 14.1 | 76 47.0 | 103 52.0 | 79 04 14 1 | 315 | 325 | X X | GLDL | |
| DESBARATS | 14.2 | 76 47.0 | 103 52.0 | 79 4 15 20 | 300 | 320 | X X | GLDL | |
| DESBARATS | 14.3 | 76 47.0 | 103 52.0 | 79 4 17 0 | 300 | 320 | X X | GLDL | |
| BYAM M CH | 41 | 76 4.0 | 104 29.0 | 79 04 14 17 | 160 | 175 | X X | GLDL | |
| BYAM M CH | 42 | 76 2.0 | 104 47.0 | 79 04 14 18 | 180 | 190 | X X | GLDL | |
| BYAM M CH | 43 | 75 59.0 | 105 8.0 | 79 04 14 19 | 140 | 160 | X X | GLDL | |
| BYAM M CH | 44 | 75 56.0 | 105 25.0 | 79 04 14 20 | 184 | 190 | X X | GLDL | |
| DANISH ST | 33 | 77 48.0 | 100 53.0 | 79 04 14 23 | 200 | 220 | X X | GLDL | |
| DANISH ST | 32 | 77 50.0 | 100 46.0 | 79 04 15 0 | 200 | 210 | X X | GLDL | |
| DANISH ST | 31 | 77 51.5 | 100 39.0 | 79 04 15 1 | 100 | 110 | X X | GLDL | |
| W.LOUGH IS | 2 | 77 22.0 | 107 14.0 | 79 4 15 23 | 280 | 310 | X X | GLDL | |
| DESBARATS | 12.1 | 76 55.0 | 103 49.0 | 79 4 16 19 | 185 | 195 | X X | GLDL | |
| DESBARATS | 12.2 | 76 55.0 | 103 49.0 | 79 4 16 22 | 185 | 195 | X X | GLDL | |
| DESBARATS | 13 | 76 51.0 | 103 50.0 | 79 4 16 23 | 260 | 270 | X X | GLDL | |
| MACLEAN ST | 38.1 | 77 27.0 | 104 30.0 | 79 4 19 17 | 290 | 295 | X X | GLDL | |
| MACLEAN ST | 38.2 | 77 27.0 | 104 33.0 | 79 4 20 22 | 150 | 155 | X X | GLDL | |
| MACLEAN ST | 37 | 77 30.0 | 103 58.0 | 79 4 20 23 | 285 | 290 | X X | GLDL | |
| MACLEAN ST | 36 | 77 34.0 | 103 31.0 | 79 4 21 0 | 265 | 270 | X X | GLDL | |
| MACLEAN ST | 35 | 77 37.0 | 102 55.0 | 79 4 21 3 | 345 | 350 | X X | GLDL | |
| MACLEAN ST | 34 | 77 42.0 | 102 39.0 | 79 4 21 4 | 250 | 255 | X X | GLDL | |
| PR.GUSTAF | 71.1 | 78 25.5 | 105 26.0 | 79 4 21 18 | 400 | 515 | X X | GLDL | |
| PR.GUSTAF | 71.2 | 78 29.0 | 105 25.0 | 79 4 27 22 | 315 | 390 | X X | GLDL | |
| HAZEN ST. | 63 | 77 0.0 | 109 23.0 | 79 4 22 21 | 400 | 440 | X X | GLDL | |
| HAZEN ST. | 62 | 77 11.0 | 109 41.0 | 79 4 22 22 | 400 | 435 | X X | GLDL | |
| HAZEN ST. | 61 | 77 23.0 | 110 14.0 | 79 4 22 23 | 335 | 345 | X X | GLDL | |
| PR.GUSTAF | 73 | 78 27.0 | 108 47.0 | 79 4 27 20 | 260 | 270 | X X | GLDL | |
| PR.GUSTAF | 72 | 78 27.0 | 107 5.0 | 79 4 27 21 | 375 | 377 | X X | GLDL | |
| EDINB.SEA | 51 | 77 41.0 | 99 52.0 | 79 4 28 18 | 300 | 320 | X X | GLDL | |
| EDINB.SEA | 52 | 77 31.0 | 99 50.0 | 79 4 28 19 | 285 | 300 | X X | GLDL | |
| EDINB.SEA | 53 | 77 18.5 | 99 50.0 | 79 4 28 19 | 190 | 210 | X X | GLDL | |
| EDINB.SEA | 54 | 77 4.0 | 99 50.0 | 79 4 28 21 | 240 | 255 | X X | GLDL | |
| EDINB.SEA | 55 | 76 48.0 | 99 50.0 | 79 4 28 22 | 140 | 160 | X X | GLDL | |
| WILKINS ST | 82 | 78 9.0 | 109 48.0 | 79 4 29 1 | 360 | 370 | X X | GLDL | |
| WILKINS ST | 81 | 78 15.0 | 109 48.0 | 79 4 29 2 | 260 | 269 | X X | GLDL | |

BOTTLE/CTD DATA SET NUMBER: 79-0020
 YEAR:1980 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|------------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| W.LOUGH IS | 1.1 | 77 12.40 | 106 53.43 | 80 01 16 01 | 275 | 275 | X X | GLDL | 4 14 |
| W.LOUGH IS | 1.2 | 77 12.40 | 106 53.43 | 80 04 16 21 | 275 | 275 | X X | GLDL | 4 16 |

BOTTLE/CTD DATA SET NUMBER: 79-0022
 YEAR:1980 VESSEL/AGENCY: PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| EDINB.SEA | 2.1 | 77 37.18 | 100 22.40 | 80 01 18 14 | 236 | 236 | X X | GLDL | 4 12 |
| EDINB.SEA | 2.2 | 77 37.18 | 100 22.40 | 80 04 13 17 | 236 | 236 | X X | GLDL | 4 12 |
| EDINB.SEA | 3.1 | 77 36.50 | 99 31.13 | 80 01 20 22 | 262 | 262 | X X | GLDL | 4 12 |
| EDINB.SEA | 3.2 | 77 36.50 | 99 31.13 | 80 04 09 09 | 262 | 262 | X X | GLDL | 4 12 |

BOTTLE/CTD DATA SET NUMBER: 81-0007
 YEAR:1981 VESSEL/AGENCY: OC.&AQ.SC., CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | DATE YR MO DY HR | CAST TO (M) | WATER DEPTH (M) | PARAM MEAS C S T | INSTR | INT NO HR |
|-----------|-----|----------------|-----------------|---------------------|-------------------|-----------------------|------------------------|-------|--------------|
| MCDoug SD | 71 | 75 08.5 | 97 27.3 | 81 4 19 22 | 83 | ? | X X | GLDL | |
| MCDoug SD | 72 | 75 07.2 | 97 12.0 | 81 4 19 22 | 174 | ? | X X | GLDL | |
| MCDoug SD | 73 | 75 06.5 | 96 57.4 | 81 4 19 23 | 200 | ? | X X | GLDL | |
| MCDoug SD | 74 | 75 05.5 | 96 42.2 | 81 4 20 00 | 200 | ? | X X | GLDL | |
| WELL CH | 91 | 74 52.8 | 93 20.0 | 81 4 25 23 | 137 | ? | X X | GLDL | |
| WELL CH | 92 | 74 52.8 | 93 06.0 | 81 4 25 22 | 184 | ? | X X | GLDL | |
| WELL CH | 93 | 74 52.8 | 92 43.0 | 81 4 25 22 | 131 | ? | X X | GLDL | |
| WELL CH | 94 | 74 52.8 | 92 25.8 | 81 4 25 21 | 142 | ? | X X | GLDL | |
| WELL CH | 95 | 74 52.8 | 92 11.0 | 81 4 25 21 | 86 | ? | X X | GLDL | |

11.2 CURRENT METER DATA

The listings contain the following information:

| | |
|--------------------|---|
| AREA | General area of station. |
| STN | Station number; wherever possible it is the station number assigned in the original data source. Multiple meters are differentiated as 1.1, 1.2, 1.3, for example. |
| LAT, LONG | In degrees and minutes. |
| START/STOP | Year, month and day instrument recorded over. |
| EFF LEN | Effective record length, days of both speed and direction data. |
| DT (MN) | Sampling rate in minutes. |
| DEPTHS-INSTR/WATER | Instrument and water depth, in metres. |
| INSTR TYPE | Instrument type: AAND - Aanderaa RCM-4 CUSH - Cushing electromagnetic M-MC - Marsh McBirney electromagnetic ENDE - Endeco HYDR - Hydrowerstaten BR - Braincon type 206 meter GEOD - Geodyne RICH - Richardson |
| ADDIT SENSOR | Other parameters measured - pressure, temperature, conductivity. Each measurement is qualified by one of the following: X - measurements of this parameter were made CA - possible calibration problems S - suspect readings C - constant readings O - zero or obviously bad readings L - frequent speeds below the stall speed |

Blank entries indicate unavailable or inapplicable data.

? implies suspect data, but the only/best available.

CURRENT METER DATA, SET NUMBER: 74-0018
 YEAR:1974 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| MACLEAN ST | 1 | 78 08.92 | 101 12.67 | 74 06 20 | 74 07 05 | 00 | ? | ? 135 | ? | |
| MACLEAN ST | 2 | 78 07.88 | 101 40.37 | 74 06 20 | 74 07 07 | 00 | ? | ? 68 | ? | |
| MACLEAN ST | 3 | 78 00.00 | 101 15.00 | 74 06 20 | 74 07 08 | 00 | ? | ? 262 | ? | |
| MACLEAN ST | 4 | 77 49.00 | 100 47.00 | 74 06 20 | 74 07 08 | 00 | ? | ? 230 | ? | |
| EDINB SEA | 5 | 77 40.00 | 99 06.05 | 74 06 20 | 74 07 01 | 00 | ? | ? 175 | ? | |
| EDINB SEA | 6 | 77 35.00 | 101 00.00 | 74 06 20 | 74 07 01 | 00 | ? | ? 349 | ? | |
| MACLEAN ST | 7.1 | 78 05.00 | 101 06.00 | 74 06 20 | 74 07 08 | 00 | ? | ? 60 | ? | |
| MACLEAN ST | 7.2 | 78 05.00 | 101 06.00 | 74 06 21 | 74 06 22 | 01 | 60 | 2 60 | ? | |
| MACLEAN ST | 7.3 | 78 05.00 | 101 06.00 | 74 07 04 | 74 07 05 | 01 | 60 | ? 60 | ? | |

CURRENT METER DATA, SET NUMBER: 74-0025
 YEAR:1974 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD | 1 | 80 34.4 | 79 44.5 | 74 04 14 | 74 07 23 | ? | 60 | 1 221 | AAND | X |
| GREELY FD | 1 | 80 34.4 | 79 44.5 | 74 04 14 | 74 07 23 | ? | 60 | 220 221 | AAND | X |
| GREELY FD | 2 | 80 33.6 | 79 44.5 | 74 04 17 | 74 07 23 | ? | 60 | 1 209 | AAND | X |
| GREELY FD | 2 | 80 33.6 | 79 44.5 | 74 04 17 | 74 07 23 | ? | 60 | 208 209 | AAND | X |
| GREELY FD | 3 | 80 32.9 | 79 44.5 | 74 04 15 | 74 07 23 | ? | 60 | 1 354 | AAND | X |
| GREELY FD | 3 | 80 32.9 | 79 44.5 | 74 04 15 | 74 07 23 | ? | 60 | 353 354 | AAND | X |

CURRENT METER DATA, SET NUMBER: 75-0016

YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 1 | 76 34.00 | 113 28.00 | 75 06 01 | 75 06 30 | 10 | 30 | ? 355 | AAND | X X |
| HAZEN ST | 2 | 76 47.00 | 112 27.00 | 75 06 03 | 75 07 20 | 04 | 30 | 5 390 | AAND | X X |
| FITSW. ST | 3 | 76 36.00 | 114 15.00 | 75 06 11 | 75 07 03 | 23 | 30 | 5 320 | AAND | X X |
| FITZW.ST. | 4 | 76 44.00 | 115 25.00 | 75 06 09 | 75 07 19 | 41 | 30 | 5 305 | AAND | X X |
| FITZW.ST. | 5 | 76 33.00 | 115 47.00 | 75 06 10 | 75 07 03 | 24 | 30 | 5 335 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 75-0017

YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| E.SAB PEN | 6 | 76 24.60 | 107 20.83 | 75 04 17 | 75 05 08 | ? | 5 | ? 354 | AAND | |
| E.SAB PEN | 7 | 76 27.95 | 107 20.58 | 75 05 08 | 75 06 17 | ? | 5 | ? 357 | AAND | |

CURRENT METER DATA, SET NUMBER: 75-0018

YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 8 | 77 00.00 | 110 30.00 | 75 02 09 | 75 06 23 | 00 | 60 | 5 433 | AAND | X X |
| DESBARATS | 9 | 76 50.00 | 106 00.00 | 75 01 30 | 75 06 23 | 145 | 60 | 5 155 | AAND | X X |
| MACLEAN ST | 10 | 77 20.00 | 102 30.00 | 75 02 06 | 75 07 06 | 00 | 60 | 5 229 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 75-0019
YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM M. CH | 11 | 76 24.67 | 107 48.78 | 75 03 02 | 75 04 12 | 1 3 | 60 | 3 132 | CUSH | |

CURRENT METER DATA, SET NUMBER: 75-0020
YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 1 | 76 21.92 | 110 53.08 | 75 12 06 | 75 12 31 | 25 | ? | 10 138 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 75-0022
YEAR:1975 VESSEL/AGENCY: IVL FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 8.1 | 77 00.00 | 110 30.00 | 75 12 04 | 75 12 31 | 0 | ? | ? 325 | CUSH | |

CURRENT METER DATA, SET NUMBER: 75-0039

YEAR:1975 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD | 1 | 80 34.4 | 79 43.7 | 75 06 09 | 75 06 21 | ? | 10 | 220 221 | AAND | X |
| GREELY FD | 2 | 80 33.6 | 79 44.5 | 75 06 09 | 75 06 21 | ? | 10 | 208 209 | AAND | X |
| GREELY FD | 4 | 80 33.3 | 79 37.9 | 75 06 09 | 75 06 21 | ? | 10 | 353 354 | AAND | X |
| GREELY FD | 1 | 80 34.4 | 79 43.7 | 75 04 01 | 75 06 15 | ? | 10 | 213 214 | AAND | X |

CURRENT METER DATA, SET NUMBER: 75-0020

YEAR:1976 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 1 | 76 21.92 | 110 53.08 | 76 01 01 | 76 02 27 | 58 | ? | 10 138 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 75-0021

YEAR:1976 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| MACLEAN ST | 3.1 | 78 05.37 | 101 50.67 | 76 01 13 | 76 02 04 | 23 | ? | 5 60 | AAND | X X |
| MACLEAN ST | 3.2 | 78 05.37 | 101 50.67 | 76 02 04 | 76 03 04 | 30 | ? | 5 60 | AAND | X X |
| MACLEAN ST | 3.3 | 78 05.37 | 101 50.67 | 76 03 25 | 76 04 21 | 28 | ? | 5 60 | AAND | X X |
| MACLEAN ST | 3.4 | 78 05.37 | 101 50.67 | 76 03 08 | 76 04 20 | 00 | 60 | 5 60 | CUSH | |
| MACLEAN ST | 3.5 | 78 05.37 | 101 50.67 | 76 03 08 | 76 04 20 | 00 | 60 | 21 60 | CUSH | |
| MACLEAN ST | 3.6 | 78 05.37 | 101 50.67 | 76 03 08 | 76 04 20 | 00 | 60 | 40 60 | CUSH | |
| MACLEAN ST | 3.7 | 78 05.37 | 101 50.67 | 76 03 08 | 76 04 20 | 00 | 60 | 50 60 | CUSH | |

CURRENT METER DATA, SET NUMBER: 75-0022
 YEAR:1976 VESSEL/AGENCY: IVL FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| PR GUSTAF | 7.1 | 78 30.00 | 107 00.00 | 76 01 01 | 76 03 28 | 88 | 60 | ? 385 | CUSH | |
| PR GUSTAF | 7.2 | 78 30.00 | 107 00.00 | 76 03 31 | 76 05 29 | 60 | 60 | ? 385 | CUSH | |
| HAZEN ST | 8.1 | 77 00.00 | 110 30.00 | 76 01 01 | 76 04 06 | 0 | ? | ? 325 | CUSH | |
| HAZEN ST | 8.2 | 77 00.00 | 110 30.00 | 76 04 09 | 76 05 25 | 47 | 60 | ? 325 | CUSH | |

CURRENT METER DATA, SET NUMBER: 76-0014
 YEAR:1976 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 2.1 | 76 24.90 | 111 11.22 | 76 01 15 | 76 02 12 | 24 | ? | 10 286 | AAND | X X |
| HEC.& GR.B | 2.2 | 76 24.90 | 111 11.22 | 76 02 12 | 76 04 08 | 04 | ? | 10 286 | AAND | X X |
| HEC.& GR.B | 2.3 | 76 24.90 | 111 11.22 | 76 04 08 | 76 04 17 | 00 | ? | 10 286 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 76-0015
 YEAR:1976 VESSEL/AGENCY: IVL FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| ARNOTT ST | 4 | 76 18. | 103 28. | 76 05 15 | 76 06 16 | 00 | 30 | 49 40 | AAND | X X |
| ERSKINE IN | 5 | 76 19. | 102 13. | 76 05 17 | 76 06 16 | 31 | 30 | 105 150 | AAND | X X |
| ERSKINE IN | 6 | 76 19. | 102 13. | 76 05 16 | 76 06 16 | 32 | 30 | 105 150 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 76-0016
 YEAR:1976 VESSEL/AGENCY: OC.&AQ.SC., CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|------|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| PENNY ST | 12.1 | 76 41.50 | 097 07.00 | 76 04 13 | 76 05 06 | 18 | 15 | ? 187 | M MC | |
| PENNY ST | 12.2 | 76 41.50 | 097 07.00 | 76 04 13 | 76 05 06 | 23 | 15 | ? 187 | ENDE | |
| PENNY ST | 12.3 | 76 41.50 | 097 07.00 | 76 04 13 | 76 04 14 | .5 | 60 | ? 187 | ENDE | |
| PENNY ST | 14.1 | 76 38.50 | 097 23.80 | 76 04 17 | 76 05 07 | 20 | 15 | ? 260 | M MC | |
| PENNY ST | 14.2 | 76 38.50 | 097 23.80 | 76 04 17 | 76 05 07 | 20 | 15 | ? 260 | ENDE | |
| PENNY ST | 14.3 | 76 38.50 | 097 23.80 | 76 04 16 | 76 04 17 | .5 | 60 | ? 260 | ENDE | |

CURRENT METER DATA, SET NUMBER: 76-0017
 YEAR:1976 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|------|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM CH | B1 | 75 32.7 | 105 25.2 | 76 04 20 | 76 06 25 | 96 | 60 | ? 45 | AAND | |
| BYAM CH | B2.1 | 75 30.2 | 105 08.7 | 76 04 22 | 76 07 15 | 83 | 60 | ? 87 | AAND | |
| BYAM CH | B2.2 | 75 30.2 | 105 08.7 | 76 05 01 | 76 06 28 | 58 | 60 | 85 87 | AAND | X X |
| BYAM CH | B3.1 | 75 26.9 | 104 57.4 | 76 05 10 | 76 06 10 | 30 | 60 | 62 64 | AAND | X X |
| BYAM CH | B4.1 | 75 26.9 | 104 46.5 | 76 04 28 | 76 06 28 | 61 | 60 | .5 150 | AAND | |
| BYAM CH | B5.1 | 75 25.5 | 104 37.8 | 76 05 12 | 76 07 25 | 73 | 60 | .5 46 | AAND | |
| BYAM CH | B5.2 | 75 25.5 | 104 37.8 | 76 05 12 | 76 06 29 | 47 | 60 | 44 46 | AAND | X |
| AUSTIN CH | A1.1 | 75 25.2 | 103 50.1 | 76 05 10 | 76 07 21 | 72 | 60 | .5 110 | AAND | |
| AUSTIN CH | A1.2 | 75 25.2 | 103 50.1 | 76 05 10 | 76 07 21 | 71 | 60 | .5 110 | AAND | X X |
| AUSTIN CH | A2.1 | 75 26.4 | 103 38.7 | 76 05 09 | 76 07 02 | 53 | 60 | .5 144 | AAND | |
| AUSTIN CH | A2.2 | 75 26.4 | 103 38.7 | 76 05 08 | 77 03 14 | 104* | 60 | 142 144 | AAND | X X |
| AUSTIN CH | A3.1 | 75 28.2 | 103 21.6 | 76 05 08 | 76 06 18 | 40 | 60 | .5 170 | AAND | |
| AUSTIN CH | A3.2 | 75 28.2 | 103 21.6 | 76 05 10 | 76 06 22 | 42 | 60 | 168 170 | AAND | X X |
| AUSTIN CH | A4.1 | 75 30.2 | 103 01.0 | 76 05 13 | 76 07 22 | 79 | 60 | .5 242 | AAND | |
| AUSTIN CH | A4.2 | 75 30.2 | 103 01.0 | 76 05 10 | 76 06 23 | 43 | 60 | 240 242 | AAND | X X |
| AUSTIN CH | A5.1 | 75 31.5 | 102 49.2 | 76 05 02 | 76 06 15 | 41 | 60 | .5 56 | AAND | |
| AUSTIN CH | A5.2 | 75 31.5 | 102 49.2 | 76 05 10 | 76 05 17 | 6 | 60 | 54 56 | AAND | X X |

* TEMPERATURE DATA ONLY AFTER AUGUST 21, 1976.

CURRENT METER DATA, SET NUMBER: 77-0022
 YEAR:1977 VESSEL/AGENCY: IVL FOR PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 1.1 | 76 17.00 | 111 21.00 | 77 03 24 | 77 04 16 | 24 | 60 | 10 290 | AAND | X X |
| HEC.& GR.B | 1.2 | 76 17.00 | 111 21.00 | 77 04 17 | 77 05 01 | 15 | 60 | 10 290 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 77-0023
 YEAR:1977 VESSEL/AGENCY: IVL FOR PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| EDINB.SEA | 2.2 | 77 37.57 | 99 27.43 | 77 03 02 | 77 06 29 | 120 | 60 | 2 396 | AAND | X X |
| HAZEN ST | 3.2 | 76 58.05 | 110 40.43 | 77 03 14 | 77 07 01 | 109 | 60 | 2 120 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 77-0026
 YEAR:1977 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|------|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| CROZIER ST | C1.1 | 75 31.6 | 97 22.2 | 77 03 27 | 77 06 11 | 76 | 60 | .5 64 | AAND | |
| CROZIER ST | C1.2 | 75 31.6 | 97 22.2 | 77 03 28 | 77 06 11 | 75 | 60 | 25 64 | AAND | X X |
| CROZIER ST | C1.3 | 75 31.6 | 97 22.2 | 77 03 30 | 77 04 14 | 17 | 60 | 62 64 | AAND | X X |
| CROZIER ST | C2.1 | 75 31.5 | 97 19.8 | 77 03 30 | 77 06 11 | 73 | 60 | .5 54 | AAND | |
| CROZIER ST | C2.2 | 75 31.5 | 97 19.8 | 77 03 30 | 77 06 11 | 72 | 60 | 25 54 | AAND | X X |
| CROZIER ST | C2.3 | 75 31.5 | 97 19.8 | 77 03 29 | 77 07 01 | 94 | 60 | 52 54 | AAND | X X |
| CROZIER ST | C3.1 | 75 30.5 | 97 10.4 | 77 04 13 | 77 06 12 | 0 | 60 | .5 94 | AAND | |
| CROZIER ST | C3.2 | 75 30.5 | 97 10.4 | 77 04 13 | 77 08 09 | 118 | 60 | 92 94 | AAND | X |
| CROZIER ST | C4.1 | 75 30.3 | 97 08.0 | 77 04 10 | 77 06 14 | 65 | 60 | .5 202 | AAND | |
| CROZIER ST | C4.2 | 75 30.3 | 97 08.0 | 77 04 12 | 77 06 14 | 63 | 60 | 200 280 | AAND | X X |
| CROZIER ST | C4.3 | 75 30.3 | 97 08.0 | 77 04 09 | 77 12 31 | 266 | 60 | 278 280 | AAND | X X |
| CROZIER ST | C5.1 | 75 30.0 | 97 05.1 | 77 04 06 | 77 06 12 | 66 | 60 | .5 319 | AAND | |
| CROZIER ST | C5.2 | 75 30.0 | 97 05.1 | 77 04 07 | 77 06 13 | 67 | 60 | 75 319 | AAND | X X |
| CROZIER ST | C5.3 | 75 30.0 | 97 05.1 | 77 04 07 | 77 06 14 | 68 | 60 | 200 319 | AAND | X X |
| CROZIER ST | C5.4 | 75 30.0 | 97 05.1 | 77 04 05 | 77 03 21 | 350 | 60 | 317 319 | AAND | X X |
| CROZIER ST | C6.1 | 75 28.8 | 97 02.9 | 77 04 04 | 77 06 12 | 69 | 60 | .5 273 | AAND | |
| CROZIER ST | C6.2 | 75 28.8 | 97 02.9 | 77 04 03 | 77 08 07 | 125 | 60 | 271 273 | AAND | X X |
| PULLEN ST | P3.1 | 75 26.5 | 96 05.9 | 77 04 21 | 77 06 15 | 55 | 60 | .5 56 | AAND | |
| PULLEN ST | P3.2 | 75 26.5 | 96 05.9 | 77 04 21 | 77 06 15 | 55 | 60 | 25 56 | AAND | X X |
| PULLEN ST | P3.3 | 75 26.5 | 96 05.9 | 77 04 20 | 77 08 11 | 113 | 60 | 54 56 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 77-0024
 YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 1 | 76 24.00 | 113 11.00 | 78 01 18 | 78 04 17 | 90 | 30 | 10 232 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 77-0025
 YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 2 | 76 43.00 | 109 46.00 | 78 01 11 | 78 04 09 | 89 | 30 | 10 165 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 77-0026
 YEAR:1978 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|------|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| CROZIER ST | C4.3 | 75 30.3 | 97 08.0 | 78 01 01 | 78 03 22 | 81 | 60 | 278 280 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 77-0033
 YEAR:1977 VESSEL/AGENCY: PETRO-CANADA LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| MACLEAN ST | 1 | 77?31.6 | 104?24.1 | 77 11 28 | 78 07 18 | ? | ? | 5 259 | AAND | |
| MACLEAN ST | 1 | 77?31.6 | 104?24.1 | 77 11 28 | 78 07 18 | ? | ? | 30? 259 | AAND | |

CURRENT METER DATA, SET NUMBER: 77-0033
 YEAR:1978 VESSEL/AGENCY: PETRO-CANADA LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 2 | 77?05.6 | 111?08.8 | 78 02 23 | 78 07 17 | ? | ? | 5 361 | AAND | |
| HAZEN ST | 2 | 77?05.6 | 111?08.8 | 78 02 23 | 78 07 17 | ? | ? | 30? 361 | AAND | |
| W.LOUGH IS | 3 | 76?54.3 | 106?52.5 | 78 02 25 | 78 07 16 | ? | ? | 5 180 | AAND | |
| W.LOUGH IS | 3 | 76?54.3 | 106?52.5 | 78 02 25 | 78 07 16 | ? | ? | 30? 180 | AAND | |
| EDINB SEA | 4 | 77?30.0 | 98?00.0 | 78 02 25 | 78 07 16 | ? | ? | 5 108 | AAND | |
| EDINB SEA | 4 | 77?30.0 | 98?00.0 | 78 02 25 | 78 07 16 | ? | ? | 30? 108 | AAND | |
| PR.GUSTAF | 5 | 77?41.3 | 107?48.3 | 78 04 10 | 78 07 18 | ? | ? | 5 504? | AAND | |
| PR.GUSTAF | 5 | 77?41.3 | 107?48.3 | 78 04 10 | 78 07 18 | ? | ? | 30? 504? | AAND | |

CURRENT METER DATA, SET NUMBER: 78-0007
 YEAR:1978 VESSEL/AGENCY: OC.&AQ.SC., CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|------|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| AUSTIN CH | 82.1 | 75 27.30 | 103 05.40 | 78 03 15 | 78 04 26 | 0 | 10 | 5 180 | AAND | X X |
| AUSTIN CH | 82.2 | 75 27.30 | 103 05.40 | 78 03 15 | 78 03 26 | 11 | 10 | 50 180 | AAND | X X |
| AUSTIN CH | 92 | 75 11.10 | 101 06.70 | 78 03 15 | 78 04 26 | 0 | 10 | 4 155 | AAND | X X |
| AUSTIN CH | 95 | 75 07.40 | 102 59.60 | 78 03 15 | 78 04 19 | 17 | 10 | 5 147 | AAND | X S |

CURRENT METER DATA, SET NUMBER: 78-0010
 YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| E.SAB PEN | 3.1 | 76 25.40 | 108 28.72 | 78 01 23 | 78 04 25 | 93 | 30 | 49 58 | AAND | X X |
| E.SAB PEN | 3.2 | 76 25.40 | 108 28.72 | 78 01 22 | 78 03 25 | 00 | 30 | 49 58 | AAND | X X |
| E.SAB PEN | 3.3 | 76 25.40 | 108 28.72 | 78 03 27 | 78 04 11 | 16 | 30 | 10 58 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 78-0011
YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| NORWEGN.B | 4.1 | 78 03.20 | 92 06.77 | 78 01 25 | 78 06 04 | 131 | 30 | 2 490 | AAND | X X |
| EDINB.SEA | 5.2 | 77 19.01 | 99 55.35 | 78 01 23 | 78 06 04 | 123 | 30 | 3 234 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 78-0012
YEAR:1978 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|---------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| WELL.CH | 1 | 75 15.25 | 93 17.0 | 78 04 25 | 78 07 09 | 75 | 60 | 12 232 | AAND | X X |
| WELL.CH | 2.1 | 75 14.83 | 93 00.5 | 78 04 19 | 78 07 09 | 81 | 20 | 12 146 | AAND | X X |
| WELL.CH | 2.2 | 75 14.83 | 93 00.5 | 78 04 19 | 78 07 06 | 78 | 60 | 100 146 | AAND | X |
| WELL.CH | 3.1 | 75 14.92 | 92 52.0 | 78 04 04 | 78 07 08 | 94 | 60 | 20 160 | AAND | X X |
| WELL.CH | 3.2 | 75 14.92 | 92 52.0 | 78 04 03 | 78 07 08 | 96 | 60 | 100 160 | AAND | X X |
| WELL.CH | 4 | 75 14.33 | 92 37.5 | 78 04 06 | 78 07 08 | 92 | 60 | 12 188 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 78-0013
YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 1 | 77 03.26 | 110 21.16 | 79 01 06 | 79 04 29 | 114 | 30 | 10 225 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 78-0014
 YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| DESBARATS | 2 | 76 42.21 | 105 57.25 | 79 01 01 | 79 04 06 | 51 | 30 | 10 150 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 79-0017
 YEAR:1979 VESSEL/AGENCY: PETRO-CANADA LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| MACLEAN ST | 1 | 77 35.1 | 103 42.1 | 79 02?17 | 79 06 20 | 124? | 60 | 5 263 | AAND | |
| MACLEAN ST | 1 | 77 35.1 | 103 42.1 | 79 02?26 | 79 06 20 | 114? | 60 | 30 263 | AAND | |
| HAZEN ST | 2 | 77 10.7 | 111 11.8 | 79 03?05 | 79 06 21 | 109? | 60 | 5 368 | AAND | |
| HAZEN ST | 2 | 77 10.7 | 111 11.8 | 79 03?06 | 79 06 21 | 108? | 60 | 30 368 | AAND | |
| W.LOUGH IS | 3 | 76 58.7 | 106 49.6 | 79 02?01 | 79 06 17 | 136? | 30 | 5 170 | AAND | |
| W.LOUGH IS | 3 | 76 58.7 | 106 49.6 | 79 01?25 | 79 06 17 | 143? | 30 | 30 170 | AAND | |
| EDINB SEA | 4 | 77 32.3 | 98 03.4 | 79 03?06 | 79 06 22 | 107? | 60 | 5 259 | AAND | |
| EDINB SEA | 4 | 77 32.3 | 98 03.4 | 79 03?06 | 79 06 22 | 107? | 60 | 30 259 | AAND | |
| PR.GUSTAF | 5 | 77 41.3 | 107 48.3 | 79 02?25 | 79 06 19 | 114? | 60 | 5 504 | AAND | |
| PR.GUSTAF | 5 | 77 41.3 | 107 48.3 | 79 02?25 | 79 03?03 | 9? | 60 | 30 504 | AAND | |

CURRENT METER DATA, SET NUMBER: 79-0018
 YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| W.LOUGH IS | 3 | 77 12.30 | 106 52.88 | 79 01 13 | 79 05 05 | 113 | 30 | 10 240 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 79-0019

YEAR:1979 VESSEL/AGENCY: OC.&AQ.SC., CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|------|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| DESBARATS | 12.1 | 76 55.00 | 103 49.00 | 79 04 03 | 79 05 07 | 0 | 10 | 5 195 | AAND | X X |
| DESBARATS | 12.2 | 76 55.00 | 103 49.00 | 79 04 03 | 79 05 01 | 28 | 10 | 50 195 | AAND | X X |
| DESBARATS | 14.1 | 76 47.00 | 103 52.00 | 79 04 03 | 79 04 27 | 10 | 10 | 5 325 | AAND | X X |
| DESBARATS | 14.2 | 76 47.00 | 103 52.00 | 79 04 04 | 79 05 03 | 30 | 10 | 50 325 | AAND | X X |
| DESBARATS | 22.1 | 77 05.00 | 106 10.00 | 79 04 03 | 79 04 03 | 0 | 10 | 6 199 | AAND | X X |
| DESBARATS | 22.2 | 77 05.00 | 106 10.00 | 79 04 03 | 79 04 08 | 2 | 10 | 50 199 | AAND | X X |
| DESBARATS | 24.1 | 76 52.00 | 107 52.00 | 79 04 03 | 79 05 02 | 29 | 10 | 5 439 | AAND | X X |
| DESBARATS | 24.2 | 76 52.00 | 107 52.00 | 79 04 04 | 79 04 12 | 0 | 10 | 50 439 | AAND | X X |
| MACLEAN ST | 32.1 | 77 50.00 | 100 46.00 | 79 04 08 | 79 04 30 | 22 | 10 | 5 210 | AAND | X X |
| MACLEAN ST | 32.2 | 77 50.00 | 100 46.00 | 79 04 08 | 79 05 08 | 29 | 10 | 50 210 | AAND | X X |
| MACLEAN ST | 35.1 | 77 37.00 | 102 55.00 | 79 04 08 | 79 04 25 | 0 | 10 | 5 350 | AAND | X X |
| MACLEAN ST | 35.2 | 77 37.00 | 102 55.00 | 79 04 08 | 79 04 25 | 17 | 10 | 50 350 | AAND | X X |
| MACLEAN ST | 37.1 | 77 30.00 | 103 58.00 | 79 04 08 | 79 05 07 | 0 | 10 | 6 290 | AAND | X X |
| MACLEAN ST | 37.2 | 77 30.00 | 103 58.00 | 79 04 08 | 79 05 07 | 12 | 10 | 50 290 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 79-0020

YEAR:1980 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| W.LOUGH IS | 1.1 | 77 12.40 | 106 53.43 | 80 01 16 | 80 05 11 | 117 | 20 | 10 275 | AAND | X X |
| W.LOUGH IS | 1.2 | 77 12.40 | 106 53.43 | 80 02 28 | 80 05 12 | 14 | 30 | 150 320 | AAND | X X |
| W.LOUGH IS | 1.3 | 77 12.40 | 106 53.43 | 80 03 02 | 80 05 13 | 19 | 30 | 275 320 | AAND | X X |
| W.LOUGH IS | 1.4 | 77 12.40 | 106 53.43 | 80 03 02 | 80 05 13 | 19 | 30 | 275 320 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 79-0022
 YEAR:1980 VESSEL/AGENCY: PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| EDINB.SEA | 2 | 77 37.18 | 100 22.40 | 80 01 21 | 80 04 11 | 35 | 20 | 10 236 | AAND | X X |
| EDINB.SEA | 3.1 | 77 36.50 | 99 31.13 | 80 01 21 | 80 02 23 | 34 | 20 | 10 262 | AAND | X X |
| EDINB.SEA | 3.2 | 77 36.50 | 99 31.13 | 80 02 23 | 80 04 11 | 0 | 20 | 10 262 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 80-0013
 YEAR:1980 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| DUNDAS IS. | 1 | 76 10.0 | 94 55.0 | 80 03 08 | 80 04 11 | 33 | 5 | 12 70 | AAND | X X |
| DUNDAS IS. | 2 | 76 11.0 | 94 57.6 | 80 03 08 | 80 04 11 | 33 | 10 | 12 37 | AAND | X X |
| DUNDAS IS. | 3 | 76 11.9 | 94 59.6 | 80 03 08 | 80 04 11 | 33 | 10 | 12 38 | AAND | X X |
| DUNDAS IS. | 4 | 76 10.8 | 95 33.4 | 80 03 08 | 80 04 12 | 33 | 10 | 12 142 | AAND | X X |
| DUNDAS IS. | 5 | 76 09.4 | 94 53.6 | 80 03 21 | 80 04 01 | 18 | 5 | 12 27 | AAND | X X |

CURRENT METER DATA, SET NUMBER: 80-0014
 YEAR:1980 VESSEL/AGENCY: DOBROCKY SEATECH FOR POLAR GAS

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| W.LOUGH IS | 4.1 | 77 11.5 | 105 38.0 | 80 04 10 | 80 05 01 | 21 | 15 | 10 63 | AAND | X X |
| W.LOUGH IS | 4.2 | 77 11.5 | 105 38.0 | 80 04 10 | 80 04 13 | 34 | 15 | 28 63 | AAND | X X |
| W.LOUGH IS | 4.3 | 77 11.5 | 105 38.0 | 80 04 10 | 80 05 01 | 21 | 15 | 60 63 | AAND | X X |
| W.LOUGH IS | 5.1 | 76 56.9 | 107 41.0 | 80 04 10 | 80 05 01 | 21 | 15 | 10 525 | AAND | X X |
| W.LOUGH IS | 5.2 | 76 56.9 | 107 41.0 | 80 04 10 | 80 04 14 | 4 | 15 | 268 525 | AAND | X X |
| W.LOUGH IS | 6.1 | 76 50.5 | 108 34.0 | 80 04 11 | 80 04 26 | 15 | 15 | 10 72 | AAND | X X |
| W.LOUGH IS | 6.2 | 76 50.5 | 108 34.0 | 80 04 11 | 80 05 01 | 20 | 15 | 36 72 | AAND | X X |
| W.LOUGH IS | 6.3 | 76 50.5 | 108 34.0 | 80 04 11 | 80 05 01 | 20 | 15 | 66 72 | AAND | X X |

11.3 WATER LEVEL DATA

The listings contain the following information:

| | |
|-------------------|--|
| AREA | Area |
| STN | Station number; generally as assigned by the originating agency. |
| LAT, LONG | In degrees and minutes. |
| START/STOP | Year, month and day instrument recorded over. |
| EFF LEN | Effective record length. |
| DT (MN) | Sampling rate in minutes. |
| INST & WATER DPTH | In metres. |
| INSTR TYPE | STAF - Tide staff AAND - Aanderaa AMS - Applied Microsystems OTT - Ott gauge, either float or poteniometric |
| ADDIT SENSOR | Parameters measured qualified by: X - measurements of this parameter were made CA - possible calibration problems S - suspect readings C - constant readings O - zero or obviously bad readings |

Blank entries indicate unavailable or inappropriate data.

? signifies data which are either unknown or may be suspect. For example, a location which plots on land.

WATER LEVEL DATA, SET NUMBER: 49-0001
 YEAR:1949 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| ISAACHSEN | 1 | 78 47.0 | 103 32.0 | 49 08 01 | 49 12 31 | ? | ? | ? ? | ? | |
| ISAACHSEN | 1 | 78 47.0 | 103 32.0 | 50 01 01 | 50 12 31 | ? | ? | ? ? | ? | |
| ISAACHSEN | 1 | 78 47.0 | 103 32.0 | 51 01 01 | 51 08 31 | ? | ? | ? ? | ? | |

WATER LEVEL DATA, SET NUMBER: 51-0007
 YEAR:1951 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| MOULD BAY | 1 | 76 17.0 | 119 28.9 | 51 07 01 | 51 12 31 | ? | ? | ? ? | ? | |
| MOULD BAY | 1 | 76 17.0 | 119 28.9 | 52 01 01 | 52 08 31 | ? | ? | ? ? | ? | |

WATER LEVEL DATA, SET NUMBER: 54-0010
 YEAR:1954 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| ISAACHSEN | 1 | 78 47.0 | 103 32.0 | 54 07 01 | 54 08 31 | ? | ? | ? ? | ? | |
| EUREKA | 2 | 79 59.0 | 85 57.0 | 54 07 01 | 54 12 31 | ? | ? | ? ? | ? | |
| EUREKA | 2 | 79 59.0 | 85 57.0 | 55 01 01 | 55 12 31 | ? | ? | ? ? | ? | |
| EUREKA | 2 | 79 59.0 | 85 57.0 | 56 01 01 | 56 12 31 | ? | ? | ? ? | ? | |
| EUREKA | 2 | 79 59.0 | 85 57.0 | 57 01 01 | 57 12 31 | ? | ? | ? ? | ? | |
| EUREKA | 2 | 79 59.0 | 85 57.0 | 58 01 01 | 58 08 31 | ? | ? | ? ? | ? | |

WATER LEVEL DATA, SET NUMBER: 59-0004
 YEAR:1959 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| ISAACHSEN | 1 | 78 47.0 | 103 32.0 | 59 03 01 | 59 04 30 | ? | ? | ? | ? | ? |

WATER LEVEL DATA, SET NUMBER: 62-0013
 YEAR:1962 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| QUEENS CH | 1 | 76 05.0 | 97 44.0 | 62 07 01 | 62 07 31 | ? | ? | ? | ? | ? |

WATER LEVEL DATA, SET NUMBER: 64-0008
 YEAR:1964 VESSEL/AGENCY: DEF. RES. EST. OTTAWA

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| TANQ. FD. | 1 | 81 24.0 | 76 55.0 | 64 07 01 | 64 08 23 | 43 | ? | ? | ? | ? |

WATER LEVEL DATA, SET NUMBER: 68-0008
 YEAR:1968 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| NANSEN SD. | 1 | 80 19.0 | 86 20.0 | 68 05 01 | 68 06 30 | ? | ? | ? ? ? | ? | |
| NANSEN SD. | 2 | 81 31.0 | 92 30.0 | 68 05 01 | 68 06 30 | ? | ? | ? ? ? | ? | |
| TANQ. FD. | 3 | 81 24.0 | 76 55.0 | 68 05 01 | 68 08 31 | ? | ? | ? ? ? | ? | |

WATER LEVEL DATA, SET NUMBER: 69-0015
 YEAR:1969 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 36.0 | 79 35.0 | 69 08 01 | 69 09 30 | ? | ? | ? ? ? | OTTB | |

WATER LEVEL DATA, SET NUMBER: 69-0016
 YEAR:1969 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM CH. | 1 | 75 22.0 | 105 24.0 | 69 08 01 | 69 08 31 | ? | ? | ? ? ? | ? | |

WATER LEVEL DATA, SET NUMBER: 70-0017
YEAR:1970 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 35.0 | 79 36.0 | 70 03 31 | 70 04 07 | ? | ? | ? ? | OTTB | |

WATER LEVEL DATA, SET NUMBER: 70-0018
YEAR:1970 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 35.0 | 79 36.0 | 70 08 15 | 70 10 04 | ? | ? | ? ? | OTTB | |

WATER LEVEL DATA, SET NUMBER: 72-0023
YEAR:1972 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 72 08 22 | 72 12 31 | ? | ? | ? 10 | FSRG | |

WATER LEVEL DATA, SET NUMBER: 73-0014
 YEAR:1973 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM CH. | 1 | 75 01.0 | 106 22.0 | 73 08 01 | 73 08 31 | ? | ? | ? | ? | ? |
| BYAM CH. | 2 | 75 08.0 | 105 50.0 | 73 07 01 | 73 08 31 | ? | ? | ? | ? | ? |
| QUEENS CH. | 3 | 75 21.0 | 96 54.0 | 73 08 01 | 73 09 30 | ? | ? | ? | ? | ? |
| NORWEG. B | 1 | 78 20.0 | 90 20.0 | 73 04 01 | 73 05 31 | ? | ? | ? | ? | ? |

WATER LEVEL DATA, SET NUMBER: 73-0013
 YEAR:1973 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 73 06 01 | 73 07 15 | ? | ? | ? | ? | FSRG |
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 73 09 19 | 73 12 31 | ? | ? | ? | ? | FSRG |
| GREELY FD. | 2 | 80 35.8 | 79 27.5 | 73 06 30 | 73 08 22 | ? | ? | ? | ? | FSRG |
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 73 01 01 | 73 12 31 | ? | ? | ? | ? | FSRG |
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 74 01 01 | 74 07 15 | ? | ? | ? | ? | FSRG |

WATER LEVEL DATA, SET NUMBER: 74-0025
 YEAR:1974 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 74 03 29 | 74 06 29 | ? | ? | ? | ? | FSRG |
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 74 08 19 | 74 12 31 | ? | ? | ? | 10 | FSRG |
| GREELY FD. | 2 | 80 35.8 | 79 27.5 | 74 08 18 | 74 12 31 | ? | ? | ? | 10 | FSRG |
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 75 01 01 | 75 06 29 | ? | ? | ? | 10 | FSRG |
| GREELY FD. | 2 | 80 35.8 | 79 27.5 | 75 01 01 | 75 06 16 | ? | ? | ? | 10 | FSRG |

WATER LEVEL DATA, SET NUMBER: 75-0017
YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM M.CH | 11 | 76?24.67 | 107?48.78 | 75 01 03 | 75 04 22 | 109 | ? | ? 132 | ? | |

WATER LEVEL DATA, SET NUMBER: 75-0020
YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 1 | 76 21.92 | 110 53.08 | 75 11 23 | 75 12 31 | 38 | ? | ? ? | STPH | |

WATER LEVEL DATA, SET NUMBER: 75-0021
YEAR:1975 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| MACLEAN ST | 3 | 78 05.37 | 101 50.67 | 75 12 13 | 75 12 31 | 18 | ? | ? 60 | STPH | |

WATER LEVEL DATA, SET NUMBER: 75-0039
YEAR:1975 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 75 03 25 | 75 08 16 | ? | ? | ? 10 | FSRG | |
| GREELY FD. | 2 | 80 35.8 | 79 27.5 | 75 03 25 | 75 06 16 | ? | ? | ? 10 | FSRG | |

WATER LEVEL DATA, SET NUMBER: 75-0040
YEAR:1975 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM CH. | 1 | 75 22.0 | 105 24.0 | 75 08 01 | 75 08 31 | ? | ? | ? ? ? | | |

WATER LEVEL DATA, SET NUMBER: 75-0020
YEAR:1976 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 1 | 76 21.92 | 110 53.08 | 76 01 01 | 76 02 29 | 60 | ? | ? ? | STPH | |

WATER LEVEL DATA, SET NUMBER: 75-0021
YEAR:1976 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| KRISTOFF.B | 3 | 78 05.37 | 101 50.67 | 76 01 01 | 76 04 19 | 110 | ? | ? 60 | STPH | |

WATER LEVEL DATA, SET NUMBER: 76-0014
YEAR:1976 VESSEL/AGENCY: BEAK FOR PANARCTIC OIL

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 2 | 76 24.90 | 111 11.22 | 76 01 28 | 76 04 16 | 76 | ? | ? ? ? | STPH | |

WATER LEVEL DATA, SET NUMBER: 76-0016
YEAR:1976 VESSEL/AGENCY: OC.&AQ.SC.-CENTRAL REGION

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| PENNY ST. | 101 | 76 45.0 | 96 54.0 | 76 3 16 | 76 04 22 | 37 | ? | ? 60 | AAND | |

WATER LEVEL DATA, SET NUMBER: 76-0018
 YEAR:1976 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 36.0 | 79 33.0 | 76 03 13 | ? ? ? | ? ? | ? ? | ? 10 | FSRG | |
| GREELY FD. | 2 | 80 35.8 | 79 27.5 | 76 03 13 | ? ? ? | ? ? | ? ? | ? 10 | FSRG | |

WATER LEVEL DATA, SET NUMBER: 76-0019
 YEAR:1976 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM M CH. | 1 | ? | ? | 76 12 21 | 76 12 31 | 10 | ? | ? ? ? | ? | |
| HEC.& GR.B | 1 | 76 17.00 | 111 21.00 | 77 02 23 | 77 04 26 | 12 | ? | ? ? ? | ? | |
| BYAM M CH. | 1 | ? | ? | 77 01 01 | 77 03 02 | 61 | ? | ? ? ? | ? | |

WATER LEVEL DATA, SET NUMBER: 77-0019
 YEAR:1977 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| GREELY FD. | 1 | 80 36.0 | 79 32.0 | 77 03 05 | 77 03 24 | ? | ? | ? 32 | AAND | |

WATER LEVEL DATA, SET NUMBER: 77-0024
 YEAR:1977 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 1 | 76 24.00 | 113 11.00 | 77 12 19 | 77 12 31 | 12 | ? | ? 232 | STPH | |

WATER LEVEL DATA, SET NUMBER: 77-0025
 YEAR:1977 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 2 | 76 43.00 | 109 46.00 | 77 11 05 | 77 12 31 | 56 | ? | ? 165 | STPH | |

WATER LEVEL DATA, SET NUMBER: 77-0026
 YEAR:1977 VESSEL/AGENCY: FROZEN SEA RESEARCH GROUP

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| CROZIER ST | 101 | 75 30.8 | 97 12.8 | 77 3 25 | 77 06 15 | 84 | ? | ? 28 | AAND | |

WATER LEVEL DATA, SET NUMBER: 77-0024
 YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 1 | 76 24.00 | 113 11.00 | 78 01 01 | 78 04 17 | 107 | ? | ? 232 | STPH | |

WATER LEVEL DATA, SET NUMBER: 77-0025
 YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HEC.& GR.B | 2 | 76 43.00 | 109 46.00 | 78 01 01 | 78 04 12 | 102 | ? | ? 165 | STPH | |

WATER LEVEL DATA, SET NUMBER: 78-0013
 YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN STR | 1 | 77 03.26 | 110 21.16 | 78 12 03 | 78 12 31 | 28 | ? | ? 225 | STPH | |

WATER LEVEL DATA, SET NUMBER: 78-0014
YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| DESBARATS | 2 | 76 42.21 | 105 57.25 | 78 12 19 | 78 12 31 | 12 | ? | ? 150 | STPH | |

WATER LEVEL DATA, SET NUMBER: 78-0016
YEAR:1978 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| BYAM M.CH? | 3 | ? | ? | 78 01 21 | 78 04 29 | 99 | ? | ? ? ? | | |

WATER LEVEL DATA, SET NUMBER: 78-0013
YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN STR | 1 | 77 03.26 | 110 21.16 | 79 01 01 | 79 05 03 | 123 | ? | ? 225 | STPH | |

WATER LEVEL DATA, SET NUMBER: 78-0014
YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| DESBARATS | 2 | 76 42.21 | 105 57.25 | 79 01 01 | 79 03 20 | 79 | ? | ? 150 | STPH | |

WATER LEVEL DATA, SET NUMBER: 79-0018
YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| W LOUGH I | 3.1 | 77 12.30 | 106 52.88 | 79 01 09 | 79 05 09 | 121 | ? | ? 240 | STPH | |
| W LOUGH I | 3.2 | 77 12.30 | 106 52.88 | 79 01 11 | 79 03 04 | 53 | ? | ? 240 | AAND | |

WATER LEVEL DATA, SET NUMBER: 79-0020
YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| W LOUGH I | 1 | 77 12.40 | 106 53.43 | 79 11 11 | 79 12 31 | 50 | ? | ? 275 | STPH | |

WATER LEVEL DATA, SET NUMBER: 79-0021

YEAR:1979 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| HAZEN ST | 101 | 77 29.00 | 110 14.00 | 79 03 02 | 79 04 23 | 53 | ? | ? 8 | AAND | |
| HAZEN ST | 102 | 76 54.00 | 109 00.00 | 79 03 06 | 79 04 23 | 49 | ? | ? ? | AMS | |
| MACLEAN ST | 103 | 77 27.00 | 104 53.00 | 79 03 03 | 79 04 23 | 52 | ? | ? 15 | AAND | |
| EDINB SEA | 104 | 76 47.00 | 101 14.00 | 79 03 03 | 79 04 14 | 43 | ? | ? 45 | AAND | |
| BELCHER CH | 105 | 77 02.00 | 096 37.00 | 79 03 08 | 79 04 20 | 44 | ? | ? 20 | AAND | |
| PENNY ST | 106 | 76 29.00 | 097 05.00 | 79 03 01 | 79 04 13 | 44 | ? | ? 6 | AAND | |
| WELL CH. | 107 | 75 08.00 | 092 12.00 | 79 03 04 | 79 04 20 | 47 | ? | ? 19 | AAND | |

WATER LEVEL DATA, SET NUMBER: 79-0022

YEAR:1979 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| EDINB SEA | 2.1 | 77 37.18 | 100 22.40 | 79 12 05 | 79 12 31 | 26 | ? | ? 236 | STPH | |
| EDINB SEA | 3.1 | 77 36.50 | 99 31.13 | 79 12 10 | 79 12 31 | 21 | ? | ? 262 | STPH/AAND | |

WATER LEVEL DATA, SET NUMBER: 79-0020

YEAR:1980 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| W LOUGH I | 1 | 77 12.40 | 106 53.43 | 80 01 01 | 80 05 10 | 131 | ? | ? 275 | STPH | |

WATER LEVEL DATA, SET NUMBER: 79-0022
 YEAR:1980 VESSEL/AGENCY: PANARCTIC OIL LTD.

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| EDINB SEA | 2.1 | 77 37.18 | 100 22.40 | 80 01 01 | 80 01 08 | 8 | ? | ? 236 | STPH | |
| EDINB SEA | 3.1 | 77 36.50 | 099 31.13 | 80 01 01 | 80 01 09 | 9 | ? | ? 262 | STPH | |
| EDINB SEA | 3.2 | 77 36.50 | 099 31.13 | 80 04 05 | 80 04 19 | 15 | ? | ? 262 | STPH | |
| EDINB SEA | 2.2 | 77 37.18 | 100 22.40 | 80 03 18 | 80 04 27 | 41 | ? | ? 236 | STPH | |
| EDINB SEA | 3.3 | 77 36.50 | 099 31.13 | 80 ? | 80 ? | 00 | ? | ? 262 | AAND | |

WATER LEVEL DATA, SET NUMBER: 80-0014
 YEAR:1980 VESSEL/AGENCY: DOBROCKY SEATECH FOR POLAR GAS

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|-----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| W LOUGH I | 4 | 77 11.5 | 105 38.0 | 80 04 10 | 80 05 01 | 21 | ? | ? 63 | AAND | |

WATER LEVEL DATA, SET NUMBER: 80-0015
 YEAR:1980 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|----------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| WELL CH. | 101 | 75 39.00 | 094 34.00 | 80 03 24 | 80 04 26 | 34 | ? | ? ? | AAND | |

WATER LEVEL DATA, SET NUMBER: 81-0019

YEAR:1981 VESSEL/AGENCY: CANADIAN HYDROGRAPHIC SERVICE

| AREA | STN | LAT DEG MIN | LONG DEG MIN | START YR MO DY | STOP YR MO DY | EFF LEN | DT MN | DEPTHS INST WATER | INST TYPE | ADDIT SENSOR P T C |
|------------|-----|----------------|-----------------|-------------------|------------------|------------|----------|----------------------|--------------|--------------------------|
| MASSY SD | 101 | 78 10.00 | 094 15.00 | 81 03 05 | 81 | | ? | ? ? ? | AAND | |
| NORWEG BAY | 102 | 78 12.00 | 091 55.00 | 81 03 04 | 81 04 19 | 46 | ? | ? ? ? | AAND | |
| NORWEG BAY | 103 | 78 09.00 | 088 50.00 | 81 03 04 | 81 04 19 | 46 | ? | ? ? 7 | AAND | |
| BELCHER CH | 104 | 76 58.00 | 093 55.00 | 81 03 05 | 81 04 20 | 46 | ? | ? ? 41 | AAND | |
| NORWEG BAY | 105 | 76 53.00 | 089 37.00 | 81 03 04 | 81 04 19 | 46 | ? | ? ? 10 | AAND | |
| NORWEG BAY | 106 | 76 26.00 | 089 07.00 | 81 03 04 | 81 04 19 | 46 | ? | ? ? 5 | AAND | |

APPENDIX 1

48-0001

Nansen bottles and reversing thermometers were used as well as BTs at one station in the vicinity of Eureka weather station. Bottles samples were collected at 0, 25, 50, 75, 100, 150, 200, 300 and 400 feet. Tables of temperature, salinity and sigma-t are included at the end of Metcalfe's (1949) report, but no accuracies are provided.

The stated position is erroneous, being located 2 nautical miles (3 km) inland from the nearest coastline. Based on the station location map of the data report, the true position appears to be about 20 nautical miles to the northwest of the given location.

49-0001

After the second world war, a network of water level stations was gradually established at the sites of permanent weather stations. Very little documentation as to methods and accuracies is available. It is thought that these stations used mechanical shore-mounted float-type gauges.

The data are available from the Marine Environmental Data Services Branch (MEDS) under the identification number listed in the "Source or Reference" column of Table 1. The start and stop dates listed by MEDS invariably occur on the first day of the month and the last day of the month, leading us to suspect that the data is filed by months rather than dates. Thus, data are not necessarily available for each day of the first and last months. In addition, no indication is given of data gaps due to equipment failures which are associated with the use of mechanical water level gauges in ice-infested waters. Depths of instrument and water were often not available.

51-0007

See comments for 49-0001.

52-0003

Bottle casts for temperature, salinity and dissolved oxygen were carried out. Water transparency was determined by means of a Secchi disc and bottom (Phleger) cores were made when sea and bottom conditions permitted. Vertical net tows were collected at about one station in three to an average depth of 20 m. Visual estimates of currents and short term (28 hour) tidal height measurements and reported for Slidre Fiord near the Eureka weather station.

No estimates of data precision or accuracy are available in the data report (U.S. Naval Hydrographic Office, 1954).

The position given for station 44 is erroneous as it is located on Stor Island about 4 nautical miles (6 km) from the nearest coastline. Based on the map of station locations of the data report, the actual position is about 6.5 nautical miles (12 km) east of the given position.

54-0001

The temperature and salinity data collected were reported by Bailey (1955). These data were used to describe the oceanographic features of the Canadian Arctic Waterways in Bailey (1957). No accuracies are given nor are any known errors mentioned.

54-0010

These water level data were collected near the Eureka and Isachsen weather stations. See comments for data set 49-0001.

57-0003

No data report is available for these data but the results are described in considerable detail by Collin (1962).

No information is available as to methods, accuracies or errors in the data.

The location of station 124 is in error. The station position is located about 4 nautical miles (7.4 km) inshore on Bathurst Island. The latitude has been altered from 76°11.0'N to 76°41.0'N to provide agreement with the station location map of Collin (1962).

59-0004

These water level data were collected near the Isachsen weather station. See comments for data set 49-0001.

60-0005

Bottle casts used Knudsen type reversing bottles and Negretti and Zambra protected thermometers (one per bottle). Salinity samples were stored in glass bottles having rubber washers and were later analyzed at the Atlantic Oceanographic Group lab using a chemical titration technique (CODC, 1964). Plankton samples were forwarded to the Arctic Unit (Grainger, 1963).

60-0007

Temperature and salinity profile data were obtained by means of bottle casts from the sea-ice. Operations took place in a heated tent to avoid freezing of the salinity and oxygen samples. A light aircraft provided transportation between oceanographic stations, located on frozen leads and the base camp at Isachsen.

Collin (1961) also mentions that four oceanographic stations were occupied in 1959 in addition to those described as part of 60-0007. However, these data are not on file with MEDS nor was any data report or other information located.

61-0003

The data report (CODC, 1966) lists the following data as suspect:

| <u>Stn.</u> | <u>Depth</u> | <u>Suspect Data</u> |
|-------------|--------------|---------------------|
| 4 | 0 | Temperature |
| 4 | 10 | Temperature |
| 28 | 49 | Temperature |
| 28 | 98 | Temperature |
| 38 | 10 | Temperature |
| 40 | 30 | Temperature |
| 40 | 98 | Temperature |

Barber and Huyer (1971), in the course of using these data to prepare an atlas of the waters of the Canadian Arctic Archipelago, indicated that the salinities were determined with conductivity bridge salinometers after completion of the field work.

61-0004

No suspect or erroneous data were listed in the data report (CODC, 1966).

Barber and Huyer (1971), in the course of using these data to prepare an atlas of the waters of the Canadian Arctic Archipelago, indicated that the salinities were determined with conductivity bridge salinometers after completion of the field work.

61-0005

No report of any kind could be found describing these data. These data are available from MEDS.

61-0009

Oceanographic observations were collected from the ice. Serial observations were collected at 0, 5, 10, 20, 30, 50, 75, 100, 125, 150, 175, 200, 250, 300 and 450 m using Fjarlie sampling bottles. One protected reversing thermometer was used in each bottle with an unprotected thermometer used on the two deepest bottles at each cast.

Current meter observations were obtained at 30.5 m (100 feet) over a 24-hour period using an electromagnetic induction current meter designed and built by the Pacific Naval Laboratory.

62-0005

The main purpose of the study was to carry out a biological collecting program. Temperature and salinity measurements were made from a small, outboard-powered boat, using a single bottle. The oceanographic stations were located near shore in relatively shallow water depths ranging from 29 to 63 m. No information is given in the data report as to methods, accuracies or suspect and erroneous data.

62-0006

Barber and Huyer (1971) identified the following data as suspect:

| <u>Stn.</u> | <u>Depth</u> | <u>Change</u> | <u>Reason</u> |
|-------------|--------------|--------------------|---|
| 33 | 350 | Delete S | Strong density inversion |
| 37 | 500 | Delete S, T | Strong density inversion |
| 37 | 600 | Delete S, T | |
| 39 | 200 | Delete S, T | Slight inversion where strong gradient expected |
| 41 | 10 | Change S to 29.424 | A number of density inversions |
| 41 | 20 | Change S to 31.020 | |
| 41 | 30 | | |
| 41 | 50 | Change S to 31.170 | |

62-0013

These data obtained at a temporary water level station in Queens Channel are available from MEDS under the identification number listed in the "Source or Reference" column of Table 1. As discussed for data set 49-0001, the type of instrument, accuracies and any occurrences of erroneous data are not known.

At this time a number of different types of water level gauges were in use by the Canadian Hydrographic Service including the Ott float gauge, the Ott potentiometric gauge, the Leopold-Stevens A71 water level recorder and the Ottboro gauge (Stephenson, 1977). In particular, the Ottboro gauge (Canadian Hydrographic Service, 1964) was designed for use at temporary water level stations while the other instruments were more likely to be used at permanent stations.

63-0010

Beginning in 1963, the Defence Research Board of Canada established a field station at the head of Tanquary Fiord, located on the west side of Ellesmere Island. This station served as a base camp for scientists of many disciplines including glaciology, zoology, botany, meteorology, ice physics and geology. Physical oceanographic data continued to be collected until at least 1967. (Some physical oceanographic data may have been collected in years subsequent to 1967, but no written description has yet been located.)

The methods and instrumentation used in the 1963 oceanographic field program are discussed in Hattersley-Smith (1964) while further useful comments concerning methods are presented in Hattersley-Smith and Serson (1966) and CODC (1969).

The spring oceanographic stations were reached by use of motor toboggan and a dog team. Serial temperature and salinity data were obtained with Knudsen bottles using a single reversing thermometer. Salinity samples once drawn, were apparently allowed to freeze prior to shipment south for laboratory analysis. While the method of salinity determination is not specified, it was very likely the conductive salinometer widely in use by this time.

Once ice breakup had begun, a 22 foot freight canoe served as the data collection platform. The instruments used for the summer oceanographic program were identical to those of the spring program.

Station locations were determined by theodolite bearings to shore features. Typical position accuracies are given as 700 m or better (CODC, 1969).

Bottle station temperature and salinity data were also collected from the density-stratified Lake Tuborg located northeast of the head of Antoinette Bay. Reversing thermometers were not available for this station, so the only temperature data available is that obtained with a bathythermograph.

Limited water level observations were made near the base camp at the head of Tanquary Fiord over intermittent 1 to 3 day periods in late June and the month of July. Data were obtained by measuring water level against a staff embedded in a drum filled with gravel situated in about 1 m of water.

64-0004

No report of any kind was located concerning the oceanographic data obtained from the CCGS Sir John A. MacDonald in 1964. The bottle cast temperature and salinity data are available from MEDS.

64-0005

Oceanographic observations were obtained from an ice camp established primarily for studies of under ice acoustic measurements. Transportation was provided by tractor vehicles starting from the Isachsen weather station. The data were collected in a heated shelter located over the ice hole using Fjarlie seawater sampling bottles equipped with Richter and Weise reversing thermometers. Salinity samples were stored in 8 oz citrate bottles "... which were protected from freezing too fast." The samples were analyzed on a conductivity salinometer in Nanaimo, B.C.

64-0008

1964 marked the second year of operations from the field station at the head of Tanquary Fiord operated by the Defence Research Board of Canada (see 63-0010).

The data collection methods and procedures were nearly the same as those of the previous year as described in Hattersley-Smith (1967), Hattersley-Smith and Serson (1966) and CODC (1969).

Water level measurements in 1964 were obtained with a Foxborough underwater tide-gauge, on loan from the Canadian Hydrographic Service. The gauge operated continuously from July 8 to August 23 with the exception of a four day gap from July 20-24.

65-0005

1965 was the third year of operations from the Tanquary Fiord base camp operated by the Defence Research Board of Canada. Oceanographic data collection methods and instrumentation appear to be the same as those used in 1963 (63-0010) and 1964 (64-0008) as indicated by the data report (CODC, 1969).

No water level measurements were catalogued for 1965 by MEDS. It is not known which, if any, of the concurrent measurement programs of 1964 continued in 1965.

66-0010

1966 was the fourth year of operations from the Tanquary Fiord base camp operated by the Defence Research Board of Canada. Oceanographic data collection methods and instrumentation appear to be the same as those used in 1963 (63-0010) and 1964 (64-0008) as indicated by the data report (CODC, 1969).

Apparently no water level measurements were obtained in 1966, as indicated by the absence of any such record in the MEDS catalogue. It is not known which, if any, of the concurrent measurement programs of 1963-1964 continued into 1966.

67-0002

At each oceanographic station on this 1967 CCGS Labrador cruise, a single reversing bottle station cast was carried out. A bathythermograph profile was also obtained at most stations. Samples for salinity determination were drawn into flat 8 oz. glass medicine bottles, stored on board and subsequently analyzed at the Atlantic Oceanographic Laboratory, Dartmouth, N.S., using a salinometer of the type described by Brown and Hamon (1961).

Sediment cores were obtained at about one station in three using a large gravity corer. The cores were forwarded to Dr. B.R. Pelletier of Atlantic Oceanographic Laboratory.

At a few stations, water samples were collected for deuterium analysis at the Woods Hole Oceanographic Institution. The results for these samples are reported in Redfield and Friedman (1969).

An instrument capable of measuring temperature and salinity in situ was used at one location (station 20), among those occupied in the Queen Elizabeth Islands. Comparisons with concurrent bottle cast measurements at eight stations over the duration of the cruise revealed differences of $-0.04 \pm 0.14^{\circ}$ (mean and standard deviation) and $0.13 \pm 0.11^{\circ}/\text{oo}$ for temperature and salinity, respectively (CODC, 1968).

Short period (8 to 18 hours) time series measurements of the current speed and direction, water temperature and salinity were obtained at 1 m depth during this cruise (Herlinveaux, 1974). A Hydroproduct current meter was used for this purpose. In addition, information on near-surface currents was inferred from ship and iceberg drift observations.

67-0005

1967 was the fifth year of operations in Tanquary Fiord; it is believed that operations may have continued in subsequent years on a more limited scale.

68-0001

Reversing water bottles and thermometers were used (Herlinveaux, 1970). Each cast was followed by a BT. Salinity was determined with a conductivity salinometer. The data are presented as listings.

Dissolved oxygen was also measured and biological samples were collected using the submersible Pisces.

68-0008

See 62-0013.

69-0014

1969 marked the first of an eight-year period of data collection by the Frozen Sea Research Group of the Institute of Ocean Sciences in d'Iberville Fiord, an appendage to the Nansen Sound-Greely Fiord system.

In the early spring period of 1969, CTD data were collected at three sites using a Guildline CTD, although date and time information could not be located for these profiles. The measurement depth intervals were 1 m. These data should be used with care, as the calibration values for the CTD instrument may be in question.

Other measurements collected at this time were temperature time series data using a chain of thermistors at depths from near the ice bottom to 46 m "... at locations fairly close to shore." (Lake and Walker, 1973). Sampling intervals varied from 10 seconds to 1 hour over periods of a few days to a week of each field trip.

69-0015

Data collection resumed at d'Iberville Fiord (see 69-0014) in the summer of 1969. During this period, bottle samples were used to provide salinity data for shallow depths close to shore. A chain of thermistors suspended from a buoy provided time series temperature data.

During this period, a diaphragm-operated Ottoboro recorder provided water level measurements at a location just off the beach adjacent to the base camp (Lake and Walker, 1973).

69-0016

See 62-0013.

70-0017

A Guildline CTD provided profiles of salinity and temperature, at depth intervals of 0.25 m. In addition, thermistor chains measured time series temperature data to depths of 15 m (as described in 69-0014) and water level measurements were obtained with a diaphragm-operated Ottobro recorder at a beach location near the base camp.

70-0018

As for 69-0015.

70-0019

Serson (1974) presents temperature and sigma-t profiles from 1970. No information is given about the data collection personnel or methods.

71-0015

A Guildline CTD provided salinity and temperature profile data, at depth intervals of 0.25 m. In addition, under-ice current measurements were made by means of photographic records of dye plume releases to depths of 2 m beneath the sea ice (see Lake and Lewis, 1973). The sites of these dye tracer measurements were:

| Station | Latitude | Longitude |
|---------|------------|-----------|
| 1-71 | 80°34.75'N | 79°29.0'W |
| 2-71 | 80°34.0'N | 78°05.0'W |

while the time and dates could not be located. Velocities ranged from 0 to 3-5 cm/s.

72-0023

Data collected in 1971 appears to have been limited to time series water level data at 10 m depth commencing on August 22, and thermistor chain data from August 20-September 11, at depths to 12.5 m.

The water level data were collected with a newly designed instrument which utilized an Aanderaa data logger and a Gulton differential pressure transducer which permits correction for atmospheric pressure fluctuations (Lewis, 1973).

72-0024

Serson (1974) presents a salinity profile from Rens Fiord taken on May 7, 1972. No other details are provided.

73-0006

Water mass: A Guildline CTD (accurate to $\pm 0.02^\circ\text{C}$ and $\pm 0.04^\circ/\text{oo}$ as stated by manufacturer) was used, and checks were made with bottle casts and reversing thermometers. Twenty-four casts were made at station 1 over a three-day period; then one cast at each of stations 2 through 6. Listings and plots are included in the report (Herlinveaux et al., 1978).

Currents: An Aanderaa RCM-4 current meter was moored at a depth of 153 m (2 m above bottom). Direction orientation was provided by a magnet on the frame the meter was attached to. Timing mechanism failure reduced the useable record length to about 6 days. Twenty-seven current profiles (instrument type not specified) were made at station 1 between April 15-19. A torsionally-rigid hose maintained direction orientation.

73-0008

This represents the second phase (the first being 73-006) of an oceanographic survey of Barrow Strait and Wellington Channel. A Guildline 8101 Arctic probe CTD unit and a Hydro Products Savonius rotor current meter were used. Repeated CTD casts were made while the ship was at anchor (Herlinveaux et al., in preparation).

73-0012

Serson (1974) shows a progressive vector plot of a May 14-17, 1973 current meter record from 2.32 m beneath the ice base in Sverdrup Channel. An ice salinity plot is also shown from May 15 data. There is no mention of the type of meter used or reference to a data report.

73-0013

CTD measurements were collected with Guildline Model 8101A CTD units. To monitor the accuracy of the CTD measurements water samples were collected from oceanographic bottles. Precision thermistors used to check water temperatures were calibrated in a triple point cell. The data were recorded on a Vidar 5400 data logger with printed and punched paper tape output, at a depth resolution of 1 m. The estimated accuracy of temperature and computed salinity vary according to the magnitude of the vertical gradients. Each record in the data report is annotated according to estimated accuracy. A detailed discussion of the methods used in collecting the CTD data is presented by Lewis and Sudar (1972).

73-0014

See 62-0013.

73-0015

Water level data were collected at two sites in 10 m of water using the bottom pressure gauge (see 72-0023). Field notes indicate that one of the records operated at 80°36'N, 79°33'W had suspect data from June 28-July 4.

A thermistor chain was operated at 80°35.5'N, 79°32.0'W from June 30, 1973 to June 19, 1974. The sensors were at depths of 0.5, 0.7, 1.1, 1.3, 1.5, 1.7, 1.9, 2.1, 2.3 and 2.5 m; the sampling rate is not known.

74-0018

Current meter measurements and water properties were measured at seven locations in and near Danish Strait in 1974, near the Jackson Bay G-16 well site. Supporting information is sparse. A current meter, possibly a Cushing

electromagnetic, was used to measure currents at depths between 0 and 2 m beneath the ice. Record lengths were short, less than 2 days. The quality of the data cannot be determined at this time.

General comments regarding data collected for and by Panarctic 1974-1980:

Currents: - generally used Aanderaa RCM-4's and speeds were often below stall speed for much of the record length.
 - some records have been found to be in error by 180° due to surface alignment error. It is not certain which records are wrong.
 - the reports rarely discussed directional accuracy.
 - the RCM-4 current meters apparently had conductivity and temperature sensors, however these data were never mentioned in reports.

Water properties: - quality of early data poor; used RCM-4's to profile, no bottles or reversing thermometers to check on calibration.
 - recording of times of observations not always accurate
 - starting in 1977, a Guildline CTD came into use. -
 - starting in 1979, bottles and reversing thermometers were used for in situ calibration purposes, although it was often unclear how corrections were made.

Water levels: - generally used Stephen 2A-35; fixed on ice with pulley line and weight on bottom.
 - errors due to sinking of weight, possible lateral movement of ice, and poor accuracy of time and height recordings.

74-0025

CTD data were collected during two periods at d'Iberville Fiord in 1974: March 30-April 10 and August 23-25. The methods are summarized in 73-0013.

In 1974, water level measurements were obtained at two locations in 10 m water depth using a bottom pressure gauge as described in 72-0023. In addition, records of thermistor data were located from August 19, 1974 to June 19, 1975. Documentation as to location and sampling rate was not found. Hourly time series current meter measurements were obtained at three locations across the fiord. The data were collected with Aanderaa recording current meters modified for Arctic use in order to provide a directional reference. The instruments were located over the sill within 1 m of the sea ice and 1 m above the bottom on the sill. While the current meters were not recovered the data were relayed by VHF telemetry to a recorder at the base camp. Many instances of suspect or incorrect data values were evident in the recorded data.

75-0016

Five Aanderaa RCM-4 current meters were deployed near surface at five locations near northwestern Melville Island. The meteorological convention, using direction from, was used. The depths of the meters are not given but were planned to be within 2 m of the bottom of the ice. Currents were weak and many recordings were below the 2.2 cm/s threshold value of the meters, particularly at sites 1, 2 and 4. At locations 1 and 2 constant directions were recorded, probably due to jammed vanes. Apparently these values were

also used to produce current roses and progressive vector diagrams (Beak, 1976). There also may be timing errors at stations 1, 2 and 5 since record length and number of records do not agree. The method of referencing north is not specified. In later programs the meters were rigidly connected to surface, but human error often introduced a 180° error in direction.

An Interocean 513 CTD was used to obtain in situ measurements of water properties to 10 m depth at all five locations; for depths greater than 10 m at site 1 and Aanderaa RCM-4 was used. Dates were not provided for the shallow profiles. Salinity values were abnormally high. Also see general comments for 74-0018.

75-0017

Aanderaa RCM-4 current meters were used to measure currents at two sites. Currents were measured at various depths from surface to 366 m, and for periods of time ranging from 1 to 14 days. No discussion of mooring design or accuracy of current direction measurements is given (Beak, 1976b).

Profiles of temperature and conductivity were also made, apparently using an Aanderaa RCM-4 as well, although this was not stated. Time series of temperature and conductivity were also recorded while the RCM-4 was moored at the various depths.

Water levels were also measured during January-April 1975 at the Drake 1-55 well site, 15 km offshore, at the same latitude as Warren Point. The instrument used was not specified in Beak (1976b). Also see general comments for 74-0018.

75-0018

An Aanderaa RCM-4 current meter was moored near-surface at each of three locations. Record lengths are roughly 5 months long. At the Hazen Strait location little if any useful data was obtained; the current meter casing was flooded upon recovery. The record from the Desbarats Strait site has many records below the stall speed. The MacLean Strait data are worse with no currents about 70% of the time and large segments of record with unvarying direction.

An Interocean 513 CTD was used to measure conductivity, temperature and pressure in situ at the same three locations. The data are considered suspect and no documentation was available. Also see general comments for 74-0018.

75-0019

A Cushing 600 electromagnetic current meter was used to obtain six separate 24-hour measurements at one site. The three records of March 23, 19 and April 3 appear reasonable. The other three are suspect or only had one channel working.

In situ temperature and conductivity were measured using a Beckman RS5-3 and a Y.S.I. instrument. Details of methods and accuracies are unknown. Also see general comments for 74-0018.

75-0020

One Aanderaa RCM-4 was moored at 10 m depth in Hecla and Griper Bay off northern Melville Island, from December 6, 1975 to February 27, 1976. There is no discussion of direction due to the proximity of the magnetic north pole (Beak, 1976d). Current speeds in February were generally below threshold values.

An RCM-4 was also used for profiles of conductivity, pressure and temperature on December 6, 1975 and February 11, 1976. The February profile of salinity appears to be too low, and both profiles show warmer water at surface which is unexpected.

Measurements of high and low tide were also made but only to +1 hour accuracy. Also see general comments for 74-0018.

75-0021

Currents were measured at one location using both an Aanderaa RCM-4 and a Cushing electromagnetic current meter. The two differed by about 30° in direction and the Cushing speeds were considered unreliable, being much larger than the Aanderaa's.

An Aanderaa RCM-4 was used to obtain in situ profiles of temperature and conductivity. The conductivity data are suspect since they indicate a freshening of the entire water column by 2⁰/oo between February and April. The moored current meter record of conductivity suggests the February conductivity profile to be in error.

A Stephen water level recorder was used but times were recorded with an accuracy of only +1 hour. Also see general comments for 74-0018.

75-0022

Existing documentation is poor and it is difficult to determine exactly what data was collected. Currents were measured at two sites - Prince Gustaf Adolf Sea, and Hazen Strait - using a Cushing electromagnetic current meter. At the first site it appears that one instrument was used, and only measured one component of the current (e.g. NS but not EW, and vice versa). At the Hazen Strait site, measurements of both components were obtained for the period April 9-May 25. In most cases, the sample interval was not constant, and the instrument depth was not recorded.

An Aanderaa RCM-4 was used to profile temperature and conductivity at three sites. The longitude recorded for the MacLean Strait site was wrong. It is not known if bottles were used to check the calibration. Also see general comments for 74-0018.

75-0023

Measurements of conductivity and temperature were made at Jackson Bay sites using a Beckman RS5-3, a Y.S.I. probe and reversing thermometers. The temperature measurements of the Beckman RS5-3 were unreasonable, making the computed salinities unreliable. Also see general comments for 74-0018.

75-0039

CTD data were collected at d'Iberville Fiord from March 28, 1974 to April 12, 1974 using the methods described in 73-0013.

Water level measurements sampled at 30 minute intervals were obtained at two locations in 10 m water depths using a bottom pressure gauge described under 72-0023. At one of these sites (80°36'N, 79°33'W) short records of rapid sampling, at one sample every 17.5 seconds, were carried out over the period:

0900 April 6 - 0859 April 8
1675 April 18 - 1559 April 19

Time series current meter measurements were obtained at four locations, with samples recorded every 10 minutes, using an Aanderaa RCM-4 current meter. These instruments, mounted 1 m above the bottom, were modified to provide an internal directional reference in this area of weak horizontal magnetic fields.

In addition, current profile data were obtained using an ultrasonic current meter produced by the Christian Michelsen Institute in Bergen, Norway. The continuously recording unit provides an accuracy approaching ± 0.25 cm/s. Current direction was obtained by indirect use of a gyro, with an estimated accuracy of ± 10 degrees (Lake and Walker, 1976).

75-0040

See comments for 62-0013.

76-0014

Subsurface currents were measured at one site in Hecla and Griper Bay using an Aanderaa RCM-4 current meter, between January 15 and April 17, 1976. The record for January 15-February 7 appears to be reasonably good. February 7-12 has suspect constant directions and speeds. The February 12-16 record appears okay. From February 16 to April 8 the direction vane was apparently fouled due to sediment buildup. Speeds were below stall speed after February 20. From April 8-17 nearly all speeds were below stall speed, and constant directions occurred during the April 11-5 interval.

Three profiles of temperature and conductivity were made on January 15, February 10 and April 4, using an Aanderaa RCM-4. The January 15 data are suspect as they show higher salinities than felt reasonable. Also see general comments for 74-0018.

76-0015

Aanderaa RCM-4 current meters were deployed at three sites. The IVL (1976) report was unavailable but apparently the direction channel is unreliable for all three records. Also see general comments for 74-0018.

76-0016

Profiles of conductivity and temperature were obtained using an Aanderaa RCM-4. The RCM-4 was modified with subsequent accuracies quoted (Peck, 1977) as ± 0.1 mmho/cm (conductivity), $\pm 0.05^\circ$ (temperature) and ± 1.5 m depth. Equivalent accuracy of salinity is about $\pm 0.15^\circ/\text{oo}$. No mention of bottles or reversing thermometers was made.

Four electromagnetic current meters, two Marsh-McBirney 501 and two Endeco 720, were used. One of the Marsh-McBirney records was found to be unreliable and was not presented by Peck (1977). The meters were referenced (as to direction) and suspended from the ice surface. They were suspended 2.4 m below the ice surface.

The report also presents a harmonic analysis of the tide record from Pelham Bay.

76-0017

Currents were measured using modified Aanderaa RCM-4's. Smaller in-line directional vanes were used to enable the meters to fit through holes in the ice. The close proximity of the north magnetic pole precluded the use of magnetic compasses. Presumably the meters were oriented with respect to the surface; directional accuracy was stated to be $\pm 5-7^\circ$ (Greisman and Lake, 1978).

The current meters were deployed at three distinct levels: (1) immediately beneath the ice (speed sensor 15 to 20 cm below the ice bottom with direction vane 15 cm deeper); (2) mid-depth, varying according to location and water depth (at some locations, an instrument was not deployed at mid-depth); and (3) near-bottom current meters which were mounted on an aluminum frame (speed sensor 2 m above the sea floor with the direction vane 60 cm below the speed sensor).

The data from the under-ice and near-bottom current meters were transmitted hourly to shore stations via a UHF radio system where the data were recorded on a model 610 Sea Data cassette recorder. In all cases the data were internally recorded as well. However, some of these instruments were not recovered with the result that the lower quality shore station recordings provided the only available information. These records are summarized below:

| Station | Percent of Data Recovery |
|---------|--------------------------|
| B2.2 | 80 |
| B3.1 | 60 |
| B5.2 | 30 |
| A1.2 | 60 |
| A3.2 | 98 |
| A4.2 | 100 |
| A5.2 | 67 |

The erroneous or missing data values were replaced with interpolated values.

For the near-bottom current meter at station A2 in Austin Channel, the instrument though recovered on March 14, 1977 had toppled over on August 21, 1976. After August 21, the only useable recorded data were the temperature values.

A detailed analysis of these current meter data are given in Greisman and Lake (1978).

76-0018

CTD data were collected in d'Iberville Fiord, Greely Fiord and Eureka Sound from March 8-31, 1976 following the methods described under 73-0013.

Water level measurements were obtained at two locations in 10 m water depth. The data were collected with a bottom pressure gauge as described under 72-0023.

76-0019

See general comments for tide gauges under 74-0018.

77-0019

CTD data were collected in d'Iberville Fiord from March 4-27, 1977 following the methods described under 73-0013. Water level data were collected in 32 m water depth at a single location. The data were obtained with an Aanderaa bottom pressure gauge, sampling once every 30 minutes.

77-0022

Two Aanderaa RCM-4 current meter records are available for one site in Hecla and Griper Bay, March 24-April 16 and April 17-May 1. The meter was hung 10 m below the ice surface. Three days are missing from the first record, probably at the beginning, and speeds were below stall speed approximately 45% of the time.

Three profiles of conductivity and temperature were also made. The first profile, on March 23, is suspect, as the instrument did not record properly. Bottle samples were collected to check the data from all profiles. Also see general comments under 74-0018.

77-0023

Currents were measured at two sites in MacLean and Hazen Straits using Aanderaa RCM-4's. At the MacLean and Hazen Strait sites, currents were below the stall speed about 64% and 22% of the time respectively. The Aanderaa RCM-4's were also used to obtain conductivity and temperature profiles, however the quality of the data is unknown. Also see general comments under 74-0018.

77-0024

Currents were recorded using an Aanderaa RCM-4 current meter. The record is missing 21 samples (10.5 hours). Currents were below the stall speed for 28% of the time, for periods lasting up to several days.

A Guildline model 8705 CTD was used to measure profiles of conductivity and temperature. The data was reviewed by a government oceanographer and deemed to be of good quality.

Water elevations were monitored using a Stephen model 2A-35 duplex recorder. The report (Panarctic, 1978a) states poor resolution in both magnitude and time, possibly to 4hour only. Also see general comments under 74-0018.

77-0025

Subsurface currents, 10 m below the ice, were measured using an Aanderaa RCM-4. The record (January 11-April 9) contains 12 extra records, representing an error of 6 hours.

A Guildline 8705 CTD was used and the salinity/temperature data appears reasonable.

Water level data were stated (Panarctic, 1978b) to be of poor resolution in both magnitude and time. Also see general comments under 74-0018.

77-0026

The current meter instrumentation is identical to that described for 76-0017. However, no real-time UHF transmission system was used in this experiment.

A detailed oceanographic analysis of the current meter data is presented in Greisman and Lake (1978).

77-0033

Current meter data were collected as part of the development of a system to acquire real-time measurement of meteorological, oceanographic and sea-ice parameters in the Canadian Arctic using stations mounted on the ice. The system, developed by Innovative Ventures Ltd. of Calgary on behalf of Petro-Canada was given the acronym SALDAS, for Self-contained Arctic Long-Term Data Acquisition System. Current meter measurements were collected with Aanderaa RCM-4 current meters. These instruments were modified by using small directional vanes, directionally referenced to the surface through the use of torsionally-rigid mooring lines.

For these data, some important documentation information could not be located. A total of 11 raw Aanderaa current meter data tapes exist, as identified by the instrument serial number. Of these, two tapes were unreadable while the remainder produced acceptable translations. However, information identifying the instruments used at each site has not been found to date.

Written documentation describes the start and stop times for five locations; of these positions, four of the sites are given in separate documentation. At the fifth station, located in Prince Gustaf Adolf Sea where no position was noted, the location of the 1979 SALDAS site (79-0017) was used. In addition, no indication could be found as to the sampling rate used. While it is known that current meters were operated on two levels at each site, the depth of the deepest meter is given as 30 m and 100 m in different portions of the available documentation. An examination of the raw data (Fissel, 1982) reveals that in 7 of 9 useable time series records, the directional data

appears to remain unrealistically constant over long periods of time. In addition, four of the data sets have periods where the speeds abruptly drop to zero readings over many samples.

78-0007

Water mass measurements: A Guildline Mark IV CTD was used. The data are presented as listings and profile plots (Prinsenberg, Vol. 1, 1978).

Current measurements: Fourteen Aanderaa RCM-4's were also deployed through the ice. Directional orientation was provided through rigid coupling to surface (Prinsenberg, Vol. 2, 1978).

78-0010

Three sets of current measurements were made east of Sabine Peninsula using Aanderaa RCM-4's. The three data sets cover January 23-April 25, January 22-March 25, and March 27-April 11. The first record is missing 6 days and 10 hours of data, and 45% of the speeds are below stall speed. The second set apparently has no reliable direction data, and 91% of the speeds were less than the stall speed in the third record. No details are available regarding the water level record. Also see general comments under 74-0018.

No data report could be located regarding these data. The above information was taken from Van Ieperen (1981) and a computer archival tape prepared by Panarctic Oils Ltd.

78-0011

At two sites, off northeast Cornwall Island and Edinburgh Sea, two Aanderaa RCM-4 current meters were suspended at 2 and 3 m beneath the ice. At the northeast Cornwall location apparently only the upper meter worked and it provided no directions after mid-March. At the Edinburgh Sea location only the lower meter functioned and some uncertainty exists concerning the time period of recorded data. Also from May 26 until the end of record (June 4) the current data are wrong. There is also confusion regarding the instrument orientation, with a possible 112° error in the plots of the Panarctic (1979d) report. Also see comments under 74-0018.

78-0012

The instrumentation methods are similar to those described for 76-0017. However, no real-time UHF transmission system was used and the current meters nearest the surface were located at 12 m depth.

78-0013

An Aanderaa RCM-4 was moored 10 m below the ice cover. Thirty-four percent of the readings were below stall speed and the record length and number of records disagree by 36 hours.

Profiles of conductivity and temperature were obtained using a Guildline 8705 CTD. Apparently no bottle casts or reversing thermometers were used to check the readings. The water level data are not of good quality, probably due to inaccuracy of timing. Also see general comments under 74-0018.

78-0014

An Aanderaa RCM-4 was moored 10 m below the ice during the January 1-April 6 period, although there is no data after February 20. The January 1-February 20 record has many spikes but the data appear reasonable.

Guildline 8705 CTD profiles were made during December 30, 1978-January 2, 1979 and April 3-5, 1979. Apparently no bottle samples or reversing thermometers were used to check instrument performance.

The times of Stephen model 2A-35 tide gauge data were recorded to +30 minutes. Also see general comments under 74-0018.

78-0016

The existence of these data are referenced in Van Ieperen (1981) but no data report could be located describing methods, techniques or the data itself.

79-0017

Current meter data were collected as part of the development of a system to acquire real-time measurement of meteorological, oceanographic and sea-ice parameters in the Canadian Arctic using stations mounted on the ice. The system, developed by Innovative Ventures Ltd. of Calgary on behalf of Petro-Canada was given the acronym SALDAS, for Self-contained Arctic Long-Term Data Acquisition System. Current meter measurements were collected with Aanderaa RCM-4 current meters. These instruments were modified by using small directional vanes, directionally referenced to the surface through the use of torsionally-rigid mooring lines.

The timing of the current meter data sets is uncertain. Timing checks could not be carried out since only the time of the last record and total number of samples were known, and start times had to be computed from these two values and an assumed hourly sampling rate. (For one location (station 3), the significantly longer number of measurements led to a start time in the previous summer of 1978 which seemed highly unlikely in view of the ice conditions at this time of year; therefore, the sampling intervals for the two data sets at this location were assumed to be 30 minutes rather than 60 minutes.) At three of the other sites (1, 2 and 3) a significant difference in the number of records obtained from the upper and lower current meters (7.7, 0.9 and 5.2% respectively) also suggest possible timing problems.

Two recurring suspect patterns were noted (Fissel, 1982) in some data sets:

1) speed dropouts occurring over suspiciously long periods:

| | |
|--------------------------|----------|
| Station 2 - 30 m depth - | 59 days |
| Station 4 - 30 m depth - | 71 days |
| Station 5 - 30 m depth - | 8 days |
| Station 3 - 5 m depth - | >75 days |
| Station 3 - 30 m depth - | >75 days |

2) direction data which appeared to remain constant ("or locked") over long periods. This problem was most evident at station 1 at 5 m depth and station 3 at 30 m depth.

79-0018

One Aanderaa RCM-4 current meter measured current speed and direction 10 m below the ice surface during the period January 13-May 5, 1979. There was about 8 hours difference between the record and the surface printout times. Temperature and salinity (from the current meter) were not discussed in the documentation (Panarctic, 1979c).

Profiles of temperature and salinity were measured using a Guildline 8705 CTD. Apparently no bottles or reversing thermometers were used to check calibration.

The water level data, using a Stephen model 2A-35, was subject to error from the sinking of the weight into the mud and possible lateral movements of the ice. The quality of data from the Aanderaa WLR-5D is unknown. Also see general comments under 74-0018.

79-0019

Fourteen current meters (modified Aanderaa RCM-4's) were moored from the ice surface. They were rigidly connected to surface and aligned using the aircraft's gyro-compass. "A follower compass solenoid inside the current meter case then gave the vane orientation with respect to the case." Three meters gave short or no records, possibly due to exposure to -40°C temperatures for a week before the scientists arrived.

A Guildline Mark IV CTD was used to obtain profiles of temperature and conductivity. Accuracies were stated to be $\pm 0.01^{\circ}/\text{oo}$ and $\pm 0.01^{\circ}\text{C}$. (Peck, 1979, Vol. 2).

79-0020

Four Aanderaa RCM-4 current meter records were obtained near the Whitefish H-63A well site (W. Loughed Island), at depths of 10, 150 and 275 m (2 meters). The direction sensors failed after 2-3 weeks on the deep current meters. Current speeds were below stall speed about 50% of the time. The 150 and 275 m moorings used two point suspension aligned with true north from surface. There is no mention of weights being added to the moorings to improve stability.

A Guildline 8705 CTD was used, along with Nansen bottles and reversing thermometers. The report (Panarctic, 1980a) says agreement between CTD and bottles was excellent, however they differed by up to $0.3^{\circ}/\text{oo}$. No discussion is given of how corrections, if any, were made. Also the CTD depth scales presented in the report are in error; they should be multiplied by 0.7.

A Stephen 2A-35 water level gauge was used; recordings to ± 30 minutes and ± 5 cm.

79-0021

These water level data were collected by the Canadian Hydrographic Service, Burlington, Ontario using bottom pressure gauges of either Aanderaa Instruments or Applied Microsystems type. Sampling rates are unknown and instrument depths are likely within 1 or 2 m of the bottom.

Positions for all deployments were determined by dead reckoning from prominent shore features (D. St. Jacques, 1981, personal communication).

These data are on file at:

Canadian Hydrographic Service
Bayfield Laboratory for Marine Science and Surveys
Ocean Science and Surveys
Burlington, Ontario
L7R 4A6

79-0022

Aanderaa RCM-4 current meter records were obtained at two sites in the Edinburgh Sea, 10 m below the ice surface, for the period January 21-April 11, 1980. The direction vanes apparently became "sticky" and may be unreliable after February 2.

A Guildline 8705 CTD was used, supported by Nansen bottles and reversing thermometers. Differences between the bottle and CTD salinities, for two of the winter profiles, were 0.22 and 0.89‰. No explanation is given (Panarctic, 1980b) of how the CTD profiles were corrected.

Steven 2A-35 water level gauges were deployed at both sites; accuracy is unknown. Apparently an Aanderaa tide gauge was also deployed at 77°36.5'N, 99°31.13'W but no details were available.

80-0013

These data were collected as part of an oceanographic and meteorological study of the Dundas Island polynya in Queens Channel.

Five modified internally recording Aanderaa RCM-4 current meters were used. These instruments were suspended on lengths of hydraulic hose for rotational stability and to provide a fixed directional reference. The current meters use an in-line directional vane assembly attached beneath the pressure case (Lewis, 1980).

80-0014

Aanderaa RCM-4's modified for Arctic use were deployed near-surface, mid-depth and near-bottom at three sites. The surface meters were rigidly connected to surface in order to obtain directional reference. The vane contained magnets which were coupled with the compass inside the casing. The mid-depth and near-bottom meters had no direction sensor. Three of the meters failed after recording some data. Two were tape drive failures, the third due to an "O"-ring leak.

An Aanderaa WLR5A was used to record ambient pressure and thus water level. Manufacturer's specified accuracy is 0.01% of selected range; the range was not specified in Juhasz (1980).

80-0015

See the comments for 79-0021.

81-0007

This study was concentrated in Barrow Strait however some CTD stations were occupied in southern Wellington Channel and McDougal Sound. A Guildline MK VI CTD was used. As of field report stage (Brooks, 1981) no problems had arisen in the data.

81-0019

See the comments for 79-0021.

APPENDIX 2

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