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GLACIOLOGICAL DATA

MARGINAL ICE ZONE BIBLIOGRAPHY

World Data Center A
for
Glaciology
[Snow and Ice]

June 1985

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National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418 USA

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World Data Center A
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418 USA
[Telephone: (202) 334-3359]

GLACIOLOGY (Snow and Ice)
World Data Center A: Glaciology
(Snow and Ice)
Cooperative Inst. for Research in
Environmental Sciences
University of Colorado
Boulder, Colorado 80309 USA
Telephone: (303) 492-5171

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DESCRIPTION OF WORLD DATA CENTERS[1]

WDC-A: Glaciology (Snow and Ice) is one of three international data centers serving the field of glaciology under the guidance of the International Council of Scientific Unions Panel of World Data Centers. It is part of the World Data Center System created by the scientific community in order to promote worldwide exchange and dissemination of geophysical information and data. WDC-A endeavors to be promptly responsive to inquiries from the scientific community, and to provide data and bibliographic services in exchange for copies of publications or data by the participating scientists.

1. The addresses of the the three WDCs for Glaciology and of a related Permanent Service are:

World Data Center A
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Campus Box 449
Boulder, Colorado, 80309 U.S.A.

World Data Center B
Molodezhnaya 3
Moscow 117 296, USSR

World Data Centre C
Scott Polar Research Institute
Lensfield Road
Cambridge, CB2 1ER, England

Permanent Service on the Fluctuations
of Glaciers
Swiss Federal Institute of Technology
CH-8092 Zurich, Switzerland

2. Subject Matter

WDCs will collect, store, and disseminate information and data on Glaciology as follows:

Studies of snow and ice, including seasonal snow; glaciers; sea, river, or lake ice; seasonal or perennial ice in the ground; extraterrestrial ice and frost.

Material dealing with the occurrence, properties, processes, and effects of snow and ice, and techniques of observing and analyzing these occurrences, processes, properties, and effects, and ice physics.

Material concerning the effects of present day and snow and ice should be limited to those in which the information on ice itself, or the effect of snow and ice on the physical environment, make up an appreciable portion of the material.

Treatment of snow and ice masses of the historic or geologic past, or paleoclimatic chronologies will be limited to those containing data or techniques which are applicable to existing snow and ice.

3. Description and Form of Data Presentation

3.1 General. WDCs collect, store and are prepared to disseminate raw[+], analyzed, and published data, including photographs. WDCs can advise researchers and institutions on preferred formats for such data submissions. Data dealing with any subject matter listed in (2) above will be accepted. Researchers should be aware that the WDCs are prepared to organize and store data which may be too detailed or bulky for inclusion in published works. It is understood that such data which are submitted to the WDCs will be made available according to guidelines set down by the ICSU Panel on WDCs in this Guide to International Data Exchange. Such material will be available to researchers as copies from the WDC at cost, or if it is not practicable to copy the material, it can be consulted at the WDC. In all cases the person receiving the data will be expected to respect the usual rights, including acknowledgement, of the original investigator.

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[1] International Council of Scientific Unions. Panel on World Data Centers. (1979) Guide to International Data Exchange Through the World Data Centres. 4th ed. Washington, D.C. 113 p.

[+] The lowest level of data useful to other prospective users.

This Guide for Glaciology was prepared by the International Commission on Snow and Ice (ICSI) and was approved by the International Association of Hydrological Sciences (IAHS) in 1978.

3.2 Fluctuations of Glaciers. The Permanent Service is responsible for receiving data on the fluctuations of glaciers. The types of data which should be sent to the Permanent Service are detailed in UNESCO/IASH (1969)*. These data should be sent through National Correspondents in time to be included in the regular reports of the Permanent Service every four years (1964-68, 1968-72, etc.). Publications of the Permanent Service are also available through the WDCs.

3.3. Inventory of Perennial Snow and Ice Masses. A Temporary Technical Secretariat (TTS) was recently established for the completion of this IHD project at the Swiss Federal Institute of Technology in Zurich. Relevant data, preferably in the desired format**, can be sent directly to the TTS or to the World Data Centers for forwarding to the TTS.

3.4. Other International Programs. The World Data Centers are equipped to expedite the exchange of data for ongoing projects such as those of the International Hydrological Project (especially the studies of combined heat, ice and water balances at selected glacier basins***), the International Antarctic Glaciological Project (IAGP), and Greenland Ice Sheet Project (GISP), etc., and for other developing projects in the field of snow and ice.

4. Transmission of Data to the Centers

In order that the WDCs may serve as data and information centers, researchers and institutions are encouraged:

4.1. To send WDCs raw+ or analyzed data in the form of tables, computer tapes, photographs, etc., and reprints of all published papers and public reports which contain glaciological data or data analysis as described under heading (2); one copy should be sent to each WDC or, alternatively, three copies to one WDC for distribution to the other WDCs.

4.2 To notify WDCs of changes in operations involving international glaciological projects, including termination of previously existing stations or major experiments, commencement of new experiments, and important changes in mode of operation.

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*UNESCO/IASH (1969) Variations of Existing Glaciers. A Guide to International Practices for their Measurement.

**UNESCO/IASH (1970a) Perennial Ice and Snow Masses. A Guide for Compilation and Assemblage of Data for a World Inventory; and

Temporary Technical Secretariat for World Glacier Inventory. Instructions for Compilation and Assemblage of Data for a World Glacier Inventory.

***UNESCO/IASH (1970b) Combined Heat, Ice and Water Balances at Selected Glacier Basins. A Guide for Compilation and Assemblage of Data for Glacier Mass Balance Measurements; and

UNESCO/IASH (1973) Combined Heat, Ice and Water Balances at Selected Glacier Basins. Part II, Specifications, Standards and Data Exchange.

+The lowest level of data useful to other prospective users.

FOREWORD

This issue provides a major bibliography on sea ice, meteorology and oceanography in the marginal ice zone. It has been recognized in the last few years that processes of air-ice-ocean interaction occurring near the boundary of ice-covered seas are of critical importance to our understanding of the mechanisms of seasonal ice growth and decay and short and long term anomalies in ice extent. Oil and gas exploration and development are increasingly being conducted in areas with seasonal ice cover and the ice margin is also a zone of high productivity by marine biota. Until recently, opportunities to conduct research in the marginal ice zone (MIZ) were limited by available technology, but a major international marginal ice zone experiment (MIZEX) is underway in the Bering Sea and the East Greenland Sea and results from this work are now beginning to appear in the literature. The National Snow and Ice Data Center (colocated with WDC-A for Glaciology) is providing data management services for the MIZEX-East program and we anticipate that sometime in the future, data sets collected during MIZEX may become available to other interested users.

We are also pleased to include in this issue a contribution from Dr. W. Stinger, University of Alaska, on sea ice morphology and characteristics, based on chapter 1 of the recently published Handbook for Sea Ice Analysis and Forecasting (Naval Environmental Prediction Research Facility, Monterey, California, 1984).

Data entry work for this issue was undertaken by Carol Pedigo, and the entire material was edited by Ann Brennan of the Data Center staff.

R.G. Barry
Director
World Data Center-A for Glaciology
(Snow and Ice)
and National Snow and Ice Data Center

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Sea Ice Morphology and Characteristics

William J. Stringer
Geophysical Institute
University of Alaska
Fairbanks, Alaska, U.S.A.

SECTION 1. FORMATION AND DEVELOPMENT OF SEA ICE

1.1 THE FREEZING PROCESS

1.1.1 Freezing Point of Sea Water. 0° C is defined as the melting point of freshwater ice. Conversely, fresh water can start freezing when it is at 0° C. Dissolving salts in water lowers its freezing temperature. Sea water contains approximately 35‰ (35 parts per thousand or 3.5 per cent) dissolved salts, most of which is sodium chloride or common table salt. This quantity of salts is sufficient to depress the freezing point of sea water to around -1.9° C. When applying this concept, it should be remembered that in many nearshore areas, particularly bays and lagoons fed by freshwater streams, the salt concentration in the water is less than 35‰ and its freezing point is correspondingly higher.

1.1.2 Supercooling of Water Before Ice Formation. Water does not actually freeze precisely at its melting point (although the difference can be extremely small). This results from the fact that freezing is a change of phase (as is the transition of water into water vapor). This phase change alone requires the withdrawal of 80 calories per gram of water (3.3×10^5 kJ/kg). This is a tremendous amount of energy considering that 1 calorie is defined as the amount of heat required to raise or lower one gram of water by 1° C. Thus, it requires the withdrawal of just as much energy to create one gram of freshwater ice at 0° C as it would to lower the temperature of that gram of water from 80° C to 0° C.

At first, one might think that the only way to satisfy this energy requirement (80 cal g^{-1}) would be to cool the entire quantity of water to be frozen to -80° C before it would suddenly freeze into ice at 0° C. But this is not the case. After the water temperature has been lowered sufficiently below its freezing point (supercooled), small crystals of ice form and the heat of fusion is released into the surrounding water. Thus, although heat of fusion has been expelled from the water freezing into small ice crystals, it has merely warmed up the surrounding water. No energy need enter or leave during the freezing process.

1.1.3 Frazil Ice Formation. The process of supercooling takes place continuously in freezing water. The small crystals thus formed grow into small disc-shaped platelets of ice with dimensions on the order of 1 or 2 mm in diameter and thickness in the vicinity of 1/10 the diameter. These platelets become the fundamental building blocks of newly forming sea ice.They are nearly pure freshwater ice; the dissolved salts having been excluded during the growth of the crystals into frazil platelets. Clearly, this increases the salt concentration in the remaining water.

1.1.4 Water Density. Here we must introduce the concept of the temperature of maximum density as a function of salinity. First, we will consider the density of fresh water as a function of temperature. Fresh water contracts upon cooling until it reaches 4° C; when cooled further it expands. As a result, when a lake is cooled, the cooled surface water at first sinks towards the bottom because the cool water is heavier than warm water. If water were like most liquids which continue to become heavier with decrease in temperature, a cooled lake would continue to cool until the whole lake was at its freezing point, then it would begin to freeze. If water in its solid state were heavier than in its liquid state (again like most materials), then newly forming ice would accumulate at the bottom and the lake would freeze from the bottom to the top. Many northern lakes would freeze completely and never thaw except for a surface layer.

Fortunately, as explained above, water is most dense at 4° C and expands when cooled further. Furthermore, ice expands significantly when it freezes (on the order of 10%) so that its solid phase floats. The result of this is that after our hypothetical lake has reached 4° C, water cooled even further - being lighter than the 4° C water - does not sink but remains on the surface. Hence, the bulk of the lake remains at 4° C as ice formation takes place on its surface. After that, additional ice forms on the bottom of the ice surface.

Sea water is a different matter. As salts are added to water, both the temperature of maximum density (starting at 4° C) and the freezing point (starting at 0° C) are depressed. However, the temperature of maximum density decreases faster with salt concentration than does the freezing temperature. These two temperatures coincide at roughly 25‰ salt concentration. Water with greater salt concentration (such as sea water at 35‰) does not reach a maximum density before it freezes. (It does, of course, expand upon freezing.) As a result, the entire sea water column down to some depth requires cooling all the way to the freezing temperature before freezing takes place near the surface. The depth of this cooling depends on several factors including natural layering within the ocean, the surface cooling rate, and wind stress on the water surface. Naturally occurring density layering (as a result of temperature and salinity) tends to limit the depth of mixing. Very low temperatures can cause rapid cooling of the surface layer and its freezing before mixing at depth can occur. Wind stress, on the other hand, tends to increase the mixing depth.

1.1.5 Frazil Ice Depth. Because of the mixing of cooled sea water, it is possible that supercooling and frazil ice formation can take place within a mixed surface layer (at least a meter or two, and perhaps considerably deeper in some situations). Hence, at the very beginning of freezeup of sea water, small frazil discs form as a result of supercooling within the top layer of the ocean. Frazil ice then becomes the basic building material for the ice forms which follow.

Another way in which the ocean becomes saturated with ice crystals is for snow to fall into an ocean cooled to below 0° C. Since the salt water is cooler than the melting point of the snow crystals, they accumulate as slush which forms a viscous floating mat.

1.2 STAGES OF ICE GROWTH BEYOND FRAZIL AND SLUSH

In this section we will follow sea ice terminology through the nomenclature of terms describing the various stages of growth from frazil crystals to thick first-year ice.

1.2.1 New Ice. This term includes all categories up through a thickness of 10 cm. New ice not only includes frazil and slush ice, but also several other ice types. For the sake of completeness, all ice types in this category will be described here.

1.2.1.1 Frazil Ice. Frazil ice represents the first stage in the freezing process. It consists of fine needles or platelets of ice, suspended in sea water.

1.2.1.2 Slush. Slush consists of snow which has saturated and mixed with the water creating a viscous floating mass of ice crystals within the water. Thus, slush represents an independent process by which ice crystals can be introduced into cold sea water.

1.2.1.3 Grease Ice. This is the next stage in ice formation beyond frazil ice. At this point, the frazil crystals have coagulated to form a soupy layer on the sea surface. Grease ice reflects less light than water and has a dark matte appearance. Grease ice forms regardless of sea state, but tends to increase in thickness with sea agitation.

1.2.1.4 Shuga. With a large degree of wind stress and accompanying wave agitation, grease ice or slush collects into spongy white lumps a few cm in diameter. This ice type is called shuga.

1.2.2 Nilas. As freezing continues, grease ice undergoes a transition to nilas, a thin (up to 10 cm) elastic crust with a matte surface. The only exception to this transition is in cases where the sea state and wind stress are sufficient to cause the formation of shuga (described in 1.2.1.4). When placed under a confining pressure, nilas is easily thrust into a pattern of interlocking fingers called finger rafting. Nilas is divided into two subcategories:

1.2.2.1 Dark Nilas. Nilas which is under 5 cm in thickness and is very dark in appearance.

1.2.2.2 Light Nilas. Nilas which is between 5 and 10 cm in thickness and is lighter in appearance than dark nilas, but not quite gray.

1.2.3 Ice Rind. This ice develops in areas where water with less salinity than sea water is found. As a result, it forms a brittle, shiny crust either by direct freezing (as on a fresh water pond) or from grease ice. This stage continues for thicknesses up to 5 cm. Because it is brittle, it is easily broken up, usually into rectangular pieces, by wind and gentle waves.

1.2.4 Pancake Ice. (Pancake ice is not truly a thickness category, but it has been included here because it can be a major stage in the development of sea ice.) This ice consists of roughly circular pieces of ice from 30 cm to 3 m in diameter, and up to 10 cm in thickness. The pancakes have a raised rim as a result of their striking up against each other. They develop either on a slight swell from grease ice, shuga or slush or as a result of large swells breaking up previously formed nilas or even thicker forms.

1.2.5 Young Ice. This is ice in the transition stage between nilas and thicker forms. Its thickness ranges between 10 and 30 cm. It is subdivided into gray ice and gray-white ice.

1.2.5.1 Gray Ice. Young ice 10-15 cm thick. It is less flexible than nilas and often breaks under swell (becoming a candidate for pancake ice). It is still sufficiently thin that it will raft under pressure.

1.2.5.2 Gray-White Ice. Young ice 15-30 cm thick. Under pressure, it is more likely to ridge (i.e. break up and form a pile of broken ice) rather than raft.

1.2.6 First-Year Ice. As young ice grows in thickness beyond a thickness of 30 cm, it is call first-year ice. However, this category can be broken down into the following subcategories:

1.2.6.1 Thin First-Year or White Ice. This ice is sufficiently thick to appear white as opposed to the gray appearance of young ice. Its thickness ranges between 30 and 70 cm and is sometimes divided into a first stage (30-50 cm) and second stage (50-70 cm). Although there have been occasional reports of rafting of ice this thick, it usually ridges under pressure.

1.2.6.2 Medium First-Year Ice. This is first-year ice 70-120 cm in thickness.

1.2.6.3 Thick First-Year Ice. This is first-year ice with thickness greater than 120 cm.

1.2.7 Old Ice. This general term is used to describe ice more than one melt season old. Ice which has survived one melt season is called second-year ice, while ice which has survived more than one melt season is called multiyear ice. The reason that a distinction is made for ice surviving a melt season is because of ice strength. When ice forms, the overall salt concentration may be considerably less than sea water (on the order of 6‰) with most of this salt residing as very salty water trapped in the form of brine pockets. The water in these pockets has a very low freezing point due to its high salt content. Because of the pockets, the ice remains considerably weaker than fresh water ice. However, the strength does increase with decreasing temperatures. By -5° C, its strength is roughly 75% that of fresh ice.

During the first melt season many of these brine pockets are drained by migration to the underside of the ice or flushed by melt water passing through the ice, leaving the ice considerably less saline. Fig. I-1 shows the change of strength of ice with two salt concentrations as a function of temperature. From this figure, it can be seen that as temperatures decrease, old ice will increase in strength earlier than young ice. Furthermore, old ice is stronger than young ice at any given temperature. See section 3.3.1 for further discussion.

1.3 ICE THICKNESS GROWTH RATE

Having discussed the range of ice types from frazil to first-year thick, it is worthwhile to consider the rate at which ice grows in thickness. Clearly, for ice to grow on the bottom surface of a floe, heat must be removed from its top surface. In general, therefore, the rate of ice growth is proportional to the rate at which heat can be transferred away from the ice and into the atmosphere. Heat transfer is proportional to the temperature difference between the top and bottom surfaces of the ice and the conductivity of the ice, and is inversely proportional to the thickness of the ice.

Thus, we expect ice to grow fastest when the air above it is coldest and when the ice is thin. Everything else being constant, we would expect the growth rate of ice to decrease with increasing ice thickness. In fact, one would expect the growth of ice to cease when equilibrium is reached between the rate at which heat is removed from the top of the ice and the rate at which heat is supplied to the underside of the ice from the water below. Finally, because snow acts as an insulating blanket, snow on the

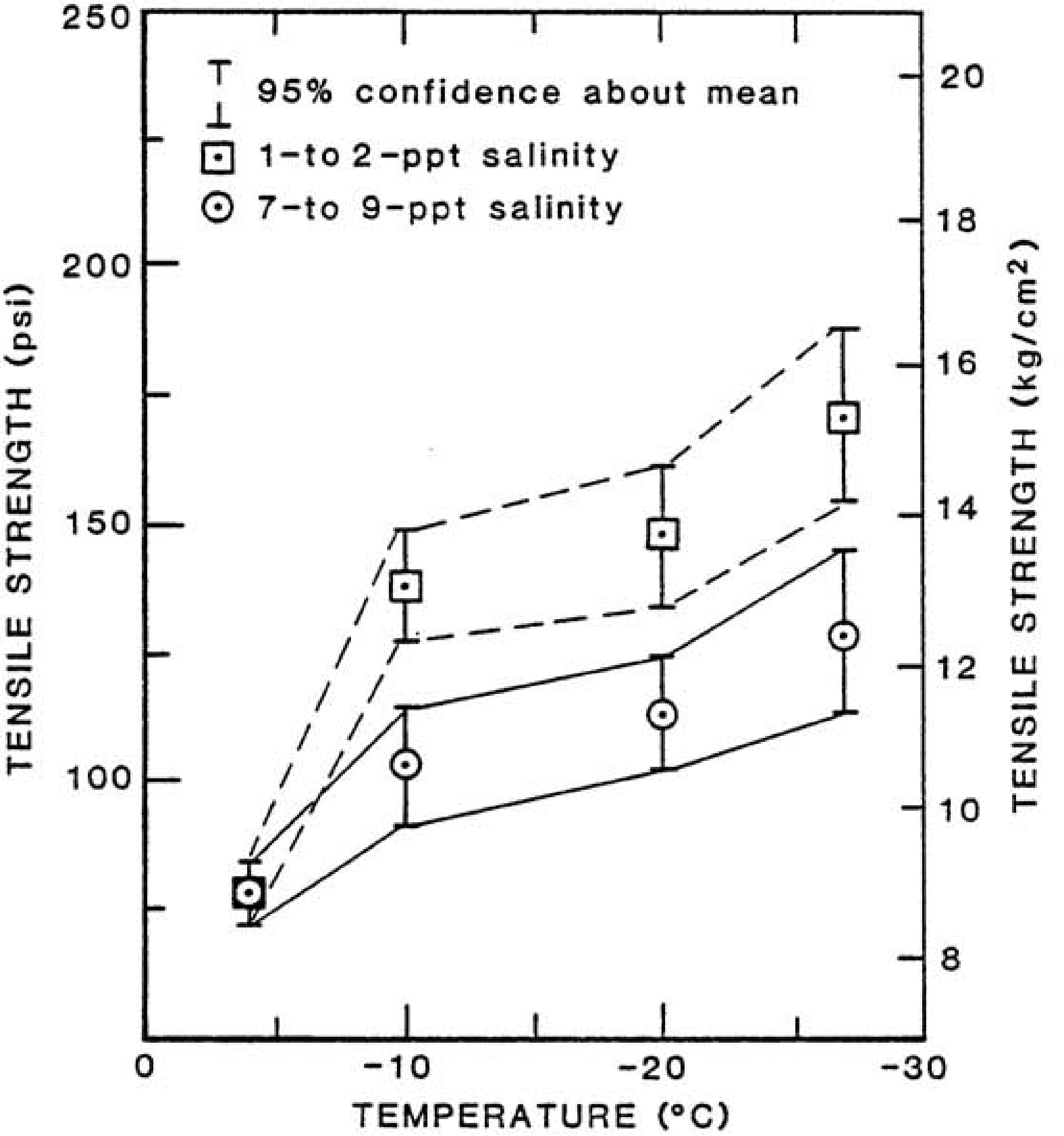

Figure I-1. Shown are results of Dykins (1971) comparing sea ice tensile strength as a function of temperature and salinity. Two salinity ranges were used: 1 to 2 parts per thousand (corresponding to multiyear ice) and 7 to 9 parts per thousand (corresponding to young ice). Envelopes about data points demonstrate data variability.

top of the ice limits the heat conduction through the ice and, therefore, its rate of growth and final thickness. The heat conductivity of snow is approximately 1/10 that of ice. Hence, a 10 cm layer of snow on the ice surface would reduce heat transport as much as 1 m of additonal ice.

The factors discussed above vary from place to place and with season. However, it is possible to standardize these environmental conditions somewhat by describing the ice growth in terms of accumulation of freezing degree days. (The number of degrees Celsius that the mean temperature for a given day is below freezing, summed over the number of days under consideration.) On-site measurements of the growth of ice related to freezing degree days produced the curves shown in Figure I-2 (Zubov, 1943). Figure I-2 shows the incremental growth in ice thickness in terms of thousands of freezing degree (°C) days for a range of initial ice thicknesses. For example, in order to determine how much growth will occur when ice 100 cm thick is subjected to 5000 freezing degree days, simply move along the graph horizontally at the value of 100 on the y-axis until the value of 5000 is reached on the x-axis. These coordinates intersect at the growth increment value of 110 cm.

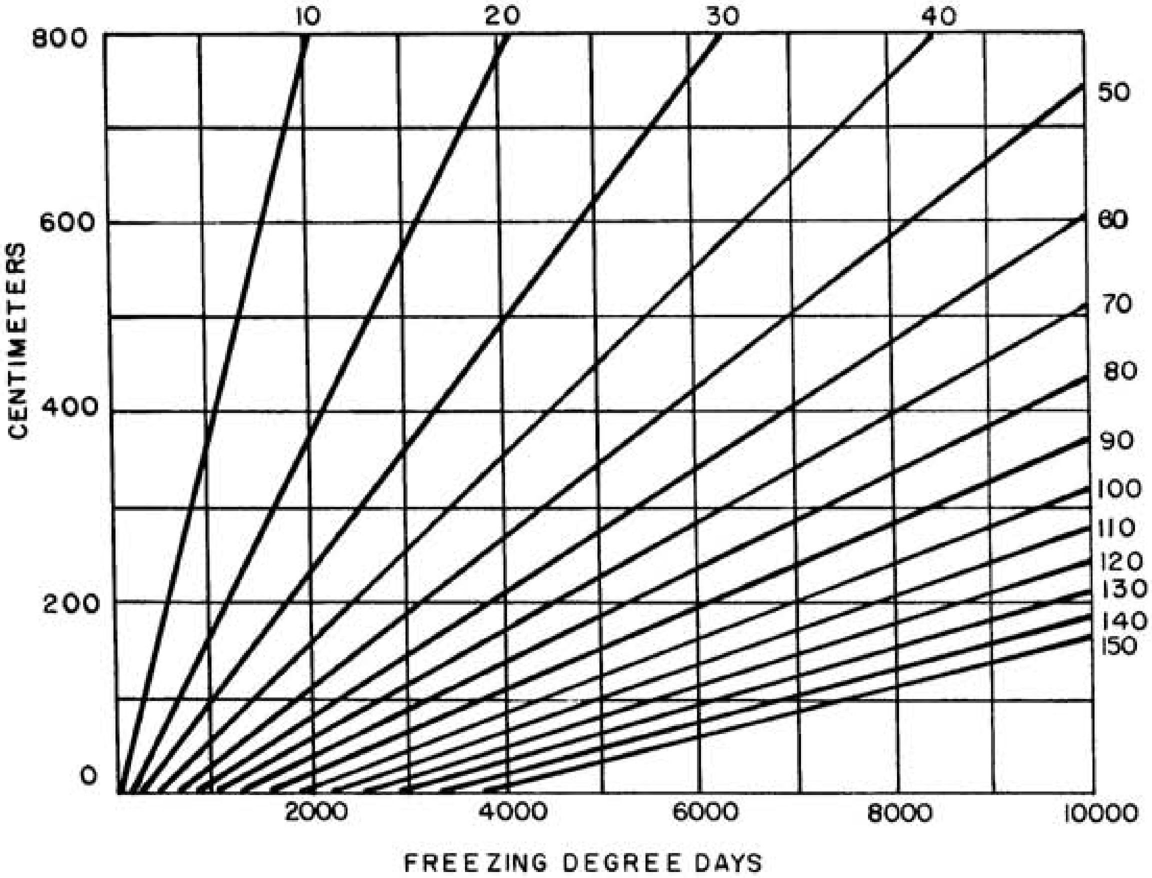

Figure I-2. Graph for computing ice thickness growth (cm) along the slanted lines, in terms of number of freezing degree days (°C on the x-axis) and initial ice thickness (cm on the y-axis).

SECTION 2. FORMS, TYPES, AND CONDITIONS OF ICE

In the previous section we discussed ice terms based largely on age and stage of development. However, there are other terms used to describe sea ice in reference to the size of individual pieces, its mobility, the arrangement of the ice, the nature of openings in the ice (in a macroscopic sense) and other factors.

2.1 ICE TYPES BASED ON MOBILITY CHARACTERISTICS

Regardless of age, oceanic ice can be divided into two broad categories based on its ability to move. These types are fast ice and drift ice.

2.1.1 Fast Ice is defined as sea ice which has formed along or has become attached to the shore, shoals, or to the seaward margins of glaciers. Although the ice is not moving horizontally with respect to shore, it may undergo vertical fluctuations resulting from changes in sea level. Fast ice can form in place or result from the attachment to shore and consolidation of individual floes of any age. It may extend a few meters or several hundred km from shore. Fast ice can be of any age and may be described in age terms (young, first-year, second-year or multiyear). If it has a freeboard greater than two meters, it is called an ice shelf. (Note: A freeboard of two meters implies a total thickness of around 20 meters.) The following terms are used to describe fast ice:

2.1.1.1 Young Coastal Ice. This term is used to depict early stages of fast ice. The ice has usually progressed to the nilas or young ice stage. However, it should be emphasized that ice this thin can easily be detached from shore and later stages of fast ice may not develop from a particular occurrence of young coastal ice.

2.1.1.2 Ice Foot. As fast ice grows in thickness, a narrow fringe of ice along the shore becomes frozen to and even into the bottom. This fringe is called the ice foot. There is usually a series of tidal cracks separating the ice foot from the floating fast ice which rises and falls with sea level changes. This crack region is often referred to as the hinge between the ice foot and the floating fast ice. If the floating fast ice is broken loose and transported away, the ice foot generally remains in place.

2.1.1.3. Grounded Ice. Grounded ice can occur within the floating fast ice or as individual pieces of ice grounded in shoal waters. For instance, grounded ridges and hummocks (see Sea Ice Structures, 2.5) can occur within the floating fast ice. In such cases, they act to even further stabilize the fast ice. The remnants of hummocks and ridges can remain in nearshore areas well into the melt season. These are sometimes called stamuki. Islands of grounded ice can occur on shoals located beyond the fast ice. Stranded ice consists of ice which had been floating, but has been deposited on land exposed by retreating water.

2.1.1.4 Anchor Ice. Regardless of the nature of its origin, ice which is submerged or attached to the ocean bottom is called anchor ice.

2.1.2 Drift Ice generally replaces the historical term pack ice. It is a very broad category which includes any area of sea ice other than fast ice regardless of its form or arrangement. If freshwater ice is present it is called floating ice. The term pack ice may be used at concentrations of 7/10 and higher. We have already described many terms used to describe the development of drift ice. There are two other series of terms describing drift ice; one series is based on size and appearance of ice pieces and the other is based on percent ice cover.

2.1.2.1 Drift Ice Terms Based on Size and Appearance.

2.1.2.1.1 Pancake Ice. This ice consists of roughly circular pieces of ice from 30 cm to 3 m in diameter, and up to 10 cm in thickness. The pancakes have a raised rim as a result of their striking up against each other. They develop either on a slight swell from grease ice, shuga, or slush or as a result of large swells breaking up previously formed nilas or even thicker forms. Pancake ice is actually a form that new and young ice can assume over a range of thicknesses. On the other hand, it can be such a major stage in the development of ice cover that we have already listed it under development categories (see 1.2.4).

Below, several other forms of oceanic ice are defined which are largely independent of development stage.

2.1.2.1.2 Ice Breccia. This is an ice condition that results from several cycles of ice breaking into pieces and the freezing of the voids created between the pieces. The result is an expanse of ice pieces of different ages (and, therefore, most likely different thicknesses) frozen together.

2.1.2.1.3 Brash Ice. This term is used to describe accumulations of floating ice made up of fragments not more than 2 m in largest dimension.

2.1.2.1.4 Ice Cake. This term is used for a piece of relatively flat ice not more than 20 m in its largest dimension. Small Ice Cakes are ice cakes less than 2 m in horizontal extent. Hence, brash ice is composed of small ice cakes.

2.1.2.1.5 Ice Floe. This term describes any piece of ice, regardless of age, more than 20 m in dimension. Floes are subdivided in terms of size:

small floe:	20 - 100 m
medium floe:	100 - 500 m
big floe:	500 - 3,000 m
vast floe:	2 - 20 km
giant floe:	greater than 10 km.

2.1.2.2 Drift Ice Terms Based on Percent Cover.

2.1.2.2.1 Ice Cover is the ratio of an area of ice of any concentration to the total area of sea surface within some large geographic region; this may be global, hemispheric, or prescribed by a specific oceanographic entity such as Baffin Bay or the Barents Sea.

2.1.2.2.2 Concentration is the ratio expressed in tenths, describing the mean areal density of ice in a given area.

2.1.2.2.2.1 Compact Pack Ice. Pack ice in which the concentration is 10/10 and no water is visible.

2.1.2.2.2.2 Consolidated Pack Ice. Pack ice in which the concentration is 10/10 and the floes are frozen together.

2.1.2.2.2.3 Very Close Pack Ice. Pack ice in which the concentration is 9/10 to less than 10/10.

2.1.2.2.2.4 Close Pack Ice. Pack ice in which the concentration is 7/10 to 8/10 composed of floes mostly in contact.

2.1.2.2.2.5 Open Drift Ice. Drift ice in which the ice concentration is 4/10 to 6/10 with many leads and polynyas and the floes are generally not in contact with each other.

2.1.2.2.2.6 Very Open Drift Ice. Drift ice in which the concentration is 1/10 to 3/10 and water preponderates over ice.

2.1.2.2.2.7 Open Water. A large area of freely navigable water in which sea ice is present in concentrations less than 1/10 and no ice of land origin is present.

2.1.2.2.2.8 Bergy Water. An area of freely navigable water in which ice of land origin is present. There may be sea ice present but the total concentration shall not exceed 1/10.

2.1.2.2.2.9 Ice Free. No ice present. If ice of any kind is present, this term whould not be used.

2.2 ICE TERMS BASED ON BREAKS OR OPENINGS IN THE ICE

Openings or breaks within the ice can be very important from the points of view of transportation or operations upon the ice cover and navigation through the ice. For this reason, a number of terms are used to describe in a specific way openings in terms of width, location, and navigability.

2.2.1 Fracture. This term, rather than lead (defined below) is the basic descriptor of openings or breaks within the ice. A fracture is defined as any break or rupture through fast ice, pack ice with concentration 9/10 or greater, or even a single floe. The length of a fracture can vary from less than one m to many km. In cases where fractures have a finite width, they may contain brash ice and/or be covered with nilas and/or young ice. In general, the two sides of a fracture appear as if they could be rejoined to form a solid sheet of ice. Fracture Zone describes an area with a great number of fractures. Often the fractures in a fracture zone have a regular pattern resulting from stress having been applied somewhat uniformly over a large area. Terms based on width of fracture are as follows:

crack:	<1 m (One specific type, tidal crack, is between the ice foot and the floating fast ice.)
very small fracture:	1-50 m
small fracture:	50 - 200 m
medium fracture:	200 - 500 m
large fracture:	wider than 500 m.

2.2.2 Polynya. A polynya is an irregularly shaped opening enclosed by ice. As opposed to a fracture, the sides of a polynya could not be refitted to form a uniform ice sheet. Polynyas may contain brash ice or uniform ice of markedly thinner ice than the surrounding ice. Terms based on a polynya's location or persistence are as follows:

2.2.2.1 Shore Polynya. A polynya located between drift ice and the coast or between the drift ice and an ice front (ice front defined in 2.6.2.3).

2.2.2.2 Flaw Polynya. A polynya located between drift ice and fast ice.

2.2.2.3 Recurring Polynya. A polynya which occurs at the same location every year.

2.2.3 Lead. A lead is a fracture through sea ice sufficiently wide to permit navigation by surface vessels. As with polynyas, some leads are defined in terms of their location:

2.2.3.1 Shore Lead. A lead located between drift ice and the shore or between drift ice and an ice front.

2.2.3.2 Flaw Lead. A lead located between drift ice and fast ice.

2.2.4 Flaw. Strictly speaking, the flaw is the line of fracture between the fast ice and drift ice when they are in close proximity. A variety of conditions can be found associated with such a flaw. It may consist of a series of polynyas along the fracture separated by linear regions where drift ice has been piled into a shear ridge (see 2.5.5). Such a flaw is generally created when the drift ice is driven along the fast ice edge with a component of compressive force (thus creating a "shear") between the two ice masses. There may be regions of the flaw filled with brash ice and there may be signs of freezing of ice to the new or young stage within the polynyas if the shearing motion responsible for formation of the flaw has ceased.

2.3 TERMS DESCRIBING THE PHYSICAL ARRANGEMENT OF SEA ICE

Sea ice can be found in a variety of arrangements. A series of distinctive terms has been defined to aid the description of sea ice in narrative accounts and messages.

2.3.1 Terms to Describe the Size of an Aglomeration of Floating Ice.

2.3.1.1 Ice Patch. An area of floating ice less than 10 km in horizontal dimension.

2.3.1.2 Ice Field. An area of floating ice with dimensions greater than 10 km. Size distinctions are:

small ice field:	10 to 15 km
medium ice field:	15 to 20 km
large ice field:	greater than 20 km
ice massif:	a large ice field which is found in the same general location every summer.

2.3.2 Terms to Describe the Configuration of a Patch or Field.

2.3.2.1 Strip. A strip is defined as a long, narrow (1 km or less) patch or field of drift ice and often consists of brash ice and sometimes new ice forms. Strips are often generated as smaller ice fragments are detached from the main body of drift ice and run together under the influence of wind, waves, or swell.

2.3.2.2 Belt. A drift ice field which is considerably greater in length than width is called a belt. The width of a belt can vary between 1 and 100 km. Ice of any size or age may be contained.

2.3.3 Terms Used to Define Pronounced Features in the Boundary Between an Ice Field and the Surrounding Water.

2.3.3.1 Tongue. This term is used to describe a projection of an ice field into the adjacent ocean area with a markedly lower ice concentration. Tongues are often caused by winds or currents and are sometimes transformed into a swirl-like structure.

2.3.3.2 Bight. An indentation in an ice edge. As with tongues, their topological opposites, bights are often caused by winds and currents.

2.3.4 Terms Involving the Extent of Ice.

2.3.4.1 Ice Edge. This term is used to denote the boundary between ice of any concentration or type and the open sea. It can be described as compact or diffuse depending on how well defined it appears.

2.3.4.2 Ice Limit. This term is based on a statistical computation of the extreme minimum or extreme maximum location of the ice edge for a given period (for instance, the month of March) over a period of several years. The term "ice limit" is preceeded by either minimum or maximum.

2.3.4.3 Mean Ice Edge. As with ice limit, the mean ice edge is a statistical term. The mean ice edge is simply the average position of the ice edge as measured over some specified period of time.

2.3.4.4. Mean Maximum or Mean Minimum Ice Edge. This term is used to denote the geographical location of the average of the extreme summertime or winterime locations of the ice edge over a period of years. These two statistical locations are often indicated in atlases.

2.3.5. Terms Describing Boundaries Within The Ice.

2.3.5.1 Fast Ice Boundary. This term is used to denote the boundary at any time between the fast ice and drift ice. (If no drift ice were present, it would be called the fast ice edge.)

2.3.5.2 Concentration Boundary. A line approximating the transition between two regions having different drift ice concentrations.

2.4 TERMS DESCRIBING THE APPEARANCE OF THE ICE SURFACE

2.4.1 Snow-Related Factors.

2.4.1.1 Bare Ice. Ice without snow cover.

2.4.1.2 Snow-Covered Ice. Ice with snow cover. Snow-covered ice is usually more white in appearance than bare ice during winter months, regardless of thickness. As a result, a snow cover on ice makes estimating its thickness very difficult.

2.4.2 Melt Season Factors. As the summer season approaches, the occurrence of water on the ice surface causes a sequence of events resulting in a changing appearance of the ice.

2.4.2.1 Puddled Ice. At the beginning of the summer season melt water from snow and ice accumulates on the ice surface, presenting a pattern of dark patches. Ice at this stage is referred to as puddled ice.

2.4.2.2 Flooded Ice. This term is used to refer to ice that is largely covered with water, either from extensive melt water or river water spread upon the ice.

2.4.2.3 Dried Ice. Eventually the flooded ice drains through cracks and thaw holes developed in the ice. The drained ice whitens considerably. Large portions of floes remain wet and many areas of open water now occur. The white portions of the ice are called dried ice.

2.4.2.4 Rotten Ice. The term rotten ice refers to ice during an advanced stage of melting. Very little ice still maintains sufficient freeboard to appear white. Most of the ice surface is wet and the ice is honeycombed.

2.5 TERMS RELATED TO SEA ICE STRUCTURES

The terms in this category generally derive from compressional forces within sea ice which results in ice raised above the normal ice surface. Although sizes of these features can vary, the presentation here will be generally in order of increasing size.

2.5.1 Standing Floe. A single floe standing vertically or inclined to the ice surface and surrounded by relatively smooth ice.

2.5.2 Rafted Ice. Ice which has been forced to override other ice as a result of compression. Although rafting is most common among thinner forms of ice, there have been reports of rafted ice 2 m thick overlapping by over 100 m in the horizontal.

2.5.3 Hummock. A hillock of broken ice which has been forced upward by pressure.

2.5.4 Hummock Field. A collection of hummocks. A hummock field which has survived one or more melt seasons is called a second-year or multiyear hummock field. Such older hummock fields can form large, thick and relatively strong floes.

2.5.5 Ridge. A line or wall of ice forced up by pressure. A ridge can vary in length from a few hundred meters to over a hundred kilometers. Many observers make a distinction between a pressure ridge which appears as a relatively short, somewhat irregular pile of ice and a shear ridge which appears as a sinuous mound of piled ice stretching relatively long distances across the ice. Shear ridges are created as a result of differential motion between two regional ice bodies (often the drift ice against fast ice). Very often a shear ridge consists of many parallel bands of piled ice, some with vertical walls 2 to 3 m in height. Pressure ridges are more local in nature and result from purely compressional forces within the ice. Ridges may be divided by age in the following way:

2.5.5.1 New Ridge. The ice blocks are simply piled together. Sharp blocks are piled at roughly a 40° angle of repose.

2.5.5.2 Consolidated Ridge. A ridge which has been exposed to sufficient cooling that its base has frozen together.

2.5.5.3 Aged Ridge (also known as second-year or multiyear ridge). A ridge which undergoes a melt season has brine drained from much of its ice. Furthermore, fresh melt water from the ridge sail (the exposed upper portion) tends to freeze together the ice blocks composing the keel of the ridge. This process continues with each melt season with the result that the ridge becomes stronger, both as a result of the filling of voids and the rejection of salt. During this process the surface appearance of the ridge becomes less angular and more gently-sloped.

2.5.6 Floeberg. This is a massive piece of ice, either a hummock field or a portion of a massive ridge system which has become frozen together. Floebergs with freeboards of 5 m have been observed.

2.6 TERMS RELATED TO GLACIAL ICE STRUCTURES AND FEATURES

2.6.1 Sources.

2.6.1.1 Glaciers are created by the accumulation of snow. There are a number of glacial forms. However, in all cases the accumulated snow is metamorphosed into ice through a process of compression, thawing and refreezing, and water vapor transport. The glacial ice then slowly advances downslope. In the case where a glacier enters the sea, it may be pushed sufficiently seaward that it is afloat.

2.6.1.2 Ice Shelves are defined as floating ice sheets of considerable thickness with a freeboard greater than 2 m. Ice shelves are distinguished from floating glaciers in that ice shelves are usually of great horizontal extent. An ice shelf can be created as a result of a number of processes or even the combination of several processes including: annual snow accumulation on the ice surface, growth of ice on the undersurface, and the seaward extension of glaciers from the surrounding land. The surface of an ice shelf is usually flat or gently undulating.

2.6.2 Nomenclature of Glaciers and Ice Shelves.

2.6.2.1 Glacier Tongue. This term is used to depict the seaward projection of a glacier. In some cases, portions of glacier tongues can be afloat. In Antarctica, glacier tongues may have dimensions on the order of tens of km in length.

2.6.2.2 Ice Wall. This term depicts the seaward margin of a glacier extending into the sea but which is not afloat. Thus, an ice wall extends to the sea floor.

2.6.2.3 Ice Front. This term depicts the seaward margin of either a floating glacier or an ice shelf.

2.6.3 Nomenclature of Ice Calved from Glaciers and Ice Shelves. The breaking away of a floating ice mass from an ice wall, an ice front, or another floating ice mass is called calving. In the following paragraphs the various designations for calved ice will be defined.

2.6.3.1 Icebergs. A massive piece of ice calved from an ice wall or ice front. Icebergs are usually irregular in shape and may be described as tabular, dome-shaped, sloping, pinnacled or weathered.

2.6.3.2 Tabular Berg and Ice Island. These terms have essentially identical definitions. Their distinction is that of location. Ice islands are found in the arctic ice pack while tabular bergs are found in the ice and open ocean surrounding Antarctica. Both features are flat-topped icebergs and can range in size from a few thousand square meters to over 100 square kilometers. They are usually characterized by a regularly undulating surface which gives them a ribbed appearance when viewed from above. Ice islands are calved from arctic ice shelves, while tabular bergs are usually calved from antarctic ice shelves and sometimes antarctic glaciers. Ice islands have a maximum freeboard on the order of 3-5 m while tabular icebergs can have significantly greater freeboards.

2.6.3.3 Bergy Bit. This term is used to signify a large piece of calved ice with a freeboard between 1 and 5 m and with an area between 100 and 300 m^2.

2.6.3.4 Growler. This term designates a piece of calved ice smaller in size than a bergy bit (less than 1 m freeboard and less than 100 m^2 in extent).

SECTION 3. PHYSICAL CHARACTERISTICS OF SEA ICE

3.1 ALBEDO

One of the most obvious physical characteristics of sea ice is the relative amount of visible light reflected from its surface. As the descriptions of ice types have shown, this factor - known as albedo - is an important quality when determining the early stages of ice growth. Here we will briefly summarize the relationship between albedo and ice thickness. This deals only with the albedo (in the visible spectrum) and ice thickness.

Albedo	Thickness	Type Designation
very low, ice areas appear dark against water surface	ice crystals contained within the water column up to 5 cm in thickness	New ice forms up to dark nilas stage
low, ice appears dark gray	between 5-10 cm in thickness	light nilas
moderately low, ice appears gray	between 10-15 cm in thickness	gray ice stage of young ice
moderate, ice appears light gray	between 15-30 cm in thickness	gray white ice stage of young ice
moderately high, ice appears very light gray when compared against snow covered ice	greater than 30 cm in thickness	first-year ice

Albedo values are tabulated, for example, in Shine and Henderson-Sellers, (1985) and Grenfell and Maykut, (1977).

3.2 SALINITY

The salinity of sea ice is an important characteristic. It plays a large role in determining the strength of ice and to some extent, reflects the age of a particular piece of ice.

Although sea water has a salinity in the vicinity of 35% , ice grown from sea water seldom has a salainity greater than 1/3 or 1/4 this value. In fact, frazil ice crystals are nearly pure water. However, when a mass of frazil crystals congeal to form nilas, they entrap pockets of sea water between them, some of which may have an elevated salt content caused by the expulsion of salts during the freezing of the frazil crystals. Measurements have shown that the top few centimeters of ice usually contain 8 to 10‰ because of this process. In general, the depth of this layer depends on the thickness of the frazil ice layer at the time of formation of nilas. This, in turn, is usually related to winds and sea state.(The deeper the surface supercooling layer, the more frazil ice formed. The greater the sea agitation, the longer frazil crystals accumulate before congealing.)

After the formation of the first crust of ice on the sea surface, the freezing process changes. In order to grow new ice on the undersurface of the nilas, heat must be conducted through the ice layer to the atmosphere. This will generally be an orderly process and will not result in a soup of frazil crystals in the water below the ice. The growth of crystals becomes much more orderly. The crystals are oriented so that the plates which form extend downward with their flat sides having a strong tendency to arrange themselves in a parallel fashion. The result of this growth pattern is to create the appearance of many vertical columns of ice grown together. This zone is called the *columnar region*. As a result of this more orderly growth pattern, less dissolved salt is entrapped and an average salinity of around 6‰ results after the crystals have grown in size sufficiently to fill most of the voids.

However, at any given time there will be a layer of incomplete crystal growth at the bottom of a growing ice cover. At its very bottom, this layer has the appearance of an open lattice. Since this lattice forms the skeleton around which ice crystals will grow, it is called the *skeletal layer*. Because this layer contains pockets of salt water which are not yet excluded, its salinity is somewhat higher (around 10‰) than it will be after it becomes part of the columnar zone. Hence, at any given time, one would expect to find a c-shaped profile of salinity with depth through a growing ice cover, with salinities around 10‰ at the top and bottom of the "c" and salinities around 6‰ in the middle of the "c".

3.2.1 *Variations in Salinity*. It should be pointed out that the description just presented is quite general in nature. For instance, the salinity in the center of the profile just discussed can easily vary by ±2‰ as the result of a number of factors, but largely related to the rate of crystal growth at the time of freezing and warming cycles during the winter. Furthermore, measurements have shown that the salinity at a given ice depth can vary by ±0.6‰ on the average over distances of a meter or two. Finally, not all water which becomes sea ice has a salinity as high as 35‰, and the ice which is subsequently formed from this water will have a correspondingly lower salinity.

3.2.2 Salinity vs. Age of Ice. It is well known that old ice (i.e. ice older than one melt season) has a greatly reduced salt content compared to first-year ice. The precise process by which this "freshening" of the ice takes place is a matter of current debate and may be actually the result of a number of processes. The end result, however, is a floe with nearly no salinity above sea level and a gradual increase to a salinity of around 3.0 to 3.5‰ with increasing depth below sea level. The overall average salinity for such a floe has a limiting value somewhere in the vicinity of 2‰.

3.3 STRENGTH OF SEA ICE

Obviously the strength of sea ice plays a major role with regard to navigation in icy waters. This characteristic is also an important factor to be considered in predicting sea ice behavior. The strength depends a great deal on the particular stress applied. The resistance to compressive stresses (the compressive strength) is much greater than the resistance to tensile stresses (the tensile strength). As a result, for any given thickness the ice is much more easily pulled apart than piled together.

3.3.1 Salinity and Temperature. The strength of sea ice is known to depend on its temperature and salt content. However, the measurement of ice strength is a difficult process, and the exact form of the relationship between ice strength and these factors has not been determined. In general, sea ice is weaker than freshwater ice and its strength increases as the salt content decreases. Furthermore, the strength of sea ice increases as its temperature decreases.

The theoretical concept describing the strength of sea ice is based on the observation that as ice is formed from sea water, the dissolved salts are excluded from the ice crystals during the freezing process.

However, some of the salts are trapped in brine pockets (giving first-year ice an overall salt content of around 5‰). Because of the salt content of these brine pockets, their freezing point is lowered and, therefore, they remain unfrozen. These unfrozen pockets yield an ice which is weaker than ice without pockets such as freshwater ice.

Theoretical models of ice strength vs temperature (Assur, 1958) have been based on the physics of processes within the brine pockets as the ice becomes colder. In general, as the brine within the pockets becomes colder, water is frozen out, creating smaller brine pockets and, thereby, increasing the strength of the ice.

In addition, from chemical principles it is known that when temperatures are sufficiently low, the dissolved salts precipitate out in the form of solid hydrates. It has been proposed that these solid hydrates add to the overall strength of the ice.

The first salt hydrate to precipitate should be that of sodium sulfate, $Na_2SO_4 10H_2O$ (the sulfate ion is the second most abundant dissolved salt ion in sea water at a concentration of 2.6‰, compared to a concentration of 19‰ for the chloride ion). Starting at -8.2° C the strength of ice should be increased by the presence of this precipitate. However, it is not clear how rapidly the strength increases.

The next salt hydrate to precipitate should be the hydrate of sodium chloride, $NaCl\ 2H_2O$. Theoretically, the precipitate of this hydrate should increase ice strength rather abruptly starting at -22.9° C.

Because ice strength is difficult to measure, and because of variations from sample to sample, there is a wide variation in measured strengths for each temperature. As a result, the data do not resemble lines, but rather envelopes. From the shape of the envelopes, it can be seen that ice strength increases with colder temperatures, but it is not possible to tell whether the formation of solid precipitates are responsible or whether the increase in strength is a result of the general decrease in the size of the brine pockets.

Figure I-1 (p. 7) shows data relating the tensile strength of ice and temperature for ice of two salinities. The strength can be seen to increase as temperatures are lowered and to increase more rapidly for ice with low salinities. The lower salinity used here (1-2‰) corresponds to multiyear ice while the upper salinity (7-9‰) corresponds to newly formed young ice. First-year ice has a salinity content between these two ranges. The ice samples used in these measurements were taken so that this strength measurement applies to the vertical direction within the ice.

It should be borne in mind that only the top surface of an ice layer will be at air temperature (or even higher if there is a snow cover) and that the temperature will increase down through the ice reaching the temperature of the water underneath (somewhere around -1.9° C) at the bottom surface. Furthermore, since snow has a heat conductivity only 1/10 that of ice, the temperature at the ice surface beneath the snow can be considerably greater than the air temperature, and the entire ice layer will be correspondingly warmer and, therefore, weaker.

3.3.2 Age. Since salinity decreases with age, it is reasonable to anticipate that strength increases with age. Figure I-1 shows that old ice can be between 10 and 40% stronger than first-year ice (depending on temperature and whether one is comparing strengths above or below sea level). However, this comparison is valid only for an ice floe. In the case of a pressure ridge or floeberg, the increase of strength with age can be much more pronounced. This results from the filling of voids both above and below sea level with fresh water ice during the melting and refreezing process. By this means, the relatively weak bonding between ice blocks in these features is greatly increased with age.

3.3.3 Loading Rate. Ice is a plastic substance and will deform under stress. As it deforms, the force required to break it becomes greater. If stress is applied slowly, its breaking strength becomes greater and it becomes able to withstand a larger stress before failing than if the stress were applied suddenly.

3.3.4 Strength vs. Size of Sample. The strength of sea ice depends a great deal on the size of the sample being measured (or the scale of the measurement). A great deal of work has been done in laboratories where relatively small samples (on the order of 10-100 cm in dimension) can be placed under stress in relatively controlled conditions. The failure strength is the pressure (force per unit area) at which the ice sample "fails" and ceases to offer resistance to applied stress. The greatest ice strengths are measured at this laboratory scale. This is largely because the samples tested have the greatest chance of being homogenous with few internal flaws along which failure can take place.

The next sample size is what might be called the field test scale. This size is determined by the amount of stress which can be applied to an ice test sample in the field under conditions which allow accurate measurement of the stress. This sample size varies over the range of 1 to 10 m in dimension. Some control over sample composition and thickness is possible, but other factors such as temperature cannot be controlled. Although such tests are more realistic, it is often difficult to acquire data over the entire range of desired parameters. The measurements of ice strength at field test scale tend to be lower than laboratory scale strength measurements because the samples generally contain more flaws and are less homogeneous than laboratory specimens.

A third sample size which produces crude but useful strength values for operational uses is on the order of 100 to 300 m. This sample size category might be called an operational scale. At this scale, floes are instrumented with stress transducers in anticipation of the floe either encountering a natural obstruction or the ramming of the floe by an ice-strengthened ship. These are very realistic measurements when considered full-scale tests (that is, the strength of a floe when encountering a man-made obstruction), but there are many difficulties involved.

The fourth sample size category is what would be called a regional scale. This is the scale generally of most interest to ice analysts. At this scale, the strength of an area of ice with dimensions on the order of 10 to 50 km is important. Typically, a region of ice not only contains floes of various thicknesses, but also leads and polynyas. Often large lead systems will be found frozen to states of thickness less than the first-year category (i.e. less than 30 cm). Obviously, as the ice is compressed, leads and polynyas will be closed rather easily. Following this, thinly frozen leads will be closed with the consequent ridging of the ice in the lead. Next, leads with thicker ice and thin floes will be piled in large ridges or hummock fields. Thus, a compressive force on the ice will encounter an increasing ice strength as the pack is compressed. This is a rather complicated strength relationship which requires measurements on a regional scale. The stress (force per unit area) on the ice is obtained by measurement of winds on the top surface and oceanic currents beneath. A new quantity, the strength modulus is found by measuring the strain (amount of compaction) from satellite imagery and baseline measurements and dividing the stress by the strain. True failure does not take place. (The entire ice pack does not suddenly shatter and pile up.) Instead, the stress required to produce further compaction increases as the compaction (strain) increases.

Numerically, the relationship can be expressed as follows:

$$\text{stress} = K \cdot \text{strain}$$

K is a property of the ice pack. For purely compressive forces, this equation implies the following relationship: the stress (force per unit area) equals the strength modulus, K, (also in units of force per unit area) times the strain (the compaction expressed as a fraction). For any given strain, a strength is implied. For instance, if the ice pack is compressed 5 km in 100 km, we have a strain of 1/20 and:

$$\text{strength (stress within the ice)} = K \cdot 1/20.$$

In practice, if one assumes the thickness of the ice pack to be its average thickness, the regional strength it acquires through compression never comes close to the failure strength of a laboratory sample. However, in those areas of the pack where stress is concentrated and ice is crushed and piled up, the stress applied is clearly greater than the ice failure strength.

3.3.5 Crystal Orientation. Another interesting property of sea ice is the orientation of the individual crystals of ice. As explained earlier, ice crystals form in flat platelets. These platelets result from a preferential growth pattern in the structure of the crystal. In order to provide a coordinate system for reference purposes, the direction perpendicular to that flat sides of the crystal is called the c-axis of the crystal. Thus, we can say that the crystal tends to grow in directions perpendicular to the c-axis.

When frazil crystals collect to form dark nilas, the c-axes are mostly in the horizontal plane (the crystals stand vertically) but they are oriented randomly in that plane (looking down, the platelets have random alignment). However, several observations of the columnar ice forming below the initial layer indicate that often after a transition zone, the c-axes are aligned, meaning that the surfaces of ice crystal platelets are growing parallel to each other. It is generally thought that this results from a preferential growth of ice crystals in the direction of the motion of the water which supplied material for crystal growth. In this way, the c-axis orientation within a floe would become a record of the floe's orientation relative to the currents beneath the ice.

Bibliography

Assur, A. (1958) Composition of sea ice and its tensile strength. In: Arctic Sea Ice Conference, Proceedings. National Academy of Sciences, National Research Council Publication 598, 69p.

Dykins, J.E. (1971) Ice engineering - material properties of saline ice for a limited range of conditions, final report, July 1969-May 1970. U.S. Naval Civil Engineering Laboratory. Technical Report no. R-720, 101p. NTIS no: AD-887 846.

Grenfell, T.C.; Maykut, G.A. (1977) Optical properties of ice and snow in the Arctic Basin. Journal of Glaciology, 18(80) p.445-463.

Michel, B. (1978) Ice Mechanics. Quebec, Presses de l'Universite Laval, 499p.

Pounder, E.R. (1965) Physics of Ice. Oxford, Pergamon Press, 151p.

Shine, K.P.; Henderson-Sellers, A. (1985) Sensitivity of a thermodynamic sea ice model to changes in surface albedo parameterization. Journal of Geophysical Research, v.90(D2) p.2243-2250.

Zubov, N.N. (1943) L'dy Arktiki. (Arctic Ice.) Moscow, Izdatel'stvo Glavsemorputi, 360p. English translation, 1974: U.S. Naval Oceanographic Office 217 and American Meteorological Society, 491p. NTIS no.: AD-426 972.

Marginal Ice Zone Bibliography

Introduction

This bibliography covers several major areas of marginal ice zone research: oceanography, ice, meteorology, remote sensing, and acoustics. Only biology is specifically excluded. The period of coverage extends from the early twentieth century through 1984.

We have attempted to be as comprehensive as possible by searching a variety of data sources and using broad subject categories. The major sources searched were:

<u>CITATION Data Base</u> (WDC/NSIDC)
<u>Cold Regions Bibliography</u>
<u>Compendex</u>
<u>Dissertation Abstracts</u>
<u>Groarchive</u>
<u>Meteorological and Geoastrophysical Abstracts</u>
<u>NTIS</u> (National Technical Information Service)
<u>Oceanic Abstracts</u>.

The bibliography is presented in two sections. The first listing is by subject category. The six category headings used are:

Oceanography	p.31	Remote Sensing	p.103
Ice	p.49	Acoustics	p.114
Meteorology	p.89	General	p.117

The second listing is an alphabetical sort by first author. Because we do not have all of the original material in hand, we cannot be certain of the completness of each citation although every effort has been made to ensure accuracy.

We would appreciate your comments on the bibliography - on citations we have not included, sources not searched, or subject areas that were not adequately covered. We hope to keep this bibliography current and your suggestions are welcome.

Ann M. Brennan
Compiler

OCEANOGRAPHY

Aagaard, K., L.K. Coachman, 1968: The East Greenland Current north of Denmark Strait. *Arctic*, 21, p.181-200 and p.267-290.

Aagaard, K., 1970: The wind-driven transports in the Greenland and Norwegian seas. *Deep-Sea Research*, 17, p.281-291.

Aagaard, K. 1979: Polar oceanography I: Arctic Ocean. *Reviews of Geophysics and Space Physics*, 17, p.1576-1578.

Aagaard, K., L.K. Coachman, E. Carmack, 1981: On the halocline of the Arctic Ocean. *Deep Sea Research*, 28, p.529-545.

Adrov, N.M., 1982: Zimniaia s"emka iugo-vostochni chasti Barentseva moria. (Winter surveys of the southeastern Barents Sea.) In: *Kompleksnye Issledovaniia Prirody Severnykh morei*. (Complex investigations of the nature of northern seas) (V.N. Shirokolobov, ed.), p.17-20.

Aizatullin, T.A., M. Nazirov, 1972: Ledovye "vikhri" na morskoi poverkhnosti. (Ice "eddies" on the sea surface.) *Priroda*, no.9, p.101-102.

Alekseev, G.V., A.IA. Buzuev, 1973: Ob evoliutsii sistemy led-poverkhnostnyi sloi okeana v raione dreifa stantsii Severnyi Polius-16. (Evolution of the ice-ocean surface system near the drift station Severnyi Polius-16. *Problemy Arktiki i Antarktiki*, 42, p.37-43.

Alexander, V., H.J. Niebauer, 1981: Oceanography of the eastern Bering Sea ice-edge zone in spring. *Limnology and Oceanography*, 26(6), p.1111-1125

Allison, I., 1981: Antarctic sea ice growth and oceanic heat flux. In: *Sea Level, Ice and Climatic Change, Symposium, 7-8 December 1979. Proceedings*. (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication No. 131, p.161-170.

Amos, A.F., 1982: Physical oceanography of the southwestern Ross Sea, January 1982. *Antarctic Journal of the U.S.*, 17(5), p.146-148.

Amstutz, D.E. 1977: *Stereophotogrammetric reconnaissance of ocean wave/sea ice interaction*. Corvallis, Oregon State University. Ph.D. dissertation, 172p.

Anderson, B.G., W.F. Weeks, J.L. Newton, (eds.), 1980: The seasonal sea ice zone. Proceedings of an International Workshop. *Cold Regions Science and Technology*, 2, 357p.

Augstein, E., 1984: Overview on "POLARSTERN's" activities. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.12-13.

Baker, J.D., 1979: Polar oceanography, 2, Southern Ocean. Reviews of Geophysics and Space Physics, 17, p.1578-1585.

Berezin, O.N., B.V. Ivanov, 1983: Studying temperature and salinity fields in the marginal zone of the Greenland Sea. Leningrad. Universitet. Vestnik, 18(3), p.101-103. (In Russian with English summary.)

Blinov, N.I., S.V. Kochetov, 1978: Vliianie molodogo l'da na teploobmen mezhdu okeanom i atmosferoi v Arkticheskom basseine zimoi. (Influence of young ice on winter heat exchange between ocean and atmosphere in the Arctic basin.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.349, p.98-103.

Bogorodskii, V.V., V.P. Tripol'nikov, 1974: Differential electromagnetic characteristics at the interface between ice and water in the ocean. Soviet Physics. Technical Physics, 19(4), p.526-528.

Bogorodskii, V.V., V.P. Tripol'nikov 1979: Contrast of electromagnetic characteristics at the marine ice-water boundary. U.S. Army. Cold Regions Research and Engineering Laboratory. Translation 706, 6p.

Bourke, R.H., 1983: Currents, fronts and fine structure in the marginal ice zone of the Chukchi Sea. Polar Record, 21(135), p.569-575.

Buckley, J.R., T. Gammelsrod, A. Johannessen, O.M. Johannessen, L.P. Roed, 1979: Upwelling: oceanic structure at the edge of the Arctic ice pack in winter. Science, 203, p.165-167.

Bukatov, A.E., L.V. Cherkesov, 1974: Influence of ice cover on internal waves generated by atmospheric disturbances in a continuously stratified sea.) Problems of the Arctic and the Antarctic, 43-44, p.130-138.

Bukatov, A.E., L.V. Cherkesov, 1974: Vliianie ledianogo pokrova na vnutrennie volny generiruemye atmosfernymi vozmushcheniiami v nepreryvno stratifitsirovannom more. (Ice cover effect on the internal waves generated by atmospheric disturbances in a continuously stratified sea.) Problemy Arktiki i Antarktiki, 43-44, p.106-111.

Bunkin, F.V., K.I. Voliak, G.A. Liakhov, V.V. Panenko, I.V. Shugan, 1983: Trassovye izmereniia morskogo volneniia samoletnym lokatorom bokovogo obzora. (Route measurements of sea roughness by side-looking airborne radar.) Issledovanie Zemli iz Kosmosa, no.5, p.22-31.

Campbell, W.J., S. Martin, 1973: Oil and ice in the Arctic Ocean: possible large-scale interactions. Science, 181, p.56-58.

Carmack, E.C., K. Aagaard, 1973: On the deep water of the Greenland Sea. Deep-Sea Research, 20, p.687-715.

Carmack, E.C., T.D. Foster, 1975: Circulation and distribution of oceanographic properties near the Filchner Ice Shelf. Deep-Sea Research, 22, p.77-90.

Carmack, E.C., T.D. Foster, 1975: On the flow of water out of the Weddell Sea. Deep-Sea Research, 22, p.711-724.

Carmack, E.C., 1977: Water characteristics of the Southern Ocean south of the Polar Front. In: A Voyage of Discovery. George Deacon 70th Aniversary Volume, (M. Angel, ed.), Pergamon Press, Oxford, p.15-41.

Coachman, L.K., C.A. Barnes, 1961: The contribution of Bering Sea water to the Arctic Ocean. Arctic, 14, p.146-161.

Coachman, L.K., 1968: Physical Oceangraphy of the Arctic Ocean: 1965. In: Symposium on Arctic Drifting Stations, Warrenton, Va., April 12-15, 1966. Proceedings, Arctic Institute of North America, p.255-280.

Coachman, L.K., K. Aagaard, 1974: Physical oceanography of arctic and subarctic seas. In: Marine Geology and Oceanograpahy of the Arctic Seas, (Y. Herman, ed.), Springer-Verlag, New York, p.1-72.

Coachman, L.K., K. Aagaard, R.B. Tripp, 1975: Bering Strait: The Regional Physical Oceanography. University of Washington Press, Seattle, 1972p.

Colony, R., 1978: Daily rate of strain of the AIDJEX manned triangle. AIDJEX Bulletin, 39, p.85-110.

Colony, R., D.A. Rothrock, 1980: A perspective of the time-dependent response of the AIDJEX model. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.124-133.

Csanady, G.T., 1981: Circulation in the coastal ocean, Part I. EOS, 62, p.9-11.

Deacon, G.E.R., 1937: The hydrology of the Southern Ocean. Discovery Reports, 15, p.1-124.

Deacon, G.E.R., 1982: Physical and biological zonation in the Southern Ocean. Deep-Sea Research, 20(1A), p.1-15.

Dean, C.H., 1966: The attenuation of ocean waves near the open ocean/pack-ice boundary (abstract). In: Symposium on Antarctic Oceanography, Scott Polar Research Institute, Cambridge, p.221-222.

Doronin, IU.P., V.I. Sychev, 1974: Formirovanie ledianogo pokrova kak produkta vzaimodeistviia atmosfery i okeana. (Ice cover formation as a result of ocean-atmosphere interaction.) Problemy Arktiki iAntarktiki, 43-44, p.18-27.

Doronin, IU.P., V.I. Sychev, 1974: Ice cover as a product of ocean-atmosphere interaction. Problems of the Arctic and the Antarctic, 43-44, p.18-30.

Dzheniuk, S.L., 1977: Metod rascheta polei volneniia v Barentsevom, Norvezhskom i Grenlandskom moriakh. (Method of wave field calculation in the Barents, Greenland and Norwegian Seas.) Problemy Arktiki i Antarktiki, 52, p.82-86.

Dzheniuk, S.L., 1982: Method of determining wave fields in the Barents, Norwegian and Greenland Seas. Problems of the Arctic and the Antarctic, 52, p.101-107.

Egorov, K.L., 1977: Tsirkuliatsiia vodnykh mass v tsentral'noi chasti Arkticheskogo basseina. (Water mass circulation in the central part of the Arctic Basin.) Problemy Arktiki i Antarktiki, 49, p.15-23.

Einarsson, T., 1972: Sea currents, ice drift and ice composition in the East Greenland current. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.23-32.

Essen, H.-H., 1984: Surface currents measured by means of CODAR. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.49.

Fofonoff, N.P., 1956: Some properties of sea water influencing the formation of Antarctic bottom water. Deep-Sea Research, 4, p.32-35.

Foldvik, A. and T.K. Kvinge, 1974: Conditional instability of sea water at the freezing point. Deep-Sea Research, 21, p.169-174.

Foster, T.D., 1968: Haline convection induced by freezing of sea water. Journal of Geophysical Research, 73, p.1933-1938.

Foster, T.D., 1969: Experiments on haline convection induced by freezing of sea water. Journal of Geophysical Research, 74, p.6967-6974.

Foster, T.D., 1972: Haline convection in leads and polynas. Journal of Physical Oceanography, 2, p.462-469.

Foster, T.D., E.C. Carmack, 1976: Frontal zone mixing and Antarctic bottom water formation in the southern Weddell Sea. Deep-Sea Research, 23, p.301-317.

Foster, T.D., E.C. Carmack, 1976: Temperature and salinity structure in the Weddell Sea. Journal of Physical Oceanography, 6, p.36-44.

Foster, T.D., 1978: Polar oceans: Similarities and differences in their physical oceanography. In: Polar Research: To the Present and the Future, (M. McWhinnie, ed.), Westview Press, p.117-140.

Foster, T.D., J.H. Middleton, 1980: Bottom water formation in the Weddell Sea. Deep-Sea Research, 27, p.367-382.

Foster, T.D., 1984: Small and mesoscale processes in the Summer marginal ice zone experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.29.

Gabov, S.A., A.G. Sveshnikov, 1982: O difraktsii vnutrennikh voln na kromke ledovogo polia. (Diffraction of internal waves at the edge of an ice field.) Akademiia Nauk SSSR. Doklady, 265(1), p.16-20.

Gade, H.G., R.A. Lake, E.L. Lewis, E.R. Walker, 1974: Oceanography of an Arctic bay. Deep-Sea Research, 21(7), p.547-571.

Gade, H.G., 1979: Melting of ice in sea water. A primitive model with applications to the Antarctic ice shelf and icebergs. Journal of Physical Oceanography, 9, p.189-198.

Galt, J.A., 1973: A numerical investigation of Arctic Ocean dynamics. Journal Physical Oceanography, 3, p.379-396.

Garrison, G.R., P. Becker, 1976: The Barrow Submarine Canyon: a drain for the Chukchi Sea. Journal of Geophysical Research, 81, p.4445-4453.

Gascard, J.C., 1984: Lagrangian floats experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.27-28.

Georgi, D.T., 1978: Finestructure in the Antarctic Polar Front Zone: Its characteristics and possible relationship to internal waves. Journal of Geophysical Research, 83, p.4579-4588.

Gill, A.E., J.S. Turner, 1969: Some new ideas about the formation of Antarctic bottom water. Nature, 224, p.1287-1288.

Gill, A.E., 1973: Circulation and bottom water production in the Weddell Sea. Deep-Sea Research, 20, p.111-140.

Gladfelter, W.H., 1964: Oceanography of the Greenland Sea, USS "Atka" (AGB-3) survey, summer 1962. U.S. Naval Oceanographic Office, Informal ms report 0-64-63, 159p.

Goodman, D.J., P. Wadhams, V.A. Squire, 1980: The flexural response of a tabular ice island to ocean swell. Annals of Glaciology, 1, p.23-28.

Gorbunov, IU.A., S.M. Losev, 1979: Izmenchivost' temperatury poverkhnosti moria (po materialam radiatsionnykh izmerenii s samoleta). (Variation of sea surface temperature [from airborne radiation measurements].) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 361, p.47-54.

Gordon, A.L., 1971: Oceanography of Antarctica water. In: Antarctic Oceanography 1, (J.L. Reid, ed.), American Geophysical Union, Antarctic Research Series, 15, p.169-203.

Gordon, A.L., P. Tchernia, 1972: Waters of the continental margin off Adelie Coast, Antarctica. In: Antarctic oceanography II: The Australian-New Zealand sector, (D.E. Hayes, ed.), American Geophysical Union, Antarctic Research Series, 9, p.59-69.

Gordon, A.L., 1974: Varieties and variability of Antarctic bottom water. Processus de formation des eaux oceaniques profondes. In: Colloques Internationale du Centre National de la Recherche Scientifique, no. 215, p.33-47.

Gordon, A.L., H.W. Taylor, 1975: Seasonal change of Antarctic sea ice cover. Science, 187, p.346-347.

Gordon, A.L., H.W. Taylor, D.T. Georgi, 1977: Antarctic oceanographic zonation. In: Polar Oceans, (M. Dunbar, ed.), Arctic Institute of North America, p.45-76.

Gordon, A.L., 1978: Deep Antarctic convection west of Maud Rise. Journal of Physical Oceanography, 8, p.600-612.

Gordon, A.L., E. Molinelli, T. Baker, 1978: Large-scale relative dynamic topography of the Southern Ocean. Journal of Geophysical Research, 83, p.3023-3032.

Gordon, A.L., 1981: Seasonality of Southern Ocean sea ice. Journal of Geophysical Research, 86(C5), p.4193-4197.

Gordon, A.L., E. Molinelli, T. Baker, 1981: Southern Ocean Atlas. Columbia University Press.

Gordon, A.L., D.G. Martinson, H.W. Taylor, 1981: The wind-driven circulation in the Weddell-Enderby Basin. Deep-Sea Research, 28, p.151-163.

Gordon, A.L., B.A. Huber, 1982: Physical oceanography during WEPOLEX-81. Antarctic Journal of the U.S., 17(5), p.98-100.

Gordon, A.L., 1983: Polar oceanography. Reviews of Geophysics and Space Physics, 21(5), p.1124-1131.

Graham, G.P., R.G. Paquette, R.H. Bourke, 1978: Finestructure, fronts and currents in the Pacific Marginal Sea-Ice Zone--MIZPC 77. U.S. Naval Postgraduate School. Report, NPS68-78-006, 90p. NTIS no. AD-A058 509.

Gratz, A.J., C.L. Parkinson, 1981: Oceanographic influences on the sea ice cover in the Sea of Okhotsk. U.S. National Aeronautics and Space Administration. Report, TM-82085, 22p. NTIS no. N81-19734.

Griesman, P., 1979: On upwelling driven by the melt of ice shelves and tidewater glaciers. Deep-Sea Research, 26, p.1051-1066.

Gudkovich, Z.M., I.F. Romantsova, 1979: Rezul'taty gidrologicheskikh nabliudenii i raschet teplovogo balansa raiona iugo-vostochnoi chasti moria Laptevykh. (Hydrologic observations and the calculation of heat balance in the southeastern part of the Laptev Sea.) In: Poleks-Sever-76 (nauchnye rezul'taty) Chast' II, (A.F.Treshnikov, ed.), Leningrad, Gidrometeoizdat, p.38-44.

Hakkinen, S., 1984: Dynamics of the coupled ice-ocean system in the marginal ice zone: study of the mesoscale processes and of constitutive equations for sea ice. Florida. State University. Mesoscale Air-Sea Interaction Group, Geophysical Fluid Dynamics Institute. Technical Report, 95p.

Hanzlick, D., K. Aagaard, 1980: Freshwater and Atlantic water in the Kara Sea. Journal of Geophysical Research, 85, p.4937-4942.

Helland-Hansen, B., F. Nansen, 1909: The Norwegian Sea. Its physical oceanography based upon the Norwegian researches 1900-1904. Norwegian Fishery and Marine Investigations, Report, 2, pt. 1(2), 390p.

Henry, C.J., 1968: Wave-ice interaction - model experiments. Stevens Institute of Technology, Davidson Laboratory, Report 1314, 34p.

Hibler, W.D., III, S.F. Ackley, 1983: Numerical simulation of the Weddell Sea pack ice. Journal of Geophysical Research, 88(C5), p.2873-2887.

Hibler, W.D., III, K. Bryan, 1984: Large-scale ice/ocean model for the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.1-7.

Hibler, W.D., III, K. Bryan, 1984: Ocean circulation: its effect on seasonal sea-ice simulations. Science, 224(4648), p.489-492.

Hood, D.W., J.A. Calder, (eds.), 1980: The Eastern Bering Sea Shelf: Oceanography and Resources, 2 v. U. S. Department of Commerce, Washington, DC, 62 p., 1339p.

Horgan, M.J, D.R. Davis, 1982: Variable depth oceanic mixed layer interaction in a general circulation model. EOS, 63(51), p.1299.

Hufford, G.L., 1974: On apparent upwelling in the southern Beaufort Sea. Journal of Geophysical Research, 79, p.1305-1306.

Hunkins, K.L., 1974: Subsurface eddies in the Arctic Ocean. Deep-Sea Research, 21, p.1017-1033.

Hunkins, K., 1975: The oceanic boundary layer and stress beneath a drifting ice flow. Journal of Geophysical Research, 80, p.3425-3433.

Hunkins, K., 1975: Oceanographic program for the AIDJEX main experiment. AIDJEX Bulletin, no.28, p.48-59.

Hunkins, K., 1977: Review of the AIDJEX oceanographic program. In: *Symposium on Sea Ice Processes and Models, September 6-9, 1977, Proceedings*, Seattle, University of Washington, vol.1, p.199-211.

Hunkins, K., 1984: MIZEX 83. In: *MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report*, 84-28, p.47-52.

Hunkins, K., 1984: Current and temperature data from instrument moorings in Fram Strait during MIZEX 83. *Columbia University. Lamont-Doherty Geological Observatory. Technical Report LDGO*-84-1, 80p.

Huppert, H.E. and J.S. Turner, 1978: On melting icebergs. *Nature*, 271, p.46-48.

Huppert, H.E. and J.S. Turner, 1981: Double-diffusive convection. *Journal of Fluid Mechanics*, 106, p.299-329.

IAnes, A.V., 1979: Termicheskoe sostoianie vod severnoi chasti Grenlandskogo moria v fevrale 1972 g. (po dannym razreza Barentsburg-kromka l'da). (Thermal state of waters in the northern Greenland Sea in February 1972 [from data obtained along the Barentsburg-ice edge cross-section].) *Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy*, 361, p.37-42.

Jacobs, S.S., A.F. Amos, P.M. Bruchhausen, 1970: Ross Sea oceanography and Antarctic bottom water formation. *Deep-Sea Research*, 17, p.935-962.

Jacobs, S.S., D.T. Georgi, 1977: Observations on the Southwest Indian/Antarctic Ocean. In: *Voyage of Discovery*, (M.V. Angel, ed.), *Deep-Sea Research* supplement to Vol. 24, p.43-84.

Jacobs, S.S., A.L. Gordon, J.L. Ardai, 1979: Circulation and melting beneath the Ross Ice Shelf. *Science*, 203, p.439-443.

Johannessen, J.A., O.M. Johannessen, 1983: *CTD data report from Marginal Ice Zone Experiment (MIZEX) in the Fram Strait region in June-August, 1983.* University of Bergen, Norway. Geophysical Institute, Division A. Physical Oceanography, Volumes I, II, and III.

Johannessen, J.A., 1984: MIZEX oceanography cruise report from R/V HAKON MOSBY. In: *MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report* 84-29, p.43-46.

Johannessen, O.M. and L.A. Foster, 1978: A note on the topographically controlled oceanic polar front in the Barents Sea. *Journal of Geophysical Research*, 83, p.4567-4571.

Johannessen, O.M., et al. 1983: *MIZEX 83 current, temperature and salinity measurements from drifting ice floes.* University of Bergen, Norway. Geophysical Institute, Division A. Physical Oceanography, 87p.

Johannessen, O.M.; J.A. Johannessen, J. Morison, B.A. Farrelly, E.A.S. Svendsen, 1983: Oceanographic conditions in the marginal ice zone north of Svalbard in early fall 1979 with an emphasis on mesoscale processes. Journal of Geophysical Research, 88(C5), p.2755-2769.

Johannessen, O.M., B.A. Farrelly, 1984: AXBT and SONA buoy drops from a Royal Norwegian Air Force P-3. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.54-56.

Jones, E.P., L.G. Anderson, 1984: Chemical oceanography in the Greenland Sea. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.21-22.

Joyce, T.M., W. Zenk, T.M. Toole, 1978: The anatomy of the Antarctic polar front in the Drake Passage. Journal of Geophysical Research, 83, p.6093-6113.

Karrer, A.E., 1975: Descriptive and Dynamic Oceanography of the Mesostructure Near Arctic Ice Margins. U.S. Naval Postgraduate School, Monterey, CA., Master's Thesis, 91p. NTIS no. AD-A018 328.

Kiilerich, A.B., 1945: On the hydrography of the Greenland Sea. Meddelelser om Gronland, 144(2), 63p.

Killworth, P.D., 1973: A two-dimensional model for the formation of Antarctic bottom water. Deep-Sea Research, 20, p.941-971.

Killworth, P.D., 1977: Mixing on the Weddell Sea continental slope. Deep-Sea Research, 24, p.427-448.

Killworth, P.D., 1979: On the 'chimney' formations in the oceans. Journal of Physical Oceanography, 9, p.531-554.

Koltermann, K.P., 1984: PI report, CTD Group, POLARSTERN. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.14-17.

Kosarev, A.N., V.A. Ivanov, S.M. Perminov, V.N. Shiriaev, 1973: Gidrologicheskie usloviia v raione kromki l'da v Kaspiiskom more. (Hydrological conditions near the ice edge in the Caspian Sea.) In: Issledovaniia L'dov Iuzhnykh Morei SSSR, Moscow, Nauka, p.99-112.

Kosarev, A.N., V.A. Ivanov, V.N. Shiriaev, 1973: O sviazi gidrologicheskikh uslovii s ledovoi obstanovkoi v severnom Kaspii v fevrale 1971 g. (Relationship between the hydrological and ice conditions in the northern Caspian Sea in February 1971.) In: Issledovaniia L'dov Iuzhnykh Morei SSSR, Moscow, Nauka, p.113-124.

Kosarev, A.N., IU.R. Malbandov, V.M. Sokol'skii, 1979: Osobennosti okeanologicheskikh kharakteristik v raione kromki l'da v Kaspiiskom more. (Oceanographic characteristics in the Caspian Sea near the ice edge.) Kompleksnye Issledovaniia Prirody Okeana, 6, p.170-180.

Kozo, T.L., 1983: Intitial model results for Arctic mixed layer circulation under a refreezing lead. Journal of Geophysical Research, 88(C5), p.2926-2934.

Kupetskiy, V.N., 1958: Stationary polynyi in seas which freeze (causes and distribution). Leningrad. Universitet. Vestnik. Seriia Geologii i Geografi, 12(2), p.172-183. (In Russian).

Kuznetsov, I.M., 1978: Izmenenie temperatury vody v prikromochnoi zone arkticheskikh morei. (Changes in water temperature near ice edges of Arctic seas.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 354, p.5-12.

Lake, R.A., 1967: Heat exchange between water and ice in the Arctic Ocean. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 16(2/3), p.242-259.

Leblond, P.H., 1980: On the surface circulation in some channels of the Canadian Arctic Archipelago. Arctic, 33(1), p.189-198.

LeBlond, P.H., 1982: Satellite observations of Labrador Current undulations. Atmosphere-Ocean, 20(2), p.129-142.

Legeckis, R., 1978: A survey of worldwide sea surface temperature fronts detected by environmental satellites. Journal of Geophysical Research, 83, p.4501-4522.

Leschack, L.A., R.A. Haubrich, 1964: Observations of waves on an ice-covered ocean. Journal of Geophysical Research, 69, p.3815-3821.

Leschack, L.A., 1965: On the generation and directional recording of waves in the Arctic Ocean. U.S. Naval Oceanographic Office, Technical Report, TR-179, 44p.

Loeng, H., 1980: Physical oceanographic investigations in central parts of the Barents Sea, July 1979. Fisken og Havet, p.29-60.

Mackintosh, N.A., 1946: The Antarctic convergence and the distribution of surface temperature in Antarctic waters. Discovery Reports, 23, p.117-212.

Malmberg, S.A., U. Stefansson, 1972: Recent changes in the water masses of the East Icelandic Current. Conseil Internationale pour l'Exploration de la Mer, Rapports et Proces Verbaux, 162, p.196-200.

Mamayev, O.I., 1977: Greenland Sea water: Entropy of statistical T-S distribution. In: Polar Oceans, (M. Dunbar, ed.), Arctic Institute of North America, p.191-206.

Mandel', S.Z., 1978: O sezonnykh i mezhgodovykh kolebaniiakh postupleniia tepla atlanticheskikh vod v Arkticheskii bassein. (Seasonal and annual variations of heat inflow from the Atlantic into the Arctic basin.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 349, p.50-54.

Manley, T., 1981: Eddies of the western Arctic Ocean: Their Characteristics and Importance to the Energy, Heat and Salt Balance. Columbia University, Ph.D. dissertation, 212p.

Manley, T., 1984: Lamont cruise report - MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.18.

Martin, S., P. Kauffman, 1974: The evolution of under ice melt ponds, or double diffusion at the freezing point. Journal of Fluid Mechanics, 64, p.507-527.

Martin, S., P. Kauffman, 1981: A field and laboratory study of wave damping by grease ice. Journal of Glaciology, 27(96), p.283-313.

Martinson, D.G., P.D. Killworth, A.L. Gordon, 1981: A convective model of the Weddell polynya. Journal of Physical Oceanography, 11, p.466-488.

Maul, G.A., 1973: Remote sensing of ocean currents. U.S. National Aeronautics and Space Administration. Atlantic Oceanographic and Meteorological Laboratories. Report, NASA-CR-133147, 24p. NTIS no. E73-10780.

McGrath, J.R., 1976: Depth and seasonal dependence of ambient sea noise near the marginal ice zone of the Greenland Sea. U.S. Naval Research Laboratory. Report, 7819-REV, 32p. NTIS no. AD-A025 212.

McPhee, M.G., 1978: Effect of the oceanic boundary layer on the mean drift of pack ice: application of a simple model. AIDJEX Bulletin, no.39, p.1-31.

McPhee, M.G., 1980: Heat transfer across the salinity-stabilized pycnocline of the Arctic Ocean. In: International Symposium on Stratified Flows, 2nd, Trondheim, Norway. Proceedings, (T. Carstens and T. McClimans, eds.), p.527-537.

McPhee, M.G., 1980: Physical oceanography of the seasonal sea ice zone. Cold Regions Science and Technology, 2, p.116-118.

McPhee, M.G., 1983: Turbulent heat and momentum transfer in the oceanic boundary layer under melting pack ice. Journal of Geophysical Research, 88(C5), p.2827-2835.

McPhee, M.G., 1984: POLAR QUEEN drift, MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.23-26.

McPhee, M.G., 1984: POLAR QUEEN turbulence frame experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.35-37.

Mileiko, G.N., 1973: Prognoz raspredeleniia temperatury vody i polozheniia kromki l'da v Beringovom more v kholodnuiu chast' goda. (Forecasting water temperature distribution and ice edge location in the Bering Sea during the cold part of the year.) Leningrad. Gidrometeorologicheskii Nauchno-Issledovatel'skii Tsentr SSSR. Trudy, 127, p.100-104.

Mitchell, P.A., 1979: Eastern Arctic area 15- and 30-day ice forecasting guide. U.S. Naval Oceanographic Office. Special Report, NOO-SP-266, 263p. NTIS no. AD-A072 930.

Monahan, E.C., P.A. Bowyer, 1984: Arctic whitecapping: Preliminary results. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.53-56.

Monahan, E.C., 1984: Whitecap observations and associated measurements during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.96-97.

Morison, J., 1984: Arctic profiling system observations. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.34.

Moritz, R.E., 1979: Nonlinear analysis of a simple sea ice-ocean temperature oscillator model. Journal of Geophysical Research, 84(C8), p.4916-4920.

Moritz, R.E., 1979: Synoptic climatology of the Beaufort Sea coast of Alaska. Colorado. University. Institute of Arctic and Alpine Research, Occcasional Paper No. 3, 176p.

Mork, M., 1975: Upwelling possibilities at an ice edge homogeneous model. Marine Science Communications, 1(2), p.115-145.

Mosby, H., 1934: The waters of the Atlantic Antarctic Ocean. Scientific Results of the Norwegian Antarctic Expeditions 1927-1928, I(11), 131p.

Mosby, H., 1938: Svalbard waters. Geofysiske Publikasjoner, 12(4), 85p.

Mosby, H., 1962: Water, salt, and heat balance of the North Polar Sea and of the Norwegian Sea. Geofysiske Publikasjoner, 24(11), p.289-313.

Muench, R.D., 1983: Mesoscale oceanographic features associated with the central Bering Sea ice edge: February-March 1981. Journal of Geophysical Research, 88(C5), p.2715-2722.

Muench, R.D., P.H. LeBlond, L.E. Hachmeister, 1983: On some possible interactions between internal waves and sea ice in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2819-2826.

Muench, R.D., L.E. Hachmeister, 1984: Internal wave forces on ice keels in the marginal ice zone: some preliminary laboratory results. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.83-89.

Muench, R.D., 1984: Long-term current moorings in the East Greenland current - East Greenland Polar front system. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.19-20.

Nansen, F., 1902: The oceanography of the North Polar Basin. The Norwegain Polar Expedition 1893-1896, Scientific Results, 3(9), 427p.

Nansen, F., 1915: Spitsbergen waters. Videnskapsselskapets Skrifter, I. Matematisk-Naturvidenskapelig Klasse, 2, 132p.

National Research Council, Ad Hoc Working Group on Antarctic Oceanography, 1974: Southern Ocean Dynamics: a Strategy for Scientific Exploration, 1973-1983. Washington, D.C., National Academy of Sciences, 52p.

Nazirov, M.G., V.G. Trofimova, 1982: Nekotorye cherty prostranstvennoi struktury ledianogo pokrova arkticheskikh morei v sviazi s turbulentnym treniem i geostroficheskim zakhvatom prilivnoi volny. (Some features of the space structure of ice covers in Arctic seas related to turbulent friction and geostrophic capture of tidal waves.) In: Issledovaniia Arktiki, Antarktiki i Mirovogo Okeana, (E.I. Tolstikov, N.A. Kornilov, eds.), Leningrad, Gidrometeoizdat, p.117-121.

Nikolaev, S.G., 1973: Opyt organizatsii okeanograficheskikh issledovanii v prikromochnoi oblasti Chukotskogo moria. (Organizing oceanographic investigations near the ice edge of the Chukchi Sea.) Problemy Arktiki i Antarktiki, 42, p.31-36.

O'Brien, J.J., 1975: Upwelling in the ocean: two- and three-dimensional models of upper ocean dynamics and variability. In: Modelling and Prediction of the Upper Layers of the Ocean. NATO Advanced Study Institute, Urbino, Italy, (E.Bradshaw, ed.), Pergamon Press, p.178-228.

Ono, N. 1983: Heat flow from water to ice at lower surface of sea ice. Low Temperature Science (Teion Kagaku). Series A Physical Sciences, 42, p.175-178. (In Japanese.)

Oradovskii, S.G., A.E. Filonov, 1972: Nekotorye dannye po khimii l'dov i prilednykh vod Severnogo Kaspiia. (Some data on the chemistry of ice and near-ice waters in the north Caspian Sea.) Moscow. Vsesoiuznyi Nauchno-Issledovatel'skii Institut Morskogo Rybnogo Khoziaistva i Okeanografii. Trudy, 75, p.74-79. (In Russian with English summary.)

Paquette, R.G., R.H. Bourke, 1974: Observations on the coastal current of Arctic Alaska. Journal of Marine Research, 32(2), p.195-207.

Paquette, R.G., R.H. Bourke, 1976: Oceanographic Investigation of the Marginal Sea-Ice Zone of the Chukchi Sea: MIZPAC 1974 Final Report, 10 June 1974 - 30 June 1975. Monterey, CA, U.S. Naval Postgraduate School, 126p. NTIS no. AD-A025-854.

Paquette, R.G., R.H. Bourke, 1976: Oceanography of the marginal sea-ice zone. U.S. Office of Naval Research. Naval Research Reviews, 29(2), p.29-30.

Paquette, R.G., R.H. Bourke, 1978: Temperature fronts in the marginal sea ice zone of the Chukchi Sea. EOS, 59(12), p.1091-1092.

Paquette, R.G., R.H. Bourke, 1979: Oceanographic Cruise of the USCGC (Glacier) to the Marginal Sea-Ice Zone of the Chukchi Sea--MIZPAC 78. Interim report for period July 1978-May 1979. Monterey, CA, U.S. Naval Postgraduate School, 77p.

Paquette, R.G., R.H. Bourke, 1979: Temperature fine structure near the sea-ice margin of the Chukchi Sea. Journal of Geophysical Research, 84(C3), p.1155-1164.

Pease, C.H., R.D. Muench, 1981: Cruise along ice edges in Bering Sea yields data on effects of gale. Coastal Oceanography and Climatology News, 3(4), p.43-45.

Pease, C.H., S.A. Salo, J.E. Overland, 1983: Drag measurements for first-year sea ice over a shallow sea. Journal of Geophysical Research, 88(C5), p.2853-2862.

Ponomarev, V.I., L.A. Gazova, 1982: Model' formirovaniia temperaturnykh anomalii v Severnom Ledovitom okeane. (Modeling temperature anomalies in the Arctic Ocean.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 459, p.112-120.

Potocsky, G.J., 1975: Alaskan area 15- and 30-day ice forecasting guide. U.S. Oceanographic Office. Report, NOO-SP-263, 197p. NTIS no. AD-A010 527.

Quadfasel, D., H. Baudner, P. Damm, K. Schulze, 1984: Hydrographic and current observations in the Eastern Fram Straits, R/V VALDIVIA. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.47-48.

Rapley, C.G., 1984: First observations of the interaction of ocean swell with sea ice using satellite radar altimeter data. Nature, 307(5947), p.150-152.

Reynolds, M., C.H. Pease, 1984: Drift characteristics of northeastern Bering Sea ice during 1982. U.S. National Oceanic and Atmospheric Administration. Technical Memorandum, ERL PMEL-55, 135p. NTIS no. PB84-213982.

Roed, L.P., J.J. O'Brien, 1983: Coupled ice-ocean model of upwelling in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2863-2872.

Roed, L.P., 1983: Sensitivity studies with a coupled ice-ocean model of the marginal ice zone. Journal of Geophysical Research, 88(C10), p.6039-6042.

Roed, L.P., O.M. Smedstad, 1984: Mesoscale coupled ice/ocean modeling of the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.37-42.

Roed, L.P., 1984: A thermodynamic coupled ice-ocean model of the marginal ice zone. Journal of Physical Oceanography, 14(12), p.1921-1929.

Rothrock, D.A., A.S. Thorndike, 1984: Measuring the sea ice floe size distribution. Journal of Geophysical Research, 89(C4), p.6477-6486.

Salo, S.A., C.H Pease, R.W. Lindsay, 1980: Physical environment of the eastern Bering Sea March 1979. U.S. National Oceanic and Atmospheric Administration. Technical Memorandum, TM-ERL-PMEL-21, 129p. NTIS no. PB81-148496.

Saltzman, B., 1979: Simple sea-ice/ocean-temperature oscillator model. WMO. Global Atmospheric Research Programme, Joint Organizing Committee. Publications Series No. 22, 2, p.917-933.

Schumacher, J.D., K. Aagaard, C.H. Pease, R.B. Tripp, 1983: Effects of a shelf polynya on flow and water properties in the northern Bering Sea. Journal of Geophysical Research, 88(C5), p.2723-2732.

Shirokolobov, V.N., ed., 1982: Kompleksnye Issledovaniia Prirody Severnykh Morei. (Complex investigations of the nature of northern seas.) Apatity, 66p.

Smith, D.C., IV, J.H. Morison, J.A. Johannessen, N. Untersteiner, 1984: Topographic generation of an eddy at the edge of the East Greenland Current. Journal of Geophysical Research, 89(C5), p.8205-8208.

Smith, S.D., R.J. Anderson, G. Den Hartog, D.R. Topham, R.G. Perkin, 1983: An investigation of a polynya in the Canadian Archipelago, 2, structure of turbulence and sensible heat flux. Journal of Geophysical Research, 88(C5), p.2900-2910.

Smith, W.O., 1983: Oceanography of the antarctic marginal ice zone. Antarctic Journal of the U.S., 18(5), p.190-192.

Squire, V.A., 1983: Dynamics of ice floes in sea waves. Journal of the Society for Underwater Technology, 9(1), p.20-26.

Svendsen, E., 1984: MIZEX-84 oceanography cruise report, KVITBJORN (POLARQUEEN). In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.40-42.

Symonds, G., 1984: Bedford Institute of Oceanography Buoy Program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.63-65.

Symonds, G., I. Peterson, 1984: MIZEX 83--BIO Buoy data summary. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.13-18.

Top, Z., H.G. Ostlund, 1984: Tritium laboratory field operations. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.38-39.

Topham, D.R., R.G. Perkin, S.D. Smith, R.J. Anderson, G. Den Hartog, 1983: Investigation of a polynya in the Canadian Archipelago, 1, Introduction and oceanography. Journal of Geophysical Research, 88(C5), p.2888-2899.

Van Leer, J.C., 1984: Cyclesonde measurements in MIZEX 84. In: MIZEZ Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.30-33.

Wadhams, P., 1973: Attenuation of swell by sea ice. Journal of Geophysical Research, 78, p.3552-3563.

Wadhams, P., 1973: The effect of a sea ice cover on ocean surface waves. University of Cambridge, Ph.D. dissertation.

Wadhams, P., 1975: Airborne laser profiling of swell in an open ice field. Journal of Geophysical Research, 80, p.4520-4528.

Wadhams, P., 1978: Characteristics of deep pressure ridges in the Arctic Ocean. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 4th, Memorial University of Newfoundland, St. John's, Newfoundland, September 26-30, 1977. Proceedings, 1, p.544-555.

Wadhams, P., 1978: Wave decay in the marginal ice zone measured from a submarine. Deep-Sea Research, 25, p.23-40.

Wadhams, P., 1979: Field experiments on wave-ice interaction in the Labrador and East Greenland currents, 1978. Polar Record, 19, p.373-379.

Wadhams, P., A.E. Gill, P.F. Linden, 1979: Transects by submarine of the East Greenland polar front. Deep-Sea Research, 26A, p.1311-1327.

Wadhams, P., 1980: A comparison of sonar and laser profiles along corresponding tracks in the Arctic Ocean. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, WA, p.283-299.

Wadhams, P., V.A. Squire, 1980: Field experiments on wave-ice interaction in the Bering Sea and Greenland waters, 1979. Polar Record, 20, p.167-158.

Wadhams, P., V.A. Squire, 1983: Ice-water vortex at the edge of the East Greenland current. Journal of Geophysical Research, 88(C5), p.2770-2780.

Warren, B.A., 1981: Deep circulation of the world ocean. In: Evolution of Physical Oceanography, (B. Warren and C. Wunsch, eds.), Massachusetts Institute of Technology Press, Cambridge, MA, p.6-41.

Weber, J.R., M. Erdelyi, 1976: Ice and ocean tilt measurements in the Beaufort Sea. Journal of Glaciology, 17, p.61-71.

Weber, J.E., 1977: Heat and salt transfer associated with formation of sea ice. Tellus, 29, p.151-160.

Weitz, M., J.B. Keller, 1950: Reflection of water waves from floating ice in water of finite depth. Communications in Pure and Applied Mathematics, 3, p.305-318.

Whitehead, J.A., 1980: Rotating critical flows in the ocean. In: International Symposium on Stratified Flows, 2nd. Trondheim, Norway. Proceedings, (T. Carstens and T. McClimens, eds.), p.72-80.

Wiese, W., 1925: The significance of ice in spring in the Greenland Sea and of the East Iceland Polar Current for the following winter temperature distribution in Europe. Inst. Hydro., 14. (In Russian.)

Wilheit, T.T., A.T.C. Chang, 1980: An algorithm for retrieval of ocean surface and atmospheric parameters from the observations of SMMR. Radio Science, 15, p.525-544.

Wust, G., 1933: Das Bodenwasser und die Gliederung der atlantischen Tiefsee. Wissenschaftliche Ergebnisse der Deutschen Atlantischen Expedition auf dem Vermessungs und Forschungschiff 'Meteor', 1925-27, 9(1), 107 p.

Ziemer, F., 1984: Sea wave measurements on board M/S "VALDIVIA" during MIZEX '84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.51-53.

Zubakin, G.K., 1973: O spektre vetrovykh voln u kromki l'da. (Wind wave spectra at the ice edge.) Meteoroglogiia i Gidrologiia, no.5, p.95-97.

Zubakin, G.K., 1973: Wind-wave spectrum at the edge of the ice. Meteorology and Hydrology, no.5, p.88-92.

Zuberbuhler, W.J., J.A. Roeder, R.G. Paquette, R.H. Bourke, 1976: Oceanography, Mesostructure, and Currents of the Pacific Marginal Sea-Ice Zone - MIZPAC 75. (Final Report 1 July 75-30 June 76) U.S. Naval Postgraduate School, Monterey, CA., 197p. NTIS no. AD-A032 056.

ICE

Aagaard, K., 1972: On the drift of the Greenland pack ice. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.17-22.

Aagaard, K., L.K. Coachman, 1975: Toward an ice-free Arctic Ocean. EOS, 56, p.484-486.

Aber, P.G., E. Vowinckel, 1972: Evaluation of North water spring ice cover from satellite photographs. Arctic, 25, p.263-271.

Ackley, S.F., T.E. Keliher, 1976: Antarctic sea ice dynamics and its possible climatic effects. AIDJEX Bulletin, 33, p.53-76.

Ackley, S.F., 1979: Mass balance aspects of the Weddell Sea pack ice. Journal of Glaciology, 24(90), p.391-405.

Ackley, S.F., A.J. Gow, K.R. Buck, K.M. Golden, 1980: Sea ice studies into the Weddell Sea aboard USCGC Polar Sea. Antarctic Journal of the U.S., 15(5), p.84-86.

Ackley, S.F., 1981: Review of sea-ice weather relationships in the Southern Hemisphere. In: Symposium on Sea Level, Ice and Climatic Change, (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication, no.131, p.127-159.

Ackley, S.F., 1981: Sea-ice-atmosphere interactions in the Weddell Sea using drifting buoys. In: Sea Level, Ice and Climatic Change, Symposium, 7-8 December 1979. Proceedings. (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication No. 131, p.177-191.

Ackley, S.F., S.J. Smith., D.B. Clarke, 1982: Observations of pack ice properties in the Weddell Sea. Antarctic Journal of the U.S., 17(5), p.105-106.

Ahlnas, K., G. Wendler, 1977: Arctic sea ice conditions in early spring viewed by satellite. Arctic and Alpine Research, 9, p.61-72.

Ahlnas, K, G. Wendler, 1979: Sea-ice observations by satellite in the Bering, Chukchi, and Beaufort Seas. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 5th, Norwegian Institute of Technology, August 13-18, 1979, Trondheim, Norway. Proceedings, Vol.1, p.313-329.

Ahlnas, K., K. Jayaweera, 1983: Sea-ice studies in Ross Sea, Antarctica, using NOAA-satellite imagery. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings, Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, p.42-51.

Aizatullin, T.A., M. Nazirov, 1972: Ledovye "vikhri" na morskoi poverkhnosti. (Ice "eddies" on the sea surface.) Priroda, no.9, p.101-102.

Aldoshina, A.I., 1964: O vozmozhnosti predskazaniia polozheniia kromki l'da v Okhotskom more i Tatarskom prolive na vesennie mesiatsy. (On the possibility of predicting the position of the ice edge in the Okhotsk Sea and Tatar Straits in spring months.) Gosudarstvennyi Okeanograficheskii Institut. Trudy, no.76, p.104-126.

Alekseev, G.V., A.IA. Buzuev, 1973: Ob evoliutsii sistemy led-poverkhnostnyi sloi okeana v raione dreifa stantsii Severnyi Polius-16. (Evolution of the ice-ocean surface system near the drift station Severnyi Polius-16. Problemy Arktiki i Antarktiki, 42, p.37-43.

Allison, I., 1981: Antarctic sea ice growth and oceanic heat flux. In: Sea Level, Ice and Climatic Change, Symposium, 7-8 December 1979. Proceedings. (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication No. 131, p.161-170.

Amstutz, D.E. 1977: Stereophotogrammetric reconnaissance of ocean wave/sea ice interaction. Corvallis, Oregon State University. Ph.D. dissertation, 172p.

Anderson, B.G., W.F. Weeks, J.L. Newton, (eds.), 1980: The seasonal sea ice zone. Proceedings of an International Workshop. Cold Regions Science and Technology, 2, 357p.

Antropova, L.V., B.A. Kogan, 1977: Raschet osnovnykh sostavliaiushchikh ledovogo balansa Datskogo proliva. (Calculating basic components of ice balance in the Denmark Strait.) In: Prirodnye Usloviia i Estestvennye Resursy Severnykh Morei. (V.T.Zhevnovatyi, ed.) [Natural conditions and resources of northern seas.] Leningrad, Gidrometeoizdat, p.90-107.

Antropova, L.V., B.A. Kogan, 1980: Calculation of the basic components of the ice balance in the Denmark Strait. U.S. Army. Cold Regions Research and Engineering Laboratory. Translation 742, 16p.

Antropova, L.V., B.A. Kogan, 1980: Ledovy balans Datskogo Proliva v anomal'nye po ledovitosti Gody. (Ice balance of the Denmark Strait during anomalous ice years.) Leningrad. Arkticheskii I Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 348, p.41-46.

Assur, A., 1963: Breakup of pack-ice floes. In: Ice and Snow, (W.B. Kingery, ed.)., MIT Press, Cambridge, Mass., p.335-347.

Atmospheric Environment Service, Canada, 1964-1971^{+}: *Ice Summary and Analysis, 1964-1969*$^{+}$ (Annual). Canada. Atmospheric *Environment Service, Meteorological Branch*, Toronto.

Babaev, A.B., V.P. Logachev, V.N. Parfent'ev, V.A. Fedorov, G.P. Shelomanova, 1975: Radiolokatsionnye ChM signaly, otrazhennye ot ledovykh poverkhnostei i vozmozhnosti ikh modelirovaniia. (Radar frequencey-modulated signals reflected from ice surfaces and the possibility of their modellihg.) *Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut*. *Trudy*, no.326, p.17-20.

Babaev, A.B., V.P. Logachev, V.N. Parfent'ev, V.A. Fedorov, G.P. Shelomanova, 1976: FM radar signals reflected from ice surfaces, and the possibilities of modeling them. *U.S. Army. Cold Regions Research and Engineering Laboratory*. *Translation* 539, p.12-16.

Banke, E.G., S.D. Smith, R.J. Anderson, 1976: Recent measurements of wind stress on Arctic sea ice. *Journal of Fisheries Research Board of Canada*, 33, p.2307-2317.

Barcilon, A., A. Loesch, D. Lamich, 1984: Ice edge position sensitivity to finite-amplitude baroclinic heat flux divergence. *Journal of the Atmospheric Sciences*, 41(1), p.142-149.

Barnes, J.C. C.J. Bowley, 1981: Comparative analysis of sea ice features using side-looking radar (SLAR) and Landsat imagery. *U.S. National Aeronautics and Space Administration*, NASA report available: Lewis Research Center, Cleveland, OH, 44135.

Barnett, D.G., 1976: A practical method of long range ice forecasting for the north coast of Alaska. Part I. *U.S. Navy. Fleet Weather Facility, Technical Report* 1, 16p.

Barnett, D.G., 1980: A long-range ice forecasting method for the north coast of Alaska. In: *Sea Ice Processes and Models*, (R. Pritchard, ed.), University of Washington Press, Seattle, p.360-372.

Barnett, D., 1982: Bering Sea/North Slope ice analysis. *U.S. Navy- National Oceanic and Atmospheric Administration. Joint Ice Center. Oceanographic Monthly Summary*, 2(4), p.14.

Barry, R.G., 1977: Study of climatic effects on fast ice extent and its seasonal decay along the Beaufort-Chukchi coasts. In: *Environmental Assessment of the Alaskan Continental Shelf*, Vol. XIV, *Transport*, U.S. National Oceanic and Atmospheric Administration, Environmental Research Laboratories, p.574-743.

Barry, R.G.. J.D. Jacobs, with R.G. Crane, R.A. Keen, R.E. Moritz, E.F. LeDrew, R.L. Weaver, 1978: Energy budget studies in relation to fast-ice breakup processes in Davis Strait: Climatological overview. *Colorado. University. Institute of Arctic and Alpine Research. Occassional Paper* no.26, 284p.

Barry, R.G., R.E. Moritz, J.C. Rogers, 1979: The fast ice regime of the Beaufort and Chukchi Sea coasts, Alaska. Cold Regions Science and Technology, 1, p.129-152.

Barry, R.G., 1979: Study of climatic effects on fast ice extent and its seasonal decay along the Beaufort-Chukchi coasts. In: Environmental Assessment of the Alaskan Continental Shelf. Final Reports of Principal Investigators, Vol. 2, Physical Science Studies. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Boulder, Colorado, p.272-375.

Barry, R.G., 1980: Meteorology and climatology of the seasonal sea ice Cold Regions Science and Technology, 2, p.133-150.

[illegible], R.G., 1983: Arctic Ocean ice and climate: perspectives on a century of polar research. Association of American Geographers. Annals, 73(4), p.485-501.

Bauer, J. 1978: Field observations of medium and small scale features of the Bering Sea ice edge in February 1978. In: Environmental Assessment of the Alaskan Continental Shelf, Vol. 2 Principal Investigators' Reports July-September 1978. Boulder, Colorado, Environmental Research Laboratories, p.197-229.

Bauer, J., S. Martin, 1980: Field observations of the Bering Sea ice edge properties during March 1979. Monthly Weather Review, 108, p.2045-2056.

Bauer, J., S. Martin, 1983: Model of grease ice growth in small leads. Journal of Geophysical Research, 88(C5), p.2917-2925.

Becker, P.K., S. Martin, 1984: MIZEX-84 high frequency accelerometer study. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.79-81.

Belich, R.B., A.G. Gorelik, V.I. Semiletov, A.V. Frolov, 1978: O vozmozhnosti primeneniia sputnikovykh SVCh radiometricheskikh poliarizatsionnykh izmerenii dlia opredeleniia parametrov podstilaiushchei poverkhnosti. (Determining parameters of underlying surfaces by means of spaceborne microwave radiometry.) In: Kosmicheskaia Geofizika, (A.I. Burtsev, A.P. Tishhenko, eds.), Leningrad, Gidrometeoizdat, p.10-15.

Bentham, R., 1937: The ice-foot. In: Arctic Journeys: the Story of the Oxford University Ellesmere Land Expedition 1934-5, (E. Shackleton, ed.), Appendix III, Hodder and Stoughton, London.

Betin, V.V., Iu. V. Preobazensky, 1959: Variations in the state of the ice on the Baltic Sea and in the Danish Sound. Gosudarstvennyi Oceanograficheskii Institut, Trudy, 37, p.3-13. (In Russian.)

Bilello, M.A., 1961: Formation, growth and decay of sea ice in the Canadian Arctic Archipelago. Arctic, 14, p.3-24.

Bjornsson, H., 1969: Sea ice conditions and the atmospheric circulation north of Iceland. *Jokull*, 19, p.11-17.

Blinov, N.I., S.V. Kochetov, 1978: Vliianie molodogo l'da na teploobmen mezhdu okeanom i atmosferoi v Arkticheskom basseine zimoi. (Influence of young ice on winter heat exchange between ocean and atmosphere in the Arctic basin.) *Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy*, no.349, p.98-103.

Bogorodskii, V.V., V.P. Tripol'nikov, 1974: Differential electromagnetic characteristics at the interface between ice and water in the ocean. *Soviet Physics. Technical Physics*, 19(4), p.526-528.

Bogorodskii, V.V., 1974: Radio echo sounding of sea ice. In: *Ocean '74 IEEE International Conference on Engineering in the Ocean Environment, Halifax, Nova Scotia, August 21-23, 1974. Record.* New York, Institute of Electrical and Electronic Engineers, Vol.1, p.118-120.

Bogorodskii, V.V., G.P. Khokhlov, 1975: Elektricheskie svoistva l'da prikromochnoi zony Berinogova moria na chastote 10 GGts. (Electrical properties of ice in the ice edge zone of the Bering Sea at 10 GHz frequency.) In: *Sovetsko-Amerikanskii Eksperiment "Bering". Trudy Zakliuchitel'nogo Simpoziuma po Itogam Sovmestnoi Sovetsko-Amerikanskoi Ekspeditsii, Leningrad, 12-17 Maia, 1974.* (*U.S.S.R.-U.S.A. Bering Sea Experiment: Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings*. Gidrometeoizdat, Leningrad, p.219-233.

Bogorodskii, V.V., V.P. Tripol'nikov 1979: Contrast of electromagnetic characteristics at the marine ice-water boundary. *U.S. Army. Cold Regions Research and Engineering Laboratory. Translation* 706, 6p.

Borisov, P.M., 1969: Dinamika morskikh l'dov severnogo polushariia za poslednie 20 tysiach let. (Sea-ice dynamics in the northern hemisphere during the last twenty thousand years.) *Akademiia Nauk SSSR. Institut Geografii. Materialy Gliatsiologicheskikh Issledovanii. Khronika Obsuzhdeniia*, 15, p.73-90. (In Russian with English summary.)

British Meteorological Office, 1960-1980: *Monthly Ice Charts*. London, HMSO.

Brooks, C.E.P., W.A. Quennel, 1928: Influence of Arctic ice on the subsequent distribution of pressure over the eastern North Atlantic and Western Europe. *British Meteorological Office. Geophysical Memoirs*, 4(41).

Budd, W.F., 1975: Antarctic sea-ice variations from satellite sensing in relation to climate. *Journal of Glaciology*, 15(73), p.417-427.

Budyko, M.I., 1966: Polar ice and climate. In: *Symposium on the Arctic Heat Budget and Atmospheric Circulation. Proceedings*. (J.O. Fletcher, ed.), The Rand Corporation, Santa Monica, CA, RM-5233-NSF, p.3-22.

Bugaev, V.A., 1966: Edge of ice on the Southern Ocean and the trajectories of cyclones. In: International Oceanographic Congress, 2nd, Moscow, 1966. Abstracts of papers. Moscow, Nauka, p.57-58.

Bugaev, V.A., 1969: Polozhenie kromke l'dov i tsiklonicheskaia deiatel' nost' v IUzanom okeane. (Position of ice edge and cyclonic activity in the Southern Ocean.) Antarktika: Doklady Komissii, 1967, Moscow, Nauka, p.36-40.

Bugaev, V.A., 1971: Position of the ice edge and cyclonic activity in the Antarctic Ocean. Antarktika: Commission Reports 1967, Jerusalem, Israel Program for Scientific Translations, p.37-41.

Bugden, G.L., 1979: The deformation of pack ice by ridging. Journal of Geophysical Research, 84, p.1793-1796.

Buianov, N.F., V.A. Kokaev, G.K. Naumov, 1975: O rezul'tatakh nabliudenii za obledeneniem sudov v prikromochnoi zone Beringova moria v 1971-72 g. (Observing ship icing near the ice-edge zone of the Bering Sea in 1971-72.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.317, p.144-151.

Bukatov, A.E.; L.V. Cherkesov, 1974: Influence of ice cover on internal waves generated by atmospheric disturbances in a continuously stratified sea.) Problems of the Arctic and the Antarctic, 43-44, p.130-138.

Bukatov, A.E., L.V. Cherkesov, 1974: Vliianie ledianogo pokrova na vnutrennie volny generiruemye atmosfernymi vozmushcheniiami v nepreryvno stratifitsirovannom more. (Ice cover effect on the internal waves generated by atmospheric disturbances in a continuously stratified sea.) Problemy Arktiki i Antarktiki, 43-44, p.106-111.

Bulgakov, N.P., 1967: Extreme winter boundary of ice in far eastern seas. U.S. Naval Oceanographic Office. Report, NOO-TRANS-292, 18p. NTIS no. AD-655 235.

Bushuev, A.V., N.A. Volkov, 1973: Weather satellites as a means of ice observations. Problems of the Arctic and the Antarctic, no.33-35, p.3-9.

Bushuev, A.V., 1978: Ispol'zovanie kombinirovannogo (analiticheskogo i optiko-mekhanicheskogo) metoda geograficheskoi priviazi sputnikovykh snimkov dlia operativnogo obespecheniia plavaniia ekspeditsionnykh sudov v ledovykh usloviiakh. (Using the combined analytical and optical-mechanical method of geographic correlation of satellite photographs for providing information for ice navigation of expedition ships.) In: Kosmicheskaia Geofizika, (A.I. Burtsev, A.P. Tishchenko, eds.), Leningrad, Gidrometeoizdat, p.71-74.

Bushuev, A.V., IU.D. Bychenkov, A.V. Provorkin, 1979: Raspredelenie i dinamika l'dov v Grenlandskom more v marte-iiule 1976 g. po dannym sputnikovoi informatsii. (Distribution and drift of ice in the Greenland Sea in March-July of 1976 from satellite information.) In: Poleks-Sever-76, Chast' 1, (A.F. Treshnikov, ed.), [Polex-North-76, Part 1.] Leningrad, Gidrometeoizdat. p.115-128.

Bushuev, A.V., 1980: Issledovanie ledianogo pokrova morei s iskusstvennykh sputnikov Zemli. (Investigation of sea ice cover from satellites.) In: Sputnikovaia Gidrofizika, (B.A. Nelepo, ed.), Sevastopol, p.47-57. (In Russian with English summary.)

Bushuev, A.V., 1982: Sostavlenie ledovykh fotokart po televizionnym snimkam ISZ. (Compiling photo-maps of ice conditions from spaceborne television photographs.) Russia. Ministerstvo Vysshego i Srednego Spetsial'nogo Obrazovaniia. Izvestiia Vysshikh Uchebnykh Zavedenii. Geodeziia i Aerofotos"emka, no.2, p.89-91.

Buynitskiy, V. Kh., 1967: Structure, principal properties and strength of Antarctic sea ice. Soviet Antarctic Expedition. Information Bulletin, 65, p.90-104.

Campbell, W.J., S. Martin, 1973: Oil and ice in the Arctic Ocean: possible large-scale interactions. Science, 181, p.56-58.

Campbell, W.J., A.S. Orange, 1974: The electrical anisotropy of sea ice in the horizontal plane. Journal of Geophysical Research, 79, p.5059-5063.

Campbell, W.J., P. Gloersen, R.O. Ramseier, 1975: Synoptic ice dynamics and atmospheric circulation during the Bering Sea experiment. In: USSR/US Bering Sea Experiment, (K. Ya. Kondratyev, ed.), Gidrometeoizdat, Leningrad, p.164-185.

Campbell, W.J., P. Gloersen, R.O. Ramseier, W.J. Webster, T.T. Wilheit, 1976: Beaufort Sea ice zones as delineated by microwave imagery. Journal of Geophysical Research, 81, p.1103-1110.

Campbell, W.J., R.O. Ramseier, R.J. Weaver, W.F. Weeks, 1977: Skylab floating ice experiment. Canada. Department of Fisheries and Environment, Ottawa. Miscellaneous Special Publication 34.

Campbell, W.J., et al., 1978: Arctic sea ice variations from time-lapse passive microwave imagery. Boundary-Layer Meteorology, 18, p.19-106.

Campbell, W.J., et al., 1978: Microwave remote sensing of sea ice in the AIDJEX main experiment. Boundary-Layer Meteorology, 13, p.309-337.

Campbell, W.J., P. Gloersen, H.J. Zwally, I. Dyer, C. Chryssostomidis, eds., 1984: Aspects of Arctic Sea ice observable by sequential passive microwave observations from the Nimbus-5 satellite. In: Arctic Technology and Policy. Annual Massachusetts Institute of Technology, Sea Grant College Program Lecture and Seminar. 3. Annual Robert Bruce Wallace Lecture, Cambridge, Massachusetts, 2-4 March 1983. p.197-222.

Carleton, A.M., 1980: Polynya development in the Cape Thompson-Point Hope region, Alaska. Arctic and Alpine Research, 12, p.205-214.

Carleton, A.M., 1983: Variations in Antarctic sea ice conditions and relationships with Southern Hemisphere cyclonic activity, winters 1973-77. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie B, 32(1), p.1-22.

Carsey, F.D., 1982: Arctic sea ice distribution at end of summer 1973-1976 from satellite microwave data. Journal of Geophysical Research, 87(C8), p.5809-5835.

Carsey, F.D., 1985: Summer Arctic sea ice character from satellite microwave data. Journal of Geophysical Research, 90(C3), p.5015-5034.

Cavalieri, D.J., C.L. Parkinson, 1981: Large scale variations in observed Antarctic sea ice extent and associated atmospheric circulation. Monthly Weather Review, 109(11), p.2323-2336.

Cavalieri, D.J., P. Gloersen, W.J. Campbell, 1981: Observation of sea ice properties with the Nimbus-7 SMMR. In: Digest 1981. International Geoscience and Remote Sensing Symposium (IGASRSS'81), IEEE Transactions on Geoscience and Remote Sensing, New York, p.69-78.

Cavalieri, D.J., S. Martin, P. Gloersen, 1983: Nimbus 7 SMMR observations of the Bering Sea ice cover during March 1979. Journal of Geophysical Research, 88(C5), p.2743-2754.

Chernigovskii, N.T., 1963: Radiation properties of the ice cover of the Central Arctic. Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 253, p.249-260. (In Russian.) English translation, 1966: Rand Corporation, RM-5003-PR.

Chikovskii, S.S., 1973: Formation of thick ice in coastal Antarctic waters. Sovetskaia Antarkticheskaia Ekspeditsiia, 1955-, Information Bulletin, 8(4), p.205-207.

Chikovskii, S.S., 1978: Rol' shel'fovykh lednikov Antarktidy v obrazovanii vnutrivodnogo l'da. (Role of Antarctic shelf ice in frazil ice formation.) Akademiia Nauk SSSR. Institut Geografii. Materialy Gliatsiologicheskikh Issledovanii. Khronika Obsuzhdeniia, no.34, p.205-210. (In Russian with English summary.)

Clarke, D.B., S.F. Ackley, 1984: Sea ice structure and biological activity in the Antarctic marginal ice zone. Journal of Geophysical Research, 89(C2), p.2087-2095.

Colony, R., A.S. Thorndike, 1980: The horizontal coherency of the motion of summer Arctic sea ice. Journal of Physical Oceanography, 10(8), p.1281-1289.

Colony, R., A.S. Thorndike, 1981: Sea ice strains during 1979. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 6th, Quebec City, Quebec, 27-31 July 1981. Proceedings, p.619-628.

Colony, R., 1984: Mean ice motion in the Arctic Ocean. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.91-94.

Colony, R., 1984: A Markov model for sea ice trajectories. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.77-82.

Comiso, J.C., J.H. Zwally, 1982: Antarctic sea ice concentrations inferred from Nimbus 5 ESMR and LANDSAT imagery. Journal of Geophysical Research, 87(C8), p.5836-5844.

Comiso, J.C., S.F. Ackley, A.L. Gordon, 1984: Antarctic sea ice microwave signatures and their correlation with (in situ) ice observations. Journal of Geophysical Research, 89(C1), p.662-672.

Comiso, J.C., H.J. Zwally, 1984: Concentration gradients and growth/decay characteristics of the seasonal sea ice cover. Journal of Geophysical Research, 89(C5), p.8081-8103.

Coon, M.D., 1974: Mechanical behavior of compacted Arctic ice floes. Journal of Petroleum Technology, 26, p.466-470.

Coon, M.D., R.T. Hall, R.S. Pritchard, 1977: Predictions of Arctic ice conditions for operations. In: Offshore Technology Conference, 9th, Dallas, Texas. Proceedings, 4, p.307-314.

Cooper, P.F., 1974: Landfast ice in the southeastern part of the Beaufort Sea. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed, J.F. Sater, eds.), Arctic Institute of North America, Arlington, VA, p.235-242.

Craig, L.W., 1972: High frequency accelerations of Arctic pack ice. Department of Civil Engineering, University of Washington, Seattle. M.A. thesis.

Crane, R.G., 1978: Seasonal variations of sea ice extent in the Davis Strait-Labrador Sea area and relationships with synoptic-scale atmospheric circulation. Arctic, 31, p.434-447.

Crane, R.G., 1981: Synoptic ice-atmosphere interaction analysis using Northern Hemisphere satellite ESMR data. University of Colorado, Boulder, Ph.D. Dissertation.

Crane, R.G., R.G. Barry, H.J. Zwally, 1982: Analysis of atmosphere-sea ice interactions in the Arctic Basin using ESMR microwave data. International Journal of Remote Sensing, 3, p.259-276.

Crane, R.G., 1983: Atmosphere-sea ice interactions in the Beaufort/Chukchi Sea and in the European sector of the Arctic. Journal of Geophysical Research, 88(C7), p.4505-4523.

Crary, A.P., 1958: Arctic ice island and ice shelf studies, I. Arctic, 11, p.3-42.

Crary, A.P., 1960: Arctic ice island and ice shelf studies, II. Arctic, 13, p.32-50.

Danish Meteorological Institute, 1901-1956: The State of the Ice in the Arctic Seas. Appendices to Nautical-Meteorological Annuals, Charlottenlund, Copenhagen (published annually).

Danish Meteorological Institute, 1960-1968: The Ice Conditions of the Greenland Waters. Charlottenlund, Copenhagen (published annually).

Dayton, P.K., S. Martin, 1971: Observations of ice stalactites in McMurdo Sound, Antarctica. Journal of Geophysical Research, 76, p.1595-1599.

Denner, W.W., T.E. Keliher, 1981: Numerical modeling of Labrador pack ice dynamics. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 6th, Quebec City, Quebec, 27-31 July 1981. Proceedings, 3, p.1330-1347.

Dey, B., 1980: Sea ice cover and related atmospheric conditions in Arctic Canada during the summer of 1978. Monthly Weather Review, 108, p.2092-2097.

Dey, B., 1980: Seasonal and annual variations in ice cover in Baffin Bay and northern Davis Strait. Canadian Geographer, 24, p.308-384.

Dey, B., 1981: Monitoring winter sea ice dynamics in the Canadian Arctic with NOAA-TIR images. Journal of Geophysical Research, 86, p.3223-3235.

Dey, B., 1982: Impacts of climate on variations in summer ice cover in the Canadian Arctic. In: International Symposium on Remote Sensing of Environment, 16th, Buenos Aires, Argentina, 2-9 June 1982, 1, p.529-537.

Dinsmore, R.P., 1972: Ice and its drift into the North Atlantic Ocean. In: Symposium on Environmental Conditions in the Northwest Atlantic, 1960-1969. International Committee for Northwest Atlantic Fisheries, Dartmouth, NS, Special Publication 8, p.89-128.

Dobromyslov, V.N.., 1978: O ledovitosti antarkticheskikh vod po dannym iskusstvennykh sputnikov zemli. (Satellite data on antarctic ice conditions.) *Leningrad. Gidrometeorologicheskii Nauchno-Issledovatel'skii Tsentr SSSR*. *Trudy*, 200, p.99-102.

Dobromyslov, V.N., V.V. Maslennikov, 1979: O mezhgodovoi i mnogoletnei izmenchivosti rasprostraneniia l'da v Atlanticheskom sektore Antarktiki. (Annual and long-term variations in ice distribution in the Atlantic sector of Antarctica.) *Antarktika: Doklady Komissii*, no.18, p.113-117.

Doronin, IU. P., 1970: K methodike rascheta splochennosti i dreifa l'dov. (On a method of calculating the compactness and drift of ice floes.) *Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy*, no.291, p.5-17. English translation, 1970: *AIDJEX Bulletin*, 3, p.22-39.

Doronin, IU.P., 1974: Formation of the equilibrium thickness of Arctic ice. *Soviet Hydrology*, no.4, p.244-250.

Doronin, IU.P., V.I. Sychev, 1974: Formirovanie ledianogo pokrova kak produkta vzaimodeistviia atmosfery i okeana. (Ice cover formation as a result of ocean-atmosphere interaction.) *Problemy Arktiki iAntarktiki*, 43-44, p.18-27.

Doronin, IU.P., V.I. Sychev, 1974: Ice cover as a product of ocean-atmosphere interaction. *Problems of the Arctic and the Antarctic*, 43-44, p.18-30.

Doronin, IU.P., K.D. Kreiman, 1974: Nekotorye kharakteristiki sloia treniia v more u sherokhovatykh poverkhnostei. (Friction layers in the ocean near rough surfaces.) *Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut*. *Trudy*, no.316, p.171-174.

Doronin, IU.P., K.P. Shirokov, 1974: O nestatsionarnom vetrovom dreife morskogo l'da. (Unstable wind drift of sea ice.) *Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut*. *Trudy*, no.316, p.138-145.

Doronin, IU. P., D.E. Kheisin, 1977: *Sea ice*. Amerind Publishing Co. Pvt. Ltd., New Delhi., 323p.

Doronin, IU.P., K.D. Kreiman, 1984: Some characteristics of the friction layer near rough surfaces in the sea. In: *Dynamics of Ice Cover*, (L.A.Timokhov, ed.), New Delhi, Amerind Publishing Co., p.177-180.

Doronin, IU.P., K.P. Shirokov, 1984: Unsteady wind drift of sea ice. In: *Dynamics of Ice Cover*, (L.A. Timokhov, ed.), New Delhi, Amerind Publishing Co., p.143-150.

Dunbar, M., 1967: The monthly and extreme limits of ice in the Bering Sea. In: *Physics of Snow and Ice*, (H. Oura, ed.), Institute of Low Temperature Science, University of Hokkaido, Vol. 1, p.687-703.

Dunbar, M., 1972: Increasing severity of ice conditions in Baffin Bay and Davis Strait and its effect on the extreme limits of ice. In: International Conference on Sea Ice, Reykjavik, May 10-13, 1971. Proceedings, (T. Karlsson, ed.), Reykjavik, Iceland, National Research Council, p.87-93.

Dunbar, M., 1973: Winter regime of the North Water. Royal Society of Canada. Transactions, Series IV, 11, p.275-281.

Dunbar, M., 1975: Interpretation of SLAR imagery of sea ice in Nares Strait and the Arctic Ocean. Journal of Glaciology, 15, p.193-213.

Dunbar, M. and W.F. Weeks, 1975: Interpretation of young ice forms in the Gulf of St. Lawrence using side-looking airborne radar and infrared imagery. U.S. Army. Cold Regions Research and Engineering Laboratory, Report RR337.

Dzheniuk, S.L., 1977: Metod rascheta polei volneniia v Barentsevom, Norvezhskom i Grenlandskom moriakh. (Method of wave field calculation in the Barents, Greenland and Norwegian Seas.) Problemy Arktiki i Antarktiki, 52, p.82-86.

Dzheniuk, S.L., 1982: Method of determining wave fields in the Barents, Norwegian and Greenland Seas. Problems of the Arctic and the Antarctic, 52, p.101-107.

Egorov, K.L., 1970: Theory of drift of ice floes in a horizontally heterogeneous wind field. Problemy Arktiki i Antarktiki, 34, p.71-78, (In Russian). English translation, 1971: AIDJEX Bulletin, 6, p.37-45.

Egorov, K.L., D. L. Laikhtman, V. M. Radikevich, 1974: Ice cover as a link in the ocean-atmospheric system. Boundary-Layer Meteorology, 6(1/2), p.169-182.

Einarsson, T., 1972: Sea currents, ice drift and ice composition in the East Greenland current. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.23-32.

Eppler, D.T., 1982: Possible applications of GEOSAT-A radar altimeter data to ice forecasting in polar regions. U.S. Naval Ocean Research and Development Activity. NORDA Technical Note, no.177, 13p.

Eppler, D.T., 1983: Assessment of potential SSM/I ice products in light of ESMR and SMMR ice classification algorithms. U.S. Naval Ocean Research and Development Activity. Technical Note, no.220, 28p.

Eskin, L.I., L.M. Savatiugin, 1972: State of the fast ice and unloading of the (Ob') in Mirnyy roads in the summer of 1968/69. Sovetskaia Antarkticheskaia Ekspeditsiia. Information Bulletin, 8(1), p.35-38.

Evseev, V.V., 1976: Propagation of antarctic sea ice according to satellite observations. Sovetskaia Antarkticheskaia Ekspeditsiia. Information Bulletin, 8(12), p.648-650.

Ewing, M. and A.P. Crary, 1934: Propagation of elastic waves in ice, 2. Physics, 5, p.181-184.

Fay, F.H., 1974: The role of ice in the ecology of marine mammals of the Bering Sea. In: Oceanography of the Bering Sea with Emphasis on Renewable Resources, (D.W. Hood and E.J. Kelley, eds.), Institute of Marine Science, University of Alaska, Fairbanks, p.383-399.

Feyling-Hanssen, R.W., 1953: Brief account of the ice-foot. Norsk Geografisk Tidsskrift, 14(1-4), p.45-52.

Fletcher, J.O., 1969: Ice extent on the Southern Ocean and its relation to world climate. Rand Corp. Memo RM-5793-NSF, Santa Monica, CA, 111p.

Gabov, S.A., A.G. Sveshnikov, 1982: O difraktsii vnutrennikh voln na kromke ledovogo polia. (Diffraction of internal waves at the edge of an ice field.) Akademiia Nauk SSSR. Doklady, 265(1), p.16-20.

Gade, H.G., 1979: Melting of ice in sea water. A primitive model with applications to the Antarctic ice shelf and icebergs. Journal of Physical Oceanography, 9, p.189-198.

Gammelsrod, T., M. Mork, L.P. Roed, 1975: Upwelling possibilities at an ice edge: Homogeneous model. Marine Science Communication, 1, p.115-145.

Gaskill, H.S., R.J. Lopez, G.E. Swaters, 1980: Free drift of sea ice: a comparison of models. Memorial University of Newfoundland. Centre for Cold Ocean Resources Engineering. C-CORE Publication, no.80-16, 132p.

Gebhart, B., T. Audunson, 1980: Transport measurements in the Arctic ice-pack. Letters in Heat and Mass Transfer, 7, p.293-302.

Gebhart, B., B. Sammakia, T. Audunson, 1983: Melting characteristics of horizontal ice surfaces in cold saline water. Journal of Geophysical Research, 88(C5), p.2935-2942.

Gernandt, H., 1979: Satellitenbeobachtung der Seeisgrenze im Kustengebiet "Konigin-Maud-Land" bis "Filchner-Schelfeis". (Satellite observations of the ice edge in coastal areas from Queen Maud Land to the Filchner Ice Shelf.) Zeitschrift fur Meteorologie, 29(2), p.127-131.

Gloersen, P., W. Nordberg, T.J. Schmugge, T.T. Wilheit, W.J. Campbell, 1973: Microwave signatures of first-year and multiyear sea ice. Journal of Geophysical Research, 78, p.3564-3572.

Gloersen, P., R.O. Ramseier, W.J. Campbell, T.C. Chang, T.T. Wilheit, 1975: Variation of ice morphology of selected mesoscale test areas during the Bering Sea experiment. In: U.S.S.R.-U.S.A Bering Sea Experiment: Proceedings of the Final Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974, (K. Ya. Kondratiev, Yu. I. Rabinovich, and W. Nordberg, eds.), Leningrad, Gidrometeoizdat, p.196-218.

Gloersen, P., H.J. Zwally, A.T.C. Chang, D.K. Hall, W.J. Campbell, R.O. Ramseier, 1978: Time dependence of sea ice concentration and multiyear ice fraction in the Arctic Basin. Boundary-Layer Meteorology, 13, p.339-359.

Gloersen, P., 1984: Data report on variations observed in the composition of sea ice during MIZEX '84 with the NIMBUS-7 SMMR. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.134-137.

Godin, R.H., 1982: Bering Sea/North Slope ice analysis September 1982. U.S. Navy-National Oceanic and Atmospheric Administration. Joint Ice Center. Oceanographic Monthly Summary, 2(9), p.14.

Godin, R.H., 1984: Bering Sea/North Slope ice analysis. U.S. Navy-National Oceanic and Atmospheric Administration Joint Ice Center. Oceanographic Monthly Summary, 4(2), p.14.

Goodman, D.J., P. Wadhams, V.A. Squire, 1980: The flexural response of a tabular ice island to ocean swell. Annals of Glaciology, 1, p.23-28.

Gorbunov, IU.A., S.M. Losev, 1977: O smeshchenii kromok l'da i granits ledianogo massiva. (Shifting of ice edges and ice cover boundaries.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 343, p.133-140.

Gordienko, P.A., G.N. Sergeev, 1981: Kriterii surovosti zim v Baltiiskom more. (Severity criteria for Baltic Sea winters.) In: Konferentsiia Baltiiskikh Okeanografov, 12th, Leningrad, April 14-17, 1980 i Soveshchanie Ekspertov po Vodnomu Balansu Baltiiskogo Moria, Leningrad, April 17-19 1980. Trudy, (F.S. Terziev, ed.), Leningrad, Gidrometeoizdat, p.184-186.

Gordon, A.L., H.W. Taylor, D.T. Georgi, 1977: Antarctic oceanographic zonation. In: Polar Oceans, (M. Dunbar, ed.), Arctic Institute of North America, p.45-76.

Gordon, A.L., E. Molinelli, T. Baker, 1981: Southern Ocean Atlas. Columbia University Press.

Gow, A.J., S.F. Ackley, W.F. Weeks, J.W. Govoni, 1982: Physical and structural characteristics of Antarctic sea ice. Annals of Glaciology, 3, p.113-117.

Grenfell, T.C., G.A. Maykut, 1977: The optical properties of ice and snow in the Arctic Basin. Journal of Glaciology, 18, p.445-463.

Griesman, P., 1979: On upwelling driven by the melt of ice shelves and tidewater glaciers. Deep-Sea Research, 26, p.1051-1066.

Grittner, S.F., J.M. Karish, R.A. Stewart, 1983: Ice surveillance program to support the North Aleutian Shelf C.O.S.T. well No.1. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings, Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, 3, p.282-296.

Haggblom, A., 1982: Driftwood in Svalbard as an indicator of sea ice conditions. Geografiska Annaler. Series A: Physical Geography, 64A(1-2), p.81-94.

Hakkinen, S., 1984: Dynamics of the coupled ice-ocean system in the marginal ice zone: study of the mesoscale processes and of constitutive equations for sea ice. Florida. State University. Mesoscale Air-Sea Interaction Group, Geophysical Fluid Dynamics Institute. Technical Report, 95p.

Hall, R.T., D.A. Rothrock, 1981: Sea ice displacement from SEASAT synthetic aperture radar. Journal of Geophysical Research, 86(C11), p.11078-11082.

Hanson, A.M., 1965: Studies of the mass budget of Arctic pack ice floes. Journal of Glaciology, 5, p.701-709.

Hanson, A.M., 1965: Studies of the mass budget of Arctic pack ice floes. Journal of Glaciology, 5, p.701-709.

Haupt, I., V. Kant, 1976: Satellite ice surveillance studies in the Arctic in relationship to the general circulation. In: Symposium on Meteorological Observations from Space: Their Contribution to the First GARP Global Experiment, Proceedings, COSPAR, Internatational Council Science Unions, p.179-187.

Hendrickson, J.A., L.M. Webb, R.J. Quigley, 1962: Study of natural forces acting on floating ice fields. National Engineering Science Co., Pasadena, CA, Report NBy-32215, 71p.

Hibler, W.D., III, 1972: Removal of aircraft altitude variation from laser profiles of the Arctic ice pack. Journal of Geophysical Research, 77, p.5954-5970.

Hibler, W.D., III, W.F. Weeks, S.J. Mock, 1972: Statistical aspects of sea ice ridge distributions. Journal of Geophysical Research, 77, p.5954-5970.

Hibler, W.D., III, S. Ackley, W.F. Weeks, A. Kovacs, 1972: Top and bottom roughness of a multiyear ice floe. AIDJEX Bulletin, 13, p.77-92.

Hibler, W.D., III, S.F. Ackley, W.K. Crowder, H.W. McKim, D.M. Anderson, 1974: Analysis of shear zone ice deformation in the Beaufort Sea using satellite imagery. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed and J.E. Sater, eds.), Arctic Institute of North America, p.285-296.

Hibler, W.D., III, S.J. Mock, W.B. Tucker, 1974: Classification and variation of sea ice ridging in the western Arctic Basin. Journal of Geophysical Research, 79, p.2735-2743.

Hibler, W.D., III, W.F. Weeks, A. Kovacs, S.F. Ackley, 1974: Differential sea-ice drift. I. Spatial and temporal variation in sea-ice deformation. Journal of Glaciology, 13(69), p.437-455.

Hibler, W.D., III, 1974: Differential sea ice drift. II. Comparison of mesoscale strain measurements to linear drift theory predictions. Journal of Glaciology, 13(69), p.457-471.

Hibler, W.D., III, 1977: A viscous sea ice law as a stochastic average of plasticity. Journal of Geophysical Research, 82, p.3932-3938.

Hibler, W.D., III, 1979: A dynamic thermodynamic sea-ice model. Journal of Physical Oceanography, 9, p.815-846.

Hibler, W.D., III, and W.B. Tucker, 1979: Some results from a linear-viscous model of the Arctic ice cover. Journal of Glaciology, 22(87), p.293-304.

Hibler, W.D., III, 1980: Documentation for a two-level dynamic thermodynamic sea ice model. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 80-8, 35p.

Hibler, W.D., III, 1980: Modeling a variable thickness sea ice cover. Monthly Weather Review, 108(12), p.1943-1973.

Hibler, W.D., III, I. Udin, and A. Ullerstig, 1981: On modeling mesoscale ice dynamics using a viscous plastic constitutive law. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 6th, Quebec City, Quebec, 27-31 July 1981. Proceedings, p.1317-1329.

Hibler, W.D., III, S.F. Ackley, 1983: Numerical simulation of the Weddell Sea pack ice. Journal of Geophysical Research, 88(C5), p.2873-2887.

Hibler, W.D., III, 1984: Ice dynamics. U.S. Army. Cold Regions Research and Engineering Laboratory. Monograph, 84-03, 52p.

Hibler, W.D., III, K. Bryan, 1984: Large-scale ice/ocean model for the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.1-7.

Hibler, W.D., III, M. Lepparanta, 1984: MIZEX 83 mesoscale sea ice dynamics: Initial analysis. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.19-28.

Hibler, W.D., III, M. Lepparanta, S. Decato, K. Alverson, 1984: MIZEX 84 mesoscale sea ice dynamics: post operations report. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.66-69.

Hollinger, J.P., M.R. Keller, 1984: NRL RP-3A MIZEX 84 experiment report. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.114-117.

Holt, B., S.A. Digby, 1985: Processes and imagery of first-year fast sea ice during the melt season. Journal of Geophysical Research, 90(C3), p.5045-5062.

Hommel, M.J., F.G. Bercha, 1984: Quasi-static and dynamic ice-structure interactions in the marginal ice zones. In: International Offshore Mechanics and Arctic Engineering Symposium, 3rd New Orleans, Louisiana, February 12-17, 1984. Proceedings, (V.J. Lunardini, ed.), New York, American Society of Mechanical Engineers, 3, p.253-259.

Hunt, W.R., C.-M Naske, 1979: Baseline study of historic ice conditions in the Beaufort Sea, Chukchi Sea, and Bering Strait. In: Environmental Assessment of the Alaskan Continental Shelf,Vol 1.: Physical Science Studies. Principal Investigators' Final Project Reports. Boulder, Colorado, Outer Continental Shelf Environmental Assessment Program, p.122-534.

Huppert, H.E. and J.S. Turner, 1978: On melting icebergs. Nature, 271, p.46-48.

Hutter, K., 1973: On the fundamental equations of floating ice. Zurich. Eidgenossische Technische Hochschule. Versuchsanstalt fur Wasserbau, Hydrologie und Glaziologie. Mitteilungen, no.8, 150p.

IAkovlev, V.N., Raschet kromki l'da v Okhotskom more. (Calculating ice edge in the Okhotsk Sea.) Moscow. Tsentral'nyi Institut Prognozov. Trudy, 146, p.98-106.

Ice conditions in areas adjacent to the North Atlantic Ocean from September to November 1982, 1983: Marine Observer, 53(280), p.98-101.

Ice conditions in areas adjacent to the North Atlantic Ocean from September to November 1983, 1984: Marine Observer, 54(284), p.93-96.

Inkster, D.R., J. Crawford, D. Grant, 1983: Real time surveillance of the Bering Sea ice edge using airborne radar. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings. Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, vol.3, p.163-172.

Ito, H., 1982: Sea ice atlas of northern Baffin Bay. Zurcher Geographischen Schriften, Special Issue, no.7, 142p.

Jacobs, J.D., R.G. Barry, R.L. Weaver, 1975: Fast ice characteristics, with special reference to the eastern Canadian Arctic. Polar Record, 17 (110), p.521-536.

Jacobs, J.D., J.P. Newell, 1979: Recent year-to-year variations in seasonal temperatures and sea ice conditions in the Canadian Arctic. Arctic, 32, p.345-354.

Johannessen, O.M., B.A. Farrelly, 1984: Mesoscale ice drift from Argos buoys. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.61-62.

Johnson, C.M., 1980: Wintertime arctic ice extremes and the simultaneous atmospheric circulation. Monthly Weather Review, 108, p.1782-1791.

Josberger, E.G., 1983: Sea ice melting in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2841-2844.

Josberger, E.G., 1984: Extreme ice edge ablation studies. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.74-75.

Karakash, E.S., 1971: Changes in the position of ice edge in North Caspium and the prospects of their forecasting. U.S. Naval Oceanographic Office. Translation, no.523, 32p. NTIS no. AD-724 672.

Karakash, A.I., 1983: Predvychislenie sezonnogo khoda ledovitosti Okhotskogo moria. (Calculating the seasonal course of ice conditions in the Okhotsk Sea.) Leningrad. Gidrometeorologicheskii Nauchno-Issledovatel'skii Tsentr SSSR. Trudy, 255, p.57-63.

Karelin, I.D., 1981: Smeshchenie kromok l'da i granits ledianykh massivov v arkticheskikh moriakh v letnii period. (Shifting of ice edges and massive ice boundaries in Arctic seas during summer.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 372, p.106-113.

Karpets, V.M., 1974: Vliianie teplovogo rezhima prizemnogo sloia atmosfery na ploshchad' morskikh l'dov. (Effect of the thermal regime of the surface atmosphere on sea ice area.) Akademiia Nauk SSSR. Tikhookeanskii Institut Geografii. Issledovanie Sistemy 'Lednikii-Okean-Atmosfera'. Vladivostok, p.23-28.

Kawamura, A., T. Furuno, 1977: On the northern extreme of the pack-ice edge observed by whaling vessels in the summer of the antarctic seasons 1957/58-1962/63. Whales Research Institute. Scientific Report, no.29, p.137-141.

Keen, R.A., 1977: The response of Baffin Bay ice conditions to changes in atmospheric circulation patterns. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 4th, St. John's, Newfoundland. Proceedings, Vol. II, (D.B. Muggeridge, ed.), p.963-971.

Kelly, P.M., 1978: Forecasting the Arctic ice on time scales of a few months to many years. Climate Monitor, 1(3), p.95-99.

Kelly, P.M., 1979: An Arctic sea ice data set, 1901-1956. World Data Center-A for Glaciology. Glaciological Data, Report GD-5, p.101-106.

Kergomard, C., 1985: Quelques effets de la circulation atmospherique sur l'extension des glaces marines dans les mers Arctiques Europeenes. Norois (Poitiers), in press.

Ketchum, R.D., Jr., L.D. Farmer, 1980: Eastern Arctic SURSAT SAR ice experiment: radar signatures of sea ice features. U.S. Naval Ocean Research and Development Activity. Technical Note, no.68, 14p.

Kirillov, A.A., M.S. Khromtsova, 1972: Many-year variations of the ice coverage of the Greenland Sea and methods of forecasting it. AIDJEX Bulletin, 16, p.46-55.

Koch, L., 1945: The East Greenland ice. Meddelelser om Gronland, 130(3), 374p.

Kogan, B.A., N.F. Orlov, 1977: Granitsy rasprostraneniia l'dov i aisbergov v Severnoi Atlantike. (Boundaries of ice and iceberg distribution in the North Atlantic Ocean.) In: Prirodnye Usloviia i Estestvennye Resursy Severnykh Morei, (V.T.Zhevnovatyi, ed.), Leningrad, Gidrometeoizdat, p.74-82.

Kogan, B.A., 1977: Izmenchivost' ledovykh uslovii v Datskom prolive. (Ice condition variations in the Denmark Strait.) Problemy Arktiki i Antarktiki, 50, p.129-133.

Kogan, B.A., N.A. Nikol'skaya, L.N. Zuev, 1977: Prognoz ledovitosti; polozheniya kromki l'da v Datskom prolive na vesenne-letnii period. (Forecasting ice conditions and ice edge positions in the Denmark Strait during the spring-summer period). Problemy Arktiki i Antarktiki, 52, p.47-53.

Kogan, B.A., A.N. Zuev, 1980: Vozmozhnosti prognoza ledovitosti i polozheniya kromki l'da v Datskom prolive na osennezimniy period. (Possibility of forecasting the ice amount and ice edge position in Denmark Strait for the fall-winter period.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 348, p.47-54.

Kogan, B.A., N.F. Orlov, 1981: Novye metodiki ledovykh prognozov po Severo-Zapadnoi Atlantike. (New ice forecasting techniques for the northwestern Atlantic Ocean.) Meteorologiia i Gidrologiia, no.11, p.71-76.

Kogan, B.A., N.A. Nikol'skaia, L.N. Zuev, 1982: Prognosis of ice cover and ice edge in the Danish Strait in the spring-summer season. Problems of the Arctic and the Antarctic, 52, p.55-63.

Kogan, B.A., 1982: Variability of ice conditions in the Danish Strait. Problems of the Arctic and the Antarctic, 50, p.154-160.

Kogan, B.A., 1983: Opredelenie srednemesiachnogo polozheniia kromki l'da v Labradorskom more v zimnii period. (Determining mean monthly positions of ice edge in the Labrador Sea during winter periods.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.75-79.

Kogan, B.A., A.A. Kosolapov, 1983: Opyt dolgosrochnogo prognoza polozheniia kromki l'da dinamiko-statisticheskim metodom. (Using the dynamic-statistical method in long range forecasts of ice edge positions.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.67-74.

Kogan, B.A., V.I. Turchaninov, 1983: Prognoz polozheniia kromki l'da v more Labrador na zimnie mesiatsy. (Forecasting the ice edge position in the Labrador Sea in winter.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 385, p.32-39.

Kogan, B.A., V.I. Turchaninov, 1983: Vliianie krupnomasshtabnykh protsessov v atmosfere i okeane na polozhenie kromki l'da v Labradorskom more. (Influence of large-scale atmospheric and oceanic processes on the ice edge position in the Labrador Sea.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.75-79.

Kogan, B.A., A.A. Kosolapov, 1983: Vozmozhnosti primeneniia dinamiko-statisticheskogo metoda dlia prognozirovaniia polozheniia kromki l'da. (Using the dynamic-statistical method in predicting the position of ice edge.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 385, p.39-46.

Kovacs, A., 1972: On pressured sea ice. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.276-295.

Kovacs, A., M. Mellor, 1974: Sea ice morphology and ice as a geological agent in the southern Beaufort Sea. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed and J.F. Sater, eds.), Arctic Institute of North America, p.113-161.

Kovacs, A., R.M. Morey, 1978: Radar anisotropy of sea ice due to preferred azimuthal orientation of horizontal c-axes of ice crystals. Journal of Geophysical Research, 83(C12), p.6037-6047.

Kovacs, A., R.M. Morey, 1978: Radar anisotropy of sea ice due to preferred azimuthal orientation of the horizontal c-axes of ice crystals. AIDJEX Bulletin, no.38, p.171-201.

Kovacs, A., R.M. Morey, 1980: Investigations of sea ice anisotropy, electromagnetic properties, strength and under-ice current orientation. Memorial University of Newfoundland. Centre for Cold Ocean Resources Engineering. C-CORE Publication, 80-5, p.109-153.

Kovacs, A., D.S. Sodhi, 1980: Shore ice pile-up and ride-up: field observations, models, theoretical analyses. Cold Regions Science and Technology, 2, p.209-288.

Kozlovskii, A.M., 1969: Establishment of fast ice in Alasheyev Bight. Sovetskaia Antarkticheskaia Ekspeditsiia. Information Bulletin, 7(5), p.463-464.

Kozo, T.L., O.I. Diachok, 1973: Spatial variability of topside and bottomside ice roughness and its relevance to underside acoustic reflection loss. AIDJEX Bulletin, 19, p.113-121.

Kozo, T.L., W.B. Tucker, 1974: Sea ice bottomside features in the Denmark Strait. Journal of Geophysical Research, 79, p.4505-4511.

Kristensen, M., O. Orheim, P. Wadhams, 1981: Field experiments on Antarctic tabular icebergs. Polar Record, 20(128), p.445-448.

Krutskih, B.A., 1976: Peculiarities of ice formation in the Arctic Seas. In: Ice Forecasting Techniques for the Arctic Seas, New Delhi, Amerind Publishing Co., p.108-121.

Kryndin, A.N., 1964: Seasonal and interannual variations in the ice conditions and the position of the ice boundaries of the Far-Eastern Seas in relation to anomalies of atmospheric circulation. Gosudarstvennyi Okeanograficheskii Institut, Trudy, 71, p.5-82. (In Russian.)

Kryndin, A.N., 1971: Seasonal and yearly variations in the iciness and the position of ice edge in the Black and Azov Seas, which are associated with atmospheric circulation. U.S. Naval Oceanographic Office, Translation, no.522, 97p. NTIS no. AD-724 671.

Kudriavaia, K.I., E.K. Seriakov, L.I. Skriptunova, 1974: Morskie Gidrologicheskie Prognozy. (Marine hydrological forecasts.) Leningrad, Gidrometeoizdat, 310p.

Kukla, G., J. Gavin, 1981: Summer ice and carbon dioxide. Science, 214, p.497-503.

Kulakov, I.IU., M.I. Maslovskii, L.A. Timokhov, 1977: Seasonal variability of Antarctic sea ice extent: its numerical modeling. In: Symposium on Sea Ice Processes and Models, September 6-9, 1977. Proceedings, vol. 2, Seattle, University of Washington, p.121-127.

Kusunoki, K., 1975: Variation of pack-ice edge off Showa Station, Antarctica. Seppyo, 37(4), p.32-40. (In Japanese with English summary.)

Kusunoki, K., 1981: Variations of sea ice conditions in Lutzow-Holm Bay area, in Antarctica in the last 20 years. In: Sea Level, Ice and Climatic Change, (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication, no.131, p.171-176.

Kuznetsov, I.M., 1981: K voprosu o razrushennosti morskikh l'dov. (Problem of the disintegration of sea ice.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 384, p.123-129.

Lake, R.A., 1967: Heat exchange between water and ice in the Arctic Ocean. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 16(2/3), p.242-259.

Lake, R.A., E.L. Lewis, 1970: Salt rejection by sea ice during growth. Journal of Geophysical Research, 75, p.583-597.

Lamb, H.H., H.J. Morth, 1978: Arctic ice, atmospheric circulation and world climate. Geographical Journal, 144, p.1-22.

Langleben, M.P., 1968: Albedo measurements of an Arctic ice cover from high towers. Journal of Glaciology, 7, p.289-297.

Langleben, M.P., 1971: Albedo of melting sea ice in the southern Beaufort Sea. Journal of Glaciology, 10, p.101-104.

Langleben, M.P., 1972: The decay of an annual cover of sea ice. Journal of Glaciology, 11, p.337-344.

Langleben, M.P., E.R. Pounder, 1975: On the air drag of an Arctic ice floe. Geophysical Research Letters, 2, p.15-18.

Larsen, R.W., J.D. Lyden, R.A. Shuchman, R.T. Lowry, 1981: Determination of backscatter characteristics of sea ice using synthetic aperture radar data. ERIM report 142600-1-F, Ann Arbor, MI.

Lebedev, A.A., 1965: Izmenchivost' ledovykh usloviy v severo-zapadnoy Atlantike. (Variations of ice conditions in the northwestern Atlantic). Gosudarstvennyi Okeanograticheskii Institut. Trudy, 87, p.32-50. English translation, 1968: U.S. Naval Oceanographic Office. Translation. 382, 25p.

Lebedev, A.A., 1968: Variations of ice conditions in the Northeastern Atlantic.) U.S. Naval Oceanographic Office. Report, NOO-TRANS-382, 27p. NTIS no. AD-671 858.

Lebedev, A.A., 1968: Zone of possible icing of vessels in the Barents and Greenland Seas and in the North Atlantic. Materialy Rybokhozisistvennykh, Issledovanii Severnogo Basseina, 12, p.154-157. (In Russian).

Lebedev, A.A., N.S. Uralov, 1972: Anomalies in ice-cover, and the position of the ice edge, on the Atlantic fringes of the Arctic, as connected with the development of the atmospheric and oceanic processes. Materialy Rybokhozisistvennykh, Issledovanii Severnogo Basseina, 19, p.169-179. (In Russian). English translation, U.K. Meteorological Office Translation, no. 967, 8p.

Lebedev, A.A., N.A. Uralov, 1972: Methods of ice forecasting in the North Atlantic and adjacent seas. In: International Conference on Sea Ice, Reykjavik, May 10-13, 1971, Proceedings, Reykjavik, Iceland, National Research Council, p.59-61.

Lebedev, A.A., N.S. Uralov, 1972: O vozmozhnosti premeneniia sovremennykh teoreticheskikh skhem dlia rascheta vetrovogo dreifa ledovoi kromki v iugo-vostochnoi chasti Barentseva Moria. (Contemporary theoretical models for calculating ice edge drift in the southeastern Barents Sea.) Moscow. Gosudarstvennyi Okeanograficheskii Institut. Trudy, no.110, p.138-147.

Lebedev, A.A., N.S. Uralov, 1973: Nekotorye osobennosti kratkovremennykh izmenenii polozheniia kromki l'da v Barentsevom more. (Short-range variations in the ice edge position in the Barents Sea.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 307, p.63-72.

Lebedev, A.A., N.S. Uralov, 1976: An attempt to calculate ice cover of the sea according to the components of the ice balance (the example of the last Greenland ice belt). Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 320, p.65-82. English translation, 1979: U.S. Army. Cold Regions Research and Engineering Laboratory, Draft Translation, no. 699, 20p.

Lebedev, A.A., 1981: Mnogoletnyaya izmenchivost' ledovykh usloviy v polyarnykh rayonakh Atlanticheskogo Okeana. (Long range change in ice conditions of the polar Atlantic Ocean.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 372, p.26-34.

Lebedev, V.V., 1938: Rost l'dov arkticheskikh rekakh i moriakh v zavisimosti ot otritsatel'nykh temperatur vozdukha. (Growth of ice on Arctic coasts and seas and its dependence on negative air temperatures). Problemy Arktiki i Antarktiki, 5, p.9-25.

Leberl, F., J. Roggam, C. Elachi, W.J. Campbell, 1983: Sea ice motion measurements from Seasat SAR images. Journal of Geophysical Research, 88(C3), p.1915-1928.

Leberl, F., M.L. Bryan, C. Elachi, T. Farr, W.J. Campbell, 1979: Mapping of sea ice and measurement of its drift using aircraft synthetic aperture radar images. Journal of Geophysical Research, 84, p.1827-1835.

Lee, O.S., L.S. Simpson, 1954: A practical method of predicting sea ice formation and growth. U.S. Naval Hydrographic Office. Technical Report 4, 27p.

Lemke, P., E.W. Trinkl, K. Hasselmann, 1980: Stochastic dynamic analysis of polar sea ice variability. Journal of Physical Oceanography, 10, p.2100-2120.

Lepparanta, M., 1980: On the drift and deformation of sea ice fields in the Bothnian Bay. Winter Navigation Research Board, Helsinki, Finland. Research Report. No. 29.

Lepparanta, M., 1981: Model' dreifa l'da dlia Baltiiskogo moria. (Ice drift model for the Baltic sea.) In: Konferentsiia Baltiiskikh Okeanografov, 12th, Leningrad, April 14-17, 1980 i Soveshchanie Ekspertov po Vodnomu Balansu Baltiiskogo Moria, Leningrad, April 17-19 1980, Trudy, (F.S. Terziev, ed.), Leningrad, Gidrometeoizdat, p.167-183.

Lepparanta, M., 1982: Case study of pack ice displacement and deformation field based on LANDSAT images. Geophysica, 19(1), p.23-31.

Lepparanta, M., 1983: Investigation of Ice Dynamics in the Marginal Zone. (Periodic report no.3, 17 May-September 1983.) Helsinki, Merentutkimuslaitos, 9p. NTIS no. AD-A134 599.

Lepparanta, M., W.D. Hibler, III, 1983: Investigation of Ice Dynamics in the Marginal Zone. (Final technical report January-December 1983.) Helsinki, Merentutkimuslaitos, 106p. NTIS no. AD-A138 558.

Lepparanta, M., 1984: Analysis of linear sea ice models with an ice margin. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.31-36.

Lepparanta, M., W.D. Hibler, III, 1984: Mechanism for floe clustering in the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.73-76.

Lepparanta, M., W.D. Hibler, III, 1984: On the role of ice interaction in marginal ice zone dynamics. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.23-29.

Lewis, E.L., W.F. Weeks, 1971: Sea ice: some polar contrasts. In: Symposium on Antarctic Ice and Water Masses, (George Deacon, ed.), Sci-

Lewis, E.L., A.R. Milne, 1977: Underwater sea ice formations. In: Polar Oceans, (M.J. Dunbar, ed.), Arctic Institue of North America, p.239-245.

Lindsay, D.G., 1969: Ice distribution in the Queen Elizabeth Islands. In: Ice Seminar, Canadian Institute of Mining and Metallurgy, Special Vol. 10, p.45-60.

Livingstone, C.E., K. Okamota, R.K. Hawkins, T.L. Wilkinson, S. Young, L. Drapier Arsenault, D. Pearson, A.L. Gray, 1980: Classification of Beaufort Sea ice using active and passive microwave sensors. In: Proceedings of the COSPAR/SCOR/IUCRM Symposium on Oceanography from Space, Venice, Italy, 1980, 6p.

Loeng, H., T.E. Vinje, 1979: On the sea ice conditions in the Greenland and Barents Seas. International Conference on Port and Ocean Engineering under Arctic Conditions, 5th, Norwegian Institute of Technology, August 13-18, 1979, Trondheim, Norway. Proceedings, p.163-176.

Loshchilov, V.S., V.I. Shil'nikov, 1965: Opyt ispol'zovaniia i perspektivy radiolokatsionnogo metoda v ledovoi aviarazvedke. (Propects and experience obtained in using radar methods in aerial surveying of ice.) In: Primenenie Radiofizicheskikh Metodov V Okeanograficheskikh i Ledovykh Issledovaniiakh, (V.V. Bogorodskii, ed.), Leningrad, AANII, p.31-35.

Loshchilov, V.S., V.A. Voevodin, 1972: Opredelenie elementov dreifa ledianogo pokrova i peremeshcheniia kromki l'dov s pomoshch'iu samoletnoi radiolokatsionnoi stantsii bokovogo obzora "Toros". (Determining ice-drift elements and ice edge movements with an airborne Toros side-looking radar.) Problemy Arktiki i Antarktiki, 40, p.23-30.

Loshchilov, V.S., V.A. Voevodin, 1973: Determination of drift elements of the ice cover and ice edge movements by means of airborne radar. Problems of the Arctic and the Antarctic, 40, p.19-26.

Loshchilov, V.S., V.A. Voevodin, 1976: Determining elements of drift of the ice cover and movement of the ice edge by the aid of the Toros aircraft lateral scan radar station. U.S. National Aeronautics and Space Administration. Technical Translation, TT-F-17121, 16p.

Lowry, R.T., C.J. Brocher, 1978: An interactive correction and analysis system for airborne laser profiles of sea ice. Canadian Journal of Remote Sensing, 4, p.149-160.

Lunde, T., 1963: Sea ice in the Svalbard region 1957-1962. Norsk Polarinstitutt. Arbok 1962, p.24-34.

Lunde, T., 1965: Ice conditions at Svalbard, 1946-1963. Norsk Polarinstitutt. Arbok 1963, p.61-80.

Lyon, W., 1967: Under surface profiles of sea ice observed by submarine. In: International Conference on Low Temperature Science, Sapporo, August 14-19, 1966. Proceedings, 1, p.707-711.

Macklin, S.A., 1983: Wind drag coefficient over first-year sea ice in the Bering Sea. Journal of Geophysical Research, 88(C5), p.2845-2852.

Maksimov, I.V., N.P. Smirnov, V.N. Vorob'ev, 1964: Dolgosrochnyi prognoz mnogoletnikh izmenenii obshchei ledovitosti Barentseva moria. (Long-range forecasting of secular changes of the ice in the Barents Sea.) Materialy Rybokhoziaistvennykh Issledovanii Severnogo Basseina, 4, p.73-85.

Maksimov, I.V., V.V. Lykova, 1975: O nekotorykh prichinakh vekovoi migratsii kromki plavuchukh l'dov i zony rasprostraneniia avsbergov v Iuzhnom Okeane. (Some causes of the secular migration of the floating ice edge and of the zone of iceberg distribution in the Southern Ocean.) Sovetskaia Antarkticheskaia Ekspeditsiia. Informatsionnyi Biulleten, 8(12), p.646-648.

Markham, W.E., 1969: Growth, break-up and movement of ice in Canadian coastal waters. In: Ice Seminar, Canadian Insitute Mining and Metallurgy, Special Vol. 10, p.31-35.

Markham, D.G., 1983: Ocean Mixing and Circulation Response in the Marginal Ice Zone. U.S. Naval Postgraduate School, Monterey, CA., Master's Thesis. NTIS No.AD-A132 174.

Marko, J.R., R.E. Thomson, 1975: Spatially periodic lead patterns in the Canada Basin sea ice: a possible relationship to planetary waves. Geophysical Research Letters, 2, p.431-434.

Marko, J.R., R.E. Thomson, 1977: Rectilinear leads and internal motions in the pack ice of the western Arctic Ocean. Journal of Geophysical Research, 82, p.979-987.

Martin, S., 1974: Ice stalactites: comparison of a laminar flow theory with experiment. Journal of Fluid Mechanics, 63, p.51-59.

Martin, S., 1979: A field study of brine drainage and oil entrapment in first year sea ice. Journal of Glaciology, 29, p.473-501.

Martin, S., Bauer, J. 1980: Bering Sea ice-edge phenomena. In: Eastern Bering Sea Shelf: Oceanography and Resources, (D.W. Hood, J.A. Calder, eds.), Washington D.C., U.S. Department of Commerce, p.189-211.

Martin, S., 1980: Use of SEASAT (SMMR) imagery to study Bering Sea ice. Washington. University. Department of Oceanography. Interim Report, A80-21, 17p. NTIS no. PB81-106643.

Martin, S., P. Kauffman, 1981: A field and laboratory study of wave damping by grease ice. Journal of Glaciology, 27(96), p.283-313.

Martin, S., 1981: Frazil ice in rivers and ocean. Annual Review of Fluid Mechanics, 13, p.379-397.

Martin, S., R.D. Muench, C. Pease, J.E. Overland, 1982: Nature of the winter Bering Sea marginal ice zone. In: Oceans 82 Conference Record, Washington, D.C., p.1232-1235.

Martin, S., P. Kauffman, 1983: Movement and decay of ice edge bands in the winter Bering Sea. Journal of Geophysical Research, 88(C5), p.2803-2812.

Maslovskii, M.I., 1978: Raschet velichiny peremeshcheniia kromki l'dov v antarkticheskikh polyn'iakh. (Calculation of ice edge movement in antarctic polynyas.) Problemy Arktiki i Antarktiki, no.53, p.18-20.

Matzler, C., 1982: Microwave signatures of young sea ice and its influence on ice concentration algorithms. In: Symposium Internationale de la Commission VII de la Societe Internationale de Photogrammetrie et Teledetection, Toulouse, 13-17 September 1982, Actes, p.757-765.

Maykut, G.A., N. Untersteiner, 1971: Some results from a time dependent, thermodynamic model of sea ice. Journal of Geophysical Research, 76, p.1550-1575.

Maykut, G.A., 1978: Energy exchange over young sea ice in the central Arctic. Journal of Geophysical Research, 83(C7), p.3646-3658.

Maykut, G.A., 1984: Heat and mass balance observations during the MIZEX 83 drift program. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.35-46.

Maykut, G., 1984: Ice modeling discussions. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.96.

Maykut, G.A., 1984: On the decay and retreat of the ice cover in the summer MIZ. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.15-22.

Maykut, G.A., 1984: University of Washington heat and mass balance program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.76-77.

McLain, E.P., 1973: Quantitative use of satellite vidicon data for delimiting sea ice conditions. Arctic, 26, p.44-57.

McNutt, L., 1981: Ice conditions in the Eastern Bering Sea from NOAA and Landsat imagery: winter conditions 1974, 1976, 1977, 1979. U.S. National Oceanic and Atmospheric Administration, Technical Memorandum, TM-ERL PMEL-24, 179p.

McPhee, M.G., 1978: Simulation of inertial oscillation in drifting pack ice. Dynamics of Atmospheres and Oceans, 2, p.107-122.

McPhee, M.G., 1979: Effect of the oceanic boundary layer on the mean drift of pack ice: Application of a simple model. Journal of Physical Oceanography, 9, p.388-400.

McPhee, M.G., 1980: An analysis of pack ice drift in summer. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, p.62-75.

McPhee, M.G., 1982: Sea ice drag laws and simple boundary layer concepts, including applications to rapid melting. U.S. Army. Cold Regions Research and Engineering Laboratory. CRREL Report CR 82-04, 17p.

McPhee, M.G., E.G. Josberger, 1984: Comment on "Sea ice melting in the marginal sea ice zone," by Edward G. Josberger. Journal of Geophysical Research, 89(C1), p.759-761.

McPhee, M.G., 1984: Drift velocity during the drift-station phase of MIZEX 83. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.1-12.

Mecking, L., 1906: Die Eisdrift aus dem Bereich der Baffin-Bai beherrscht von Strom und Wetter. Veroffentlichungen des Institut Meereskunde und des Geographischen Instituts an der Univisitat Berlin, 7, 135p.

Meinardus, W., 1906: Periodische Schwankungen der Eisdrift bei Island. (Periodic variations of drifting ice near Iceland.) Annaler der Hydrographie und Maritimen Meteorologie, 34, p.148-162, p.227-239, p.278-285.

Micklin, P.P., 1981: A preliminary systems analysis of impacts of proposed Soviet river diversions on Arctic sea ice. EOS, 62, p.489-493.

Mileiko, G.N., 1973: Prognoz raspredeleniia temperatury vody i polozheniia kromki l'da v Beringovom more v kholodnuiu chast' goda. (Forecasting water temperature distribution and ice edge location in the Bering Sea during the cold part of the year.) Leningrad. Gidrometeorologicheskii Nauchno-Issledovatel'skii Tsentr SSSR. Trudy, 127, p.100-104.

Miles, M.K., 1974: An index of pack-ice severity off Newfoundland and its secular variation. Meteorological Magazine, 103, p.121-125.

Miller, J.D., 1979: Equilibrium surface temperature climate model applied to first year sea ice growth. Ottawa, Carleton University, 183p.

Mills, D.A., 1969: Waves, pressure disturbances and floating icefields. Flinders University of South Australia. Horace Lamb Centre for Oceanographic Research, Research Paper 33, 27p.

Mills, D.A., 1972: On waves in a sea ice cover. Flinders Unversity, Horace Lamb Centre for Oceanographic Research. Research Paper 53, 67p.

Milne, A.R., 1972: Thermal tension cracking in sea ice: a source of under-ice noise. Journal of Geophysical Research, 77, p.2177-2192.

Mironov, E.U., 1981: Predstavlenie polozheniia kromki l'da posredstvom razlozheniia na estestvennye ortogonal'nye sostavliaiushchie (na primere Devisova proliva). (Presentation of ice edge position by means of splitting into natural orthogonal components [the Davis Strait].) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 384, p.45-52.

Moore, S.C. and P. Wadhams, 1980: Recent developments in strainmeter design. In: Workshop on Stress and Strain Measurement in Ice, Memorial University, St. John's, Newfoundland, 29 April - 2 May, 1980. Proceedings, p.97-125.

Morey, R.M., 1975: Airborne sea ice thickness profiling using an impulse radar. U.S. Coast Guard, Technical Report, No. CG-D-178-75.

Morozov, P.T., 1975: Fiziko-khimicheskie svoistva l'dov v prikromochnoi zone Beringova moria. (Physical and chemical properties of ice in the Bering Sea ice edge zone.) In: Sovetsko-Amerikanskii Eksperiment "Bering". Trudy. Zakliuchitel'nogo Simpoziuma po Itogam Sovmestnoi Sovetsko-Amerikanskoi Ekspeditsii, Leningrad, 12-17 maia, 1974. (U.S.S.R.-U.S.A. Bering Sea Experiment: Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings.) Leningrad, Gidrometeoizdat, p.191-195.

Moskal', T.N. 1977: Rezul'taty primeneniia chislennogo metoda dlia rascheta elementov ledovogo rezhima Barentseva moria v osenne-zimnii period. (Results of applying a numerical method of calculating ice conditions in the Barents Sea during the fall-winter period.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 346, p.45-54.

Muench, R.D., K. Ahlnas, 1976: Ice movement and distribution in the Bering Sea from March to June 1974. Journal of Geophysical Research, 81, p.4467-4476.

Muench, R.D., R.L. Charnell, 1977: Observations of medium-scale features along the seasonal ice edge in the Bering Sea. Journal of Physical Oceanography, 7, p.602-606.

Muench, R.D., G.R. Stegen, L.E. Hachmeister, S. Martin, 1983: Prediction of ice distribution and movement in the outer marginal ice zone. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings, Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, p.190-199.

Murauchi, S., Y. Yoshida, 1959: Reports of sea ice observations of the Japanese Antarctic Research Expedition 2, 1957-1958. Antarctic Record, 8, p.22-39.

Mygind, O., 1984: Ice reconnaissance by the Danish Meteorological Institute's ice patrol. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.58-60.

Nakawa, M., N.K. Sinha, 1981: Growth rate and salinity profile of first year sea ice in the high Arctic. Journal of Glaciology, 26, p.315-330.

Nazarov, V.S., 1947: Istoricheski khod ledovitosti Karskogo Morya. (Historical variations of ice conditions in the Kara Sea). Vsesoivznoe Geograficheskoe Obshchchestvo. Isvestiia, 79(6), p.653-655.

Nazirov, M.G., V.G. Trofimova, 1982: Nekotorye cherty prostranstvennoi struktury ledianogo pokrova arkticheskikh morei v sviazi s turbulentnym treniem i geostroficheskim zakhvatom prilivnoi volny. (Some features of the space structure of ice covers in Arctic seas related to turbulent friction and geostrophic capture of tidal waves.) In: Issledovaniia Arktiki, Antarktiki i Mirovogo Okeana, (E.I. Tolstikov, N.A. Kornilov, eds.), Leningrad, Gidrometeoizdat, p.117-121.

Nazintsev, IU.L., 1972: Estimating the lateral melting of drift ice. AIDJEX Bulletin, 17, p.71-76.

Neshyba, S., 1977: Upwelling by icebergs. Nature, 267, p.507-508.

Nevel, D.C., 1970: Moving loads on a floating ice sheet. U.S. Army. Cold Regions Research and Engineering Laboratory, Report 261, 13p.

Niebauer, H.J., 1980: Sea ice and temperature variability in the eastern Bering Sea and the relation to atmospheric fluctuations. Journal of Geophysical Research, 85(C12), p.7507-7515.

Niebauer, H.J., 1983: Multiyear sea ice variability in the Eastern Bering Sea: an update. Journal of Geophysical Research, 88(C5), p.2733-2742.

Niebauer, H.J., V. Alexander, 1984: Marginal ice zone modeling: Bering Sea viewpoint. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.55-62.

Nikolaev, S.G., 1975: Raschet ledovitosti Finskogo zaliva na vesenniuiu navigatsiiu. (Calculation of ice conditions in the Gulf of Finland for the spring navigable period.) Meteorologiia i Gidrologiia, no.5, p.86-91.

Ogilvie, A.E.J., 1984: Past climate and sea-ice record from Iceland, Part 1: Data from A.D. 1780. Climatic Change, 6, p.131-152.

Onstott, R.G., R.K. Moore, 1984: Active microwave measurements of sea ice in the marginal ice zone. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.128.

Onstott, R.G., S.P. Gogineni, 1985: Active microwave measurements of Arctic sea ice under summer conditions. Journal of Geophysical Research, 90(C3), p.5035-5040.

Oradovskii, S.G., A.E. Filonov, 1972: Nekotorye dannye po khimii l'dov i prilednykh vod Severnogo Kaspiia. (Some data on the chemistry of ice and near-ice waters in the north Caspian Sea.) Moscow. Vsesoiuznyi Nauchno-Issledovatel'skii Institut Morskogo Rybnogo Khoziaistva i Okeanografii. Trudy, 75, p.74-79. (In Russian with English summary.)

Orlov, N.F., 1977: Prostranstvenno-vremennaia izmenchivost; ledovitost' i polozhenie kromki l'da v severo-zapadnoi Atlantike. (Space-time variations of ice conditions and ice edge positions in the northwestern Atlantic Ocean.) Problemy Arktiki i Antarktiki, 52, p.54-59.

Orlov, N.F., 1980: Metodika prognoza polozheniya kromki l'da na dekadu v Labradorskom more. (Method of predicting the position of an ice edge for a 10-yr period in the Labrador Sea.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 348, p.60-64.

Orlov, N.F., 1982: Space-time variability of ice cover and location of the ice edge in northwestern Atlantic Ocean.) Problems of the Arctic and the Antarctic, vol.52, p.64-71.

Overland, J.E., H.O. Mofjeld, C.H. Pease, 1984: Wind-driven ice drift in a shallow sea. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.49-53.

Ovsienko, S.N., 1977: Numberical modelling of the drift of ice. Akademiia Nauk SSSR. Izvestiia. Atmospheric and Oceanic Physics, 12(11), p.740-743.

Ovsienko, S.N., V.O. Efroimson, 1979: K teorii dreifa taiushchego l'da. (Theory of melting ice drift.) Akademiia Nauk SSSR. Doklady, 246(5), p.1066-1070.

Ovsienko, S.N., V.O. Efroimson, 1979: Theory of drift of melting ice. Akademiia Nauk SSSR. Doklady, Earth Science Sections, 246(1-6), p.25-27.

Ovsienko, S.N., V.O. Efroimson, 1983: K teorii dinamicheskogo i termicheskogo pereraspredeleniia l'da v more. (Theory of thermodynamic redistribution of sea ice.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.8-19.

Ovsienko, S.N., V.O. Efroimson, 1983: O granichnykh usloviiakh v modeliakh dinamiko-termicheskogo pereraspredeleniia ledianogo pokrova. (Boundary conditions in the models of the thermodynamic redistribution of ice covers.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.20-22.

Paquette, R.B., R.H. Bourke, 1973: Oceanographic Measurements Near the Arctic Ice Margins. (Final Report 15 May 72-30 November 73) U.S. Naval Postgraduate School, Monterey, CA., 94p. NTIS no. AD-772 938.

Parkinson, C.L., D.J. Cavalieri, 1982: Interannual sea-ice variations and sea-ice/atmosphere interactions in the southern ocean, 1973-1975. Annals of Glaciology, 3, p.249-256. (International Symposium on Antarctic Glaciology, 3rd, Columbus, Ohio, September 7-12, 1981.)

Parkinson, C.L., A.J. Gratz, 1983: On the seasonal sea ice cover of the Sea of Okhotsk. Journal of Geophysical Research, 88(C5), p.2793-2802.

Parkinson, C.L., R.A. Bindschadler, 1984: Response of Antarctic sea ice to uniform atmospheric temperature increases. American Geophysical Union. Geophysical Monograph, no.29, p.254-264.

Pease, C.H., 1981: Eastern Bering Sea ice dynamics and thermodynamics. In: Eastern Bering Sea Shelf: Oceanography and Resources, (D.W. Hood, J.A. Calder, eds.), Washington D.C., U.S. Department of Commerce, p.213-222.

Pease, C.H., S.A. Schoenberg, J.E. Overland, 1982: Climatology of the Bering Sea and its relation to sea ice extent. U.S. National Oceanic and Atmospheric Administration. Pacific Marine Environmental Laboratory, 36p. NTIS no. PB82-246950

Pease, C.H., S.A. Salo, J.E. Overland, 1983: Drag measurements for first-year sea ice over a shallow sea. Journal of Geophysical Research, 88(C5), p.2853-2862.

Perchal, R.J., 1975: Western Ross Sea and McMurdo Sound ice forecasting guide. U.S. Naval Oceanographic Office. Special Publication, SP-265, 132p.

Preobrazhenskii, L.IU., 1977: Otsenka sostavliaiushchikh teplovogo balansa poverkhnosti ledovogo pokrova Tsentral'noi Arktiki. (Evaluating heat balance components of the Central Arctic ice cover surface.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.23-51.

Provorkin, A.V., 1982: Morskie l'dy v more Ueddella po dannym meteorologicheskikh ISZ letom 1977/78 g. (Sea ice in the Weddell Sea according to satellite data in the summer of 1977/78.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 369, p.82-89.

Rabinovich, IU.I., V.S. Loshchilov, E.M. Shul'gina, 1975: Analiz rezul'tatov izmerenii kharakteristik ledianogo pokrova (variant C). (Analysis of measured ice-cover characteristics [Option C].) In: Sovetsko-amerikanskii eksperiment "Bering". Trudy. Zakliuchitel'nogo Simpoziuma po Itogam Sovmestnoi Sovetsko-Amerikanskoi Ekspeditsii, Leningrad, 12-17 Maia, 1974. (U.S.S.R.-U.S.A. Bering Sea Experiment: Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings.) Leningrad, Gidrometeoizdat, p.294-313.

Rapley, C.G., 1984: First observations of the interaction of ocean swell with sea ice using satellite radar altimeter data. Nature, 307(5947), p.150-152.

Reynolds, M., C.H. Pease, 1984: Drift characteristics of northeastern Bering Sea ice during 1982. U.S. National Oceanic and Atmospheric Administration. Technical Memorandum, ERL PMEL-55, 135p. NTIS no. PB84-213982.

Roed, L.P., J.J. O'Brien, 1983: Coupled ice-ocean model of upwelling in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2863-2872.

Roed, L.P., O.M. Smedstad, 1984: Mesoscale coupled ice/ocean modeling of the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.37-42.

Roed, L.P., 1984: A thermodynamic coupled ice-ocean model of the marginal ice zone. Journal of Physical Oceanography, 14(12), p.1921-1929.

Romanov, A.A., 1974: Major characteristics of ice distribution in the seas surrounding east Antarctica. Sovetskaia Antarkticheskaia Ekspeditsiia. Informatsionnyi Biulleten, 8(11), p.617-619.

Ross, D.B., J. Tomchay, 1984: SLAR and laser observations of sea ice during MIXEX '84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.125-127.

Rothrock, D.A., 1984: Helicopter photography of ice conditions. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.78.

Saltzman, B., 1979: Simple sea-ice/ocean-temperature oscillator model. WMO. Global Atmospheric Research Programme, Joint Organizing Committee. Publications Series No. 22, 2, p.917-933.

Sanderson, R.M., 1971: Ice-edge movements in the Greenland Sea. Marine Observer, 41(234), p.173-183.

Sawada, T., 1969: On the use of satellite pictures to pursue the ice-edge retreats. Hakodate Marine Observatory. Bulletin, no.14, 5p. (In Japanese.)

Schgounn, C., 1984: Ice microwave remote sensing evaluation program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.129-131.

Shen, H., W.D. Hibler III, M. Lepparanta, 1984: On the rheology of a broken ice field due to floe collision. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.29-34.

Shestopalov, V.P., 1983: Kompleksnye radiofizicheskie issledovaniia ledovykh pokrovov. (Integrated radiophysical studies of ice covers.) Akademiia Nauk SSSR. Doklady, 272(3), p.598-600.

Shine, K.P., A. Henderson-Sellers, R.G. Barry, 1982: Albedo-climate feedback: The importance of cloud and cryosphere variability. EOS, 63(51), p.1298.

Shine, K.P., A. Henderson-Sellers, 1985: Sensitivity of a thermodynamic ice model to changes in surface albedo parameterization. Journal of Geophysical Research, in press.

Siniurin, IU.N., 1971: Graficheskii sposob opredeleniia smeshcheniia kromki plavuchikh l'dov v zavisimosti ot vetra. (Graphic method of determining the displacement of floating ice edge, depending on wind.) Meteorologiia i Gidrologiia, no.9, p.100-101.

Squire, V.A., 1983: Dynamics of ice floes in sea waves. Journal of the Society for Underwater Technology, 9(1), p.20-26.

Squire, V.A., P. Wadhams, A.M. Cowan, S. O'Farrell, R. Weintraub, 1983: MIZEX 83 data summary. Scott Polar Research Institute. Sea Ice Group, 154p.

Squire, V.A., 1984: How waves break up inshore fast ice. Polar Record, 22(138), p.281-285.

Squire, V.A., 1984: On the critical angle for ocean waves entering shore fast ice. Cold Regions Science and Technology, 10, p.59-68.

Squire, V.A., 1984: Theoretical, laboratory, and field study of ice-coupled waves. Journal of Geophysical Research, 89(C5), p.8069-8079.

Stoliarova, G.A., 1976: Prognoz ledovitosti Tatarskogo proliva. (Forecasting ice conditions in the Tatar Strait.) Vladivostok. Dal'nevostochnyi Nauchno-Issledovatel'skii Gidrometeorologicheskii Institut. Trudy, 62, p.154-167.

Streten, N.A., 1983: Antarctic sea ice and related atmospheric circulation during FGGE. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 32(3), p.231-246.

Stringer, W.J., 1980: Nearshore ice characteristics in the eastern Bering Sea. In: Eastern Bering Sea Shelf: Oceanography and Resources, (D.W. Hood, J.A. Calder, eds.), Washington D.C., U.S. Department of Commerce, p.167-187.

Stringer, W.J. 1982: Characteristics of nearshore ice in southwestern Alaska. Journal of Environmental Sciences, 25(5), p.23-29.

Svendsen, E., K. Kloster, B. Farrelly, O.M. Johannessen, J.A. Johannessen, W.J. Campbell, P. Gloersen, D. Cavalieri, C. Matzler, 1983: Norwegian Remote Sensing Experiment: evaluation of the Nimbus 7 scanning multichannel microwave radiometer for sea ice research. Journal of Geophysical Research, 88(C5), p.2781-2791.

Symonds, G., 1984: Bedford Institute of Oceanography Buoy Program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.63-65.

Takizawa, T. 1976: Sea ice conditions in Lutzow-Holm Bay from December 1974 to February 1975, observed by the 16th Japanese Antarctic Research Expedition. Antarctic Record, 55, p.92-98. (In Japanese with English summary.)

Thomas, R.H., T.V. Martin, H.J. Zwally, 1983: Mapping ice-sheet margins from radar altimetry data. Annals of Glaciology, 4, p.283-288.

Tsurikov, V.L., G.K. Zubakin, O.I. Sheremetevskaia, eds. 1983: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei. (Studying ice covers of northwestern seas.) Moscow, Nauka, 96p.

Tucker, W.B., III, 1982: Application of a numerical sea ice model to the East Greenland area. U.S. Army. Cold Regions Research and Engineering Laboratory. Report, 82-16, p.1-40.

Tucker, W.B., III, A.J. Gow, W.F. Weeks, 1984: Sea ice properties. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.82-83.

U.S. Naval Polar Oceanography Center, 1979: Eastern-Western Arctic Sea Ice Analysis, 104p.

U.S. Navy. Fleet Weather Facility, Suitland MD, 1975: Antarctic Ice Charts, 1973-1974, 112p. NTIS no. AD-A028 256.

Vinter, A.IA., N.F. Orlov, 1977: Ob opredelenii pogreshnosti polozheniia kromki l'da po faksimil'nym ledovym kartam. (Determining errors in ice edge positions on facsimile maps.) Problemy Arktiki i Antarktiki, 52, p.67-69.

Vinter, A.IA., N.F. Orlov, 1982: Error estimation in locating the ice edge from facsimile ice maps. Problems of the Arctic and the Antarctic, 52, p.81-83.

Voevodin, V.A., A.A. Romanov, 1981: Osobennosti szhatiia l'da v Antarktike. (Peculiarities of ice compression in Antarctica.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 372, p.129-134.

Wadhams, P., 1972: Measurement of wave attenuation in pack ice by inverted echo sounding. In: Sea Ice, (T. Karlsson, ed.), National Research Council of Iceland, Reykjavik, p.255-260.

Wadhams, P., 1973: The effect of a sea ice cover on ocean surface waves. University of Cambridge, Ph.D. dissertation.

Wadhams, P., R.T. Lowry, 1977: A joint topside-bottomside remote sensing experiment on Arctic sea ice. In: Canadian Symposium on Remote Sensing, 4th Quebec, Canada Remote Sensing Society. Proceedings, p.407-423.

Wadhams, P., R.J. Horne, 1978: An analysis of ice profiles obtained by submarine sonar in the AIDJEX area of the Beaufort Sea. Scott Polar Research Institute. Technical Report 78-1, Cambridge, England, 65p.

Wadhams, P., 1978: Sidescan sonar imagery of sea ice in the Arctic Ocean. Canadian Journal of Remote Sensing, 4, p.161-173.

Wadhams, P., 1979: Field experiments on wave-ice interaction in the Labrador and East Greenland currents, 1978. Polar Record, 19, p.373-379.

Wadhams, P., R.J. Horne, 1980: An analysis of ice profiles obtained by submarine sonar in the Beaufort Sea. Journal of Glaciology, 25(93), p.401-424.

Wadhams, P., V.A. Squire, 1980: Field experiments on wave-ice interaction in the Bering Sea and Greenland waters, 1979. Polar Record, 20, p.147-158.

Wadhams, P., 1980: Ice characteristics in the seasonal sea ice zone. In: Internationsal Workshop Seas Sea Ice Zone. Cold Regions Science and Technology, 2, p.37-87.

Wadhams, P., 1981: The ice cover in the Greenland and Norwegian Seas. Reviews of Geophysics and Space Physics, 19(3), p.345-393.

Wadhams, P., 1981: Sea ice topography of the Arctic Ocean in the region 70°W to 25°E. Royal Society of London. Philosphical Transactions, Series A, 302, p.45-85.

Wadhams, P. 1983: Mechanism for the formation of ice edge bands. Journal of Geophysical Research, 88(C5), p.2813-2818.

Wadhams, P., 1983: Sea ice thickness distribution in Fram Strait. Nature, 305(5930), p.108-111.

Wadhams, P., V.A. Squire, A.M. Cowan, 1984: Scott Polar Research Institute Programme on ice edge kinematics, waves and aerial photography during MIZEX-84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.70-73.

Walker, E.R., P. Wadhams, 1979: On thick sea-ice floes. Arctic, 32, p.140-147.

Walsh, J.E., 1978: A data set on northern hemisphere sea ice extent, 1953-76. World Data Center-A for Glaciology (Snow and Ice). Glaciological Data, Report GD-2, p.49-51.

Walsh, J.E., C.M. Johnson, 1979: An analysis of Arctic sea ice fluctuation, 1953-77. Journal of Physical Oceanography, 9, p.580-591.

Walsh, J.E., C.M. Johnson, 1979: Interannual atmospheric variability and associated fluctuations in Arctic sea ice extent. Journal of Geophysical Research, 84, p.6915-6928.

Walsh, J.E., 1980: Empirical orthogonal functions and the statistical predictability of sea ice extent. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.373-384.

Walsh, J.E., W.D. Hibler, III, B. Ross, 1984: Model simulation of 20 years of northern hemisphere sea-ice fluctuations. Annals of Glaciology, 5, p.170-176.

Walsh, J.E., W.D. Hibler III, 1984: East Greenland sea ice variability in large-scale model simulations. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.9-14.

Washington, W.M., A.J. Semtner, C. Parkinson, L. Morrison, 1976: On the development of a seasonal change sea-ice model. Journal of Physical Oceanography, 6, p.679-685.

Weaver, R.L., R.G. Barry, J.D. Jacobs, 1976: Fast ice studies in western Davis Strait. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 3rd, University of Alaska, Institute of Marine Science, 11-15 August 1975. Proceedings, 1, p.455-466.

Weber, J.R., M. Erdelyi, 1976: Ice and ocean tilt measurements in the Beaufort Sea. Journal of Glaciology, 17, p.61-71.

Weber, J.E., 1977: Heat and salt transfer associated with formation of sea ice. Tellus, 29, p.151-160.

Weeks, W.F., A. Kovacs, W.D. Hibler, III, 1971: Pressure ridge characteristics in the Arctic coastal environment. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 1st, Technical University of Norway, Trondheim, August 23-30, 1971. Proceedings, 1, p.152-183.

Weeks, W.F., A.J. Gow, 1978: Preferred crystal orientations in the fast ice along the margins of the Arctic Ocean. Journal of Geophysical Research, 83, p.5105-5121.

Weeks, W.F., A.J. Gow, 1978: Preferred crystal orientations in the fast ice along the margins of the Arctic Ocean. U.S. Army. Cold Regions Research and Engineering Laboratory. Report, 78-13, 24p.

Weeks, W.F., M. Mellor, 1978: Some elements of iceberg technology. In: Iceberg Utilization, (A.A. Husseiny, ed.), Pergamon, p.45-98.

Weeks, W.F., A.J. Gow, 1979: Crystal alignments in the fast ice of Arctic Alaska. U.S. Army. Cold Regions Research and Engineering Laboratory. Report, 79-22, 21p.

Weeks, W.F., W.B. Tucker, M. Frank, S. Fungcharoen, 1980: Characterization of the surface roughness and floe geometry of the sea ice over the continental shelves of the Beaufort and Chukchi Seas. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.300-312.

Weeks, W.F., A.J. Gow, 1980: Crystal alignments in the fast ice of Arctic Alaska. Journal of Geophysical Research, 85(C2), p.1137-1146.

Weeks, W.F., S.F. Ackley, 1983: Recent advances in understanding the structure properties, and behavior of sea ice in the coastal zones of the polar oceans. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings. Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, p.25-41.

Weertman, J., 1957: Deformation of floating ice shelves. Journal of Glaciology, 3, p.38-42.

Weitz, M., J.B. Keller, 1950: Reflection of water waves from floating ice in water of finite depth. Communications in Pure and Applied Mathematics, 3, p.305-318.

Wendler, G., 1973: Sea ice observation by means of satellite. Journal of Geophysical Research, 78, p.1427-1448.

Wendler, G., K.O.L.F. Jayaweera, 1976: Some remarks on the unusual Beaufort Sea ice conditions in the summer 1975. University of Alaska, Geophysical Institute, Report UAG R-246, Fairbanks, 28p.

Westhall, V.H., H. Li, 1976: An analysis of sea ice bottomside data in the Denmark Strait. AIDJEX Bulletin, 31, p.101-114.

Wetzel, V.F., R.K. Atwater, T.E. Huta, 1974: Arctic ice movement and environmental data stations. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed and J.F. Sater, eds.), Arctic Institute of North America, p.269-284.

Wiese, W., 1922: Die Einwirkung das Polareises in Gronlandischen Meere auf die nord-atlantische zyklonale Tatigkeit. Annaler der Hydrographie, 50, p.271-280.

Wiese, W., 1924: Polareis und atmospharische Schwankungen. Geografiska Annaler, 6, p.273-299.

Wiese, W., 1925: The significance of ice in spring in the Greenland Sea and of the East Iceland Polar Current for the following winter temperature distribution in Europe. Inst. Hydro., 14. (In Russian.)

Wilheit, T.T., W. Nordberg, J. Blinn, W.J. Campbell, A. Edgerton, 1972: Aircraft measurements of microwave emission from Arctic Sea ice. Remote Sensing of the Environment, 2, p.129-239.

Williams, E., C.W.M Swithinbank, G. de Q. Robin, 1975: A submarine sonar study of Arctic pack ice. Journal of Glaciology, 15(73), p.349-362.

Wittmann, W.I., J.J. Schule, 1966: Comments on the mass budget of arctic pack ice. In: Symposium on the Arctic Heat Budget and Atmospheric Circulation. Proceedings, (J.O. Fletcher, ed.), Rand Corp., Santa Monica, CA, RM-5233-NSF, p.215-246.

Wohl, G.M., 1978: A study of sea ice conditions and synoptic climatology for the Beaufort Sea coast of Alaska. University of Colorado, Boulder, M.A. thesis, 166p. Unpublished.

Yakovlev, G.N., 1975: Ledovyye Puti Arktiki. (Ice routes of the Arctic). Moscow, Mysl. Publ. House. English translation, 1977: Ottawa, National Defense Headquarters, DGIS Tranlation Library, no. 1653, 342p.

Zakharov, V.F., 1977: O prognoze srokov nachala ledoobrazovaniia v more Laptevykh. (Forecasting the dates of ice formation in the Laptev Sea.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 346, p.61-67.

Zakharov, V.F., L.A. Strokina, 1978: Recent variations in extent of Arctic Ocean ice cover. Soviet Meteorology and Hydrology, 7, p.35-43.

Zakharov, V.F., 1981: L'dy Arktiki i Sovremmenye Prirodnye Protsessy. (Ice of the Arctic and present day processes.) Leningrad, Gidrometeoizdat, 136p.

Zhitkov, IU.V., V.A. Genkin, V.V. Klaving, 1984: Radiolokatsionnoe obnaruzhenie morskikh l'dov. (Radar detection of sea ice floes.) Sudostroenie, no.1, p.27-29.

Zubakin, G.K., A.N. Zuev, B.V. Larin, O.N. Maiorov, 1977: Issledovanie dreifa l'dov v iugo-vostochnoi chasti Barentseva moria s pomoshch'iu RLS BO "Toros". (Using the "Toros" side-looking radar in studying ice drift in the southeastern Barents Sea.) In: Prirodnye Usloviia i Estestvennye Resursy Severnykh Morei, (V.T. Zhevnovatyi, ed.), Leningrad, Gidrometeoizdat, p.83-89.

Zubakin, G.K., A.N. Zuev, B.V. Larin, O.N. Maiorov, 1980: Investigation of ice drift in the southeastern part of the Barents Sea with the aid of a "Toros" peripheral scanning radar station. U.S. Army Cold Regions Research and Engineering Laboratory. Translation, 741, 7p.

Zubov, N.N., 1943: L'dy Arktiki. (Arctic Ice). Izdatel'stvo Glavsevmorputi (Northern Sea Route Administration), Moscow, 360p. English translation, 1974: U.S. Naval Oceanographic Office 217 and American Meteorological Society, 491p. NTIS No. AD-426-972.

Zwally, H.J., F.D. Carsey, P. Gloersen, W.J. Campbell, R.O. Ramseier, 1979: Antarctic sea ice variations 1973-1975. In: U.S. National Aeronautics and Space Administration. Weather and Climate Review, 4, (E.R. Kreins, ed.), p.335-340.

Zwally, H.J., J.C. Comiso, C.L. Parkinson, W.J. Campbell, F. Carsey, P. Gloersen, 1982: Antarctic Sea Ice Cover, 1973-76, from Satellite Passive Microwave Imagery. U.S. National Aeronautics and Space Administration. Goddard Space Flight Facility, Greenbelt, MD, 2 volumes.

Zwally, H.J., J.C. Comiso, 1982: Antarctic sea ice concentrations inferred from Nimbus 5 ESMR and Landsat imagery. Journal of Geophysical Research, 87(C8), p.5836-5844.

METEOROLOGY

Aagaard, K., P. Greisman, 1975: Toward new mass and heat budgets for the Arctic Ocean. *Journal of Geophysical Research*, 80, p.3821-3827.

Ackley, S.F., T.E. Keliher, 1976: Antarctic sea ice dynamics and its possible climatic effects. *AIDJEX Bulletin*, 33, p.53-76.

Ackley, S.F., 1981: Review of sea-ice weather relationships in the Southern Hemisphere. In: *Symposium on Sea Level, Ice and Climatic Change,* (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication, no.131, p.127-159.

Ackley, S.F., 1981: Sea-ice-atmosphere interactions in the Weddell Sea using drifting buoys. In: *Sea Level, Ice and Climatic Change, Symposium, 7-8 December 1979. Proceedings*. (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication No. 131, p.177-191.

Albright, M., 1980: Geostrophic wind calculations for AIDJEX. In: *Sea Ice Processes and Models,* (R. Pritchard, ed.), University of Washington Press, Seattle, p.402-409.

Anderson, R.J., S.D. Smith, R.E. Mickle, 1984: Wind stress and micrometeorology from KVITBJORN. In: *MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports*. *U.S. Army. Cold Regions Research and Engineering Laboratory*. *Special Report* 84-29, p.103-104.

Andreas, E.L., 1977: *Observations of velocity and temperature and estimates of momentum and heat fluxes in the internal boundary layer over Arctic leads*. Corvallis, Oregon State Univeristy, Ph.D. dissertation, 275p.

Andreas, E.L., C.A. Paulson, R.M. Williams, R.W. Lindsay, J.A. Businger, 1979: Turbulent heat flux from Arctic leads. *Boundary-Layer Meteorology*, 17, p.57-91.

Andreas, E.L., C.A. Paulson, 1979: Velocity spectra and cospectra and integral statistics over Arctic leads. *Quarterly Journal of the Royal Meteorological Society*, 105, p.1053-1070.

Andreas, E.L., 1980: Estimation of heat and mass fluxes over Arctic leads. *Monthly Weather Review*, 108, p.2057-2063.

Andreas, E.L., R.M. Williams, C.A. Paulson, 1981: Observations of condensate profiles over Arctic leads with a hot-film anemometer. *Quarterly Journal of the Royal Meteorological Society*, 107, p.437-460.

Andreas, E.L., W.B.. Tucker, III, S.F. Ackley, 1984: Atmospheric boundary-layer modification, drag coefficent, and surface heat flux in the Antarctic marginal ice zone. Journal of Geophysical Research, 89(C1), p.649-661.

Andreas, E., 1984: Atmospheric subgroup discussions. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.97.

Andreas, E.L., W.B. Tucker, S.F. Ackley, 1984: Variation of the drag coefficient across the Antarctic marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report no.84-07, P.63-71.

Arya, S.P.S., 1975: A drag partition theory for determining the large-scale roughness parameter and wind stress on the Arctic pack ice. Journal of Geophysical Research, 80, p.3447-3454.

Badgley, F.I., 1961: Heat balance at the surface of the Arctic Ocean. In: Western Snow Conference, 29th, April 11-13, 1961, Spokane, Washington. Proceedings, p.101-104.

Badgley, F.I., 1966: Heat balance at the surface of the Arctic Ocean. In: Symposium on the Arctic Heat Budget and Atmospheric Circulation. Proceedings. (J.O. Fletcher, ed.), The Rand Corp., Santa Monica, CA, RM-5233-NSF, p.267-277.

Baker, J.D., 1979: Ocean-atmosphere interaction in high southern latitudes. Dynamics of Atmospheres and Oceans, 3, p.213-229.

Banke, E.G., S.D. Smith, R.J. Anderson, 1977: Drag coefficients at AIDJEX from sonic anemometer measurements. In: Sea Ice Processes and Models, (R. Pritchard, ed.), University of Washington Press, Seattle, p.142-152.

Barry, R.G., R.S. Bradley, J.D. Jacobs, 1975: Synoptic climatological studies of the Baffin Island area. In: Climate of the Arctic (G. Weller and S.A. Bowling, eds.), University of Alaska, Geophysical Institute, p.82-90.

Barry, R.G., 1977: Study of climatic effects on fast ice extent and its seasonal decay along the Beaufort-Chukchi coasts. In: Environmental Assessment of the Alaskan Continental Shelf, Vol. XIV, Transport, U.S. National Oceanic and Atmospheric Administration, Environmental Research Laboratories, p.574-743.

Barry, R.G.. J.D. Jacobs, with R.G. Crane, R.A. Keen, R.E. Moritz, E.F. LeDrew, R.L. Weaver, 1978: Energy budget studies in relation to fast-ice breakup processes in Davis Strait: Climatological overview. Colorado. University. Institute of Arctic and Alpine Research. Occassional Paper no.26, 284p.

Barry, R.G., 1979: Study of climatic effects on fast ice extent and its seasonal decay along the Beaufort-Chukchi coasts. In: Environmental Assessment of the Alaskan Continental Shelf. Final Reports of Principal Investigators, Vol. 2, Physical Science Studies. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Boulder, Colorado, p.272-375.

Barry, R.G., 1980: Meteorology and climatology of the seasonal sea ice zone. Cold Regions Science and Technology, 2, p.133-150.

Barry, R.G., A. Henderson-Sellers, K.P. Shine, 1984: Climate sensitivity and the marginal cryosphere. American Geophysical Union. Geophysical Monograph, no.29, p.221-237.

Bjornsson, H., 1969: Sea ice conditions and the atmospheric circulation north of Iceland. Jokull, 19, p.11-17.

Blinov, N.I., S.V. Kochetov, 1978: Vliianie molodogo l'da na teploobmen mezhdu okeanom i atmosferoi v Arkticheskom basseine zimoi. (Influence of young ice on winter heat exchange between ocean and atmosphere in the Arctic basin.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.349, p.98-103.

Borisenkov, E.P., 1977: Eksperimental'nye issledovaniia prizemnogo sloia atmosfery v vysokikh shirotakh Arktiki. (Experimental studies of the atmospheric surface layer in high latitudes of the Arctic.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.10-19.

Borisenkov, E.P., A.P. Makshtas, L.IU. Preobrazhenskii, 1977: Opyt eksperimental'nogo issledovaniia vliianiia polynei i razvodii na energoobmen moria s atmosferoi v vysokikh shirotakh. (Experimental study of the effect of polynyas and leads on energy exchange between sea and atmosphere in high latitudes.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.64-70.

Brooks, C.E.P., W.A. Quennel, 1928: Influence of Arctic ice on the subsequent distribution of pressure over the eastern North Atlantic and Western Europe. British Meteorological Office. Geophysical Memoirs, 4(41).

Brost, R.A., J.C. Wyngaard, 1978: A model study of the stably stratified planetary boundary layer. Journal of the Atmospheric Sciences, 35, p.1427-1440.

Brown, G.S., 1978: Backscattering from a Gaussian-distributed perfectly conducting rough surface. IEEE Transactions on Antennas and Propagation, AP-26, p.472-782.

Brown, G.S., 1979: The estimation of wind speed using a spaceborne radar altimeter. Journal of Geophysical Research, 84, p.3974-8978.

Brown, R.A., 1980: Longitudinal instabilities and secondary flows in the planetary boundary layer: a review. Reviews of Geophysics and Space Physics, 18, p.683-697.

Brown, R.A., 1980: Modeling the geostrophic drag coefficient for AIDJEX. Journal of Geophysical Research, 86, p.1989-1994.

Brown, R.A., 1980: Planetary boundary layer modeling for AIDJEX. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.387-401.

Budyko, M.I., 1966: Polar ice and climate. In: Symposium on the Arctic Heat Budget and Atmospheric Circulation. Proceedings. (J.O. Fletcher, ed.), The Rand Corporation, Santa Monica, CA, RM-5233-NSF, p.3-22.

Bugaev, V.A., 1966: Edge of ice on the Southern Ocean and the trajectories of cyclones. In: International Oceanographic Congress, 2nd, Moscow, 1966. Abstracts of papers. Moscow, Nauka, p.57-58.

Bugaev, V.A., 1969: Polozhenie kromke l'dov i tsiklonicheskaia deiatel' nost' v IUzanom okeane. (Position of ice edge and cyclonic activity in the Southern Ocean.) Antarktika: Doklady Komissii, 1967, Moscow, Nauka, p.36-40.

Bugaev, V.A., 1971: Position of the ice edge and cyclonic activity in the Antarctic Ocean. Antarktika: Commission Reports 1967, Jerusalem, Israel Program for Scientific Translations, p.37-41.

Buianov, N.F., V.A. Kokaev, G.K. Naumov, 1975: O rezul'tatakh nabliudenii za obledeneniem sudov v prikromochnoi zone Beringova moria v 1971-72 g. (Observing ship icing near the ice-edge zone of the Bering Sea in 1971-72.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.317, p.144-151.

Campbell, W.J., 1965: The wind driven circulation of ice and water in a polar ocean. Journal of Geophysical Research, 70, p.3279-3301.

Campbell, W.J., P. Gloersen, R.O. Ramseier, 1975: Synoptic ice dynamics and atmospheric circulation during the Bering Sea experiment. In: USSR/US Bering Sea Experiment, (K. Ya. Kondratyev, ed.), Gidrometeoizdat, Leningrad, p.164-185.

Carleton, A.M., 1981: Ice-ocean-atmosphere interactions at high southern latitudes in winter from satellite observations. Australian Meteorological Magazine, 29(4), p.183-195.

Carleton, A.M., 1981: Monthly variability of satellite-derived cyclonic activity for the southern hemisphere winter. Journal of Climatology, 1, p.21-28.

Carleton, A.M., 1982: Cryosphere-climate interactions based on satellite data analysis of cloud vortex systems in the Northern Hemisphere. University of Colorado, Boulder, Ph.D. Dissertation.

Carleton, A.M., 1983: Variations in Antarctic sea ice conditions and relationships with Southern Hemisphere cyclonic activity, winters 1973-77. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie B, 32(1), p.1-22.

Carleton, A.M., 1984: Cloud-cryosphere interactions. In: Satellite Sensing of a Cloudy Atmosphere: Observing the Third Planet. (A. Henderson-Sellers, ed.), London, Taylor and Francis, p.289-325.

Carleton, A.M., 1984: Synoptic sea ice - atmospheric interactions in the Chukchi and Beaufort Seas from Nimbus 5 ESMR data. Journal of Geophysical Research, 89(D5), p.7245-7258.

Carleton, A.M., 1985: Synoptic cryosphere-atmosphere interactions in the Northern Hemisphere from DMSP image analysis. International Journal of Remote Sensing, 6(1), p.239-261.

Carsey, F.D., E. Leavitt, 1977: Pibal/acoustic radar data in measurement-and computation of air stress over pack ice. AIDJEX Bulletin, 36, p.87-128.

Carsey, F.D., 1980: The boundary layer height in air stress measurement. In: Sea Ice Processes and Models, (R. Pritchard, ed.), University of Washington Press, Seattle, p.443-451.

Cavalieri, D.J., C.L. Parkinson, 1981: Large scale variations in observed Antarctic sea ice extent and associated atmospheric circulation. Monthly Weather Review, 109(11), p.2323-2336.

Chen, C.F., 1981: Turbulent flux measurements in the Arctic planetary boundary layer. University of Wisconsin, Meteorology Department, M.S. thesis, 96p.

Clarke, A.J., 1978: On wind-driven quasi-geostrophic water movements near fast-ice edges. Deep-Sea Research, 25, p.41-51.

Coachman, L.K., T.H. Kinder, J.D. Schumacher, R.B. Tripp, 1980: Frontal systems of the southeastern Bering Sea strait. In: International Symposium on Stratified Flows, 2nd. Proceedings, (T. Carstens and T. McClimans, eds.), Trondheim, p.917-927.

Crane, R.G., 1978: Seasonal variations of sea ice extent in the Davis Strait-Labrador Sea area and relationships with synoptic-scale atmospheric circulation. Arctic, 31, p.434-447.

Crane, R.G., 1978: Synoptic controls on the energy budget regime of an ablating fast ice surface. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 28, p.53-70.

Crane, R.G., 1981: Synoptic ice-atmosphere interaction analysis using Northern Hemisphere satellite ESMR data. University of Colorado, Boulder, Ph.D. Dissertation.

Crane, R.G., R.G. Barry, H.J. Zwally, 1982: Analysis of atmosphere-sea ice interactions in the Arctic Basin using ESMR microwave data. International Journal of Remote Sensing, 3, p.259-276.

Crane, R.G., 1983: Atmosphere-sea ice interactions in the Beaufort/Chukchi Sea and in the European sector of the Arctic. Journal of Geophysical Research, 88(C7), p.4505-4523.

Davidson, K.L., G.L. Geernaert, 1984: R/V HAKON MOSBY meteorological measurements/conditions. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.93-95.

Den Hartog, G., S.D. Smith, R.J. Anderson, D.R. Topham, R.G. Perkin, 1983: Investigation of a polynya in the Canadian Archipelago, 3, Surface heat flux. Journal of Geophysical Research, 88(C5), p.2911-2916.

Dey, B., 1980: Sea ice cover and related atmospheric conditions in Arctic Canada during the summer of 1978. Monthly Weather Review, 108, p.2092-2097.

Dey, B., 1980: Variations of August ice cover in the Beaufort Sea, and related weather conditions. American Meteorological Society. Bulletin, 61(3), p.213-217.

Doronin, IU.P., V.I. Sychev, 1974: Formirovanie ledianogo pokrova kak produkta vzaimodeistviia atmosfery i okeana. (Ice cover formation as a result of ocean-atmosphere interaction.) Problemy Arktiki iAntarktiki, 43-44, p.18-27.

Doronin, IU.P., V.I. Sychev, 1974: Ice cover as a product of ocean-atmosphere interaction. Problems of the Arctic and the Antarctic, 43-44, p.18-30.

Doronin, IU.P., K.P. Shirokov, 1974: O nestatsionarnom vetrovom dreife morskogo l'da. (Unstable wind drift of sea ice.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.316, p.138-145.

Doronin, IU.P., K.P. Shirokov, 1984: Unsteady wind drift of sea ice. In: Dynamics of Ice Cover, (L.A. Timokhov, ed.), New Delhi, Amerind Publishing Co., p.143-150.

Egorov, K.L., 1970: Theory of drift of ice floes in a horizontally heterogeneous wind field. Problemy Arktiki i Antarktiki, 34, p.71-78, (In Russian). English translation, 1971: AIDJEX Bulletin, 6, p.37-45.

Egorov, K.L., D. L. Laikhtman, V. M. Radikevich, 1974: Ice cover as a link in the ocean-atmospheric system. Boundary-Layer Meteorology, 6(1/2), p.169-182.

Fletcher, J.O., 1965: The Heat Budget of the Arctic Basin and Its Relation to Climate. The Rand Corp., Santa Monica, CA, R-444-PR, 179p.

Fletcher, J.O., 1969: Ice extent on the Southern Ocean and its relation to world climate. Rand Corp. Memo RM-5793-NSF, Santa Monica, CA, 111p.

Foldvik, A. and B. Rudels, 1979: Double diffusive convection into deep homogeneous layers. Bergen. University. Geophysical Institute, Division A, Report 53, 22p.

Goody, R., 1980: Polar processes and world climate (A brief overview). Monthly Weather Review, 108, p.1935-1942.

Gube, M., E. Augstein, 1984: Falcon 20 boundary layer flights. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.88-89.

Gudkovich, Z.M., E. I. Sarukhamyan, N.P. Smirnov, 1970: The atmospheric "polar tide" at high latitudes and fluctuations in icing of the Arctic seas. Akademiia Nauk SSSR. Earth Science Section, Doklady, 190(1-6), p.238-240.

Guest, P.S., K.L. Davidson, 1984: R/V POLAR QUEEN atmospheric boundary layer measurements. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.98-100.

Hart, J.E., P.H. Killworth, 1976: An open ocean baroclinic instability in the Arctic. Deep-Sea Research, 23, p.637-645.

Helvey, R.A., 1984: Weather observations - USNS LYNCH. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.105.

Herman, G.F., 1975: Radiative-diffusive models of the Arctic boundary layer. Massachusetts Institute of Technology. Department of Meteorology. Report COO-2195-21, 170p.

Herman, G.F., R.M. Goody, 1976: Formation and persistence of summertime Arctic stratus clouds. Journal of the Atmospheric Sciences, 33, p.1537-1553.

Herman, G.F., 1977: Solar radiation in summertime Arctic stratus clouds. Journal of the Atmospheric Sciences, 34, p.1425-1432.

Herman, G.F., W.T. Johnson, 1978: Sensitivity of the general circulation to Arctic Sea ice boundaries: a numerical experiment. Monthly Weather Review, 106(12), p.1649-1664.

Herman, G.F., W.T. Johnson, 1979: Response of the Goddard GCM to sea ice boundary conditions. WMO. Global Atmospheric Research Programme, Joint Organizing Committee. Publications Series no.22, p.538-562.

Herman, G.F., W.T. Johnson, 1980: Arctic and Antarctic climatology of a GLAS general circulation model. Monthly Weather Review, 108, p.1974-1991.

Herman, G.F. 1980: Thermal radiation in Arctic stratus clouds. Quarterly Journal of the Royal Meteorological Society, 106, p.771-780.

Hoeber, H.C., 1984: Meteorological ice floe stations of Hamburg University. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.101-102.

Holmgren, B., G. Weller, 1974: Local radiation fluxes over open and freezing leads in the polar pack ice. AIDJEX Bulletin, 17, p.149-166.

Holmgren, B.E., 1976: Turbidity of the Arctic atmosphere in relation to open leads in the pack ice. In: International Geographical Congress, 23rd, Moscow, July-August 1976. Proceedings, 12, p.77-80.

Horgan, M.J, D.R. Davis, 1982: Variable depth oceanic mixed layer interaction in a general circulation model. EOS, 63(51), p.1299.

Huschke, R.E., 1969: Arctic cloud statistics from air calibrated surface weather observations. RAND Memorandum RM-6173-PR, 79p.

Jacobs, J.D., J.P. Newell, 1979: Recent year-to-year variations in seasonal temperatures and sea ice conditions in the Canadian Arctic. Arctic, 32, p.345-354.

Johnson, C.M., 1980: Wintertime arctic ice extremes and the simultaneous atmospheric circulation. Monthly Weather Review, 108, p.1782-1791.

Josberger, E.G., S. Martin, 1981: A laboratory and theoretical study of the boundary layer adjacent to a vertical melting ice wall in salt water. Journal of Fluid Mechanics, 111, p.439-473.

Karpets, V.M., 1974: Vliianie teplovogo rezhima prizemnogo sloia atmosfery na ploshchad' morskikh l'dov. (Effect of the thermal regime of the surface atmosphere on sea ice area.) Akademiia Nauk SSSR. Tikhookeanskii Institut Geografii. Issledovanie Sistemy 'Lednikii-Okean-Atmosfera'. Vladivostok, p.23-28.

Keen, R.A., 1977: The response of Baffin Bay ice conditions to changes in atmospheric circulation patterns. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 4th, St. John's, Newfoundland. Proceedings, Vol. II, (D.B. Muggeridge, ed.), p.963-971.

Keen, R.A., 1980: Temperature and circulation anomalies in the eastern Canadian Arctic, summer, 1946-76. Colorado. University, Boulder. Institute of Arctic and Alpine Research. Occasional Paper, 34, 159p.

Keller, J.B., M. Weitz, 1953: Reflection and transmission coefficients for waves entering or leaving an icefield. Communications on Pure and Applied Mathematics, 6, p.415-417.

Kellogg, W.W., 1975: Climatic feedback mechanisms involving the polar regions. In: Climate of the Arctic, (G. Weller, S. A. Bowling, eds.), University of Alaska, Fairbanks, p.111-116.

Kelly, P.M., L.D. Williams, 1983: Arctic climate: past, present and future. In: Symposium on Arctic Whaling, Groningen, Holland, February 23-25, 1983. Proceedings, 14p.

Kelly, P.M., P.D. Jones, C.B. Sear, B.S.G. Cherry, R.K. Tavakol, 1983: Variations in surface air temperatures, Part II: Arctic regions, 1881-1980. Monthly Weather Review, 110(2), p.71-83.

Kergomard, C., 1985: Quelques effets de la circulation atmospherique sur l'extension des glaces marines dans les mers Arctiques Europeenes. Norois (Poitiers), in press.

Killworth, P.D., 1974: A baroclinic model of motions on Antarctic continental shelves. Deep-Sea Research, 21, p.815-839.

Kinder, T.H., L.K. Coachman, 1978: The front overlying the continental shelf in the eastern Bering Sea. Journal of Geophysical Research, 83, p.4551-4559.

Kogan, B.A., V.I. Turchaninov, 1983: Vliianie krupnomasshtabnykh protsessov v atmosfere i okeane na polozhenie kromki l'da v Labradorskom more. (Influence of large-scale atmospheric and oceanic processes on the ice edge position in the Labrador Sea.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.75-79.

Kraus, E.B., J.S. Turner, 1967: A one-dimensional model of the seasonal thermocline: II. The general theory and its consequences. Tellus, 19, p.89-106.

Kryndin, A.N., 1964: Seasonal and interannual variations in the ice conditions and the position of the ice boundaries of the Far-Eastern Seas in relation to anomalies of atmospheric circulation. Gosudarstvennyi Okeanograficheskii Institut, Trudy, 71, p.5-82. (In Russian.)

Kryndin, A.N., 1971: Seasonal and yearly variations in the iciness and the position of ice edge in the Black and Azov Seas, which are associated with atmospheric circulation. U.S. Naval Oceanographic Office, Translation, no.522, 97p. NTIS no. AD-724 671.

Kukla, G., J. Gavin, 1981: Summer ice and carbon dioxide. Science, 214, p.497-503.

Laikhtman, D.L., 1964: Physics of the Boundary Layer of the Atmosphere. Translated by U.S. Department of Commerce, Washington, DC, 200p.

Lamb, H.H., H.J. Morth, 1978: Arctic ice, atmospheric circulation and world climate. Geographical Journal, 144, p.1-22.

Langleben, M.P., E.R. Pounder, 1975: On the air drag of an Arctic ice floe. Geophysical Research Letters, 2, p.15-18.

Leavitt, E., D. Bell, M. Clarke, R. Andersen, C. Paulson, 1977: Computation of air stress and sensible heat fluxes from surface layer profile data, AIDJEX, 1975. AIDJEX Bulletin, 36, p.157-174.

Leavitt, E., 1980: Surface-based air stress measurements made during AIDJEX. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, p.419-429.

Lebedev, A.A., 1968: Zone of possible icing of vessels in the Barents and Greenland Seas and in the North Atlantic. Materialy Rybokhozisistvennykh, Issledovanii Severnogo Basseina, 12, p.154-157. (In Russian).

LeDrew, E.F., 1980: Eigenvector analysis of the vertical velocity field over the eastern Canadian Arctic. Monthly Weather Review, 108, p.1992-2005.

LeDrew, E.F., 1984: Role of local heat sources in synoptic activity within the polar basin. Atmosphere-Ocean, 22(3), p.309-327.

Lindsay, R.W., 1976: Wind and temperature profiles taken during the Arctic lead experiment. Department of Atmospheric Sciences, University of Washington, Seattle, M.S. thesis, 89p.

Lindsay, R.W., 1984: Radiosonde and synoptic programs on the POLARQUEEN. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.92.

Macklin, S.A., 1983: Wind drag coefficient over first-year sea ice in the Bering Sea. Journal of Geophysical Research, 88(C5), p.2845-2852.

Maksimov, I.V., V.V. Lykova, 1975: O nekotorykh prichinakh vekovoi migratsii kromki plavuchukh l'dov i zony rasprostraneniia avsbergov v Iuzhnom Okeane. (Some causes of the secular migration of the floating ice edge and of the zone of iceberg distribution in the Southern Ocean.) Sovetskaia Antarkticheskaia Ekspeditsiia. Informatsionnyi Biulleten, 8(12), p.646-648.

Marko, J.R., R.E. Thomson, 1975: Spatially periodic lead patterns in the Canada Basin sea ice: a possible relationship to planetary waves. Geophysical Research Letters, 2, p.431-434.

Markson, R., 1984: Meteorological Research and Support for the MIZEX Program. Final Report to Office of Naval Research, Airborne Research Associates, Weston, MA, 70p.

Marshunova, M.S., 1961: Principal characteristics of the radiation balance of the underlying surface and of the atmosphere in the Arctic. Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy. English translation, 1966: Rand Corp., RM-5003-PR, 1966), 229p.

Marshunova, M.S., N.T. Chernigovsky, 1966: Numerical characteristics of the radiation regime in the Soviet Arctic. In: Proceedings of the Symposium on the Arctic Heat Budget and Atmospheric Circulation, (J.O. Fletcher, ed.), Rand Report RM523NSAF, p.279-297.

Martin, S., R.D. Muench, C. Pease, J.E. Overland, 1982: Nature of the winter Bering Sea marginal ice zone. In: Oceans 82 Conference Record, Washington, D.C., p.1232-1235.

Maykut, G.A., 1978: Energy exchange over young sea ice in the central Arctic. Journal of Geophysical Research, 83(C7), p.3646-3658.

Maykut, G.A., 1982: Large scale heat exchange and ice production in the central Arctic. Journal of Geophysical Research, 87(C10), p.7971-7984.

McPhee, M.G., 1979: Effect of the oceanic boundary layer on the mean drift of pack ice: Application of a simple model. Journal of Physical Oceanography, 9, p.388-400.

McPhee, M.G., 1980: An analysis of pack ice drift in summer. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, p.62-75.

McPhee, M.G., 1982: Sea ice drag laws and simple boundary layer concepts, including applications to rapid melting. U.S. Army. Cold Regions Research and Engineering Laboratory. CRREL Report CR 82-04, 17p.

Mecking, L., 1906: Die Eisdrift aus dem Bereich der Baffin-Bai beherrscht von Strom und Wetter. Veroffentlichungen des Institut Meereskunde und des Geographischen Instituts an der Univisitat Berlin, 7, 135p.

Miller, J.D., 1979: Equilibrium surface temperature climate model applied to first year sea ice growth. Ottawa, Carleton University, 183p.

Mills, D.A., 1969: Waves, pressure disturbances and floating icefields. Flinders University of South Australia. Horace Lamb Centre for Oceanographic Research, Research Paper 33, 27p.

Mollo-Christensen, E., 1984: Weather maps from Vervarslinga for Nord-Norge, Tromso. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.106-107.

Monahan, E.C., 1984: Whitecap observations and associated measurements during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.96-97.

Moore, R.K., Young, 1977: Active microwave measurements from space of sea-surface winds. IEEE Journal of Oceanic Engineering, OE-2, p.309-317.

Muench, R.D., P.H. LeBlond, L.E. Hachmeister, 1983: On some possible interactions between internal waves and sea ice in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2819-2826.

Muller, F., A. Ohmura, R. Braithwaite, 1976: On the climatic influence of North Water. Internatonal Geographical Congress Symposium on the Geography of Polar Countries (Extended Summaries), Leningrad, Gidrometeoizdat, p.55-58.

Niebauer, H.J., 1980: Sea ice and temperature variability in the eastern Bering Sea and the relation to atmospheric fluctuations. Journal of Geophysical Research, 85(C12), p.7507-7515.

Overland, J.E., R.M. Reynolds, C.H. Pease, 1983: Model of the atmospheric boundary layer over the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2836-2840.

Overland, J.E., H.O. Mofjeld, C.H. Pease, 1984: Wind-driven ice drift in a shallow sea. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.49-53.

Ovsienko, S.N., V.O. Efroimson, 1983: O granichnykh usloviiakh v modeliakh dinamiko-termicheskogo pereraspredeleniia ledianogo pokrova. (Boundary conditions in the models of the thermodynamic redistribution of ice covers.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.20-22.

Parkinson, C.L., R.A. Bindschadler, 1984: Response of Antarctic sea ice to uniform atmospheric temperature increases. American Geophysical Union. Geophysical Monograph, no.29, p.254-264.

Pease, C.H., S.A. Schoenberg, J.E. Overland, 1982: Climatology of the Bering Sea and its relation to sea ice extent. U.S. National Oceanic and Atmospheric Administration. Pacific Marine Environmental Laboratory, 36p. NTIS no. PB82-246950

Preobrazhenskii, L.IU. 1977: Kharakteristiki teploobmena vblizi poverkhnosti polynei i razvodii. (Heat transfer near surfaces of leads and polynyas.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.72-78.

Preobrazhenskii, L.IU., 1977: Otsenka sostavliaiushchikh teplovogo balansa poverkhnosti ledovogo pokrova Tsentral'noi Arktiki. (Evaluating heat balance components of the Central Arctic ice cover surface.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.23-51.

Radl, C.J., J.P. Welsh, 1983: Open water and thin ice detection in the Arctic marginal ice zone using reflectometer signal analysis. U.S. Naval Ocean Research and Development Activity. Final Report, NORDA-TN-209, 35p. NTIS no. AD-A136 043.

Reynolds, M. 1984: On the local meteorology of the marginal ice zone of the Bering Sea. Journal of Geophysical Research, 89(C4), p.6515-6524.

Saxena, V.K., T.B. Curtin, 1983: Air-sea interactions over the Ross Sea in the surface boundary layer. Antarctic Journal of the U.S., 18(5), p.241-243.

Shine, K.P., A. Henderson-Sellers, R.G. Barry, 1982: Albedo-climate feedback: The importance of cloud and cryosphere variability. EOS, 63(51), p.1298.

Shine, K.P., R.G. Crane, 1984: Sensitivity of a one-dimensional thermodynamic sea ice model to changes in cloudiness. Journal of Geophysical Research, 89(C6), p.10,615-10,622.

Siniurin, IU.N., 1971: Graficheskii sposob opredeleniia smeshcheniia kromki plavuchikh l'dov v zavisimosti ot vetra. (Graphic method of determining the displacement of floating ice edge, depending on wind.) Meteorologiia i Gidrologiia, no.9, p.100-101.

Smith, S.D., R.J. Anderson, G. Den Hartog, D.R. Topham, R.G. Perkin, 1983: An investigation of a polynya in the Canadian Archipelago, 2, structure of turbulence and sensible heat flux. Journal of Geophysical Research, 88(C5), p.2900-2910.

Streten, N.A., 1983: Antarctic sea ice and related atmospheric circulation during FGGE. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 32(3), p.231-246.

Svendsen, E., 1983: Evaluation of wind estiamtes over open ocean from Nimbus 7 Scanning Multichannel Microwave Radiometer. University of Bergen, Norway. Norwegian Maritime Remote Sensing Program, Geophysical Insitute, 12 p.

Topham, D.R., R.G. Perkin, S.D. Smith, R.J. Anderson, G. Den Hartog, 1983: Investigation of a polynya in the Canadian Archipelago, 1, Introduction and oceanography. Journal of Geophysical Research, 88(C5), p.2888-2899.

Tucker, W.B., 1984: Some simple concepts on wind forcing over the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.43-48.

Walker, G., 1947: Arctic conditions and world weather. Quarterly Journal of the Royal Meteorological Society, 73, p.226-256.

Walsh, J.E., C.M. Johnson, 1979: Interannual atmospheric variability and associated fluctuations in Arctic sea ice extent. Journal of Geophysical Research, 84, p.6915-6928.

Walter, B.A., 1980: Wintertime observations of roll clouds over the Bering Sea. Monthly Weather Review, 108, p.2024-2031.

Wamser, C., 1984: Meteorological investigations on FS "POLARSTERN". In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.90-91.

Washington, W.M., A.J. Semtner, G.A. Meehl, D.J. Knight, T.A. Mayer, 1980: A general circulation experiment with a coupled atmosphere, ocean and sea ice model. Journal of Physical Oceanography, 10, p.1887-1908.

Weller, G., 1980: Spatial and temporal variations in the South Polar surface energy balance. Monthly Weather Review, 108, p.2006-2014.

Wendling, P., 1984: Arctic stratus cloud programme. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.86-87.

Wiese, W., 1922: Die Einwirkung das Polareises in Gronlandischen Meere auf die nord-atlantische zyklonale Tatigkeit. Annaler der Hydrographie, 50, p.271-280.

Wiese, W., 1924: Polareis und atmospharische Schwankungen. Geografiska Annaler, 6, p.273-299.

Wiese, W., 1925: The significance of ice in spring in the Greenland Sea and of the East Iceland Polar Current for the following winter temperature distribution in Europe. Inst. Hydro., 14. (In Russian.)

Wilheit, T.T., A.T.C. Chang, 1980: An algorithm for retrieval of ocean surface and atmospheric parameters from the observations of SMMR. Radio Science, 15, p.525-544.

Wilson, J.G., A.L. Comiskey, R.W. Lindsay, V.L. Long, 1984: Regional Meteorology of the Bering Sea During MIZEX-West, February and March 1983. U.S. National Oceanic and Atmospheric Administration, Pacific Marine Environmental Laboratory, 115p.

Wohl, G.M., 1978: A study of sea ice conditions and synoptic climatology for the Beaufort Sea coast of Alaska. University of Colorado, Boulder, M.A. thesis, 166p. Unpublished.

Zubakin, G.K., 1973: O spektre vetrovykh voln u kromki l'da. (Wind wave spectra at the ice edge.) Meteoroglogiia i Gidrologiia, no.5, p.95-97.

Zubakin, G.K., 1973: Wind-wave spectrum at the edge of the ice. Meteorology and Hydrology, no.5, p.88-92.

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Aber, P.G., E. Vowinckel, 1971: Evaluation of North Water spring ice cover from satellite photographs. McGill University, Montreal.

Agee, H.J., R.F. Freeman, 1969: Birds Eye 8-69, November-3 December 1969. U.S. Naval Oceanographic Office. Report, NOO-IR-70-39, 113p. NTIS no. AD-875 029.

Ahlnas, K, G. Wendler, 1979: Sea-ice observations by satellite in the Bering, Chukchi, and Beaufort Seas. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 5th, Norwegian Institute of Technology, August 13-18, 1979, Trondheim, Norway. Proceedings, Vol.1, p.313-329.

Apel, J.R., 1982: Some recent scientific results from the SEASAT altimeter. Sea Technology, 23(10), p.23-25.

Barnes, J.C. C.J. Bowley, 1981: Comparative analysis of sea ice features using side-looking radar (SLAR) and Landsat imagery. U.S. National Aeronautics and Space Administration, NASA report available: Lewis Research Center, Cleveland, OH, 44135.

Barrett, R.M., 1969: Birds Eye 6-68, 18 September-2 October 1968. U.S. Naval Oceanographic Office. Report, NOO-IR-69-6, 120p. NTIS no. AD-854 782.

Basharinov, A.E., 1972: Satellite measurements of microwave and infrared radiobrightness temperature of the earth's cover and clouds. In: International Symposium on Remote Sensing of Environment, 8th, October 1972. Proceedings. Ann Arbor, Environmental Institute of Michigan, vol.1, p.291-296.

Belich, R.B., A.G. Gorelik, V.I. Semiletov, A.V. Frolov, 1978: O vozmozhnosti primeneniia sputnikovykh SVCh radiometricheskikh poliarizatsionnykh izmerenii dlia opredeleniia parametrov podstilaiushchei poverkhnosti. (Determining parameters of underlying surfaces by means of spaceborne microwave radiometry.) In: Kosmicheskaia Geofizika, (A.I. Burtsev, A.P. Tishhenko, eds.), Leningrad, Gidrometeoizdat, p.10-15.

Binenko, V.I., N.P. Piatovskaia, V.M. Sutovskii, 1981: Podsputnikovyi eksperiment v Arktike. (Spaceborne experiment in the Arctic.) In: Pervyi Global'nyi Eksperiment PIGAP, vol 2, (K.IA.Kondrat'ev, V.I.Binenko, eds.). (First global experiment PIGAP. Vol. 2. Extended cloudiness and radiation.) Leningrad, Gidrometeoizdat, p.107-114.

Boeger, A.C., 1968: Birds Eye 4-68, 1-16 July 1968. U.S. Naval Oceanographic Office. Report, NOO-IR-68-113, 205p. NTIS no. AD-853 809.

Bourke, R.H., R.G. Paquette, 1981: Winter conditions in the Bering Sea. U.S. Naval Postgraduate School. Report, NPS-68-81-004, 110p. NTIS no. AD-A122 443.

Brown, G.S., 1979: The estimation of wind speed using a spaceborne radar altimeter. Journal of Geophysical Research, 84, p.3974-8978.

Bryan, M.L., 1977: Interpretation key for SAR (L-band) imagery of sea ice. In: ASCM-ASP Convention, 1976, Seattle, WA. Proceedings.

Bryan, L., T. Farr, F. Leberl, C. Elachi, 1977: Synthetic aperture radar imagery of the AIDJEX triange. AIDJEX Bulletin, 37, p.161-end.

Budd, W.F., 1975: Antarctic sea-ice variations from satellite sensing in relation to climate. Journal of Glaciology, 15(73), p.417-427.

Bushuev, A.V., N.A. Volkov, 1973: Weather satellites as a means of ice observations. Problems of the Arctic and the Antarctic, no.33-35, p.3-9.

Bushuev, A.V., 1978: Ispol'zovanie kombinirovannogo (analiticheskogo i optiko-mekhanicheskogo) metoda geograficheskoi priviazi sputnikovykh snimkov dlia operativnogo obespecheniia plavaniia ekspeditsionnykh sudov v ledovykh usloviiakh. (Using the combined analytical and optical-mechanical method of geographic correlation of satellite photographs for providing information for ice navigation of expedition ships.) In: Kosmicheskaia Geofizika, (A.I. Burtsev, A.P. Tishchenko, eds.), Leningrad, Gidrometeoizdat, p.71-74.

Bushuev, A.V., IU.D. Bychenkov, A.V. Provorkin, 1979: Raspredelenie i dinamika l'dov v Grenlandskom more v marte-iiule 1976 g. po dannym sputnikovoi informatsii. (Distribution and drift of ice in the Greenland Sea in March-July of 1976 from satellite information.) In: Poleks-Sever-76, Chast' 1, (A.F. Treshnikov, ed.), [Polex-North-76, Part 1.] Leningrad, Gidrometeoizdat. p.115-128.

Bushuev, A.V., 1980: Issledovanie ledianogo pokrova morei s iskusstvennykh sputnikov Zemli. (Investigation of sea ice cover from satellites.) In: Sputnikovaia Gidrofizika, (B.A. Nelepo, ed.), Sevastopol, p.47-57. (In Russian with English summary.)

Bushuev, A.V., 1982: Sostavlenie ledovykh fotokart po televizionnym snimkam ISZ. (Compiling photo-maps of ice conditions from spaceborne television photographs.) Russia. Ministerstvo Vysshego i Srednego Spetsial'nogo Obrazovaniia. Izvestiia Vysshikh Uchebnykh Zavedenii. Geodeziia i Aerofotos"emka, no.2, p.89-91.

Campbell, W.J., P. Gloersen, R.O. Ramseier, W.J. Webster, T.T. Wilheit, 1976: Beaufort Sea ice zones as delineated by microwave imagery. Journal of Geophysical Research, 81, p.1103-1110.

Campbell, W.J., R.O. Ramseier, R.J. Weaver, W.F. Weeks, 1977: Skylab floating ice experiment. Canada. Department of Fisheries and Environment, Ottawa. Miscellaneous Special Publication 34.

Campbell, W.J., et al., 1978: Arctic sea ice variations from time-lapse passive microwave imagery. Boundary-Layer Meteorology, 18, p.19-106.

Campbell, W., N. Lannelonge, D. Vaillant, 1984: Report on French B-17 operations in MIZEX-84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.112-113.

Carleton, A.M., 1981: Ice-ocean-atmosphere interactions at high southern latitudes in winter from satellite observations. Australian Meteorological Magazine, 29(4), p.183-195.

Carleton, A.M., 1981: Monthly variability of satellite-derived cyclonic activity for the southern hemisphere winter. Journal of Climatology, 1, p.21-28.

Carleton, A.M., 1982: Cryosphere-climate interactions based on satellite data analysis of cloud vortex systems in the Northern Hemisphere. University of Colorado, Boulder, Ph.D. Dissertation.

Carsey, F.D., 1980: Microwave observation of the Weddell polynya. Monthly Weather Review, 108, p.2032-2044.

Carsey, F.D., 1982: Arctic sea ice distribution at end of summer 1973-1976 from satellite microwave data. Journal of Geophysical Research, 87(C8), p.5809-5835.

Carsey, F.D., 1985: Summer Arctic sea ice character from satellite microwave data. Journal of Geophysical Research, 90(C3), p.5015-5034.

Cavalieri, D.J., P. Gloersen, W.J. Campbell, 1981: Observation of sea ice properties with the Nimbus-7 SMMR. In: Digest 1981. International Geoscience and Remote Sensing Symposium (IGASRSS'81), IEEE Transactions on Geoscience and Remote Sensing, New York, p.69-78.

Cavalieri, D.J., S. Martin, P. Gloersen, 1983: Nimbus 7 SMMR observations of the Bering Sea ice cover during March 1979. Journal of Geophysical Research, 88(C5), p.2743-2754.

Comiso, J.C., J.H. Zwally, 1982: Antarctic sea ice concentrations inferred from Nimbus 5 ESMR and LANDSAT imagery. Journal of Geophysical Research, 87(C8), p.5836-5844.

Comiso, J.C., H.J. Zwally, 1984: Concentration gradients and growth/decay characteristics of the seasonal sea ice cover. Journal of Geophysical Research, 89(C5), p.8081-8103.

Crane, R.G., 1981: Synoptic ice-atmosphere interaction analysis using Northern Hemisphere satellite ESMR data. University of Colorado, Boulder, Ph.D. Dissertation.

Crane, R.G., R.G. Barry, H.J. Zwally, 1982: Analysis of atmosphere-sea ice interactions in the Arctic Basin using ESMR microwave data. International Journal of Remote Sensing, 3, p.259-276.

Deaver, J.W., 1983: RP-3A Flight Summary Report: MIZEX June-July 1983. Bendix Field Engineering, Inc. for Aerospace Systems Division, Naval Research Laboratory, Washington, D.C. Report, 82p.

Dey, B., 1980: Applications of satellite thermal infrared images for monitoring North Water during the periods of polar darkness. Journal of Glaciology, 25(93), p.425-438.

Dey, B., 1981: Monitoring winter sea ice dynamics in the Canadian Arctic with NOAA-TIR images. Journal of Geophysical Research, 86, p.3223-3235.

Drabkin, M.O., A.G. Nikolaev, 1982: Vybor kriteriev otsenki effectivnosti sredstv distantsionnogo zondirovaniia okeana. (Selecting criteria for evaluating the efficiency of remote sensing means designed for oceans.) Leningrad. Gosudarstvennyi Nauchno-Issledovatel'skii Tsentr Izucheniia Prirodnykh Resursov. Trudy, 14, p.3-9.

Dunbar, M., 1972: Increasing severity of ice conditions in Baffin Bay and Davis Strait and its effect on the extreme limits of ice. In: International Conference on Sea Ice, Reykjavik, May 10-13, 1971. Proceedings, (T. Karlsson, ed.), Reykjavik, Iceland, National Research Council, p.87-93.

Dunbar, M., 1975: Interpretation of SLAR imagery of sea ice in Nares Strait and the Arctic Ocean. Journal of Glaciology, 15, p.193-213.

Dunbar, M. and W.F. Weeks, 1975: Interpretation of young ice forms in the Gulf of St. Lawrence using side-looking airborne radar and infrared imagery. U.S. Army. Cold Regions Research and Engineering Laboratory, Report RR337.

Eppler, D.T., 1982: Possible applications of GEOSAT-A radar altimeter data to ice forecasting in polar regions. U.S. Naval Ocean Research and Development Activity. NORDA Technical Note, no.177, 13p.

Eppler, D.T., 1983: Assessment of potential SSM/I ice products in light of ESMR and SMMR ice classification algorithms. U.S. Naval Ocean Research and Development Activity. Technical Note, no.220, 28p.

Evseev, V.V., 1976: Propagation of antarctic sea ice according to satellite observations. Sovetskaia Antarkticheskaia Ekspeditsiia. Information Bulletin, 8(12), p.648-650.

Farrelly, B., J.A. Johannessen, O.M. Johannessen, E. Sevenden, K. Kloster, I. Horjen, C. Matzler, W.J. Campbell, J. Crawford, et al, 1983: Norwegian remote sensing experiment in a marginal ice zone. Science, 220(4599), p.781-786.

Fedor, L.S., 1984: Participation in the NOAA P-3 aircraft in the 1984 summer MIZEX. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.123-124.

Freeman, R.F., 1968: Birds Eye 3-68, 21 May-10 June 1968. U.S. Naval Oceanographic Office. Report, NOO-IR-68-1-8, 136p.

Gernandt, H., 1979: Satellitenbeobachtung der Seeisgrenze im Kustengebiet "Konigin-Maud-Land" bis "Filchner-Schelfeis". (Satellite observations of tne ice edge in coastal areas from Queen Maud Land to the Filchner Ice Shelf.) Zeitschrift fur Meteorologie, 29(2), p.127-131.

Gloersen, P., F. Barath, 1977: A scanning multichannel microwave radiometer for Nimbus G and Seasat. IEEE Journal of Oceanic Engineering, OE-2, p.172-178.

Gloersen, P., T.T. Wilheit, T.C. Chang, W. Nordberg, W.J. Campbell, 1978: Microwave maps of the polar ice of the earth. American Meteorological Society. Bulletin, 55, p.1442-1448.

Gloersen, P., 1984: Data report on variations observed in the composition of sea ice during MIZEX '84 with the NIMBUS-7 SMMR. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.134-137.

Gloersen, P., 1984: NASA/CV-990 activities during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.118-121.

Grenfell, T.C., 1984: Surface based brightness temperatures of sea ice in the Bering and Greenland Seas. In: IGARSS '84 Symposium, Strasbourg, 27-30 August 1984. Proceedings, ESA SP-215, p.385-389.

Grenfell, T.C., 1984: University of Washington microwave emission program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.132-133.

Grenfell, T.C., A.W. Lohanick, 1985: Temporal variations of the microwave signatures of sea ice during the late spring and early summer near Mould Bay NWT. Journal of Geophysical Research, 90(C3), p.5063-

Hall, R.T., 1978: Seasonal photo mosaics of the AIDJEX triangle. AIDJEX Bulletin, 39, p.79-84.

Hall, R.T., 1980: AIDJEX modeling group studies involving remote sensing data. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.151-162.

Hall, R.T., 1980: A test of the AIDJEX ice model using Landsat images. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.89-101.

Hall, R.T., D.A. Rothrock, 1981: Sea ice displacement from SEASAT synthetic aperture radar. Journal of Geophysical Research, 86(C11), p.11078-11082.

Hall, R.T., 1984: MIZEX-84 POLAR QUEEN Helicopter Photography. University of Washington. Applied Physics Laboratory. Report, APL-UW, 10-84, 28p.

Handlers, R.G., 1977: On the question of accumulation of ice-melt water south of the ice in the Chukchi Sea. U.S. Naval Postgraduate School, Monterey, CA., Master's thesis, 48p. NTIS no. AD-A039 155.

Haupt, I., V. Kant, 1976: Satellite ice surveillance studies in the Arctic in relationship to the general circulation. In: Symposium on Meteorological Observations from Space: Their Contribution to the First GARP Global Experiment, Proceedings, COSPAR, Internatational Council Science Unions, p.179-187.

Hibler, W.D., III, 1972: Removal of aircraft altitude variation from laser profiles of the Arctic ice pack. Journal of Geophysical Research, 77, p.5954-5970.

Hibler, W.D., III, S.F. Ackley, W.K. Crowder, H.W. McKim, D.M. Anderson, 1974: Analysis of shear zone ice deformation in the Beaufort Sea using satellite imagery. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed and J.E. Sater, eds.), Arctic Institute of North America, p.285-296.

Hollinger, J.P., B.E. Troy, Jr., M.F. Hartman, 1984: All-weather millimeter wave imagery in the marginal ice zone. Radio Science, 19(3), p.862-870.

Hollinger, J.P. 1984: Microwave emission from High Arctic sea ice during freeze-up. Journal of Geophysical Research, 89(C5), p.8104-8122.

Holt, B., S.A. Digby, 1985: Processes and imagery of first-year fast sea ice during the melt season. Journal of Geophysical Research, 90(C3), p.5045-5062.

Hufford, G.L., 1981: Sea ice detection using enhanced infrared satellite data. Mariners Weather Log, 25(1), p.1-6.

Hult, J.L. and N.C. Ostrander, 1974: Applicability of ERTS to Antarctic iceberg resources. In: Earth Resources Satellite Symposium, 3rd, (S.C. Freden and M.A. Becker, eds.), U.S. National Aeronautics and Space Administration, Special Publication SP-351, 1B, p.1467-1490.

Jayaweera, K.O.L.F., 1976: Use of enhanced infrared satellite imagery for sea ice and oceanographic studies. Ocean Engineering, 3, p.293-298.

Jayaweera, K.O.L.F., S. Marvill, 1977: Techniques for interpreting IR satellite imagery for sea ice research. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 3rd, University of Alaska, Institute of Marine Science, 11-15 August 1975. Proceedings, p.129-139.

Jerdon, H.P., R.F. Freeman, 1968: Birds Eye 7-69, 21 October-5 November 1969. U.S. Naval Oceanographic Office. Report, NOO-IR-70-17, 102p. NTIS no. AD-871 778.

Johannessen, O.M., K. Kloster, 1984: Satellite AVHRR images for MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.138.

Ketchum, R.D., Jr., L.D. Farmer, 1980: Eastern Arctic SURSAT SAR ice experiment: radar signatures of sea ice features. U.S. Naval Ocean Research and Development Activity. Technical Note, no.68, 14p.

Knapp, W.W., 1969: A satellite study of large stationary polynyas in Antarctic coastal waters. University of Wisconsin, Ph.D. Dissertation, 130p.

Knapp, W.W., 1972: Satellite observations of large polynyas in polar waters. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.201-212.

Kniskern, F.E., 1979: Ice products derived from satellite at NOAA/NESS. World Data Center A for Glaciology (Snow and Ice). Glaciological Data, Report GD-5, p.27.

Larsen, R.W., J.D. Lyden, R.A. Shuchman, R.T. Lowry, 1981: Determination of backscatter characteristics of sea ice using synthetic aperture radar data. ERIM report 142600-1-F, Ann Arbor, MI.

Lebedev, A.A., N.S. Uralov, 1972: O vozmozhnosti premeneniia sovremennykh teoreticheskikh skhem dlia rascheta vetrovogo dreifa ledovoi kromki v iugo-vostochnoi chasti Barentseva Moria. (Contemporary theoretical models for calculating ice edge drift in the southeastern Barents Sea.) Moscow. Gosudarstvennyi Okeanograficheskii Institut. Trudy, no.110, p.138-147.

Leberl, F., J. Roggam, C. Elachi, W.J. Campbell, 1983: Sea ice motion measurements from Seasat SAR images. Journal of Geophysical Research, 88(C3), p.1915-1928.

Leberl, F., M.L. Bryan, C. Elachi, T. Farr, W.J. Campbell, 1979: Mapping of sea ice and measurement of its drift using aircraft synthetic aperture radar images. Journal of Geophysical Research, 84, p.1827-1835.

LeBlond, P.H., 1982: Satellite observations of Labrador Current undulations. Atmosphere-Ocean, 20(2), p.129-142.

Lepparanta, M., 1982: Case study of pack ice displacement and deformation field based on LANDSAT images. Geophysica, 19(1), p.23-31.

Levey, D., 1981: Microwaves in marginal ice zone research. Sea Technology, 22(10), p.36-37.

Livingstone, C.E., K. Okamota, R.K. Hawkins, T.L. Wilkinson, S. Young, L. Drapier Arsenault, D. Pearson, A.L. Gray, 1980: Classification of Beaufort Sea ice using active and passive microwave sensors. In: Proceedings of the COSPAR/SCOR/IUCRM Symposium on Oceanography from Space, Venice, Italy, 1980, 6p.

Loshchilov, V.S., V.I. Shil'nikov, 1965: Opyt ispol'zovaniia i perspektivy radiolokatsionnogo metoda v ledovoi aviarazvedke. (Propects and experience obtained in using radar methods in aerial surveying of ice.) In: Primenenie Radiofizicheskikh Metodov V Okeanograficheskikh i Ledovykh Issledovaniiakh, (V.V. Bogorodskii, ed.), Leningrad, AANII, p.31-35.

Loshchilov, V.S., V.A. Voevodin, 1972: Opredelenie elementov dreifa ledianogo pokrova i peremeshcheniia kromki l'dov s pomoshch'iu samoletnoi radiolokatsionnoi stantsii bokovogo obzora "Toros". (Determining ice-drift elements and ice edge movements with an airborne Toros side-looking radar.) Problemy Arktiki i Antarktiki, 40, p.23-30.

Loshchilov, V.S., V.A. Voevodin, 1973: Determination of drift elements of the ice cover and ice edge movements by means of airborne radar. Problems of the Arctic and the Antarctic, 40, p.19-26.

Loshchilov, V.S., V.A. Voevodin, 1976: Determining elements of drift of the ice cover and movement of the ice edge by the aid of the Toros aircraft lateral scan radar station. U.S. National Aeronautics and Space Administration. Technical Translation, TT-F-17121, 16p.

Lowry, R.T., C.J. Brocher, 1978: An interactive correction and analysis system for airborne laser profiles of sea ice. Canadian Journal of Remote Sensing, 4, p.149-160.

Macklin, S.A., C.H. Pease, R.M. Reynolds, 1984: Bering air-sea-ice study (BASICS), February and March 1981. U.S. National Oceanic and Atmospheric Administration, Pacific Marine Environmental Laboratory. Technical Memorandum, No.TM-ERL-PMEL-52, 113p. NTIS no. PB84-196161.

Markson, R., 1984: Meteorological Research and Support for the MIZEX Program. Final Report to Office of Naval Research, Airborne Research Associates, Weston, MA, 70p.

Martin, S., 1980: Use of SEASAT (SMMR) imagery to study Bering Sea ice. Washington. University. Department of Oceanography. Interim Report, A80-21, 17p. NTIS no. PB81-106643.

Maul, G.A., 1973: Remote sensing of ocean currents. U.S. National Aeronautics and Space Administration. Atlantic Oceanographic and Meteorological Laboratories. Report, NASA-CR-133147, 24p. NTIS no. E73-10780.

McLain, E.P., 1973: Quantitative use of satellite vidicon data for delimiting sea ice conditions. Arctic, 26, p.44-57.

McNutt, S.L., 1980: Remote sensing analysis of ice growth and distribution in the eastern Bering Sea. In: Eastern Bering Sea Shelf: Oceanography and Resources, (D.W. Hood, J.A. Calder, eds.), Washington D.C., U.S. Department of Commerce, p.141-165.

McNutt, L., 1981: Ice conditions in the Eastern Bering Sea from NOAA and Landsat imagery: winter conditions 1974, 1976, 1977, 1979. U.S. National Oceanic and Atmospheric Administration, Technical Memorandum, TM-ERL PMEL-24, 179p.

McNutt, S.L, S. Martin, 1982: Comparison of Environmental Conditions in the Bering Sea and Davis Strait and the Effects on Microwave Signature Returns; March and April, 1979. University of Washington, Department of Geography, Seattle. NTIS no. N83-12828.

Moore, R.K., Young, 1977: Active microwave measurements from space of sea-surface winds. IEEE Journal of Oceanic Engineering, OE-2, p.309-317.

Morey, R.M., 1975: Airborne sea ice thickness profiling using an impulse radar. U.S. Coast Guard, Technical Report, No. CG-D-178-75.

Onstott, R.G., R.K. Moore, 1984: Active microwave measurements of sea ice in the marginal ice zone. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.128.

Onstott, R.G., S.P. Gogineni, 1985: Active microwave measurements of Arctic sea ice under summer conditions. Journal of Geophysical Research, 90(C3), p.5035-5040.

Parkinson, C.L., D.J. Cavalieri, 1982: Interannual sea-ice variations and sea-ice/atmosphere interactions in the southern ocean, 1973-1975. Annals of Glaciology, 3, p.249-256. (International Symposium on Antarctic Glaciology, 3rd, Columbus, Ohio, September 7-12, 1981.)

Powell, R.J., A.R. Birks, 1984: Preliminary mission report: Rutherford Appleton Laboratory operations on the NASA CV 990 flights during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.122.

Ross, D.B., J. Tomchay, 1984: SLAR and laser observations of sea ice during MIXEX '84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.125-127.

Sawada, T., 1969: On the use of satellite pictures to pursue the ice-edge retreats. Hakodate Marine Observatory. Bulletin, no.14, 5p. (In Japanese.)

Schgounn, C., 1984: Ice microwave remote sensing evaluation program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.129-131.

Shestopalov, V.P., 1983: Kompleksnye radiofizicheskie issledovaniia ledovykh pokrovov. (Integrated radiophysical studies of ice covers.) Akademiia Nauk SSSR. Doklady, 272(3), p.598-600.

Shuchman, R., C. Livingstone, B. Burns, R. Larson, 1984: ERIM/CCRS CV-580 SAR data collection and ERIM surface observations during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.110-111.

Svendsen, E., K. Kloster, B. Farrelly, O.M. Johannessen, J. Johannessen, W.J. Campbell, P. Gloersen, D. Cavalieri, C. Matzler, 1982: Evaluation of the Nimbus 7 Scanning Multifrequency Microwave Radiometer for Sea Ice Research. NORSEX, II, 24p.

Svendsen, E., 1983: Evaluation of wind estiamtes over open ocean from Nimbus 7 Scanning Multichannel Microwave Radiometer. University of Bergen, Norway. Norwegian Maritime Remote Sensing Program, Geophysical Insitute, 12 p.

Svendsen, E., K. Kloster, B. Farrelly, O.M. Johannessen, J.A. Johannessen, W.J. Campbell, P. Gloersen, D. Cavalieri, C. Matzler, 1983: Norwegian Remote Sensing Experiment: evaluation of the Nimbus 7 scanning multichannel microwave radiometer for sea ice research. Journal of Geophysical Research, 88(C5), p.2781-2791.

Thomas, R.H., T.V. Martin, H.J. Zwally, 1983: Mapping ice-sheet margins from radar altimetry data. Annals of Glaciology, 4, p.283-288.

Vinter, A.IA., N.F. Orlov, 1977: Ob opredelenii pogreshnosti polozheniia kromki l'da po faksimil'nym ledovym kartam. (Determining errors in ice edge positions on facsimile maps.) Problemy Arktiki i Antarktiki, 52, p.67-69.

Vinter, A.IA., N.F. Orlov, 1982: Error estimation in locating the ice edge from facsimile ice maps. Problems of the Arctic and the Antarctic, 52, p.81-83.

Wadhams, P., 1975: Airborne laser profiling of swell in an open ice field. Journal of Geophysical Research, 80, p.4520-4528.

Wadhams, P., R.T. Lowry, 1977: A joint topside-bottomside remote sensing experiment on Arctic sea ice. In: Canadian Symposium on Remote Sensing, 4th Quebec, Canada Remote Sensing Society. Proceedings, p.407-423.

Wilheit, T.T., W. Nordberg, J. Blinn, W.J. Campbell, A. Edgerton, 1972: Aircraft measurements of microwave emission from Arctic Sea ice. Remote Sensing of the Environment, 2, p.129-239.

Wilheit, T.T., A.T.C. Chang, 1980: An algorithm for retrieval of ocean surface and atmospheric parameters from the observations of SMMR. Radio Science, 15, p.525-544.

Zubakin, G.K., A.N. Zuev, B.V. Larin, O.N. Maiorov, 1977: Issledovanie dreifa l'dov v iugo-vostochnoi chasti Barentseva moria s pomoshch'iu RLS BO "Toros". (Using the "Toros" side-looking radar in studying ice drift in the southeastern Barents Sea.) In: Prirodnye Usloviia i Estestvennye Resursy Severnykh Morei, (V.T. Zhevnovatyi, ed.), Leningrad, Gidrometeoizdat, p.83-89.

Zubakin, G.K., A.N. Zuev, B.V. Larin, O.N. Maiorov, 1980: Investigation of ice drift in the southeastern part of the Barents Sea with the aid of a "Toros" peripheral scanning radar station. U.S. Army Cold Regions Research and Engineering Laboratory. Translation, 741, 7p.

Zwally, H.J., P. Gloersen, 1977: Passive microwave images of the polar regions and research applications. Polar Record, 18, p.431-450.

Zwally, H.J., J.C. Comiso, C.L. Parkinson, W.J. Campbell, F. Carsey, P. Gloersen, 1982: Antarctic Sea Ice Cover, 1973-76, from Satellite Passive Microwave Imagery. U.S. National Aeronautics and Space Administration. Goddard Space Flight Facility, Greenbelt, MD, 2 volumes.

Zwally, H.J., J.C. Comiso, 1982: Antarctic sea ice concentrations inferred from Nimbus 5 ESMR and Landsat imagery. Journal of Geophysical Research, 87(C8), p.5836-5844.

ACOUSTICS

Baggeroer, A.B., I. Dyer, 1984: MIZEX 84: summary of acoustics program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.140-143.

Diachok, O.I., R.S. Winokur, 1974: Spatial variability of underwater ambient noise at the Arctic ice-water boundary. Acoustical Society of America. Journal, 55(4), p.750-753.

Diachok, O.I., 1980: Arctic hydroacoustics. Cold Regions Science and Technology, 2, p.186-201.

Dicus, R.L., 1984: Vertical array acoustics. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.148-151.

DiNapoli, F.R., 1984: Scientific activities aboard H.U. SVERDRUP. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.159.

Dyer, I., 1980: Acoustic interaction. Cold Regions Science and Technology, 2, p.355-356.

Dyer, I., 1984: MIZEX 84 cruise report, KVITBJORN: first leg 2 June - 30 June. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.144-147.

Eskin, L.I., 1971: Sea ice of the Southern Ocean. U.S. Naval Oceanographic Office. Report, NOO-TRANS-507, 14p. NTIS no. AD-847 435.

Kozo, T.L., O.I. Diachok, 1973: Spatial variability of topside and bottomside ice roughness and its relevance to underside acoustic reflection loss. AIDJEX Bulletin, 19, p.113-121.

Langleben, M.P., E.R. Pounder, 1970: Acoustic attenuation in sea ice [and] Reflection of sound at the water-ice interface. McGill University, Montreal. MacDonald Physics Laboratory. Ice Research Project. Report, no.S-16, 30 p.

Langleben, M.P., 1970: Reflection of sound at the water-sea ice interface. Journal of Geophysical Research, 75(27), p.5243-5246.

Langleben, M.P., E.R. Pounder, 1971: Sea ice thickness from pulsed sonic methods. Canada. Defence Research Board. Defence Research Establishment, Ottawa. Technical Note, no.71-14, p.43-57.

Mayer, W.G., M.P. Langleben, 1974: Determination of transverse wave velocity in transition layer of sea ice from reflection of waterborne sound. Journal of Geophysical Research, 79(6), p.885-886.

Mayer, W.G., M. Behravesh, T.J. Plona, 1974: Sonic reflectivity from sea ice/water interfaces. Georgetown University. Department of Physics. Technical Report, TR-2, 41p.

Mayer, W.G., M. Behravesh, T.J. Plona, 1975: Determination of sonic velocities from reflectivity losses at sea ice/water boundaries. Acoustical Society of America. Journal, 57(1), p.39-46.

McGrath, J.R., 1976: Depth and seasonal dependence of ambient sea noise near the marginal ice zone of the Greenland Sea. U.S. Naval Research Laboratory. Report, 7819-REV, 32p. NTIS no. AD-A025 212.

Milne, A.R., 1972: Thermal tension cracking in sea ice: a source of under-ice noise. Journal of Geophysical Research, 77, p.2177-2192.

Spindel, R.C., 1984: Acoustic tomography source. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.158.

Verrall, R., J. Ganton, 1977: Reflection of acoustic waves in sea water from an ice covered surface. Canada. Defence Research Board. Defence Research Establishment, Pacific. Technical Memorandum, TM-77-8, 31p. NTIS No. AD-A047 298.

Votaw, C.W., S.C. Wales, 1984: CTD and deployment activities aboard USNS LYNCH during first leg of NRL cruise 707-84 for the marginal ice zone experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.152-154.

Wadhams, P., R.J. Horne, 1978: An analysis of ice profiles obtained by submarine sonar in the AIDJEX area of the Beaufort Sea. Scott Polar Research Institute. Technical Report 78-1, Cambridge, England, 65p.

Wadhams, P., 1978: Sidescan sonar imagery of sea ice in the Arctic Ocean. Canadian Journal of Remote Sensing, 4, p.161-173.

Wadhams, P., R.J. Horne, 1980: An analysis of ice profiles obtained by submarine sonar in the Beaufort Sea. Journal of Glaciology, 25(93), p.401-424.

Wadhams, P., 1980: A comparison of sonar and laser profiles along corresponding tracks in the Arctic Ocean. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, WA, p.283-299.

Wales, S.C., 1984: HLF-3 acoustic source activities aboard the USNS LYNCH during NRL cruise 707-84 for the marginal ice zone experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.155-157.

Williams, E., C.W.M Swithinbank, G. de Q. Robin, 1975: A submarine sonar study of Arctic pack ice. Journal of Glaciology, 15(73), p.349-362.

GENERAL

Atlas Antarktiki, 1966: Leningrad, Gidrometeoizdat.

Augstein, E., G. Hempel, J. Schwarz, J. Thiede, W. Weigel, 1984: Die Expedition ARKTIS II des FS "Polarstern" 1984. Reports on Polar Research. Alfred Wegener Institute for Polar Research, Bremerhaven,

Budgell, W.P., 1984: Ocean subgroup discussions. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.95.

Central Intelligence Agency, 1978: Polar Regions Atlas. National Foreign Assessment Centre, C.I.A., Washington, D.C., 66p.

Conference on Use of Icebergs: Scientific and Practical Feasibility, Cambridge, UK, 1-3 April 1980. Proceedings, 1980: Annals of Glaciology, Vol. 1.

Coon, M., 1980: A review of AIDJEX modeling. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, p.12-27.

Expedition Ymer-80. 1981: Ymer, Yearbook of Swedish Society for Anthropology and Geography, 101, 176p.

Farrelly, B., 1984: MIZEX co-ordination Tromso. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.8-9.

Hibler, W.D., III, ed., 1984: MIZEX-- a program for mesoscale air-ice-ocean interaction experiments in Arctic marginal ice zones. U.S. Army Cold Regions Research and Engineering Laboratory. Special Report, 84-07, 99p.

Husseiny, A.A. (ed.), 1978: Iceberg Utilization, Pergamon, 760p.

Jelly, K.C.P. and N.B. Marshall, 1967: Incidence of ice in the approaches to North America during the decade 1956-65. Marine Observer, 37, p.186-192.

Joffre, S.M., 1982: Atmosphere-ice-water interface: on the necessity of boundary layer modelling. In: Arctic Ocean: The Hydrographic Environment and the Fate of Polluants, (L. Ray, ed.) New York, John Wiley & Sons, p.97-111.

Johannessen, O.M., W.D. Hibler, III, P. Wadhams, W.J. Campbell, K. Hasselmann, I. Dyer, M. Dunbar, eds. 1983: MIZEX--a program for mesoscale air-ice-ocean interaction experiments in Arctic marginal ice zones. 2. A science plan for a summer Marginal Ice Zone Experiment in the Fram Strait/Greenland Sea: 1984. U.S. Army Cold Regions Research and Engineering Laboratory. Special Report, SR 83-12, 47p.

Johannessen, O.M., W.D. Hibler, III, P. Wadhams, W.J. Campbell, K. Hasselmann, I. Dyer, M. Dunbar, 1984: Marginal Ice Zone: a description of air-ice-ocean interactive processes, models and planned experiments. In: Arctic Technology and Policy, (I. Dyer, C. Chryssostomidis, eds.), p.133-146.

Johannessen, O.M., D.A. Horn, 1984: Mizex 84: A brief overview. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.1-7.

Kondratiev, K. Ya., Yu. I. Rabinovich, W. Nordberg (eds.), 1975: U.S.S.R.-U.S.A. Bering Sea Experiment: Final Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings. Leningrad, Gidrometeoizdat, 315p.

LaBelle, J.C., J.L. Wise, R.P. Voelker, R.H. Schulze, G.M. Wohl, 1983: Alaska Marine Ice Atlas. Anchorage. University of Alaska, Arctic Environmental Information and Data Center, 302p.

Martin, S., R. Muench, J. Overland, D. Cavalieri, 1982: MIZEX field study. EOS, 63(51), p.1220.

Maykut, G.A., A.S. Thorndike, and N. Untersteiner, 1972: AIDJEX scientific plan. AIDJEX Bulletin, 15, p.67.

Muench, R.D., 1983: Marginal Ice Zone Experiment. Oceanus, 26(2), p.55-60.

Muench, R.D., J.D. Schumacher, 1985: On the Bering Sea ice edge front. Journal of Geophysical Research, 90(C2), p.3185-3197.

National Academy of Sciences, 1974: U.S. Contribution to the Polar Experiment (POLEX), Part 1-North. Washington, DC, 119p.

Savchenko, V.G., IU.A. Men'shov, 1979: Osnovnye nauchnye rezul'taty sovmestnykh sovetsmko-amerikanskikh issledovanii v IUzhonom okeane po programme POLEKS-IUg-77. (Results of joint Soviet-American research in the Southern Ocean during POLEX-South-77.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 360, p.5-15.

Streten, N., 1984: Climate of the South Pacific. In: Climate of the Oceans, World Survey of Climatology, v.15, (H. Van Loon, ed.), p.263-429.

Tucker, W.B., III, 1981: Application of a numerical sea ice model to the East Greenland area. U.S. Naval Postgraduate School, Monterey, CA, Master's thesis, 110p. NTIS no. AD-A114 453.

Tucker, W.B., III, R.G. Barry, 1984: Climate of the North Atlantic Ocean. In: Climate of the Oceans, World Survey of Climatology, v.15, (H. Van Loon, ed.), p.193-262.

U.S. National Weather Service, 1984: Oceanographic Monthly Summary. Eastern-Western Arctic Sea Ice Edge Climatology. Silver Spring, MD, 58p. NTIS no. PB84-233782.

U.S. Navy. Office of Naval Research, 1982: Arctic Program. 126p.

Wadhams, P., S. Martin, O.M. Johannessen, W.D. Hibler, III, and W.J. Campbell (eds.), 1981: MIZEX. A program for mesoscale air-ice-ocean interaction experiments in Arctic marginal ice zones. 1. Research strategy. U.S. Army Cold Regions Research and Engineering Laboratory. Special Report 81-19.

Walsh, J.E., J.E. Sater, 1981: Monthly and seasonal variability in the ocean-ice-atmosphere systems of the North Pacific and the North Atlantic. Journal of Geophysical Research, 86(C8), p.7425-7445.

Washington, W.M., A.J. Semtner, G.A. Meehl, D.J. Knight, T.A. Mayer, 1980: A general circulation experiment with a coupled atmosphere, ocean and sea ice model. Journal of Physical Oceanography, 10, p.1887-1908.

Weller, G., 1968: Heat energy transfer through a four-layer system: air-snow-sea ice-water. Journal of Geophysical Research, 73, p.1209-1220.

World Meteorological Organization/International Council of Scientific Unions, 1979: The Polar Sub-Programme. GARP Publication Series. No.19, Geneva, 47p.

AUTHOR INDEX

Aagaard, K., L.K. Coachman, 1968: The East Greenland Current north of Denmark Strait. Arctic, 21, p.181-200 and p.267-290.

Aagaard, K., 1970: The wind-driven transports in the Greenland and Norwegian seas. Deep-Sea Research, 17, p.281-291.

Aagaard, K., 1972: On the drift of the Greenland pack ice. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.17-22.

Aagaard, K., L.K. Coachman, 1975: Toward an ice-free Arctic Ocean. EOS, 56, p.484-486.

Aagaard, K., P. Greisman, 1975: Toward new mass and heat budgets for the Arctic Ocean. Journal of Geophysical Research, 80, p.3821-3827.

Aagaard, K. 1979: Polar oceanography I: Arctic Ocean. Reviews of Geophysics and Space Physics, 17, p.1576-1578.

Aagaard, K., L.K. Coachman, E. Carmack, 1981: On the halocline of the Arctic Ocean. Deep Sea Research, 28, p.529-545.

Aber, P.G., E. Vowinckel, 1971: Evaluation of North Water spring ice cover from satellite photographs. McGill University, Montreal.

Aber, P.G., E. Vowinckel, 1972: Evaluation of North water spring ice cover from satellite photographs. Arctic, 25, p.263-271.

Ackley, S.F., T.E. Keliher, 1976: Antarctic sea ice dynamics and its possible climatic effects. AIDJEX Bulletin, 33, p.53-76.

Ackley, S.F., 1979: Mass balance aspects of the Weddell Sea pack ice. Journal of Glaciology, 24(90), p.391-405.

Ackley, S.F., A.J. Gow, K.R. Buck, K.M. Golden, 1980: Sea ice studies into the Weddell Sea aboard USCGC Polar Sea. Antarctic Journal of the U.S., 15(5), p.84-86.

Ackley, S.F., 1981: Review of sea-ice weather relationships in the Southern Hemisphere. In: Symposium on Sea Level, Ice and Climatic Change, (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication, no.131, p.127-159.

Ackley, S.F., 1981: Sea-ice-atmosphere interactions in the Weddell Sea using drifting buoys. In: Sea Level, Ice and Climatic Change, Symposium, 7-8 December 1979. Proceedings. (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication No. 131, p.177-191.

Ackley, S.F., S.J. Smith., D.B. Clarke, 1982: Observations of pack ice properties in the Weddell Sea. Antarctic Journal of the U.S., 17(5), p.105-106.

Adrov, N.M., 1982: Zimniaia s"emka iugo-vostochni chasti Barentseva moria. (Winter surveys of the southeastern Barents Sea.) In: Kompleksnye Issledovaniia Prirody Severnykh morei. (Complex investigations of the nature of northern seas) (V.N. Shirokolobov, ed.), p.17-20.

Agee, H.J., R.F. Freeman, 1969: Birds Eye 8-69, November-3 December 1969. U.S. Naval Oceanographic Office. Report, NOO-IR-70-39, 113p. NTIS no. AD-875 029.

Ahlnas, K., G. Wendler, 1977: Arctic sea ice conditions in early spring viewed by satellite. Arctic and Alpine Research, 9, p.61-72.

Ahlnas, K, G. Wendler, 1979: Sea-ice observations by satellite in the Bering, Chukchi, and Beaufort Seas. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 5th, Norwegian Institute of Technology, August 13-18, 1979, Trondheim, Norway. Proceedings, Vol.1, p.313-329.

Ahlnas, K., K. Jayaweera, 1983: Sea-ice studies in Ross Sea, Antarctica, using NOAA-satellite imagery. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings, Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, p.42-51.

Aizatullin, T.A., M. Nazirov, 1972: Ledovye "vikhri" na morskoi poverkhnosti. (Ice "eddies" on the sea surface.) Priroda, no.9, p.101-102.

Albright, M., 1980: Geostrophic wind calculations for AIDJEX. In: Sea Ice Processes and Models, (R. Pritchard, ed.), University of Washington Press, Seattle, p.402-409.

Aldoshina, A.I., 1964: O vozmozhnosti predskazaniia polozheniia kromki l'da v Okhotskom more i Tatarskom prolive na vesennie mesiatsy. (On the possibility of predicting the position of the ice edge in the Okhotsk Sea and Tatar Straits in spring months.) Gosudarstvennyi Okeanograficheskii Institut. Trudy, no.76, p.104-126.

Alekseev, G.V., A.IA. Buzuev, 1973: Ob evoliutsii sistemy led-poverkhnostnyi sloi okeana v raione dreifa stantsii Severnyi Polius-16. (Evolution of the ice-ocean surface system near the drift station Severnyi Polius-16. Problemy Arktiki i Antarktiki, 42, p.37-43.

Alexander, V., H.J. Niebauer, 1981: Oceanography of the eastern Bering Sea ice-edge zone in spring. Limnology and Oceanography, 26(6), p.1111-1125

Allison, I., 1981: Antarctic sea ice growth and oceanic heat flux. In: Sea Level, Ice and Climatic Change, Symposium, 7-8 December 1979. Proceedings. (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication No. 131, p.161-170.

Amos, A.F., 1982: Physical oceanography of the southwestern Ross Sea, January 1982. Antarctic Journal of the U.S., 17(5), p.146-148.

Amstutz, D.E. 1977: Stereophotogrammetric reconnaissance of ocean wave/sea ice interaction. Corvallis, Oregon State University. Ph.D. dissertation, 172p.

Anderson, B.G., W.F. Weeks, J.L. Newton, (eds.), 1980: The seasonal sea ice zone. Proceedings of an International Workshop. Cold Regions Science and Technology, 2, 357p.

Anderson, R.J., S.D. Smith, R.E. Mickle, 1984: Wind stress and micrometeorology from KVITBJORN. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.103-104.

Andreas, E.L., 1977: Observations of velocity and temperature and estimates of momentum and heat fluxes in the internal boundary layer over Arctic leads. Corvallis, Oregon State Univeristy, Ph.D. dissertation, 275p.

Andreas, E.L., C.A. Paulson, R.M. Williams, R.W. Lindsay, J.A. Businger, 1979: Turbulent heat flux from Arctic leads. Boundary-Layer Meteorology, 17, p.57-91.

Andreas, E.L., C.A. Paulson, 1979: Velocity spectra and cospectra and integral statistics over Arctic leads. Quarterly Journal of the Royal Meteorological Society, 105, p.1053-1070.

Andreas, E.L., 1980: Estimation of heat and mass fluxes over Arctic leads. Monthly Weather Review, 108, p.2057-2063.

Andreas, E.L., R.M. Williams, C.A. Paulson, 1981: Observations of condensate profiles over Arctic leads with a hot-film anemometer. Quarterly Journal of the Royal Meteorological Society, 107, p.437-460.

Andreas, E.L., W.B.. Tucker, III, S.F. Ackley, 1984: Atmospheric boundary-layer modification, drag coefficent, and surface heat flux in the Antarctic marginal ice zone. Journal of Geophysical Research, 89(C1), p.649-661.

Andreas, E., 1984: Atmospheric subgroup discussions. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.97.

Andreas, E.L., W.B. Tucker, S.F. Ackley, 1984: Variation of the drag coefficient across the Antarctic marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report no.84-07, P.63-71.

Antropova, L.V., B.A. Kogan, 1977: Raschet osnovnykh sostavliaiushchikh ledovogo balansa Datskogo proliva. (Calculating basic components of ice balance in the Denmark Strait.) In: Prirodnye Usloviia i Estestvennye Resursy Severnykh Morei. (V.T.Zhevnovatyi, ed.) [Natural conditions and resources of northern seas.] Leningrad, Gidrometeoizdat, p.90-107.

Antropova, L.V., B.A. Kogan, 1980: Calculation of the basic components of the ice balance in the Denmark Strait. U.S. Army. Cold Regions Research and Engineering Laboratory. Translation 742, 16p.

Antropova, L.V., B.A. Kogan, 1980: Ledovy balans Datskogo Proliva v anomal'nye po ledovitosti Gody. (Ice balance of the Denmark Strait during anomalous ice years.) Leningrad. Arkticheskii I Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 348, p.41-46.

Apel, J.R., 1982: Some recent scientific results from the SEASAT altimeter. Sea Technology, 23(10), p.23-25.

Arya, S.P.S., 1975: A drag partition theory for determining the large-scale roughness parameter and wind stress on the Arctic pack ice. Journal of Geophysical Research, 80, p.3447-3454.

Assur, A., 1963: Breakup of pack-ice floes. In: Ice and Snow, (W.B. Kingery, ed.)., MIT Press, Cambridge, Mass., p.335-347.

Atlas Antarktiki, 1966: Leningrad, Gidrometeoizdat.

Atmospheric Environment Service, Canada, 1964-1971$^+$: Ice Summary and Analysis, 1964-1969$^+$ (Annual). Canada. Atmospheric Environment Service, Meteorological Branch, Toronto.

Augstein, E., G. Hempel, J. Schwarz, J. Thiede, W. Weigel, 1984: Die Expedition ARKTIS II des FS "Polarstern" 1984. Reports on Polar Research. Alfred Wegener Institute for Polar Research, Bremerhaven,

Augstein, E., 1984: Overview on "POLARSTERN's" activities. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.12-13.

Babaev, A.B., V.P. Logachev, V.N. Parfent'ev, V.A. Fedorov, G.P. Shelomanova, 1975: Radiolokatsionnye ChM signaly, otrazhennye ot ledovykh poverkhnostei i vozmozhnosti ikh modelirovaniia. (Radar frequencey-modulated signals reflected from ice surfaces and the possibility of their modellihg.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.326, p.17-20.

Babaev, A.B., V.P. Logachev, V.N. Parfent'ev, V.A. Fedorov, G.P. Shelomanova, 1976: FM radar signals reflected from ice surfaces, and the possibilities of modeling them. U.S. Army. Cold Regions Research and Engineering Laboratory. Translation 539, p.12-16.

Badgley, F.I., 1961: Heat balance at the surface of the Arctic Ocean. In: Western Snow Conference, 29th, April 11-13, 1961, Spokane, Washington. Proceedings, p.101-104.

Badgley, F.I., 1966: Heat balance at the surface of the Arctic Ocean. In: Symposium on the Arctic Heat Budget and Atmospheric Circulation. Proceedings. (J.O. Fletcher, ed.), The Rand Corp., Santa Monica, CA, RM-5233-NSF, p.267-277.

Baggeroer, A.B., I. Dyer, 1984: MIZEX 84: summary of acoustics program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.140-143.

Baker, J.D., 1979: Ocean-atmosphere interaction in high southern latitudes. Dynamics of Atmospheres and Oceans, 3, p.213-229.

Baker, J.D., 1979: Polar oceanography, 2, Southern Ocean. Reviews of Geophysics and Space Physics, 17, p.1578-1585.

Banke, E.G., S.D. Smith, R.J. Anderson, 1976: Recent measurements of wind stress on Arctic sea ice. Journal of Fisheries Research Board of Canada, 33, p.2307-2317.

Banke, E.G., S.D. Smith, R.J. Anderson, 1977: Drag coefficients at AIDJEX from sonic anemometer measurements. In: Sea Ice Processes and Models, (R. Pritchard, ed.), University of Washington Press, Seattle, p.142-152.

Barcilon, A., A. Loesch, D. Lamich, 1984: Ice edge position sensitivity to finite-amplitude baroclinic heat flux divergence. Journal of the Atmospheric Sciences, 41(1), p.142-149.

Barnes, J.C. C.J. Bowley, 1981: Comparative analysis of sea ice features using side-looking radar (SLAR) and Landsat imagery. U.S. National Aeronautics and Space Administration, NASA report available: Lewis Research Center, Cleveland, OH, 44135.

rnett, D.G., 1976: A practical method of long range ice forecasting for the north coast of Alaska. Part I. U.S. Navy. Fleet Weather Facility, Technical Report 1, 16p.

ett, D.G., 1980: A long-range ice forecasting method for the north coast of Alaska. In: Sea Ice Processes and Models, (R. Pritchard, ed.), University of Washington Press, Seattle, p.360-372.

1 t, D., 1982: Bering Sea/North Slope ice analysis. U.S. Navy- Na- ional Oceanic and Atmospheric Administration. Joint Ice Center. eanographic Monthly Summary, 2(4), p.14.

Barrett, R.M., 1969: Birds Eye 6-68, 18 September-2 October 1968. U.S. Naval Oceanographic Office. Report, NOO-IR-69-6, 120p. NTIS no. AD-854 782.

Barry, R.G., R.S. Bradley, J.D. Jacobs, 1975: Synoptic climatological studies of the Baffin Island area. In: Climate of the Arctic (G. Weller and S.A. Bowling, eds.), University of Alaska, Geophysical Institute, p.82-90.

Barry, R.G., 1977: Study of climatic effects on fast ice extent and its seasonal decay along the Beaufort-Chukchi coasts. In: Environmental Assessment of the Alaskan Continental Shelf, Vol. XIV, Transport, U.S. National Oceanic and Atmospheric Administration, Environmental Research Laboratories, p.574-743.

Barry, R.G.. J.D. Jacobs, with R.G. Crane, R.A. Keen, R.E. Moritz, E.F. LeDrew, R.L. Weaver, 1978: Energy budget studies in relation to fast-ice breakup processes in Davis Strait: Climatological overview. Colorado. University. Institute of Arctic and Alpine Research. Occassional Paper no.26, 284p.

Barry, R.G., R.E. Moritz, J.C. Rogers, 1979: The fast ice regime of the Beaufort and Chukchi Sea coasts, Alaska. Cold Regions Science and Technology, 1, p.129-152.

Barry, R.G., 1979: Study of climatic effects on fast ice extent and its seasonal decay along the Beaufort-Chukchi coasts. In: Environmental Assessment of the Alaskan Continental Shelf. Final Reports of Principal Investigators, Vol. 2, Physical Science Studies. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Boulder, Colorado, p.272-375.

Barry, R.G., 1980: Meteorology and climatology of the seasonal sea ice zone. Cold Regions Science and Technology, 2, p.133-150.

Barry, R.G., 1983: Arctic Ocean ice and climate: perspectives on a century of polar research. Association of American Geographers. Annals, 73(4), p.485-501.

Barry, R.G., A. Henderson-Sellers, K.P. Shine, 1984: Climate sensitivity and the marginal cryosphere. American Geophysical Union. Geophysical Monograph, no.29, p.221-237.

Basharinov, A.E., 1972: Satellite measurements of microwave and infrared radiobrightness temperature of the earth's cover and clouds. In: International Symposium on Remote Sensing of Environment, 8th, October 1972. Proceedings. Ann Arbor, Environmental Institute of Michigan, vol.1, p.291-296.

Bauer, J. 1978: Field observations of medium and small scale features of the Bering Sea ice edge in February 1978. In: Environmental Assessment of the Alaskan Continental Shelf, Vol. 2 Principal Investigators' Reports July-September 1978. Boulder, Colorado, Environmental Research Laboratories, p.197-229.

Bauer, J., S. Martin, 1980: Field observations of the Bering Sea ice edge properties during March 1979. Monthly Weather Review, 108, p.2045-2056.

Bauer, J., S. Martin, 1983: Model of grease ice growth in small leads. Journal of Geophysical Research, 88(C5), p.2917-2925.

Becker, P.K., S. Martin, 1984: MIZEX-84 high frequency accelerometer study. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.79-81.

Belich, R.B., A.G. Gorelik, V.I. Semiletov, A.V. Frolov, 1978: O vozmozhnosti primeneniia sputnikovykh SVCh radiometricheskikh poliarizatsionnykh izmerenii dlia opredeleniia parametrov podstilaiushchei poverkhnosti. (Determining parameters of underlying surfaces by means of spaceborne microwave radiometry.) In: Kosmicheskaia Geofizika, (A.I. Burtsev, A.P. Tishhenko, eds.), Leningrad, Gidrometeoizdat, p.10-15.

Bentham, R., 1937: The ice-foot. In: Arctic Journeys: the Story of the Oxford University Ellesmere Land Expedition 1934-5, (E. Shackleton, ed.), Appendix III, Hodder and Stoughton, London.

Berezin, O.N., B.V. Ivanov, 1983: Studying temperature and salinity fields in the marginal zone of the Greenland Sea. Leningrad. Universitet. Vestnik, 18(3), p.101-103. (In Russian with English summary.)

Betin, V.V., Iu. V. Preobazensky, 1959: Variations in the state of the ice on the Baltic Sea and in the Danish Sound. Gosudarstvennyi Oceanograficheskii Institut, Trudy, 37, p.3-13. (In Russian.)

Bilello, M.A., 1961: Formation, growth and decay of sea ice in the Canadian Arctic Archipelago. Arctic, 14, p.3-24.

Binenko, V.I., N.P. Piatovskaia, V.M. Sutovskii, 1981: Podsputnikovyi eksperiment v Arktike. (Spaceborne experiment in the Arctic.) In: Pervyi Global'nyi Eksperiment PIGAP, vol 2, (K.IA.Kondrat'ev, V.I.Binenko, eds.). (First global experiment PIGAP. Vol. 2. Extended cloudiness and radiation.) Leningrad, Gidrometeoizdat, p.107-114.

Bjornsson, H., 1969: Sea ice conditions and the atmospheric circulation north of Iceland. Jokull, 19, p.11-17.

Blinov, N.I., S.V. Kochetov, 1978: Vliianie molodogo l'da na teploobmen mezhdu okeanom i atmosferoi v Arkticheskom basseine zimoi. (Influence of young ice on winter heat exchange between ocean and atmosphere in the Arctic basin.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.349, p.98-103.

Boeger, A.C., 1968: Birds Eye 4-68, 1-16 July 1968. U.S. Naval Oceanographic Office. Report, NOO-IR-68-113, 205p. NTIS no. AD-853 809.

Bogorodskii, V.V., V.P. Tripol'nikov, 1974: Differential electromagnetic characteristics at the interface between ice and water in the ocean. Soviet Physics. Technical Physics, 19(4), p.526-528.

Bogorodskii, V.V., 1974: Radio echo sounding of sea ice. In: Ocean '74 IEEE International Conference on Engineering in the Ocean Environment, Halifax, Nova Scotia, August 21-23, 1974. Record. New York, Institute of Electrical and Electronic Engineers, Vol.I, p.118-120.

Bogorodskii, V.V., G.P. Khokhlov, 1975: Elektricheskie svoistva l'da prikromochnoi zony Beringova moria na chastote 10 GGts. (Electrical properties of ice in the ice edge zone of the Bering Sea at 10 GHz frequency.) In: Sovetsko-Amerikanskii Eksperiment "Bering". Trudy Zakliuchitel'nogo Simpoziuma po Itogam Sovmestnoi Sovetsko-Amerikanskoi Ekspeditsii, Leningrad, 12-17 Maia, 1974. (U.S.S.R.-U.S.A. Bering Sea Experiment: Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings. Gidrometeoizdat, Leningrad, p.219-233.

Bogorodskii, V.V., V.P. Tripol'nikov 1979: Contrast of electromagnetic characteristics at the marine ice-water boundary. U.S. Army. Cold Regions Research and Engineering Laboratory. Translation 706, 6p.

Borisenkov, E.P., 1977: Eksperimental'nye issledovaniia prizemnogo sloia atmosfery v vysokikh shirotakh Arktiki. (Experimental studies of the atmospheric surface layer in high latitudes of the Arctic.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.10-19.

Borisenkov, E.P., A.P. Makshtas, L.IU. Preobrazhenskii, 1977: Opyt eksperimental'nogo issledovaniia vliianiia polynei i razvodii na energoobmen moria s atmosferoi v vysokikh shirotakh. (Experimental study of the effect of polynyas and leads on energy exchange between sea and atmosphere in high latitudes.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.64-70.

Borisov, P.M., 1969: Dinamika morskikh l'dov severnogo polushariia za poslednie 20 tysiach let. (Sea-ice dynamics in the northern hemisphere during the last twenty thousand years.) Akademiia Nauk SSSR. Institut Geografii. Materialy Gliatsiologicheskikh Issledovanii. Khronika Obsuzhdeniia, 15, p.73-90. (In Russian with English summary.)

Bourke, R.H., R.G. Paquette, 1981: Winter conditions in the Bering Sea. U.S. Naval Postgraduate School. Report, NPS-68-81-004, 110p. NTIS no. AD-A122 443.

Bourke, R.H., 1983: Currents, fronts and fine structure in the marginal ice zone of the Chukchi Sea. Polar Record, 21(135), p.569-575.

British Meteorological Office, 1960-1980: Monthly Ice Charts. London, HMSO.

Brooks, C.E.P., W.A. Quennel, 1928: Influence of Arctic ice on the subsequent distribution of pressure over the eastern North Atlantic and Western Europe. British Meteorological Office. Geophysical Memoirs, 4(41).

Brost, R.A., J.C. Wyngaard, 1978: A model study of the stably stratified planetary boundary layer. Journal of the Atmospheric Sciences, 35, p.1427-1440.

Brown, G.S., 1978: Backscattering from a Gaussian-distributed perfectly conducting rough surface. IEEE Transactions on Antennas and Propagation, AP-26, p.472-782.

Brown, G.S., 1979: The estimation of wind speed using a spaceborne radar altimeter. Journal of Geophysical Research, 84, p.3974-8978.

Brown, R.A., 1980: Longitudinal instabilities and secondary flows in the planetary boundary layer: a review. Reviews of Geophysics and Space Physics, 18, p.683-697.

Brown, R.A., 1980: Modeling the geostrophic drag coefficient for AIDJEX. Journal of Geophysical Research, 86, p.1989-1994.

Brown, R.A., 1980: Planetary boundary layer modeling for AIDJEX. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.387-401.

Bryan, M.L., 1977: Interpretation key for SAR (L-band) imagery of sea ice. In: ASCM-ASP Convention, 1976, Seattle, WA. Proceedings.

Bryan, L., T. Farr, F. Leberl, C. Elachi, 1977: Synthetic aperture radar imagery of the AIDJEX triange. AIDJEX Bulletin, 37, p.161-end.

Buckley, J.R., T. Gammelsrod, A. Johannessen, O.M. Johannessen, L.P. Roed, 1979: Upwelling: oceanic structure at the edge of the Arctic ice pack in winter. Science, 203, p.165-167.

Budd, W.F., 1975: Antarctic sea-ice variations from satellite sensing in relation to climate. Journal of Glaciology, 15(73), p.417-427.

Budgell, W.P., 1984: Ocean subgroup discussions. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.95.

Budyko, M.I., 1966: Polar ice and climate. In: Symposium on the Arctic Heat Budget and Atmospheric Circulation. Proceedings. (J.O. Fletcher, ed.), The Rand Corporation, Santa Monica, CA, RM-5233-NSF, p.3-22.

Bugaev, V.A., 1966: Edge of ice on the Southern Ocean and the trajectories of cyclones. In: International Oceanographic Congress, 2nd, Moscow, 1966. Abstracts of papers. Moscow, Nauka, p.57-58.

Bugaev, V.A., 1969: Polozhenie kromke l'dov i tsiklonicheskaia deiatel'nost' v IUzanom okeane. (Position of ice edge and cyclonic activity in the Southern Ocean.) Antarktika: Doklady Komissii, 1967, Moscow, Nauka, p.36-40.

Bugaev, V.A., 1971: Position of the ice edge and cyclonic activity in the Antarctic Ocean. Antarktika: Commission Reports 1967, Jerusalem, Israel Program for Scientific Translations, p.37-41.

Bugden, G.L., 1979: The deformation of pack ice by ridging. Journal of Geophysical Research, 84, p.1793-1796.

Buianov, N.F., V.A. Kokaev, G.K. Naumov, 1975: O rezul'tatakh nabliudenii za obledeneniem sudov v prikromochnoi zone Beringova moria v 1971-72 g. (Observing ship icing near the ice-edge zone of the Bering Sea in 1971-72.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.317, p.144-151.

Bukatov, A.E., L.V. Cherkesov, 1974: Influence of ice cover on internal waves generated by atmospheric disturbances in a continuously stratified sea.) Problems of the Arctic and the Antarctic, 43-44, p.130-138.

Bukatov, A.E., L.V. Cherkesov, 1974: Vliianie ledianogo pokrova na vnutrennie volny generiruemye atmosfernymi vozmushcheniiami v nepreryvno stratifitsirovannom more. (Ice cover effect on the internal waves generated by atmospheric disturbances in a continuously stratified sea.) Problemy Arktiki i Antarktiki, 43-44, p.106-111.

Bulgakov, N.P., 1967: Extreme winter boundary of ice in far eastern seas. U.S. Naval Oceanographic Office. Report, NOO-TRANS-292, 18p. NTIS no. AD-655 235.

Bunkin, F.V., K.I. Voliak, G.A. Liakhov, V.V. Panenko, I.V. Shugan, 1983: Trassovye izmereniia morskogo volneniia samoletnym lokatorom bokovogo obzora. (Route measurements of sea roughness by side-looking airborne radar.) Issledovanie Zemli iz Kosmosa, no.5, p.22-31.

Bushuev, A.V., N.A. Volkov, 1973: Weather satellites as a means of ice observations. Problems of the Arctic and the Antarctic, no.33-35, p.3-9.

Bushuev, A.V., 1978: Ispol'zovanie kombinirovannogo (analiticheskogo i optiko-mekhanicheskogo) metoda geograficheskoi priviazi sputnikovykh snimkov dlia operativnogo obespecheniia plavaniia ekspeditsionnykh sudov v ledovykh usloviiakh. (Using the combined analytical and optical-mechanical method of geographic correlation of satellite photographs for providing information for ice navigation of expedition ships.) In: Kosmicheskaia Geofizika, (A.I. Burtsev, A.P. Tishchenko, eds.), Leningrad, Gidrometeoizdat, p.71-74.

Bushuev, A.V., IU.D. Bychenkov, A.V. Provorkin, 1979: Raspredelenie i dinamika l'dov v Grenlandskom more v marte-iiule 1976 g. po dannym sputnikovoi informatsii. (Distribution and drift of ice in the Greenland Sea in March-July of 1976 from satellite information.) In: *Poleks-Sever-76, Chast' 1*, (A.F. Treshnikov, ed.), [Polex-North-76, Part 1.] Leningrad, Gidrometeoizdat. p.115-128.

Bushuev, A.V., 1980: Issledovanie ledianogo pokrova morei s iskusstvennykh sputnikov Zemli. (Investigation of sea ice cover from satellites.) In: *Sputnikovaia Gidrofizika*, (B.A. Nelepo, ed.), Sevastopol, p.47-57. (In Russian with English summary.)

Bushuev, A.V., 1982: Sostavlenie ledovykh fotokart po televizionnym snimkam ISZ. (Compiling photo-maps of ice conditions from spaceborne television photographs.) *Russia. Ministerstvo Vysshego i Srednego Spetsial'nogo Obrazovaniia. Izvestiia Vysshikh Uchebnykh Zavedenii. Geodeziia i Aerofotos"emka*, no.2, p.89-91.

Buynitskiy, V. Kh., 1967: Structure, principal properties and strength of Antarctic sea ice. *Soviet Antarctic Expedition. Information Bulletin*, 65, p.90-104.

Campbell, W.J., 1965: The wind driven circulation of ice and water in a polar ocean. *Journal of Geophysical Research*, 70, p.3279-3301.

Campbell, W.J., S. Martin, 1973: Oil and ice in the Arctic Ocean: possible large-scale interactions. *Science*, 181, p.56-58.

Campbell, W.J., A.S. Orange, 1974: The electrical anisotropy of sea ice in the horizontal plane. *Journal of Geophysical Research*, 79, p.5059-5063.

Campbell, W.J., P. Gloersen, R.O. Ramseier, 1975: Synoptic ice dynamics and atmospheric circulation during the Bering Sea experiment. In: *USSR/US Bering Sea Experiment*, (K. Ya. Kondratyev, ed.), Gidrometeoizdat, Leningrad, p.164-185.

Campbell, W.J., P. Gloersen, R.O. Ramseier, W.J. Webster, T.T. Wilheit, 1976: Beaufort Sea ice zones as delineated by microwave imagery. *Journal of Geophysical Research*, 81, p.1103-1110.

Campbell, W.J., R.O. Ramseier, R.J. Weaver, W.F. Weeks, 1977: Skylab floating ice experiment. *Canada. Department of Fisheries and Environment, Ottawa. Miscellaneous Special Publication* 34.

Campbell, W.J., *et al.*, 1978: Arctic sea ice variations from time-lapse passive microwave imagery. *Boundary-Layer Meteorology*, 18, p.19-106.

Campbell, W.J., *et al.*, 1978: Microwave remote sensing of sea ice in the AIDJEX main experiment. *Boundary-Layer Meteorology*, 13, p.309-337.

Campbell, W.J., P. Gloersen, H.J. Zwally, I. Dyer, C. Chryssostomidis, eds., 1984: Aspects of Arctic Sea ice observable by sequential passive microwave observations from the Nimbus-5 satellite. In: Arctic Technology and Policy. Annual Massachusetts Institute of Technology, Sea Grant College Program Lecture and Seminar. 3. Annual Robert Bruce Wallace Lecture, Cambridge, Massachusetts, 2-4 March 1983. p.197-222.

Campbell, W., N. Lannelonge, D. Vaillant, 1984: Report on French B-17 operations in MIZEX-84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.112-113.

Carleton, A.M., 1980: Polynya development in the Cape Thompson-Point Hope region, Alaska. Arctic and Alpine Research, 12, p.205-214.

Carleton, A.M., 1981: Ice-ocean-atmosphere interactions at high southern latitudes in winter from satellite observations. Australian Meteorological Magazine, 29(4), p.183-195.

Carleton, A.M., 1981: Monthly variability of satellite-derived cyclonic activity for the southern hemisphere winter. Journal of Climatology, 1, p.21-28.

Carleton, A.M., 1982: Cryosphere-climate interactions based on satellite data analysis of cloud vortex systems in the Northern Hemisphere. University of Colorado, Boulder, Ph.D. Dissertation.

Carleton, A.M., 1983: Variations in Antarctic sea ice conditions and relationships with Southern Hemisphere cyclonic activity, winters 1973-77. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie B, 32(1), p.1-22.

Carleton, A.M., 1984: Cloud-cryosphere interactions. In: Satellite Sensing of a Cloudy Atmosphere: Observing the Third Planet. (A. Henderson-Sellers, ed.), London, Taylor and Francis, p.289-325.

Carleton, A.M., 1984: Synoptic sea ice - atmospheric interactions in the Chukchi and Beaufort Seas from Nimbus 5 ESMR data. Journal of Geophysical Research, 89(D5), p.7245-7258.

Carleton, A.M., 1985: Synoptic cryosphere-atmosphere interactions in the Northern Hemisphere from DMSP image analysis. International Journal of Remote Sensing, 6(1), p.239-261.

Carmack, E.C., K. Aagaard, 1973: On the deep water of the Greenland Sea. Deep-Sea Research, 20, p.687-715.

Carmack, E.C., T.D. Foster, 1975: Circulation and distribution of oceanographic properties near the Filchner Ice Shelf. Deep-Sea Research, 22, p.77-90.

Carmack, E.C., T.D. Foster, 1975: On the flow of water out of the Weddell Sea. Deep-Sea Research, 22, p.711-724.

Carmack, E.C., 1977: Water characteristics of the Southern Ocean south of the Polar Front. In: A Voyage of Discovery. George Deacon 70th Anniversary Volume, (M. Angel, ed.), Pergamon Press, Oxford, p.15-41.

Carsey, F.D., E. Leavitt, 1977: Pibal/acoustic radar data in measurement- and computation of air stress over pack ice. AIDJEX Bulletin, 36, p.87-128.

Carsey, F.D., 1980: The boundary layer height in air stress measurement. In: Sea Ice Processes and Models, (R. Pritchard, ed.), University of Washington Press, Seattle, p.443-451.

Carsey, F.D., 1980: Microwave observation of the Weddell polynya. Monthly Weather Review, 108, p.2032-2044.

Carsey, F.D., 1982: Arctic sea ice distribution at end of summer 1973-1976 from satellite microwave data. Journal of Geophysical Research, 87(C8), p.5809-5835.

Carsey, F.D., 1985: Summer Arctic sea ice character from satellite microwave data. Journal of Geophysical Research, 90(C3), p.5015-5034.

Cavalieri, D.J., C.L. Parkinson, 1981: Large scale variations in observed Antarctic sea ice extent and associated atmospheric circulation. Monthly Weather Review, 109(11), p.2323-2336.

Cavalieri, D.J., P. Gloersen, W.J. Campbell, 1981: Observation of sea ice properties with the Nimbus-7 SMMR. In: Digest 1981. International Geoscience and Remote Sensing Symposium (IGASRSS'81), IEEE Transactions on Geoscience and Remote Sensing, New York, p.69-78.

Cavalieri, D.J., S. Martin, P. Gloersen, 1983: Nimbus 7 SMMR observations of the Bering Sea ice cover during March 1979. Journal of Geophysical Research, 88(C5), p.2743-2754.

Central Intelligence Agency, 1978: Polar Regions Atlas. National Foreign Assessment Centre, C.I.A., Washington, D.C., 66p.

Chen, C.F., 1981: Turbulent flux measurements in the Arctic planetary boundary layer. University of Wisconsin, Meteorology Department, M.S. thesis, 96p.

Chernigovskii, N.T., 1963: Radiation properties of the ice cover of the Central Arctic. Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 253, p.249-260. (In Russian.) English translation, 1966: Rand Corporation, RM-5003-PR.

Chikovskii, S.S., 1973: Formation of thick ice in coastal Antarctic waters. Sovetskaia Antarkticheskaia Ekspeditsiia, 1955-, Information Bulletin, 8(4), p.205-207.

Chikovskii, S.S., 1978: Rol' shel'fovykh lednikov Antarktidy v obrazovanii vnutrivodnogo l'da. (Role of Antarctic shelf ice in frazil ice formation.) Akademiia Nauk SSSR. Institut Geografii. Materialy Gliatsiologicheskikh Issledovanii. Khronika Obsuzhdeniia, no.34, p.205-210. (In Russian with English summary.)

Clarke, A.J., 1978: On wind-driven quasi-geostrophic water movements near fast-ice edges. Deep-Sea Research, 25, p.41-51.

Clarke, D.B., S.F. Ackley, 1984: Sea ice structure and biological activity in the Antarctic marginal ice zone. Journal of Geophysical Research, 89(C2), p.2087-2095.

Coachman, L.K., C.A. Barnes, 1961: The contribution of Bering Sea water to the Arctic Ocean. Arctic, 14, p.146-161.

Coachman, L.K., 1968: Physical Oceangraphy of the Arctic Ocean: 1965. In: Symposium on Arctic Drifting Stations, Warrenton, Va., April 12-15, 1966. Proceedings, Arctic Institute of North America, p.255-280.

Coachman, L.K., K. Aagaard, 1974: Physical oceanography of arctic and subarctic seas. In: Marine Geology and Oceanograpahy of the Arctic Seas, (Y. Herman, ed.), Springer-Verlag, New York, p.1-72.

Coachman, L.K., K. Aagaard, R.B. Tripp, 1975: Bering Strait: The Regional Physical Oceanography. University of Washington Press, Seattle, 1972p.

Coachman, L.K., T.H. Kinder, J.D. Schumacher, R.B. Tripp, 1980: Frontal systems of the southeastern Bering Sea strait. In: International Symposium on Stratified Flows, 2nd. Proceedings, (T. Carstens and T. McClimans, eds.), Trondheim, p.917-927.

Colony, R., 1978: Daily rate of strain of the AIDJEX manned triangle. AIDJEX Bulletin, 39, p.85-110.

Colony, R., A.S. Thorndike, 1980: The horizontal coherency of the motion of summer Arctic sea ice. Journal of Physical Oceanography, 10(8), p.1281-1289.

Colony, R., D.A. Rothrock, 1980: A perspective of the time-dependent response of the AIDJEX model. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.124-133.

Colony, R., A.S. Thorndike, 1981: Sea ice strains during 1979. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 6th, Quebec City, Quebec, 27-31 July 1981. Proceedings, p.619-628.

Colony, R., 1984: Mean ice motion in the Arctic Ocean. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.91-94.

Colony, R., 1984: A Markov model for sea ice trajectories. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.77-82.

Comiso, J.C., J.H. Zwally, 1982: Antarctic sea ice concentrations inferred from Nimbus 5 ESMR and LANDSAT imagery. Journal of Geophysical Research, 87(C8), p.5836-5844.

Comiso, J.C., S.F. Ackley, A.L. Gordon, 1984: Antarctic sea ice microwave signatures and their correlation with (in situ) ice observations. Journal of Geophysical Research, 89(C1), p.662-672.

Comiso, J.C., H.J. Zwally, 1984: Concentration gradients and growth/decay characteristics of the seasonal sea ice cover. Journal of Geophysical Research, 89(C5), p.8081-8103.

Conference on Use of Icebergs: Scientific and Practical Feasibility, Cambridge, UK, 1-3 April 1980. Proceedings, 1980: Annals of Glaciology, Vol. 1.

Coon, M.D., 1974: Mechanical behavior of compacted Arctic ice floes. Journal of Petroleum Technology, 26, p.466-470.

Coon, M.D., R.T. Hall, R.S. Pritchard, 1977: Predictions of Arctic ice conditions for operations. In: Offshore Technology Conference, 9th, Dallas, Texas. Proceedings, 4, p.307-314.

Coon, M., 1980: A review of AIDJEX modeling. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, p.12-27.

Cooper, P.F., 1974: Landfast ice in the southeastern part of the Beaufort Sea. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed, J.F. Sater, eds.), Arctic Institute of North America, Arlington, VA, p.235-242.

Craig, L.W., 1972: High frequency accelerations of Arctic pack ice. Department of Civil Engineering, University of Washington, Seattle. M.A. thesis.

Crane, R.G., 1978: Seasonal variations of sea ice extent in the Davis Strait-Labrador Sea area and relationships with synoptic-scale atmospheric circulation. Arctic, 31, p.434-447.

Crane, R.G., 1978: Synoptic controls on the energy budget regime of an ablating fast ice surface. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 28, p.53-70.

Crane, R.G., 1981: Synoptic ice-atmosphere interaction analysis using Northern Hemisphere satellite ESMR data. University of Colorado, Boulder, Ph.D. Dissertation.

Crane, R.G., R.G. Barry, H.J. Zwally, 1982: Analysis of atmosphere-sea ice interactions in the Arctic Basin using ESMR microwave data. International Journal of Remote Sensing, 3, p.259-276.

Crane, R.G., 1983: Atmosphere-sea ice interactions in the Beaufort/Chukchi Sea and in the European sector of the Arctic. Journal of Geophysical Research, 88(C7), p.4505-4523.

Crary, A.P., 1958: Arctic ice island and ice shelf studies, I. Arctic, 11, p.3-42.

Crary, A.P., 1960: Arctic ice island and ice shelf studies, II. Arctic, 13, p.32-50.

Csanady, G.T., 1981: Circulation in the coastal ocean, Part I. EOS, 62, p.9-11.

Danish Meteorological Institute, 1901-1956: The State of the Ice in the Arctic Seas. Appendices to Nautical-Meteorological Annuals, Charlottenlund, Copenhagen (published annually).

Danish Meteorological Institute, 1960-1968: The Ice Conditions of the Greenland Waters. Charlottenlund, Copenhagen (published annually).

Davidson, K.L., G.L. Geernaert, 1984: R/V HAKON MOSBY meteorological measurements/conditions. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.93-95.

Dayton, P.K., S. Martin, 1971: Observations of ice stalactites in McMurdo Sound, Antarctica. Journal of Geophysical Research, 76, p.1595-1599.

Deacon, G.E.R., 1937: The hydrology of the Southern Ocean. Discovery Reports, 15, p.1-124.

Deacon, G.E.R., 1982: Physical and biological zonation in the Southern Ocean. Deep-Sea Research, 20(1A), p.1-15.

Dean, C.H., 1966: The attenuation of ocean waves near the open ocean/pack-ice boundary (abstract). In: Symposium on Antarctic Oceanography, Scott Polar Research Institute, Cambridge, p.221-222.

Deaver, J.W., 1983: RP-3A Flight Summary Report: MIZEX June-July 1983. Bendix Field Engineering, Inc. for Aerospace Systems Division, Naval Research Laboratory, Washington, D.C. Report, 82p.

Den Hartog, G., S.D. Smith, R.J. Anderson, D.R. Topham, R.G. Perkin, 1983: Investigation of a polynya in the Canadian Archipelago, 3, Surface heat flux. Journal of Geophysical Research, 88(C5), p.2911-2916.

Denner, W.W., T.E. Keliher, 1981: Numerical modeling of Labrador pack ice dynamics. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 6th, Quebec City, Quebec, 27-31 July 1981. Proceedings, 3, p.1330-1347.

Dey, B., 1980: Applications of satellite thermal infrared images for monitoring North Water during the periods of polar darkness. Journal of Glaciology, 25(93), p.425-438.

Dey, B., 1980: Sea ice cover and related atmospheric conditions in Arctic Canada during the summer of 1978. Monthly Weather Review, 108, p.2092-2097.

Dey, B., 1980: Seasonal and annual variations in ice cover in Baffin Bay and northern Davis Strait. Canadian Geographer, 24, p.308-384.

Dey, B., 1980: Variations of August ice cover in the Beaufort Sea, and related weather conditions. American Meteorological Society. Bulletin, 61(3), p.213-217.

Dey, B., 1981: Monitoring winter sea ice dynamics in the Canadian Arctic with NOAA-TIR images. Journal of Geophysical Research, 86, p.3223-3235.

Dey, B., 1982: Impacts of climate on variations in summer ice cover in the Canadian Arctic. In: International Symposium on Remote Sensing of Environment, 16th, Buenos Aires, Argentina, 2-9 June 1982, 1, p.529-537.

Diachok, O.I., R.S. Winokur, 1974: Spatial variability of underwater ambient noise at the Arctic ice-water boundary. Acoustical Society of America. Journal, 55(4), p.750-753.

Diachok, O.I., 1980: Arctic hydroacoustics. Cold Regions Science and Technology, 2, p.186-201.

Dicus, R.L., 1984: Vertical array acoustics. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.148-151.

DiNapoli, F.R., 1984: Scientific activities aboard H.U. SVERDRUP. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.159.

Dinsmore, R.P., 1972: Ice and its drift into the North Atlantic Ocean. In: Symposium on Environmental Conditions in the Northwest Atlantic, 1960-1969. International Committee for Northwest Atlantic Fisheries, Dartmouth, NS, Special Publication 8, p.89-128.

Dobromyslov, V.N.., 1978: O ledovitosti antarkticheskikh vod po dannym iskusstvennykh sputnikov zemli. (Satellite data on antarctic ice conditions.) Leningrad. Gidrometeorologicheskii Nauchno-Issledovatel'skii Tsentr SSSR. Trudy, 200, p.99-102.

Dobromyslov, V.N., V.V. Maslennikov, 1979: O mezhgodovoi i mnogoletnei izmenchivosti rasprostraneniia l'da v Atlanticheskom sektore Antarktiki. (Annual and long-term variations in ice distribution in the Atlantic sector of Antarctica.) Antarktika: Doklady Komissii, no.18, p.113-117.

Doronin, IU. P., 1970: K methodike rascheta splochennosti i dreifa l'dov. (On a method of calculating the compactness and drift of ice floes.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.291, p.5-17. English translation, 1970: AIDJEX Bulletin, 3, p.22-39.

Doronin, IU.P., 1974: Formation of the equilibrium thickness of Arctic ice. Soviet Hydrology, no.4, p.244-250.

Doronin, IU.P., V.I. Sychev, 1974: Formirovanie ledianogo pokrova kak produkta vzaimodeistviia atmosfery i okeana. (Ice cover formation as a result of ocean-atmosphere interaction.) Problemy Arktiki iAntarktiki, 43-44, p.18-27.

Doronin, IU.P., V.I. Sychev, 1974: Ice cover as a product of ocean-atmosphere interaction. Problems of the Arctic and the Antarctic, 43-44, p.18-30.

Doronin, IU.P., K.D. Kreiman, 1974: Nekotorye kharakteristiki sloia treniia v more u sherokhovatykh poverkhnostei. (Friction layers in the ocean near rough surfaces.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.316, p.171-174.

Doronin, IU.P., K.P. Shirokov, 1974: O nestatsionarnom vetrovom dreife morskogo l'da. (Unstable wind drift of sea ice.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, no.316, p.138-145.

Doronin, IU. P., D.E. Kheisin, 1977: Sea ice. Amerind Publishing Co. Pvt. Ltd., New Delhi., 323p.

Doronin, IU.P., K.D. Kreiman, 1984: Some characteristics of the friction layer near rough surfaces in the sea. In: Dynamics of Ice Cover, (L.A.Timokhov, ed.), New Delhi, Amerind Publishing Co., p.177-180.

Doronin, IU.P., K.P. Shirokov, 1984: Unsteady wind drift of sea ice. In: Dynamics of Ice Cover, (L.A. Timokhov, ed.), New Delhi, Amerind Publishing Co., p.143-150.

Drabkin, M.O., A.G. Nikolaev, 1982: Vybor kriteriev otsenki effectivnosti sredstv distantsionnogo zondirovaniia okeana. (Selecting criteria for evaluating the efficiency of remote sensing means designed for oceans.) Leningrad. Gosudarstvennyi Nauchno-Issledovatel'skii Tsentr Izucheniia Prirodnykh Resursov. Trudy, 14, p.3-9.

Dunbar, M., 1967: The monthly and extreme limits of ice in the Bering Sea. In: Physics of Snow and Ice, (H. Oura, ed.), Institute of Low Temperature Science, University of Hokkaido, Vol. 1, p.687-703.

Dunbar, M., 1972: Increasing severity of ice conditions in Baffin Bay and Davis Strait and its effect on the extreme limits of ice. In: International Conference on Sea Ice, Reykjavik, May 10-13, 1971. Proceedings, (T. Karlsson, ed.), Reykjavik, Iceland, National Research Council, p.87-93.

Dunbar, M., 1973: Winter regime of the North Water. Royal Society of Canada. Transactions, Series IV, 11, p.275-281.

Dunbar, M., 1975: Interpretation of SLAR imagery of sea ice in Nares Strait and the Arctic Ocean. Journal of Glaciology, 15, p.193-213.

Dunbar, M. and W.F. Weeks, 1975: Interpretation of young ice forms in the Gulf of St. Lawrence using side-looking airborne radar and infrared imagery. U.S. Army. Cold Regions Research and Engineering Laboratory, Report RR337.

Dyer, I., 1980: Acoustic interaction. Cold Regions Science and Technology, 2, p.355-356.

Dyer, I., 1984: MIZEX 84 cruise report, KVITBJORN: first leg 2 June - 30 June. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.144-147.

Dzheniuk, S.L., 1977: Metod rascheta polei volneniia v Barentsevom, Norvezhskom i Grenlandskom moriakh. (Method of wave field calculation in the Barents, Greenland and Norwegian Seas.) Problemy Arktiki i Antarktiki, 52, p.82-86.

Dzheniuk, S.L., 1982: Method of determining wave fields in the Barents, Norwegian and Greenland Seas. Problems of the Arctic and the Antarctic, 52, p.101-107.

Egorov, K.L., 1970: Theory of drift of ice floes in a horizontally heterogeneous wind field. Problemy Arktiki i Antarktiki, 34, p.71-78, (In Russian). English translation, 1971: AIDJEX Bulletin, 6, p.37-45.

Egorov, K.L., D. L. Laikhtman, V. M. Radikevich, 1974: Ice cover as a link in the ocean-atmospheric system. Boundary-Layer Meteorology, 6(1/2), p.169-182.

Egorov, K.L., 1977: Tsirkuliatsiia vodnykh mass v tsentral'noi chasti Arkticheskogo basseina. (Water mass circulation in the central part of the Arctic Basin.) Problemy Arktiki i Antarktiki, 49, p.15-23.

Einarsson, T., 1972: Sea currents, ice drift and ice composition in the East Greenland current. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.23-32.

Eppler, D.T., 1982: Possible applications of GEOSAT-A radar altimeter data to ice forecasting in polar regions. U.S. Naval Ocean Research and Development Activity. NORDA Technical Note, no.177, 13p.

Eppler, D.T., 1983: Assessment of potential SSM/I ice products in light of ESMR and SMMR ice classification algorithms. U.S. Naval Ocean Research and Development Activity. Technical Note, no.220, 28p.

Eskin, L.I., 1971: Sea ice of the Southern Ocean. U.S. Naval Oceanographic Office. Report, NOO-TRANS-507, 14p. NTIS no. AD-847 435.

Eskin, L.I., L.M. Savatiugin, 1972: State of the fast ice and unloading of the (Ob') in Mirnyy roads in the summer of 1968/69. Sovetskaia Antarkticheskaia Ekspeditsiia. Information Bulletin, 8(1), p.35-38.

Essen, H.-H., 1984: Surface currents measured by means of CODAR. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.49.

Evseev, V.V., 1976: Propagation of antarctic sea ice according to satellite observations. Sovetskaia Antarkticheskaia Ekspeditsiia. Information Bulletin, 8(12), p.648-650.

Ewing, M. and A.P. Crary, 1934: Propagation of elastic waves in ice, 2. Physics, 5, p.181-184.

Expedition Ymer-80. 1981: Ymer, Yearbook of Swedish Society for Anthropology and Geography, 101, 176p.

Farrelly, B., J.A. Johannessen, O.M. Johannessen, E. Sevenden, K. Kloster, I. Horjen, C. Matzler, W.J. Campbell, J. Crawford, et al, 1983: Norwegian remote sensing experiment in a marginal ice zone. Science, 220(4599), p.781-786.

Farrelly, B., 1984: MIZEX co-ordination Tromso. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.8-9.

Fay, F.H., 1974: The role of ice in the ecology of marine mammals of the Bering Sea. In: Oceanography of the Bering Sea with Emphasis on Renewable Resources, (D.W. Hood and E.J. Kelley, eds.), Institute of Marine Science, University of Alaska, Fairbanks, p.383-399.

Fedor, L.S., 1984: Participation in the NOAA P-3 aircraft in the 1984 summer MIZEX. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.123-124.

Feyling-Hanssen, R.W., 1953: Brief account of the ice-foot. Norsk Geografisk Tidsskrift, 14(1-4), p.45-52.

Fletcher, J.O., 1965: The Heat Budget of the Arctic Basin and Its Relation to Climate. The Rand Corp., Santa Monica, CA, R-444-PR, 179p.

Fletcher, J.O., 1969: Ice extent on the Southern Ocean and its relation to world climate. Rand Corp. Memo RM-5793-NSF, Santa Monica, CA, 111p.

Fofonoff, N.P., 1956: Some properties of sea water influencing the formation of Antarctic bottom water. Deep-Sea Research, 4, p.32-35.

Foldvik, A. and T.K. Kvinge, 1974: Conditional instability of sea water at the freezing point. Deep-Sea Research, 21, p.169-174.

Foldvik, A. and B. Rudels, 1979: Double diffusive convection into deep homogeneous layers. Bergen. University. Geophysical Institute, Division A, Report 53, 22p.

Foster, T.D., 1968: Haline convection induced by freezing of sea water. Journal of Geophysical Research, 73, p.1933-1938.

Foster, T.D., 1969: Experiments on haline convection induced by freezing of sea water. Journal of Geophysical Research, 74, p.6967-6974.

Foster, T.D., 1972: Haline convection in leads and polynas. Journal of Physical Oceanography, 2, p.462-469.

Foster, T.D., E.C. Carmack, 1976: Frontal zone mixing and Antarctic bottom water formation in the southern Weddell Sea. Deep-Sea Research, 23, p.301-317.

Foster, T.D., E.C. Carmack, 1976: Temperature and salinity structure in the Weddell Sea. Journal of Physical Oceanography, 6, p.36-44.

Foster, T.D., 1978: Polar oceans: Similarities and differences in their physical oceanography. In: Polar Research: To the Present and the Future, (M. McWhinnie, ed.), Westview Press, p.117-140.

Foster, T.D., J.H. Middleton, 1980: Bottom water formation in the Weddell Sea. Deep-Sea Research, 27, p.367-382.

Foster, T.D., 1984: Small and mesoscale processes in the Summer marginal ice zone experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.29.

Freeman, R.F., 1968: Birds Eye 3-68, 21 May-10 June 1968. U.S. Naval Oceanographic Office. Report, NOO-IR-68-1-8, 136p.

Gabov, S.A., A.G. Sveshnikov, 1982: O difraktsii vnutrennikh voln na kromke ledovogo polia. (Diffraction of internal waves at the edge of an ice field.) Akademiia Nauk SSSR. Doklady, 265(1), p.16-20.

Gade, H.G., R.A. Lake, E.L. Lewis, E.R. Walker, 1974: Oceanography of an Arctic bay. Deep-Sea Research, 21(7), p.547-571.

Gade, H.G., 1979: Melting of ice in sea water. A primitive model with applications to the Antarctic ice shelf and icebergs. Journal of Physical Oceanography, 9, p.189-198.

Galt, J.A., 1973: A numerical investigation of Arctic Ocean dynamics. Journal Physical Oceanography, 3, p.379-396.

Gammelsrod, T., M. Mork, L.P. Roed, 1975: Upwelling possibilities at an ice edge: Homogeneous model. Marine Science Communication, 1, p.115-145.

Garrison, G.R., P. Becker, 1976: The Barrow Submarine Canyon: a drain for the Chukchi Sea. Journal of Geophysical Research, 81, p.4445-4453.

Gascard, J.C., 1984: Lagrangian floats experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.27-28.

Gaskill, H.S., R.J. Lopez, G.E. Swaters, 1980: Free drift of sea ice: a comparison of models. Memorial University of Newfoundland. Centre for Cold Ocean Resources Engineering. C-CORE Publication, no.80-16, 132p.

Gebhart, B., T. Audunson, 1980: Transport measurements in the Arctic icepack. Letters in Heat and Mass Transfer, 7, p.293-302.

Gebhart, B., B. Sammakia, T. Audunson, 1983: Melting characteristics of horizontal ice surfaces in cold saline water. Journal of Geophysical Research, 88(C5), p.2935-2942.

Georgi, D.T., 1978: Finestructure in the Antarctic Polar Front Zone: Its characteristics and possible relationship to internal waves. Journal of Geophysical Research, 83, p.4579-4588.

Gernandt, H., 1979: Satellitenbeobachtung der Seeisgrenze im Kustengebiet "Konigin-Maud-Land" bis "Filchner-Schelfeis". (Satellite observations of the ice edge in coastal areas from Queen Maud Land to the Filchner Ice Shelf.) Zeitschrift fur Meteorologie, 29(2), p.127-131.

Gill, A.E., J.S. Turner, 1969: Some new ideas about the formation of Antarctic bottom water. Nature, 224, p.1287-1288.

Gill, A.E., 1973: Circulation and bottom water production in the Weddell Sea. Deep-Sea Research, 20, p.111-140.

Gladfelter, W.H., 1964: Oceanography of the Greenland Sea, USS "Atka" (AGB-3) survey, summer 1962. U.S. Naval Oceanographic Office, Informal ms report 0-64-63, 159p.

Gloersen, P., W. Nordberg, T.J. Schmugge, T.T. Wilheit, W.J. Campbell, 1973: Microwave signatures of first-year and multiyear sea ice. Journal of Geophysical Research, 78, p.3564-3572.

Gloersen, P., F. Barath, 1977: A scanning multichannel microwave radiometer for Nimbus G and Seasat. IEEE Journal of Oceanic Engineering, OE-2, p.172-178.

Gloersen, P., R.O. Ramseier, W.J. Campbell, T.C. Chang, T.T. Wilheit, 1975: Variation of ice morphology of selected mesoscale test areas during the Bering Sea experiment. In: U.S.S.R.-U.S.A Bering Sea Experiment: Proceedings of the Final Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974, (K. Ya. Kondratiev, Yu. I. Rabinovich, and W. Nordberg, eds.), Leningrad, Gidrometeoizdat, p.196-218.

Gloersen, P., T.T. Wilheit, T.C. Chang, W. Nordberg, W.J. Campbell, 1978: Microwave maps of the polar ice of the earth. American Meteorological Society. Bulletin, 55, p.1442-1448.

Gloersen, P., H.J. Zwally, A.T.C. Chang, D.K. Hall, W.J. Campbell, R.O. Ramseier, 1978: Time dependence of sea ice concentration and multiyear ice fraction in the Arctic Basin. Boundary-Layer Meteorology, 13, p.339-359.

Gloersen, P., 1984: Data report on variations observed in the composition of sea ice during MIZEX '84 with the NIMBUS-7 SMMR. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.134-137.

Gloersen, P., 1984: NASA/CV-990 activities during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.118-121.

Godin, R.H., 1982: Bering Sea/North Slope ice analysis September 1982. U.S. Navy-National Oceanic and Atmospheric Administration. Joint Ice Center. Oceanographic Monthly Summary, 2(9), p.14.

Godin, R.H., 1984: Bering Sea/North Slope ice analysis. U.S. Navy-National Oceanic and Atmospheric Administration Joint Ice Center. Oceanographic Monthly Summary, 4(2), p.14.

Goodman, D.J., P. Wadhams, V.A. Squire, 1980: The flexural response of a tabular ice island to ocean swell. Annals of Glaciology, 1, p.23-28.

Goody, R., 1980: Polar processes and world climate (A brief overview). Monthly Weather Review, 108, p.1935-1942.

Gorbunov, IU.A., S.M. Losev, 1977: O smeshchenii kromok l'da i granits ledianogo massiva. (Shifting of ice edges and ice cover boundaries.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 343, p.133-140.

Gorbunov, IU.A., S.M. Losev, 1979: Izmenchivost' temperatury poverkhnosti moria (po materialam radiatsionnykh izmerenii s samoleta). (Variation of sea surface temperature [from airborne radiation measurements].) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 361, p.47-54.

Gordienko, P.A., G.N. Sergeev, 1981: Kriterii surovosti zim v Baltiiskom more. (Severity criteria for Baltic Sea winters.) In: Konferentsiia Baltiiskikh Okeanografov, 12th, Leningrad, April 14-17, 1980 i Soveshchanie Ekspertov po Vodnomu Balansu Baltiiskogo Moria, Leningrad, April 17-19 1980. Trudy, (F.S. Terziev, ed.), Leningrad, Gidrometeoizdat, p.184-186.

Gordon, A.L., 1971: Oceanography of Antarctica water. In: Antarctic Oceanography 1, (J.L. Reid, ed.), American Geophysical Union, Antarctic Research Series, 15, p.169-203.

Gordon, A.L., P. Tchernia, 1972: Waters of the continental margin off Adelie Coast, Antarctica. In: Antarctic oceanography II: The Australian-New Zealand sector, (D.E. Hayes, ed.), American Geophysical Union, Antarctic Research Series, 9, p.59-69.

Gordon, A.L., 1974: Varieties and variability of Antarctic bottom water. Processus de formation des eaux oceaniques profondes. In: Colloques Internationale du Centre National de la Recherche Scientifique, no. 215, p.33-47.

Gordon, A.L., H.W. Taylor, 1975: Seasonal change of Antarctic sea ice cover. Science, 187, p.346-347.

Gordon, A.L., H.W. Taylor, D.T. Georgi, 1977: Antarctic oceanographic zonation. In: Polar Oceans, (M. Dunbar, ed.), Arctic Institute of North America, p.45-76.

Gordon, A.L., 1978: Deep Antarctic convection west of Maud Rise. Journal of Physical Oceanography, 8, p.600-612.

Gordon, A.L., E. Molinelli, T. Baker, 1978: Large-scale relative dynamic topography of the Southern Ocean. Journal of Geophysical Research, 83, p.3023-3032.

Gordon, A.L., 1981: Seasonality of Southern Ocean sea ice. Journal of Geophysical Research, 86(C5), p.4193-4197.

Gordon, A.L., E. Molinelli, T. Baker, 1981: Southern Ocean Atlas. Columbia University Press.

Gordon, A.L., D.G. Martinson, H.W. Taylor, 1981: The wind-driven circulation in the Weddell-Enderby Basin. Deep-Sea Research, 28, p.151-163.

Gordon, A.L., B.A. Huber, 1982: Physical oceanography during WEPOLEX-81. Antarctic Journal of the U.S., 17(5), p.98-100.

Gordon, A.L., 1983: Polar oceanography. Reviews of Geophysics and Space Physics, 21(5), p.1124-1131.

Gow, A.J., S.F. Ackley, W.F. Weeks, J.W. Govoni, 1982: Physical and structural characteristics of Antarctic sea ice. Annals of Glaciology, 3, p.113-117.

Graham, G.P., R.G. Paquette, R.H. Bourke, 1978: Finestructure, fronts and currents in the Pacific Marginal Sea-Ice Zone--MIZPC 77. U.S. Naval Postgraduate School. Report, NPS68-78-006, 90p. NTIS no. AD-A058 509.

Gratz, A.J., C.L. Parkinson, 1981: Oceanographic influences on the sea ice cover in the Sea of Okhotsk. U.S. National Aeronautics and Space Administration. Report, TM-82085, 22p. NTIS no. N81-19734.

Grenfell, T.C., G.A. Maykut, 1977: The optical properties of ice and snow in the Arctic Basin. Journal of Glaciology, 18, p.445-463.

Grenfell, T.C., 1984: Surface based brightness temperatures of sea ice in the Bering and Greenland Seas. In: IGARSS '84 Symposium, Strasbourg, 27-30 August 1984. Proceedings, ESA SP-215, p.385-389.

Grenfell, T.C., 1984: University of Washington microwave emission program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.132-133.

Grenfell, T.C., A.W. Lohanick, 1985: Temporal variations of the microwave signatures of sea ice during the late spring and early summer near Mould Bay NWT. Journal of Geophysical Research, 90(C3), p.5063- .

Griesman, P., 1979: On upwelling driven by the melt of ice shelves and tidewater glaciers. Deep-Sea Research, 26, p.1051-1066.

Grittner, S.F., J.M. Karish, R.A. Stewart, 1983: Ice surveillance program to support the North Aleutian Shelf C.O.S.T. well No.1. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings, Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, 3, p.282-296.

Gube, M., E. Augstein, 1984: Falcon 20 boundary layer flights. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.88-89.

Gudkovich, Z.M., E. I. Sarukhamyan, N.P. Smirnov, 1970: The atmospheric "polar tide" at high latitudes and fluctuations in icing of the Arctic seas. Akademiia Nauk SSSR. Earth Science Section, Doklady, 190(1-6), p.238-240.

Gudkovich, Z.M., I.F. Romantsova, 1979: Rezul'taty gidrologicheskikh nabliudenii i raschet teplovogo balansa raiona iugo-vostochnoi chasti moria Laptevykh. (Hydrologic observations and the calculation of heat balance in the southeastern part of the Laptev Sea.) In: Poleks-Sever-76 (nauchnye rezul'taty) Chast' II, (A.F.Treshnikov, ed.), Leningrad, Gidrometeoizdat, p.38-44.

Guest, P.S., K.L. Davidson, 1984: R/V POLAR QUEEN atmospheric boundary layer measurements. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.98-100.

Haggblom, A., 1982: Driftwood in Svalbard as an indicator of sea ice conditions. Geografiska Annaler. Series A: Physical Geography, 64A(1-2), p.81-94.

Hakkinen, S., 1984: Dynamics of the coupled ice-ocean system in the marginal ice zone: study of the mesoscale processes and of constitutive equations for sea ice. Florida. State University. Mesoscale Air-Sea Interaction Group, Geophysical Fluid Dynamics Institute. Technical Report, 95p.

Hall, R.T., 1978: Seasonal photo mosaics of the AIDJEX triangle. AIDJEX Bulletin, 39, p.79-84.

Hall, R.T., 1980: AIDJEX modeling group studies involving remote sensing data. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.151-162.

Hall, R.T., 1980: A test of the AIDJEX ice model using Landsat images. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.89-101.

Hall, R.T., D.A. Rothrock, 1981: Sea ice displacement from SEASAT synthetic aperture radar. Journal of Geophysical Research, 86(C11), p.11078-11082.

Hall, R.T., 1984: MIZEX-84 POLAR QUEEN Helicopter Photography. University of Washington. Applied Physics Laboratory. Report, APL-UW, 10-84, 28p.

Handlers, R.G., 1977: On the question of accumulation of ice-melt water south of the ice in the Chukchi Sea. U.S. Naval Postgraduate School, Monterey, CA., Master's thesis, 48p. NTIS no. AD-A039 155.

Hanson, A.M., 1965: Studies of the mass budget of Arctic pack ice floes. Journal of Glaciology, 5, p.701-709.

Hanson, A.M., 1965: Studies of the mass budget of Arctic pack ice floes. Journal of Glaciology, 5, p.701-709.

Hanzlick, D., K. Aagaard, 1980: Freshwater and Atlantic water in the Kara Sea. Journal of Geophysical Research, 85, p.4937-4942.

Hart, J.E., P.H. Killworth, 1976: An open ocean baroclinic instability in the Arctic. Deep-Sea Research, 23, p.637-645.

Haupt, I., V. Kant, 1976: Satellite ice surveillance studies in the Arctic in relationship to the general circulation. In: *Symposium on Meteorological Observations from Space: Their Contribution to the First GARP Global Experiment, Proceedings*, COSPAR, Internatational Council Science Unions, p.179-187.

Helland-Hansen, B., F. Nansen, 1909: The Norwegian Sea. Its physical oceanography based upon the Norwegian researches 1900-1904. *Norwegian Fishery and Marine Investigations*, *Report*, 2, pt. 1(2), 390p.

Helvey, R.A., 1984: Weather observations - USNS LYNCH. In: *MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory*. *Special Report* 84-29, p.105.

Hendrickson, J.A., L.M. Webb, R.J. Quigley, 1962: Study of natural forces acting on floating ice fields. *National Engineering Science Co.*, Pasadena, CA, *Report* NBy-32215, 71p.

Henry, C.J., 1968: Wave-ice interaction - model experiments. *Stevens Institute of Technology, Davidson Laboratory, Report* 1314, 34p.

Herman, G.F., 1975: Radiative-diffusive models of the Arctic boundary layer. *Massachusetts Institute of Technology. Department of Meteorology*. *Report* COO-2195-21, 170p.

Herman, G.F., R.M. Goody, 1976: Formation and persistence of summertime Arctic stratus clouds. *Journal of the Atmospheric Sciences*, 33, p.1537-1553.

Herman, G.F., 1977: Solar radiation in summertime Arctic stratus clouds. *Journal of the Atmospheric Sciences*, 34, p.1425-1432.

Herman, G.F., W.T. Johnson, 1978: Sensitivity of the general circulation to Arctic Sea ice boundaries: a numerical experiment. *Monthly Weather Review*, 106(12), p.1649-1664.

Herman, G.F., W.T. Johnson, 1979: Response of the Goddard GCM to sea ice boundary conditions. *WMO. Global Atmospheric Research Programme, Joint Organizing Committee*. *Publications Series* no.22, p.538-562.

Herman, G.F., W.T. Johnson, 1980: Arctic and Antarctic climatology of a GLAS general circulation model. *Monthly Weather Review*, 108, p.1974-1991.

Herman, G.F. 1980: Thermal radiation in Arctic stratus clouds. *Quarterly Journal of the Royal Meteorological Society*, 106, p.771-780.

Hibler, W.D., III, 1972: Removal of aircraft altitude variation from laser profiles of the Arctic ice pack. *Journal of Geophysical Research*, 77, p.5954-5970.

Hibler, W.D., III, W.F. Weeks, S.J. Mock, 1972: Statistical aspects of sea ice ridge distributions. *Journal of Geophysical Research*, 77, p.5954-5970.

Hibler, W.D., III, S. Ackley, W.F. Weeks, A. Kovacs, 1972: Top and bottom roughness of a multiyear ice floe. *AIDJEX Bulletin*, 13, p.77-92.

Hibler, W.D., III, S.F. Ackley, W.K. Crowder, H.W. McKim, D.M. Anderson, 1974: Analysis of shear zone ice deformation in the Beaufort Sea using satellite imagery. In: *The Coast and Shelf of the Beaufort Sea,* (J.C. Reed and J.E. Sater, eds.), Arctic Institute of North America, p.285-296.

Hibler, W.D., III, S.J. Mock, W.B. Tucker, 1974: Classification and variation of sea ice ridging in the western Arctic Basin. *Journal of Geophysical Research*, 79, p.2735-2743.

Hibler, W.D., III, W.F. Weeks, A. Kovacs, S.F. Ackley, 1974: Differential sea-ice drift. I. Spatial and temporal variation in sea-ice deformation. *Journal of Glaciology*, 13(69), p.437-455.

Hibler, W.D., III, 1974: Differential sea ice drift. II. Comparison of mesoscale strain measurements to linear drift theory predictions. *Journal of Glaciology*, 13(69), p.457-471.

Hibler, W.D., III, 1977: A viscous sea ice law as a stochastic average of plasticity. *Journal of Geophysical Research*, 82, p.3932-3938.

Hibler, W.D., III, 1979: A dynamic thermodynamic sea-ice model. *Journal of Physical Oceanography*, 9, p.815-846.

Hibler, W.D., III, and W.B. Tucker, 1979: Some results from a linear-viscous model of the Arctic ice cover. *Journal of Glaciology*, 22(87), p.293-304.

Hibler, W.D., III, 1980: Documentation for a two-level dynamic thermodynamic sea ice model. *U.S. Army. Cold Regions Research and Engineering Laboratory*. *Special Report* 80-8, 35p.

Hibler, W.D., III, 1980: Modeling a variable thickness sea ice cover. *Monthly Weather Review*, 108(12), p.1943-1973.

Hibler, W.D., III, I. Udin, and A. Ullerstig, 1981: On modeling mesoscale ice dynamics using a viscous plastic constitutive law. In: *International Conference on Port and Ocean Engineering under Arctic Conditions, 6th, Quebec City, Quebec, 27-31 July 1981. Proceedings,* p.1317-1329.

Hibler, W.D., III, S.F. Ackley, 1983: Numerical simulation of the Weddell Sea pack ice. *Journal of Geophysical Research*, 88(C5), p.2873-2887.

Hibler, W.D., III, 1984: Ice dynamics. *U.S. Army. Cold Regions Research and Engineering Laboratory*. *Monograph*, 84-03, 52p.

Hibler, W.D., III, K. Bryan, 1984: Large-scale ice/ocean model for the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.1-7.

Hibler, W.D., III, ed., 1984: MIZEX-- a program for mesoscale air-ice-ocean interaction experiments in Arctic marginal ice zones. U.S. Army Cold Regions Research and Engineering Laboratory. Special Report, 84-07, 99p.

Hibler, W.D., III, M. Lepparanta, 1984: MIZEX 83 mesoscale sea ice dynamics: Initial analysis. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.19-28.

Hibler, W.D., III, M. Lepparanta, S. Decato, K. Alverson, 1984: MIZEX 84 mesoscale sea ice dynamics: post operations report. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.66-69.

Hibler, W.D., III, K. Bryan, 1984: Ocean circulation: its effect on seasonal sea-ice simulations. Science, 224(4648), p.489-492.

Hoeber, H.C., 1984: Meteorological ice floe stations of Hamburg University. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.101-102.

Hollinger, J.P., B.E. Troy, Jr., M.F. Hartman, 1984: All-weather millimeter wave imagery in the marginal ice zone. Radio Science, 19(3), p.862-870.

Hollinger, J.P. 1984: Microwave emission from High Arctic sea ice during freeze-up. Journal of Geophysical Research, 89(C5), p.8104-8122.

Hollinger, J.P., M.R. Keller, 1984: NRL RP-3A MIZEX 84 experiment report. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.114-117.

Holmgren, B., G. Weller, 1974: Local radiation fluxes over open and freezing leads in the polar pack ice. AIDJEX Bulletin, 17, p.149-166.

Holmgren, B.E., 1976: Turbidity of the Arctic atmosphere in relation to open leads in the pack ice. In: International Geographical Congress, 23rd, Moscow, July-August 1976. Proceedings, 12, p.77-80.

Holt, B., S.A. Digby, 1985: Processes and imagery of first-year fast sea ice during the melt season. Journal of Geophysical Research, 90(C3), p.5045-5062.

Hommel, M.J., F.G. Bercha, 1984: Quasi-static and dynamic ice-structure interactions in the marginal ice zones. In: *International Offshore Mechanics and Arctic Engineering Symposium, 3rd New Orleans, Louisiana, February 12-17, 1984. Proceedings,* (V.J. Lunardini, ed.), New York, American Society of Mechanical Engineers, 3, p.253-259.

Hood, D.W., J.A. Calder, (eds.), 1980: *The Eastern Bering Sea Shelf: Oceanography and Resources,* 2 v. U. S. Department of Commerce, Washington, DC, 62 p., 1339p.

Horgan, M.J, D.R. Davis, 1982: Variable depth oceanic mixed layer interaction in a general circulation model. *EOS,* 63(51), p.1299.

Hufford, G.L., 1974: On apparent upwelling in the southern Beaufort Sea. *Journal of Geophysical Research,* 79, p.1305-1306.

Hufford, G.L., 1981: Sea ice detection using enhanced infrared satellite data. *Mariners Weather Log,* 25(1), p.1-6.

Hult, J.L. and N.C. Ostrander, 1974: Applicability of ERTS to Antarctic iceberg resources. In: Earth Resources Satellite Symposium, 3rd, (S.C. Freden and M.A. Becker, eds.), *U.S. National Aeronautics and Space Administration, Special Publication* SP-351, 1B, p.1467-1490.

Hunkins, K.L., 1974: Subsurface eddies in the Arctic Ocean. *Deep-Sea Research,* 21, p.1017-1033.

Hunkins, K., 1975: The oceanic boundary layer and stress beneath a drifting ice flow. *Journal of Geophysical Research,* 80, p.3425-3433.

Hunkins, K., 1975: Oceanographic program for the AIDJEX main experiment. *AIDJEX Bulletin,* no.28, p.48-59.

Hunkins, K., 1977: Review of the AIDJEX oceanographic program. In: *Symposium on Sea Ice Processes and Models, September 6-9, 1977, Proceedings,* Seattle, University of Washington, vol.1, p.199-211.

Hunkins, K., 1984: Current and temperature data from instrument moorings in Fram Strait during MIZEX 83. *Columbia University. Lamont-Doherty Geological Observatory. Technical Report LDGO*-84-1, 80p.

Hunkin 1984: MIZEX 83. In: *MIZEX Bulletin. 4. Initial Results*
alysis from MIZEX 83. U.S. Army. Cold Regions Research and En-
ring Laboratory. Special Report, 84-28, p.47-52.

M.R., C.-M Naske, 1979: Baseline study of historic ice conditions in the Beaufort Sea, Chukchi Sea, and Bering Strait. In: *Environmental Assessment of the Alaskan Continental Shelf,Vol 1.: Physical Science Studies. Principal Investigators' Final Project Reports.* Boulder, Colorado, Outer Continental Shelf Environmental Assessment Program, p.122-534.

Huppert, H.E. and J.S. Turner, 1978: On melting icebergs. *Nature*, 271, p.46-48.

Huppert, H.E. and J.S. Turner, 1981: Double-diffusive convection. *Journal of Fluid Mechanics*, 106, p.299-329.

Huschke, R.E., 1969: Arctic cloud statistics from air calibrated surface weather observations. *RAND Memorandum* RM-6173-PR, 79p.

Husseiny, A.A. (ed.), 1978: *Iceberg Utilization*, Pergamon, 760p.

Hutter, K., 1973: On the fundamental equations of floating ice. *Zurich. Eidgenossische Technische Hochschule. Versuchsanstalt fur Wasserbau, Hydrologie und Glaziologie. Mitteilungen*, no.8, 150p.

IAkovlev, V.N., Raschet kromki l'da v Okhotskom more. (Calculating ice edge in the Okhotsk Sea.) *Moscow. Tsentral'nyi Institut Prognozov. Trudy*, 146, p.98-106.

IAnes, A.V., 1979: Termicheskoe sostoianie vod severnoi chasti Grenlandskogo moria v fevrale 1972 g. (po dannym razreza Barentsburg-kromka l'da). (Thermal state of waters in the northern Greenland Sea in February 1972 [from data obtained along the Barentsburg-ice edge cross-section].) *Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy*, 361, p.37-42.

Ice conditions in areas adjacent to the North Atlantic Ocean from September to November 1982, 1983: *Marine Observer*, 53(280), p.98-101.

Ice conditions in areas adjacent to the North Atlantic Ocean from September to November 1983, 1984: *Marine Observer*, 54(284), p.93-96.

Inkster, D.R., J. Crawford, D. Grant, 1983: Real time surveillance of the Bering Sea ice edge using airborne radar. In: *International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings*. Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, vol.3, p.163-172.

Ito, H., 1982: Sea ice atlas of northern Baffin Bay. *Zurcher Geographischen Schriften, Special Issue*, no.7, 142p.

Jacobs, J.D., R.G. Barry, R.L. Weaver, 1975: Fast ice characteristics, with special reference to the eastern Canadian Arctic. *Polar Record*, 17 (110), p.521-536.

Jacobs, J.D., J.P. Newell, 1979: Recent year-to-year variations in seasonal temperatures and sea ice conditions in the Canadian Arctic. *Arctic*, 32, p.345-354.

Jacobs, S.S., A.F. Amos, P.M. Bruchhausen, 1970: Ross Sea oceanography and Antarctic bottom water formation. *Deep-Sea Research*, 17, p.935-962.

Jacobs, S.S., D.T. Georgi, 1977: Observations on the Southwest Indian/Antarctic Ocean. In: *Voyage of Discovery*, (M.V. Angel, ed.), *Deep-Sea Research* supplement to Vol. 24, p.43-84.

Jacobs, S.S., A.L. Gordon, J.L. Ardai, 1979: Circulation and melting beneath the Ross Ice Shelf. *Science*, 203, p.439-443.

Jayaweera, K.O.L.F., 1976: Use of enhanced infrared satellite imagery for sea ice and oceanographic studies. *Ocean Engineering*, 3, p.293-298.

Jayaweera, K.O.L.F., S. Marvill, 1977: Techniques for interpreting IR satellite imagery for sea ice research. In: *International Conference on Port and Ocean Engineering under Arctic Conditions, 3rd, University of Alaska, Institute of Marine Science, 11-15 August 1975. Proceedings*, p.129-139.

Jelly, K.C.P. and N.B. Marshall, 1967: Incidence of ice in the approaches to North America during the decade 1956-65. *Marine Observer*, 37, p.186-192.

Jerdon, H.P., R.F. Freeman, 1968: Birds Eye 7-69, 21 October-5 November 1969. *U.S. Naval Oceanographic Office*. *Report*, NOO-IR-70-17, 102p. NTIS no. AD-871 778.

Joffre, S.M., 1982: Atmosphere-ice-water interface: on the necessity of boundary layer modelling. In: *Arctic Ocean: The Hydrographic Environment and the Fate of Polluants*, (L. Ray, ed.) New York, John Wiley & Sons, p.97-111.

Johannessen, J.A., O.M. Johannessen, 1983: *CTD data report from Marginal Ice Zone Experiment (MIZEX) in the Fram Strait region in June-August, 1983.* University of Bergen, Norway. Geophysical Institute, Division A. Physical Oceanography, Volumes I, II, and III.

Johannessen, J.A., 1984: MIZEX oceanography cruise report from R/V HAKON MOSBY. In: *MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report* 84-29, p.43-46.

Johannessen, O.M. and L.A. Foster, 1978: A note on the topographically controlled oceanic polar front in the Barents Sea. *Journal of Geophysical Research*, 83, p.4567-4571.

Johannessen, O.M., W.D. Hibler, III, P. Wadhams, W.J. Campbell, K. Hasselmann, I. Dyer, M. Dunbar, eds. 1983: MIZEX--a program for mesoscale air-ice-ocean interaction experiments in Arctic marginal ice zones. 2. A science plan for a summer Marginal Ice Zone Experiment in the Fram Strait/Greenland Sea: 1984. *U.S. Army Cold Regions Research and Engineering Laboratory*. *Special Report*, SR 83-12, 47p.

Johannessen, O.M., et al. 1983: *MIZEX 83 current, temperature and salinity measurements from drifting ice floes.* University of Bergen, Norway. Geophysical Institute, Division A. Physical Oceanography, 87p.

Johannessen, O.M.; J.A. Johannessen, J. Morison, B.A. Farrelly, E.A.S. Svendsen, 1983: Oceanographic conditions in the marginal ice zone north of Svalbard in early fall 1979 with an emphasis on mesoscale processes. Journal of Geophysical Research, 88(C5), p.2755-2769.

Johannessen, O.M., B.A. Farrelly, 1984: AXBT and SONA buoy drops from a Royal Norwegian Air Force P-3. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.54-56.

Johannessen, O.M., W.D. Hibler, III, P. Wadhams, W.J. Campbell, K. Hasselmann, I. Dyer, M. Dunbar, 1984: Marginal Ice Zone: a description of air-ice-ocean interactive processes, models and planned experiments. In: Arctic Technology and Policy, (I. Dyer, C. Chryssostomidis, eds.), p.133-146.

Johannessen, O.M., B.A. Farrelly, 1984: Mesoscale ice drift from Argos buoys. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.61-62.

Johannessen, O.M., D.A. Horn, 1984: Mizex 84: A brief overview. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.1-7.

Johannessen, O.M., K. Kloster, 1984: Satellite AVHRR images for MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.138.

Johnson, C.M., 1980: Wintertime arctic ice extremes and the simultaneous atmospheric circulation. Monthly Weather Review, 108, p.1782-1791.

Jones, E.P., L.G. Anderson, 1984: Chemical oceanography in the Greenland Sea. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.21-22.

Josberger, E.G., S. Martin, 1981: A laboratory and theoretical study of the boundary layer adjacent to a vertical melting ice wall in salt water. Journal of Fluid Mechanics, 111, p.439-473.

Josberger, E.G., 1983: Sea ice melting in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2841-2844.

Josberger, E.G., 1984: Extreme ice edge ablation studies. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.74-75.

Joyce, T.M., W. Zenk, T.M. Toole, 1978: The anatomy of the Antarctic polar front in the Drake Passage. Journal of Geophysical Research, 83, p.6093-6113.

Karakash, E.S., 1971: Changes in the position of ice edge in North Caspium and the prospects of their forecasting. U.S. Naval Oceanographic Office. Translation, no.523, 32p. NTIS no. AD-724 672.

Karakash, A.I., 1983: Predvychislenie sezonnogo khoda ledovitosti Okhotskogo moria. (Calculating the seasonal course of ice conditions in the Okhotsk Sea.) Leningrad. Gidrometeorologicheskii Nauchno-Issledovatel'skii Tsentr SSSR. Trudy, 255, p.57-63.

Karelin, I.D., 1981: Smeshchenie kromok l'da i granits ledianykh massivov v arkticheskikh moriakh v letnii period. (Shifting of ice edges and massive ice boundaries in Arctic seas during summer.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 372, p.106-113.

Karpets, V.M., 1974: Vliianie teplovogo rezhima prizemnogo sloia atmosfery na ploshchad' morskikh l'dov. (Effect of the thermal regime of the surface atmosphere on sea ice area.) Akademiia Nauk SSSR. Tikhookeanskii Institut Geografii. Issledovanie Sistemy 'Lednikii-Okean-Atmosfera'. Vladivostok, p.23-28.

Karrer, A.E., 1975: Descriptive and Dynamic Oceanography of the Mesostructure Near Arctic Ice Margins. U.S. Naval Postgraduate School, Monterey, CA., Master's Thesis, 91p. NTIS no. AD-A018 328.

Kawamura, A., T. Furuno, 1977: On the northern extreme of the pack-ice edge observed by whaling vessels in the summer of the antarctic seasons 1957/58-1962/63. Whales Research Institute. Scientific Report, no.29, p.137-141.

Keen, R.A., 1977: The response of Baffin Bay ice conditions to changes in atmospheric circulation patterns. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 4th, St. John's, Newfoundland. Proceedings, Vol. II, (D.B. Muggeridge, ed.), p.963-971.

Keen, R.A., 1980: Temperature and circulation anomalies in the eastern Canadian Arctic, summer, 1946-76. Colorado. University, Boulder. Institute of Arctic and Alpine Research. Occasional Paper, 34, 159p.

Keller, J.B., M. Weitz, 1953: Reflection and transmission coefficients for waves entering or leaving an icefield. Communications on Pure and Applied Mathematics, 6, p.415-417.

Kellogg, W.W., 1975: Climatic feedback mechanisms involving the polar regions. In: Climate of the Arctic, (G. Weller, S. A. Bowling, eds.), University of Alaska, Fairbanks, p.111-116.

Kelly, P.M., 1978: Forecasting the Arctic ice on time scales of a few months to many years. Climate Monitor, 1(3), p.95-99.

Kelly, P.M., 1979: An Arctic sea ice data set, 1901-1956. World Data Center-A for Glaciology. Glaciological Data, Report GD-5, p.101-106.

Kelly, P.M., L.D. Williams, 1983: Arctic climate: past, present and future. In: Symposium on Arctic Whaling, Groningen, Holland, February 23-25, 1983. Proceedings, 14p.

Kelly, P.M., P.D. Jones, C.B. Sear, B.S.G. Cherry, R.K. Tavakol, 1983: Variations in surface air temperatures, Part II: Arctic regions, 1881-1980. Monthly Weather Review, 110(2), p.71-83.

Kergomard, C., 1985: Quelques effets de la circulation atmospherique sur l'extension des glaces marines dans les mers Arctiques Europeenes. Norois (Poitiers), in press.

Ketchum, R.D., Jr., L.D. Farmer, 1980: Eastern Arctic SURSAT SAR ice experiment: radar signatures of sea ice features. U.S. Naval Ocean Research and Development Activity. Technical Note, no.68, 14p.

Kiilerich, A.B., 1945: On the hydrography of the Greenland Sea. Meddelelser om Gronland, 144(2), 63p.

Killworth, P.D., 1973: A two-dimensional model for the formation of Antarctic bottom water. Deep-Sea Research, 20, p.941-971.

Killworth, P.D., 1974: A baroclinic model of motions on Antarctic continental shelves. Deep-Sea Research, 21, p.815-839.

Killworth, P.D., 1977: Mixing on the Weddell Sea continental slope. Deep-Sea Research, 24, p.427-448.

Killworth, P.D., 1979: On the 'chimney' formations in the oceans. Journal of Physical Oceanography, 9, p.531-554.

Kinder, T.H., L.K. Coachman, 1978: The front overlying the continental shelf in the eastern Bering Sea. Journal of Geophysical Research, 83, p.4551-4559.

Kirillov, A.A., M.S. Khromtsova, 1972: Many-year variations of the ice coverage of the Greenland Sea and methods of forecasting it. AIDJEX Bulletin, 16, p.46-55.

Knapp, W.W., 1969: A satellite study of large stationary polynyas in Antarctic coastal waters. University of Wisconsin, Ph.D. Dissertation, 130p.

Knapp, W.W., 1972: Satellite observations of large polynyas in polar waters. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.201-212.

Kniskern, F.E., 1979: Ice products derived from satellite at NOAA/NESS. World Data Center A for Glaciology (Snow and Ice). Glaciological Data, Report GD-5, p.27.

Koch, L., 1945: The East Greenland ice. Meddelelser om Gronland, 130(3), 374p.

Kogan, B.A., N.F. Orlov, 1977: Granitsy rasprostraneniia l'dov i aisbergov v Severnoi Atlantike. (Boundaries of ice and iceberg distribution in the North Atlantic Ocean.) In: Prirodnye Usloviia i Estestvennye Resursy Severnykh Morei, (V.T.Zhevnovatyi, ed.), Leningrad, Gidrometeoizdat, p.74-82.

Kogan, B.A., 1977: Izmenchivost' ledovykh uslovii v Datskom prolive. (Ice condition variations in the Denmark Strait.) Problemy Arktiki i Antarktiki, 50, p.129-133.

Kogan, B.A., N.A. Nikol'skaya, L.N. Zuev, 1977: Prognoz ledovitosti; polozheniya kromki l'da v Datskom prolive na vesenne-letnii period. (Forecasting ice conditions and ice edge positions in the Denmark Strait during the spring-summer period). Problemy Arktiki i Antarktiki, 52, p.47-53.

Kogan, B.A., A.N. Zuev, 1980: Vozmozhnosti prognoza ledovitosti i polozheniya kromki l'da v Datskom prolive na osennezimniy period. (Possibility of forecasting the ice amount and ice edge position in Denmark Strait for the fall-winter period.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 348, p.47-54.

Kogan, B.A., N.F. Orlov, 1981: Novye metodiki ledovykh prognozov po Severo-Zapadnoi Atlantike. (New ice forecasting techniques for the northwestern Atlantic Ocean.) Meteorologiia i Gidrologiia, no.11, p.71-76.

Kogan, B.A., N.A. Nikol'skaia, L.N. Zuev, 1982: Prognosis of ice cover and ice edge in the Danish Strait in the spring-summer season. Problems of the Arctic and the Antarctic, 52, p.55-63.

Kogan, B.A., 1982: Variability of ice conditions in the Danish Strait. Problems of the Arctic and the Antarctic, 50, p.154-160.

Kogan, B.A., 1983: Opredelenie srednemesiachnogo polozheniia kromki l'da v Labradorskom more v zimnii period. (Determining mean monthly positions of ice edge in the Labrador Sea during winter periods.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.75-79.

Kogan, B.A., A.A. Kosolapov, 1983: Opyt dolgosrochnogo prognoza polozheniia kromki l'da dinamiko-statisticheskim metodom. (Using the dynamic-statistical method in long range forecasts of ice edge positions.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.67-74.

Kogan, B.A., V.I. Turchaninov, 1983: Prognoz polozheniia kromki l'da v more Labrador na zimnie mesiatsy. (Forecasting the ice edge position in the Labrador Sea in winter.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 385, p.32-39.

Kogan, B.A., V.I. Turchaninov, 1983: Vliianie krupnomasshtabnykh protsessov v atmosfere i okeane na polozhenie kromki l'da v Labradorskom more. (Influence of large-scale atmospheric and oceanic processes on the ice edge position in the Labrador Sea.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.75-79.

Kogan, B.A., A.A. Kosolapov, 1983: Vozmozhnosti primeneniia dinamiko-statisticheskogo metoda dlia prognozirovaniia polozheniia kromki l'da. (Using the dynamic-statistical method in predicting the position of ice edge.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 385, p.39-46.

Koltermann, K.P., 1984: PI report, CTD Group, POLARSTERN. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.14-17.

Kondratiev, K. Ya., Yu. I. Rabinovich, W. Nordberg (eds.), 1975: U.S.S.R.-U.S.A. Bering Sea Experiment: Final Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings. Leningrad, Gidrometeoizdat, 315p.

Kosarev, A.N., V.A. Ivanov, S.M. Perminov, V.N. Shiriaev, 1973: Gidrologicheskie usloviia v raione kromki l'da v Kaspiiskom more. (Hydrological conditions near the ice edge in the Caspian Sea.) In: Issledovaniia L'dov Iuzhnykh Morei SSSR, Moscow, Nauka, p.99-112.

Kosarev, A.N., V.A. Ivanov, V.N. Shiriaev, 1973: O sviazi gidrologicheskikh uslovii s ledovoi obstanovkoi v severnom Kaspii v fevrale 1971 g. (Relationship between the hydrological and ice conditions in the northern Caspian Sea in February 1971.) In: Issledovaniia L'dov Iuzhnykh Morei SSSR, Moscow, Nauka, p.113-124.

Kosarev, A.N., IU.R. Malbandov, V.M. Sokol'skii, 1979: Osobennosti okeanologicheskikh kharakteristik v raione kromki l'da v Kaspiiskom more. (Oceanographic characteristics in the Caspian Sea near the ice edge.) Kompleksnye Issledovaniia Prirody Okeana, 6, p.170-180.

Kovacs, A., 1972: On pressured sea ice. In: Sea Ice, (T. Karlsson, ed.), National Research Council, Iceland, Reykjavik, p.276-295.

Kovacs, A., M. Mellor, 1974: Sea ice morphology and ice as a geological agent in the southern Beaufort Sea. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed and J.F. Sater, eds.), Arctic Institute of North America, p.113-161.

Kovacs, A., R.M. Morey, 1978: Radar anisotropy of sea ice due to preferred azimuthal orientation of horizontal c-axes of ice crystals. Journal of Geophysical Research, 83(C12), p.6037-6047.

Kovacs, A., R.M. Morey, 1978: Radar anisotropy of sea ice due to preferred azimuthal orientation of the horizontal c-axes of ice crystals. AIDJEX Bulletin, no.38, p.171-201.

Kovacs, A., R.M. Morey, 1980: Investigations of sea ice anisotropy, electromagnetic properties, strength and under-ice current orientation. Memorial University of Newfoundland. Centre for Cold Ocean Resources Engineering. C-CORE Publication, 80-5, p.109-153.

Kovacs, A., D.S. Sodhi, 1980: Shore ice pile-up and ride-up: field observations, models, theoretical analyses. Cold Regions Science and Technology, 2, p.209-288.

Kozlovskii, A.M., 1969: Establishment of fast ice in Alasheyev Bight. Sovetskaia Antarkticheskaia Ekspeditsiia. Information Bulletin, 7(5), p.463-464.

Kozo, T.L., O.I. Diachok, 1973: Spatial variability of topside and bottomside ice roughness and its relevance to underside acoustic reflection loss. AIDJEX Bulletin, 19, p.113-121.

Kozo, T.L., W.B. Tucker, 1974: Sea ice bottomside features in the Denmark Strait. Journal of Geophysical Research, 79, p.4505-4511.

Kozo, T.L., 1983: Intitial model results for Arctic mixed layer circulation under a refreezing lead. Journal of Geophysical Research, 88(C5), p.2926-2934.

Kraus, E.B., J.S. Turner, 1967: A one-dimensional model of the seasonal thermocline: II. The general theory and its consequences. Tellus, 19, p.89-106.

Kristensen, M., O. Orheim, P. Wadhams, 1981: Field experiments on Antarctic tabular icebergs. Polar Record, 20(128), p.445-448.

Krutskih, B.A., 1976: Peculiarities of ice formation in the Arctic Seas. In: Ice Forecasting Techniques for the Arctic Seas, New Delhi, Amerind Publishing Co., p.108-121.

Kryndin, A.N., 1964: Seasonal and interannual variations in the ice conditions and the position of the ice boundaries of the Far-Eastern Seas in relation to anomalies of atmospheric circulation. Gosudarstvennyi Okeanograficheskii Institut, Trudy, 71, p.5-82. (In Russian.)

Kryndin, A.N., 1971: Seasonal and yearly variations in the iciness and the position of ice edge in the Black and Azov Seas, which are associated with atmospheric circulation. U.S. Naval Oceanographic Office, Translation, no.522, 97p. NTIS no. AD-724 671.

Kudriavaia, K.I., E.K. Seriakov, L.I. Skriptunova, 1974: Morskie Gidrologicheskie Prognozy. (Marine hydrological forecasts.) Leningrad, Gidrometeoizdat, 310p.

Kukla, G., J. Gavin, 1981: Summer ice and carbon dioxide. Science, 214, p.497-503.

Kulakov, I.IU., M.I. Maslovskii, L.A. Timokhov, 1977: Seasonal variability of Antarctic sea ice extent: its numerical modeling. In: Symposium on Sea Ice Processes and Models, September 6-9, 1977. Proceedings, vol. 2, Seattle, University of Washington, p.121-127.

Kupetskiy, V.N., 1958: Stationary polynyi in seas which freeze (causes and distribution). Leningrad. Universitet. Vestnik. Seriia Geologii i Geografi, 12(2), p.172-183. (In Russian).

Kusunoki, K., 1975: Variation of pack-ice edge off Showa Station, Antarctica. Seppyo, 37(4), p.32-40. (In Japanese with English summary.)

Kusunoki, K., 1981: Variations of sea ice conditions in Lutzow-Holm Bay area, in Antarctica in the last 20 years. In: Sea Level, Ice and Climatic Change, (I. Allison, ed.), International Association of Hydrological Sciences. IAHS-AISH Publication, no.131, p.171-176.

Kuznetsov, I.M., 1978: Izmenenie temperatury vody v prikromochnoi zone arkticheskikh morei. (Changes in water temperature near ice edges of Arctic seas.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 354, p.5-12.

Kuznetsov, I.M., 1981: K voprosu o razrushennosti morskikh l'dov. (Problem of the disintegration of sea ice.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 384, p.123-129.

LaBelle, J.C., J.L. Wise, R.P. Voelker, R.H. Schulze, G.M. Wohl, 1983: Alaska Marine Ice Atlas. Anchorage. University of Alaska, Arctic Environmental Information and Data Center, 302p.

Laikhtman, D.L., 1964: Physics of the Boundary Layer of the Atmosphere. Translated by U.S. Department of Commerce, Washington, DC, 200p.

Lake, R.A., 1967: Heat exchange between water and ice in the Arctic Ocean. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 16(2/3), p.242-259.

Lake, R.A., E.L. Lewis, 1970: Salt rejection by sea ice during growth. Journal of Geophysical Research, 75, p.583-597.

Lamb, H.H., H.J. Morth, 1978: Arctic ice, atmospheric circulation and world climate. Geographical Journal, 144, p.1-22.

Langleben, M.P., 1968: Albedo measurements of an Arctic ice cover from high towers. Journal of Glaciology, 7, p.289-297.

Langleben, M.P., E.R. Pounder, 1970: Acoustic attenuation in sea ice [and] Reflection of sound at the water-ice interface. McGill University, Montreal. MacDonald Physics Laboratory. Ice Research Project. Report, no.S-16, 30 p.

Langleben, M.P., 1970: Reflection of sound at the water-sea ice interface. *Journal of Geophysical Research*, 75(27), p.5243-5246.

Langleben, M.P., 1971: Albedo of melting sea ice in the southern Beaufort Sea. *Journal of Glaciology*, 10, p.101-104.

Langleben, M.P., E.R. Pounder, 1971: Sea ice thickness from pulsed sonic methods. *Canada. Defence Research Board. Defence Research Establishment,Ottawa*. *Technical Note*, no.71-14, p.43-57.

Langleben, M.P., 1972: The decay of an annual cover of sea ice. *Journal of Glaciology*, 11, p.337-344.

Langleben, M.P., E.R. Pounder, 1975: On the air drag of an Arctic ice floe. *Geophysical Research Letters*, 2, p.15-18.

Larsen, R.W., J.D. Lyden, R.A. Shuchman, R.T. Lowry, 1981: Determination of backscatter characteristics of sea ice using synthetic aperture radar data. *ERIM report 142600-1-F*, Ann Arbor, MI.

Leavitt, E., D. Bell, M. Clarke, R. Andersen, C. Paulson, 1977: Computation of air stress and sensible heat fluxes from surface layer profile data, AIDJEX, 1975. *AIDJEX Bulletin*, 36, p.157-174.

Leavitt, E., 1980: Surface-based air stress measurements made during AIDJEX. In: *Sea Ice Processes and Models*, (R.S. Pritchard, ed.), University of Washington Press, p.419-429.

Lebedev, A.A., 1965: Izmenchivost' ledovykh usloviy v severo-zapadnoy Atlantike. (Variations of ice conditions in the northwestern Atlantic). *Gosudarstvennyi Okeanograticheskii Institut. Trudy*, 87, p.32-50. English translation, 1968: *U.S. Naval Oceanographic Office*. *Translation*. 382, 25p.

Lebedev, A.A., 1968: Variations of ice conditions in the Northeastern Atlantic.) *U.S. Naval Oceanographic Office*. *Report*, NOO-TRANS-382, 27p. NTIS no. AD-671 858.

Lebedev, A.A., 1968: Zone of possible icing of vessels in the Barents and Greenland Seas and in the North Atlantic. *Materialy Rybokhozisistvennykh, Issledovanii Severnogo Basseina*, 12, p.154-157. (In Russian).

Lebedev, A.A., N.S. Uralov, 1972: Anomalies in ice-cover, and the position of the ice edge, on the Atlantic fringes of the Arctic, as connected with the development of the atmospheric and oceanic processes. *Materialy Rybokhozisistvennykh, Issledovanii Severnogo Basseina*, 19, p.169-179. (In Russian). English translation, U.K. Meteorological Office Translation, no. 967, 8p.

Lebedev, A.A., N.A. Uralov, 1972: Methods of ice forecasting in the North Atlantic and adjacent seas. In: *International Conference on Sea Ice, Reykjavik, May 10-13, 1971, Proceedings*, Reykjavik, Iceland, National Research Council, p.59-61.

Lebedev, A.A., N.S. Uralov, 1972: O vozmozhnosti premeneniia sovremennykh teoreticheskikh skhem dlia rascheta vetrovogo dreifa ledovoi kromki v iugo-vostochnoi chasti Barentseva Moria. (Contemporary theoretical models for calculating ice edge drift in the southeastern Barents Sea.) Moscow. Gosudarstvennyi Okeanograficheskii Institut. Trudy, no.110, p.138-147.

Lebedev, A.A., N.S. Uralov, 1973: Nekotorye osobennosti kratkovremennykh izmenenii polozheniia kromki l'da v Barentsevom more. (Short-range variations in the ice edge position in the Barents Sea.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 307, p.63-72.

Lebedev, A.A., N.S. Uralov, 1976: An attempt to calculate ice cover of the sea according to the components of the ice balance (the example of the last Greenland ice belt). Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 320, p.65-82. English translation, 1979: U.S. Army. Cold Regions Research and Engineering Laboratory, Draft Translation, no. 699, 20p.

Lebedev, A.A., 1981: Mnogoletnyaya izmenchivost' ledovykh usloviy v polyarnykh rayonakh Atlanticheskogo Okeana. (Long range change in ice conditions of the polar Atlantic Ocean.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 372, p.26-34.

Lebedev, V.V., 1938: Rost l'dov arkticheskikh rekakh i moriakh v zavisimosti ot otritsatel'nykh temperatur vozdukha. (Growth of ice on Arctic coasts and seas and its dependence on negative air temperatures). Problemy Arktiki i Antarktiki, 5, p.9-25.

Leberl, F., J. Roggam, C. Elachi, W.J. Campbell, 1983: Sea ice motion measurements from Seasat SAR images. Journal of Geophysical Research, 88(C3), p.1915-1928.

Leberl, F., M.L. Bryan, C. Elachi, T. Farr, W.J. Campbell, 1979: Mapping of sea ice and measurement of its drift using aircraft synthetic aperture radar images. Journal of Geophysical Research, 84, p.1827-1835.

Leblond, P.H., 1980: On the surface circulation in some channels of the Canadian Arctic Archipelago. Arctic, 33(1), p.189-198.

LeBlond, P.H., 1982: Satellite observations of Labrador Current undulations. Atmosphere-Ocean, 20(2), p.129-142.

LeDrew, E.F., 1980: Eigenvector analysis of the vertical velocity field over the eastern Canadian Arctic. Monthly Weather Review, 108, p.1992-2005.

LeDrew, E.F., 1984: Role of local heat sources in synoptic activity within the polar basin. Atmosphere-Ocean, 22(3), p.309-327.

Lee, O.S., L.S. Simpson, 1954: A practical method of predicting sea ice formation and growth. *U.S. Naval Hydrographic Office*. *Technical Report* 4, 27p.

Legeckis, R., 1978: A survey of worldwide sea surface temperature fronts detected by environmental satellites. *Journal of Geophysical Research*, 83, p.4501-4522.

Lemke, P., E.W. Trinkl, K. Hasselmann, 1980: Stochastic dynamic analysis of polar sea ice variability. *Journal of Physical Oceanography*, 10, p.2100-2120.

Lepparanta, M., 1980: On the drift and deformation of sea ice fields in the Bothnian Bay. *Winter Navigation Research Board, Helsinki, Finland*. *Research Report*. No. 29.

Lepparanta, M., 1981: Model' dreifa l'da dlia Baltiiskogo moria. (Ice drift model for the Baltic sea.) In: *Konferentsiia Baltiiskikh Okeanografov, 12th, Leningrad, April 14-17, 1980 i Soveshchanie Ekspertov po Vodnomu Balansu Baltiiskogo Moria, Leningrad, April 17-19 1980*, *Trudy*, (F.S. Terziev, ed.), Leningrad, Gidrometeoizdat, p.167-183.

Lepparanta, M., 1982: Case study of pack ice displacement and deformation field based on LANDSAT images. *Geophysica*, 19(1), p.23-31.

Lepparanta, M., 1983: *Investigation of Ice Dynamics in the Marginal Zone*. (Periodic report no.3, 17 May-September 1983.) Helsinki, Merentutkimuslaitos, 9p. NTIS no. AD-A134 599.

Lepparanta, M., W.D. Hibler, III, 1983: *Investigation of Ice Dynamics in the Marginal Zone*. (Final technical report January-December 1983.) Helsinki, Merentutkimuslaitos, 106p. NTIS no. AD-A138 558.

Lepparanta, M., 1984: Analysis of linear sea ice models with an ice margin. In: *MIZEX Bulletin. 3. Modeling the Marginal Ice Zone*. *U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report*, 84-07, p.31-36.

Lepparanta, M., W.D. Hibler, III, 1984: Mechanism for floe clustering in the marginal ice zone. In: *MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory*. *Special Report*, 84-07, p.73-76.

Lepparanta, M., W.D. Hibler, III, 1984: On the role of ice interaction in marginal ice zone dynamics. In: *MIZEX Bulletin. 3. Modeling the Marginal Ice Zone*. *U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report*, 84-07, p.23-29.

Leschack, L.A., R.A. Haubrich, 1964: Observations of waves on an ice-covered ocean. *Journal of Geophysical Research*, 69, p.3815-3821.

Leschack, L.A., 1965: On the generation and directional recording of waves in the Arctic Ocean. U.S. Naval Oceanographic Office, Technical Report, TR-179, 44p.

Levey, D., 1981: Microwaves in marginal ice zone research. Sea Technology, 22(10), p.36-37.

Lewis, E.L., W.F. Weeks, 1971: Sea ice: some polar contrasts. In: Symposium on Antarctic Ice and Water Masses, (George Deacon, ed.), Sci-

Lewis, E.L., A.R. Milne, 1977: Underwater sea ice formations. In: Polar Oceans, (M.J. Dunbar, ed.), Arctic Institue of North America, p.239-245.

Lindsay, D.G., 1969: Ice distribution in the Queen Elizabeth Islands. In: Ice Seminar, Canadian Institute of Mining and Metallurgy, Special Vol. 10, p.45-60.

Lindsay, R.W., 1976: Wind and temperature profiles taken during the Arctic lead experiment. Department of Atmospheric Sciences, University of Washington, Seattle, M.S. thesis, 89p.

Lindsay, R.W., 1984: Radiosonde and synoptic programs on the POLARQUEEN. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.92.

Livingstone, C.E., K. Okamota, R.K. Hawkins, T.L. Wilkinson, S. Young, L. Drapier Arsenault, D. Pearson, A.L. Gray, 1980: Classification of Beaufort Sea ice using active and passive microwave sensors. In: Proceedings of the COSPAR/SCOR/IUCRM Symposium on Oceanography from Space, Venice, Italy, 1980, 6p.

Loeng, H., T.E. Vinje, 1979: On the sea ice conditions in the Greenland and Barents Seas. International Conference on Port and Ocean Engineering under Arctic Conditions, 5th, Norwegian Institute of Technology, August 13-18, 1979, Trondheim, Norway. Proceedings, p.163-176.

Loeng, H., 1980: Physical oceanographic investigations in central parts of the Barents Sea, July 1979. Fisken og Havet, p.29-60.

Loshchilov, V.S., V.I. Shil'nikov, 1965: Opyt ispol'zovaniia i perspektivy radiolokatsionnogo metoda v ledovoi aviarazvedke. (Propects and experience obtained in using radar methods in aerial surveying of ice.) In: Primenenie Radiofizicheskikh Metodov V Okeanograficheskikh i Ledovykh Issledovaniiakh, (V.V. Bogorodskii, ed.), Leningrad, AANII, p.31-35.

Loshchilov, V.S., V.A. Voevodin, 1972: Opredelenie elementov dreifa ledianogo pokrova i peremeshcheniia kromki l'dov s pomoshch'iu samoletnoi radiolokatsionnoi stantsii bokovogo obzora "Toros". (Determining ice-drift elements and ice edge movements with an airborne Toros side-looking radar.) Problemy Arktiki i Antarktiki, 40, p.23-30.

Loshchilov, V.S., V.A. Voevodin, 1973: Determination of drift elements of the ice cover and ice edge movements by means of airborne radar. Problems of the Arctic and the Antarctic, 40, p.19-26.

Loshchilov, V.S., V.A. Voevodin, 1976: Determining elements of drift of the ice cover and movement of the ice edge by the aid of the Toros aircraft lateral scan radar station. U.S. National Aeronautics and Space Administration. Technical Translation, TT-F-17121, 16p.

Lowry, R.T., C.J. Brocher, 1978: An interactive correction and analysis system for airborne laser profiles of sea ice. Canadian Journal of Remote Sensing, 4, p.149-160.

Lunde, T., 1963: Sea ice in the Svalbard region 1957-1962. Norsk Polarinstitutt. Arbok 1962, p.24-34.

Lunde, T., 1965: Ice conditions at Svalbard, 1946-1963. Norsk Polarinstitutt. Arbok 1963, p.61-80.

Lyon, W., 1967: Under surface profiles of sea ice observed by submarine. In: International Conference on Low Temperature Science, Sapporo, August 14-19, 1966. Proceedings, 1, p.707-711.

.ackintosh, N.A., 1946: The Antarctic convergence and the distribution of surface temperature in Antarctic waters. Discovery Reports, 23, p.117-212.

Macklin, S.A., 1983: Wind drag coefficient over first-year sea ice in the Bering Sea. Journal of Geophysical Research, 88(C5), p.2845-2852.

Macklin, S.A., C.H. Pease, R.M. Reynolds, 1984: Bering air-sea-ice study (BASICS), February and March 1981. U.S. National Oceanic and Atmospheric Administration, Pacific Marine Environmental Laboratory. Technical Memorandum, No.TM-ERL-PMEL-52, 113p. NTIS no. PB84-196161.

Maksimov, I.V., N.P. Smirnov, V.N. Vorob'ev, 1964: Dolgosrochnyi prognoz mnogoletnikh izmenenii obshchei ledovitosti Barentseva moria. (Long-range forecasting of secular changes of the ice in the Barents Sea.) Materialy Rybokhoziaistvennykh Issledovanii Severnogo Basseina, 4, p.73-85.

Maksimov, I.V., V.V. Lykova, 1975: O nekotorykh prichinakh vekovoi migratsii kromki plavuchukh l'dov i zony rasprostraneniia avsbergov v Iuzhnom Okeane. (Some causes of the secular migration of the floating ice edge and of the zone of iceberg distribution in the Southern Ocean.) Sovetskaia Antarkticheskaia Ekspeditsiia. Informatsionnyi Biulleten, 8(12), p.646-648.

Malmberg, S.A., U. Stefansson, 1972: Recent changes in the water masses of the East Icelandic Current. Conseil Internationale pour l'Exploration de la Mer, Rapports et Proces Verbaux, 162, p.196-200.

Mamayev, O.I., 1977: Greenland Sea water: Entropy of statistical T-S distribution. In: Polar Oceans, (M. Dunbar, ed.), Arctic Institute of North America, p.191-206.

Mandel', S.Z., 1978: O sezonnykh i mezhgodovykh kolebaniiakh postupleniia tepla atlanticheskikh vod v Arkticheskii bassein. (Seasonal and annual variations of heat inflow from the Atlantic into the Arctic basin.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 349, p.50-54.

Manley, T., 1981: Eddies of the western Arctic Ocean: Their Characteristics and Importance to the Energy, Heat and Salt Balance. Columbia University, Ph.D. dissertation, 212p.

Manley, T., 1984: Lamont cruise report - MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.18.

Markham, W.E., 1969: Growth, break-up and movement of ice in Canadian coastal waters. In: Ice Seminar, Canadian Insitute Mining and Metallurgy, Special Vol. 10, p.31-35.

Markham, D.G., 1983: Ocean Mixing and Circulation Response in the Marginal Ice Zone. U.S. Naval Postgraduate School, Monterey, CA., Master's Thesis. NTIS No.AD-A132 174.

Marko, J.R., R.E. Thomson, 1975: Spatially periodic lead patterns in the Canada Basin sea ice: a possible relationship to planetary waves. Geophysical Research Letters, 2, p.431-434.

Marko, J.R., R.E. Thomson, 1977: Rectilinear leads and internal motions in the pack ice of the western Arctic Ocean. Journal of Geophysical Research, 82, p.979-987.

Markson, R., 1984: Meteorological Research and Support for the MIZEX Program. Final Report to Office of Naval Research, Airborne Research Associates, Weston, MA, 70p.

Marshunova, M.S., 1961: Principal characteristics of the radiation balance of the underlying surface and of the atmosphere in the Arctic. Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy. English translation, 1966: Rand Corp., RM-5003-PR, 1966), 229p.

Marshunova, M.S., N.T. Chernigovsky, 1966: Numerical characteristics of the radiation regime in the Soviet Arctic. In: Proceedings of the Symposium on the Arctic Heat Budget and Atmospheric Circulation, (J.O. Fletcher, ed.), Rand Report RM523NSAF, p.279-297.

Martin, S., P. Kauffman, 1974: The evolution of under ice melt ponds, or double diffusion at the freezing point. Journal of Fluid Mechanics, 64, p.507-527.

Martin, S., 1974: Ice stalactites: comparison of a laminar flow theory with experiment. Journal of Fluid Mechanics, 63, p.51-59.

Martin, S., 1979: A field study of brine drainage and oil entrapment in first year sea ice. Journal of Glaciology, 29, p.473-501.

Martin, S., Bauer, J. 1980: Bering Sea ice-edge phenomena. In: Eastern Bering Sea Shelf: Oceanography and Resources, (D.W. Hood, J.A. Calder, eds.), Washington D.C., U.S. Department of Commerce, p.189-211.

Martin, S., 1980: Use of SEASAT (SMMR) imagery to study Bering Sea ice. Washington. University. Department of Oceanography. Interim Report, A80-21, 17p. NTIS no. PB81-106643.

Martin, S., P. Kauffman, 1981: A field and laboratory study of wave damping by grease ice. Journal of Glaciology, 27(96), p.283-313.

Martin, S., 1981: Frazil ice in rivers and ocean. Annual Review of Fluid Mechanics, 13, p.379-397.

Martin, S., R. Muench, J. Overland, D. Cavalieri, 1982: MIZEX field study. EOS, 63(51), p.1220.

Martin, S., R.D. Muench, C. Pease, J.E. Overland, 1982: Nature of the winter Bering Sea marginal ice zone. In: Oceans 82 Conference Record, Washington, D.C., p.1232-1235.

Martin, S., P. Kauffman, 1983: Movement and decay of ice edge bands in the winter Bering Sea. Journal of Geophysical Research, 88(C5), p.2803-2812.

Martinson, D.G., P.D. Killworth, A.L. Gordon, 1981: A convective model of the Weddell polynya. Journal of Physical Oceanography, 11, p.466-488.

Maslovskii, M.I., 1978: Raschet velichiny peremeshcheniia kromki l'dov v antarkticheskikh polyn'iakh. (Calculation of ice edge movement in antarctic polynyas.) Problemy Arktiki i Antarktiki, no.53, p.18-20.

Matzler, C., 1982: Microwave signatures of young sea ice and its influence on ice concentration algorithms. In: Symposium Internationale de la Commission VII de la Societe Internationale de Photogrammetrie et Teledetection, Toulouse, 13-17 September 1982, Actes, p.757-765.

Maul, G.A., 1973: Remote sensing of ocean currents. U.S. National Aeronautics and Space Administration. Atlantic Oceanographic and Meteorological Laboratories. Report, NASA-CR-133147, 24p. NTIS no. E73-10780.

Mayer, W.G., M.P. Langleben, 1974: Determination of transverse wave velocity in transition layer of sea ice from reflection of waterborne sound. Journal of Geophysical Research, 79(6), p.885-886.

Mayer, W.G., M. Behravesh, T.J. Plona, 1974: Sonic reflectivity from sea ice/water interfaces. Georgetown University. Department of Physics. Technical Report, TR-2, 41p.

Mayer, W.G., M. Behravesh, T.J. Plona, 1975: Determination of sonic velocities from reflectivity losses at sea ice/water boundaries. Acoustical Society of America. Journal, 57(1), p.39-46.

Maykut, G.A., N. Untersteiner, 1971: Some results from a time dependent, thermodynamic model of sea ice. Journal of Geophysical Research, 76, p.1550-1575.

Maykut, G.A., A.S. Thorndike, and N. Untersteiner, 1972: AIDJEX scientific plan. AIDJEX Bulletin, 15, p.67.

Maykut, G.A., 1978: Energy exchange over young sea ice in the central Arctic. Journal of Geophysical Research, 83(C7), p.3646-3658.

Maykut, G.A., 1982: Large scale heat exchange and ice production in the central Arctic. Journal of Geophysical Research, 87(C10), p.7971-7984.

Maykut, G.A., 1984: Heat and mass balance observations during the MIZEX 83 drift program. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.35-46.

Maykut, G., 1984: Ice modeling discussions. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.96.

Maykut, G.A., 1984: On the decay and retreat of the ice cover in the summer MIZ. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.15-22.

Maykut, G.A., 1984: University of Washington heat and mass balance program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.76-77.

McGrath, J.R., 1976: Depth and seasonal dependence of ambient sea noise near the marginal ice zone of the Greenland Sea. U.S. Naval Research Laboratory. Report, 7819-REV, 32p. NTIS no. AD-A025 212.

McLain, E.P., 1973: Quantitative use of satellite vidicon data for delimiting sea ice conditions. Arctic, 26. p.44-57.

McNutt, S.L., 1980: Remote [illegible] of ice growth and
distribution in [illegible] sea. In: Eastern Bering Sea
Shelf: Oce[illegible] ources, (D.W. Hood, J.A. Calder, eds.),
Washi[illegible]. Department of Commerce, p.141-165.

McNutt, L., 1981: Ice conditions in the Eastern Bering Sea from NOAA and Landsat imagery: winter conditions 1974, 1976, 1977, 1979. U.S. National Oceanic and Atmospheric Administration, Technical Memorandum, TM-ERL PMEL-24, 179p.

McNutt, S.L, S. Martin, 1982: Comparison of Environmental Conditions in the Bering Sea and Davis Strait and the Effects on Microwave Signature Returns; March and April, 1979. University of Washington, Department of Geography, Seattle. NTIS no. N83-12828.

McPhee, M.G., 1978: Effect of the oceanic boundary layer on the mean drift of pack ice: application of a simple model. AIDJEX Bulletin, no.39, p.1-31.

McPhee, M.G., 1978: Simulation of inertial oscillation in drifting pack ice. Dynamics of Atmospheres and Oceans, 2, p.107-122.

McPhee, M.G., 1979: Effect of the oceanic boundary layer on the mean drift of pack ice: Application of a simple model. Journal of Physical Oceanography, 9, p.388-400.

McPhee, M.G., 1980: An analysis of pack ice drift in summer. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, p.62-75.

McPhee, M.G., 1980: Heat transfer across the salinity-stabilized pycnocline of the Arctic Ocean. In: International Symposium on Stratified Flows, 2nd, Trondheim, Norway. Proceedings, (T. Carstens and T. McClimans, eds.), p.527-537.

McPhee, M.G., 1980: Physical oceanography of the seasonal sea ice zone. Cold Regions Science and Technology, 2, p.116-118.

McPhee, M.G., 1982: Sea ice drag laws and simple boundary layer concepts, including applications to rapid melting. U.S. Army. Cold Regions Research and Engineering Laboratory. CRREL Report CR 82-04, 17p.

McPhee, M.G., 1983: Turbulent heat and momentum transfer in the oceanic boundary layer under melting pack ice. Journal of Geophysical Research, 88(C5), p.2827-2835.

McPhee, M.G., E.G. Josberger, 1984: Comment on "Sea ice melting in the marginal sea ice zone," by Edward G. Josberger. Journal of Geophysical Research, 89(C1), p.759-761.

McPhee, M.G., 1984: Drift velocity during the drift-station phase of MIZEX 83. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.1-12.

McPhee, M.G., 1984: POLAR QUEEN drift, MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.23-26.

McPhee, M.G., 1984: POLAR QUEEN turbulence frame experiment. In: *MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory*. *Special Report* 84-29, p.35-37.

Mecking, L., 1906: Die Eisdrift aus dem Bereich der Baffin-Bai beherrscht von Strom und Wetter. *Veroffentlichungen des Institut Meereskunde und des Geographischen Instituts an der Univisitat Berlin*, 7, 135p.

Meinardus, W., 1906: Periodische Schwankungen der Eisdrift bei Island. (Periodic variations of drifting ice near Iceland.) *Annaler der Hydrographie und Maritimen Meteorologie*, 34, p.148-162, p.227-239, p.278-285.

Micklin, P.P., 1981: A preliminary systems analysis of impacts of proposed Soviet river diversions on Arctic sea ice. *EOS*, 62, p.489-493.

Mileiko, G.N., 1973: Prognoz raspredeleniia temperatury vody i polozheniia kromki l'da v Beringovom more v kholodnuiu chast' goda. (Forecasting water temperature distribution and ice edge location in the Bering Sea during the cold part of the year.) *Leningrad. Gidrometeorologicheskii Nauchno-Issledovatel'skii Tsentr SSSR*. *Trudy*, 127, p.100-104.

Miles, M.K., 1974: An index of pack-ice severity off Newfoundland and its secular variation. *Meteorological Magazine*, 103, p.121-125.

Miller, J.D., 1979: *Equilibrium surface temperature climate model applied to first year sea ice growth*. Ottawa, Carleton University, 183p.

Mills, D.A., 1969: Waves, pressure disturbances and floating icefields. *Flinders University of South Australia. Horace Lamb Centre for Oceanographic Research*, *Research Paper* 33, 27p.

Mills, D.A., 1972: On waves in a sea ice cover. *Flinders Unversity, Horace Lamb Centre for Oceanographic Research*. *Research Paper* 53, 67p.

Milne, A.R., 1972: Thermal tension cracking in sea ice: a source of under-ice noise. *Journal of Geophysical Research*, 77, p.2177-2192.

Mironov, E.U., 1981: Predstavlenie polozheniia kromki l'da posredstvom razlozheniia na estestvennye ortogonal'nye sostavliaiushchie (na primere Devisova proliva). (Presentation of ice edge position by means of splitting into natural or[illegible]nal components [the Davis Strait].) *Leningrad. Arkticheskii i* [illegible] *icheskii Nauchno-Issledovatelskii Institut*. *Trudy*, 384, p [illegible]

Mitchell, P.A., 1979: [illegible] rctic area 15- and 30-day ice forecasting guide. *U.S. Na*[illegible]*ographic Office*. *Special Report*, NOO-SP-266, 263p. NTIS n[illegible] 930.

Mollo-Christensen, E., 1984: Weather maps from Vervarslinga for Nord-Norge, Tromso. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.106-107.

Monahan, E.C., P.A. Bowyer, 1984: Arctic whitecapping: Preliminary results. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.53-56.

Monahan, E.C., 1984: Whitecap observations and associated measurements during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.96-97.

Moore, R.K., Young, 1977: Active microwave measurements from space of sea-surface winds. IEEE Journal of Oceanic Engineering, OE-2, p.309-317.

Moore, S.C. and P. Wadhams, 1980: Recent developments in strainmeter design. In: Workshop on Stress and Strain Measurement in Ice, Memorial University, St. John's, Newfoundland, 29 April - 2 May, 1980. Proceedings, p.97-125.

Morey, R.M., 1975: Airborne sea ice thickness profiling using an impulse radar. U.S. Coast Guard, Technical Report, No. CG-D-178-75.

Morison, J., 1984: Arctic profiling system observations. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.34.

Moritz, R.E., 1979: Nonlinear analysis of a simple sea ice-ocean temperature oscillator model. Journal of Geophysical Research, 84(C8), p.4916-4920.

Moritz, R.E., 1979: Synoptic climatology of the Beaufort Sea coast of Alaska. Colorado. University. Institute of Arctic and Alpine Research, Occcasional Paper No. 3, 176p.

Mork, M., 1975: Upwelling possibilities at an ice edge homogeneous model. Marine Science Communications, 1(2), p.115-145.

Morozov, P.T., 1975: Fiziko-khimicheskie svoistva l'dov v prikromochnoi zone Beringova moria. (Physical and chemical properties of ice in the Bering Sea ice edge zone.) In: Sovetsko-Amerikanskii Eksperiment "Bering". Trudy. Zakliuchitel'nogo Simpoziuma po Itogam Sovmestnoi Sovetsko-Amerikanskoi Ekspeditsii, Leningrad, 12-17 maia, 1974. (U.S.S.R.-U.S.A. Bering Sea Experiment: Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings.) Leningrad, Gidrometeoizdat, p.191-195.

Mosby, H., 1934: The waters of the Atlantic Antarctic Ocean. Scientific Results of the Norwegian Antarctic Expeditions 1927-1928, I(11), 131p.

Mosby, H., 1938: Svalbard waters. Geofysiske Publikasjoner, 12(4), 85p.

Mosby, H., 1962: Water, salt, and heat balance of the North Polar Sea and of the Norwegian Sea. Geofysiske Publikasjoner, 24(11), p.289-313.

Moskal', T.N. 1977: Rezul'taty primeneniia chislennogo metoda dlia rascheta elementov ledovogo rezhima Barentseva moria v osenne-zimnii period. (Results of applying a numerical method of calculating ice conditions in the Barents Sea during the fall-winter period.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 346, p.45-54.

Muench, R.D., K. Ahlnas, 1976: Ice movement and distribution in the Bering Sea from March to June 1974. Journal of Geophysical Research, 81, p.4467-4476.

Muench, R.D., R.L. Charnell, 1977: Observations of medium-scale features along the seasonal ice edge in the Bering Sea. Journal of Physical Oceanography, 7, p.602-606.

Muench, R.D., 1983: Marginal Ice Zone Experiment. Oceanus, 26(2), p.55-60.

Muench, R.D., 1983: Mesoscale oceanographic features associated with the central Bering Sea ice edge: February-March 1981. Journal of Geophysical Research, 88(C5), p.2715-2722.

Muench, R.D., P.H. LeBlond, L.E. Hachmeister, 1983: On some possible interactions between internal waves and sea ice in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2819-2826.

Muench, R.D., G.R. Stegen, L.E. Hachmeister, S. Martin, 1983: Prediction of ice distribution and movement in the outer marginal ice zone. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings, Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, p.190-199.

Muench, R.D., L.E. Hachmeister, 1984: Internal wave forces on ice keels in the marginal ice zone: some preliminary laboratory results. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.83-89.

Muench, R.D., 1984: Long-term current moorings in the East Greenland current - East Greenland Polar front system. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.19-20.

Muench, R.D., J.D. Schumacher, 1985: On the Bering Sea ice edge front. Journal of Geophysical Research, 90(C2), p.3185-3197.

Muller, F., A. Ohmura, R. Braithwaite, 1976: On the climatic influence of North Water. Internatonal Geographical Congress Symposium on the Geography of Polar Countries (Extended Summaries), Leningrad, Gidrometeoizdat, p.55-58.

Murauchi, S., Y. Yoshida, 1959: Reports of sea ice observations of the Japanese Antarctic Research Expedition 2, 1957-1958. Antarctic Record, 8, p.22-39.

Mygind, O., 1984: Ice reconnaissance by the Danish Meteorological Institute's ice patrol. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.58-60.

Nakawa, M., N.K. Sinha, 1981: Growth rate and salinity profile of first year sea ice in the high Arctic. Journal of Glaciology, 26, p.315-330.

Nansen, F., 1902: The oceanography of the North Polar Basin. The Norwegain Polar Expedition 1893-1896, Scientific Results, 3(9), 427p.

Nansen, F., 1915: Spitsbergen waters. Videnskapsselskapets Skrifter, I. Matematisk-Naturvidenskapelig Klasse, 2, 132p.

National Academy of Sciences, 1974: U.S. Contribution to the Polar Experiment (POLEX), Part 1-North. Washington, DC, 119p.

National Research Council, Ad Hoc Working Group on Antarctic Oceanography, 1974: Southern Ocean Dynamics: a Strategy for Scientific Exploration, 1973-1983. Washington, D.C., National Academy of Sciences, 52p.

Nazarov, V.S., 1947: Istoricheski khod ledovitosti Karskogo Morya. (Historical variations of ice conditions in the Kara Sea). Vsesoivznoe Geograficheskoe Obshchchestvo. Isvestiia, 79(6), p.653-655.

Nazirov, M.G., V.G. Trofimova, 1982: Nekotorye cherty prostranstvennoi struktury ledianogo pokrova arkticheskikh morei v sviazi s turbulentnym treniem i geostroficheskim zakhvatom prilivnoi volny. (Some features of the space structure of ice covers in Arctic seas related to turbulent friction and geostrophic capture of tidal waves.) In: Issledovaniia Arktiki, Antarktiki i Mirovogo Okeana, (E.I. Tolstikov, N.A. Kornilov, eds.), Leningrad, Gidrometeoizdat, p.117-121.

Nazintsev, IU.L., 1972: Estimating the lateral melting of drift ice. AIDJEX Bulletin, 17, p.71-76.

Neshyba, S., 1977: Upwelling by icebergs. Nature, 267, p.507-508.

Nevel, D.C., 1970: Moving loads on a floating ice sheet. U.S. Army. Cold Regions Research and Engineering Laboratory, Report 261, 13p.

Niebauer, H.J., 1980: Sea ice and temperature variability in the eastern Bering Sea and the relation to atmospheric fluctuations. Journal of Geophysical Research, 85(C12), p.7507-7515.

Niebauer, H.J., 1983: Multiyear sea ice variability in the Eastern Bering Sea: an update. Journal of Geophysical Research, 88(C5), p.2733-2742.

Niebauer, H.J., V. Alexander, 1984: Marginal ice zone modeling: Bering Sea viewpoint. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.55-62.

Nikolaev, S.G., 1973: Opyt organizatsii okeanograficheskikh issledovanii v prikromochnoi oblasti Chukotskogo moria. (Organizing oceanographic investigations near the ice edge of the Chukchi Sea.) Problemy Arktiki i Antarktiki, 42, p.31-36.

Nikolaev, S.G., 1975: Raschet ledovitosti Finskogo zaliva na vesenniuiu navigatsiiu. (Calculation of ice conditions in the Gulf of Finland for the spring navigable period.) Meteorologiia i Gidrologiia, no.5, p.86-91.

O'Brien, J.J., 1975: Upwelling in the ocean: two- and three-dimensional models of upper ocean dynamics and variability. In: Modelling and Prediction of the Upper Layers of the Ocean. NATO Advanced Study Institute, Urbino, Italy, (E.Bradshaw, ed.), Pergamon Press, p.178-228.

Ogilvie, A.E.J., 1984: Past climate and sea-ice record from Iceland, Part 1: Data from A.D. 1780. Climatic Change, 6, p.131-152.

Ono, N. 1983: Heat flow from water to ice at lower surface of sea ice. Low Temperature Science (Teion Kagaku). Series A Physical Sciences, 42, p.175-178. (In Japanese.)

Onstott, R.G., R.K. Moore, 1984: Active microwave measurements of sea ice in the marginal ice zone. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.128.

Onstott, R.G., S.P. Gogineni, 1985: Active microwave measurements of Arctic sea ice under summer conditions. Journal of Geophysical Research, 90(C3), p.5035-5040.

Oradovskii, S.G., A.E. Filonov, 1972: Nekotorye dannye po khimii l'dov i prilednykh vod Severnogo Kaspiia. (Some data on the chemistry of ice and near-ice waters in the north Caspian Sea.) Moscow. Vsesoiuznyi Nauchno-Issledovatel'skii Institut Morskogo Rybnogo Khoziaistva i Okeanografii. Trudy, 75, p.74-79. (In Russian with English summary.)

Orlov, N.F., 1977: Prostranstvenno-vremennaia izmenchivost; ledovitost' i polozhenie kromki l'da v severo-zapadnoi Atlantike. (Space-time variations of ice conditions and ice edge positions in the northwestern Atlantic Ocean.) Problemy Arktiki i Antarktiki, 52, p.54-59.

Orlov, N.F., 1980: Metodika prognoza polozheniya kromki l'da na dekadu v Labradorskom more. (Method of predicting the position of an ice edge for a 10-yr period in the Labrador Sea.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 348, p.60-64.

Orlov, N.F., 1982: Space-time variability of ice cover and location of the ice edge in northwestern Atlantic Ocean.) Problems of the Arctic and the Antarctic, vol.52, p.64-71.

Overland, J.E., R.M. Reynolds, C.H. Pease, 1983: Model of the atmospheric boundary layer over the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2836-2840.

Overland, J.E., H.O. Mofjeld, C.H. Pease, 1984: Wind-driven ice drift in a shallow sea. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.49-53.

Ovsienko, S.N., 1977: Numberical modelling of the drift of ice. Akademiia Nauk SSSR. Izvestiia. Atmospheric and Oceanic Physics, 12(11), p.740-743.

Ovsienko, S.N., V.O. Efroimson, 1979: K teorii dreifa taiushchego l'da. (Theory of melting ice drift.) Akademiia Nauk SSSR. Doklady, 246(5), p.1066-1070.

Ovsienko, S.N., V.O. Efroimson, 1979: Theory of drift of melting ice. Akademiia Nauk SSSR. Doklady, Earth Science Sections, 246(1-6), p.25-27.

Ovsienko, S.N., V.O. Efroimson, 1983: K teorii dinamicheskogo i termicheskogo pereraspredeleniia l'da v more. (Theory of thermodynamic redistribution of sea ice.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.8-19.

Ovsienko, S.N., V.O. Efroimson, 1983: O granichnykh usloviiakh v modeliakh dinamiko-termicheskogo pereraspredeleniia ledianogo pokrova. (Boundary conditions in the models of the thermodynamic redistribution of ice covers.) In: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei, (V.L. Tsurikov, G.K. Zubakin, O.I. Sheremetevskaia, eds.), Moscow, Nauka, p.20-22.

Paquette, R.B., R.H. Bourke, 1973: Oceanographic Measurements Near the Arctic Ice Margins. (Final Report 15 May 72-30 November 73) U.S. Naval Postgraduate School, Monterey, CA., 94p. NTIS no. AD-772 938.

Paquette, R.G., R.H. Bourke, 1974: Observations on the coastal current of Arctic Alaska. Journal of Marine Research, 32(2), p.195-207.

Paquette, R.G., R.H. Bourke, 1976: Oceanographic Investigation of the Marginal Sea-Ice Zone of the Chukchi Sea: MIZPAC 1974 Final Report, 10 June 1974 - 30 June 1975. Monterey, CA, U.S. Naval Postgraduate School, 126p. NTIS no. AD-A025-854.

Paquette, R.G., R.H. Bourke, 1976: Oceanography of the marginal sea-ice zone. U.S. Office of Naval Research. Naval Research Reviews, 29(2), p.29-30.

Paquette, R.G., R.H. Bourke, 1978: Temperature fronts in the marginal sea ice zone of the Chukchi Sea. EOS, 59(12), p.1091-1092.

Paquette, R.G., R.H. Bourke, 1979: Oceanographic Cruise of the USCGC (Glacier) to the Marginal Sea-Ice Zone of the Chukchi Sea--MIZPAC 78. Interim report for period July 1978-May 1979. Monterey, CA, U.S. Naval Postgraduate School, 77p.

Paquette, R.G., R.H. Bourke, 1979: Temperature fine structure near the sea-ice margin of the Chukchi Sea. Journal of Geophysical Research, 84(C3), p.1155-1164.

Parkinson, C.L., D.J. Cavalieri, 1982: Interannual sea-ice variations and sea-ice/atmosphere interactions in the southern ocean, 1973-1975. Annals of Glaciology, 3, p.249-256. (International Symposium on Antarctic Glaciology, 3rd, Columbus, Ohio, September 7-12, 1981.)

Parkinson, C.L., A.J. Gratz, 1983: On the seasonal sea ice cover of the Sea of Okhotsk. Journal of Geophysical Research, 88(C5), p.2793-2802.

Parkinson, C.L., R.A. Bindschadler, 1984: Response of Antarctic sea ice to uniform atmospheric temperature increases. American Geophysical Union. Geophysical Monograph, no.29, p.254-264.

Pease, C.H., R.D. Muench, 1981: Cruise along ice edges in Bering Sea yields data on effects of gale. Coastal Oceanography and Climatology News, 3(4), p.43-45.

Pease, C.H., 1981: Eastern Bering Sea ice dynamics and thermodynamics. In: Eastern Bering Sea Shelf: Oceanography and Resources, (D.W. Hood, J.A. Calder, eds.), Washington D.C., U.S. Department of Commerce, p.213-222.

Pease, C.H., S.A. Schoenberg, J.E. Overland, 1982: Climatology of the Bering Sea and its relation to sea ice extent. U.S. National Oceanic and Atmospheric Administration. Pacific Marine Environmental Laboratory, 36p. NTIS no. PB82-246950

Pease, C.H., S.A. Salo, J.E. Overland, 1983: Drag measurements for first-year sea ice over a shallow sea. Journal of Geophysical Research, 88(C5), p.2853-2862.

Perchal, R.J., 1975: Western Ross Sea and McMurdo Sound ice forecasting guide. U.S. Naval Oceanographic Office. Special Publication, SP-265, 132p.

Ponomarev, V.I., L.A. Gazova, 1982: Model' formirovaniia temperaturnykh anomalii v Severnom Ledovitom okeane. (Modeling temperature anomalies in the Arctic Ocean.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 459, p.112-120.

Potocsky, G.J., 1975: Alaskan area 15- and 30-day ice forecasting guide. U.S. Oceanographic Office. Report, NOO-SP-263, 197p. NTIS no. AD-A010 527.

Powell, R.J., A.R. Birks, 1984: Preliminary mission report: Rutherford Appleton Laboratory operations on the NASA CV 990 flights during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.122.

Preobrazhenskii, L.IU. 1977: Kharakteristiki teploobmena vblizi poverkhnosti polynei i razvodii. (Heat transfer near surfaces of leads and polynyas.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.72-78.

Preobrazhenskii, L.IU., 1977: Otsenka sostavliaiushchikh teplovogo balansa poverkhnosti ledovogo pokrova Tsentral'noi Arktiki. (Evaluating heat balance components of the Central Arctic ice cover surface.) Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy, 399, p.23-51.

Provorkin, A.V., 1982: Morskie l'dy v more Ueddella po dannym meteorologicheskikh ISZ letom 1977/78 g. (Sea ice in the Weddell Sea according to satellite data in the summer of 1977/78.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 369, p.82-89.

Quadfasel, D., H. Baudner, P. Damm, K. Schulze, 1984: Hydrographic and current observations in the Eastern Fram Straits, R/V VALDIVIA. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.47-48.

Rabinovich, IU.I., V.S. Loshchilov, E.M. Shul'gina, 1975: Analiz rezul'tatov izmerenii kharakteristik ledianogo pokrova (variant C). (Analysis of measured ice-cover characteristics [Option C].) In: Sovetsko-amerikanskii eksperiment "Bering". Trudy. Zakliuchitel'nogo Simpoziuma po Itogam Sovmestnoi Sovetsko-Amerikanskoi Ekspeditsii, Leningrad, 12-17 Maia, 1974. (U.S.S.R.-U.S.A. Bering Sea Experiment: Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Proceedings.) Leningrad, Gidrometeoizdat, p.294-313.

Radl, C.J., J.P. Welsh, 1983: Open water and thin ice detection in the Arctic marginal ice zone using reflectometer signal analysis. U.S. Naval Ocean Research and Development Activity. Final Report, NORDA-TN-209, 35p. NTIS no. AD-A136 043.

Rapley, C.G., 1984: First observations of the interaction of ocean swell with sea ice using satellite radar altimeter data. Nature, 307(5947), p.150-152.

Reynolds, M. 1984: On the local meteorology of the marginal ice zone of the Bering Sea. Journal of Geophysical Research, 89(C4), p.6515-6524.

Reynolds, M., C.H. Pease, 1984: Drift characteristics of northeastern Bering Sea ice during 1982. U.S. National Oceanic and Atmospheric Administration. Technical Memorandum, ERL PMEL-55, 135p. NTIS no. PB84-213982.

Roed, L.P., J.J. O'Brien, 1983: Coupled ice-ocean model of upwelling in the marginal ice zone. Journal of Geophysical Research, 88(C5), p.2863-2872.

Roed, L.P., 1983: Sensitivity studies with a coupled ice-ocean model of the marginal ice zone. Journal of Geophysical Research, 88(C10), p.6039-6042.

Roed, L.P., O.M. Smedstad, 1984: Mesoscale coupled ice/ocean modeling of the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.37-42.

Roed, L.P., 1984: A thermodynamic coupled ice-ocean model of the marginal ice zone. Journal of Physical Oceanography, 14(12), p.1921-1929.

Romanov, A.A., 1974: Major characteristics of ice distribution in the seas surrounding east Antarctica. Sovetskaia Antarkticheskaia Ekspeditsiia. Informatsionnyi Biulleten, 8(11), p.617-619.

Ross, D.B., J. Tomchay, 1984: SLAR and laser observations of sea ice during MIXEX '84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.125-127.

Rothrock, D.A., 1984: Helicopter photography of ice conditions. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.78.

Rothrock, D.A., A.S. Thorndike, 1984: Measuring the sea ice floe size distribution. Journal of Geophysical Research, 89(C4), p.6477-6486.

Salo, S.A., C.H Pease, R.W. Lindsay, 1980: Physical environment of the eastern Bering Sea March 1979. U.S. National Oceanic and Atmospheric Administration. Technical Memorandum, TM-ERL-PMEL-21, 129p. NTIS no. PB81-148496.

Saltzman, B., 1979: Simple sea-ice/ocean-temperature oscillator model. WMO. Global Atmospheric Research Programme, Joint Organizing Committee. Publications Series No. 22, 2, p.917-933.

Sanderson, R.M., 1971: Ice-edge movements in the Greenland Sea. Marine Observer, 41(234), p.173-183.

Savchenko, V.G., IU.A. Men'shov, 1979: Osnovnye nauchnye rezul'taty sovmestnykh sovetsmko-amerikanskikh issledovanii v IUzhonom okeane po programme POLEKS-IUg-77. (Results of joint Soviet-American research in the Southern Ocean during POLEX-South-77.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 360, p.5-15.

Sawada, T., 1969: On the use of satellite pictures to pursue the ice-edge retreats. Hakodate Marine Observatory. Bulletin, no.14, 5p. (In Japanese.)

Saxena, V.K., T.B. Curtin, 1983: Air-sea interactions over the Ross Sea in the surface boundary layer. Antarctic Journal of the U.S., 18(5), p.241-243.

Schgounn, C., 1984: Ice microwave remote sensing evaluation program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.129-131.

Schumacher, J.D., K. Aagaard, C.H. Pease, R.B. Tripp, 1983: Effects of a shelf polynya on flow and water properties in the northern Bering Sea. Journal of Geophysical Research, 88(C5), p.2723-2732.

Shen, H., W.D. Hibler III, M. Lepparanta, 1984: On the rheology of a broken ice field due to floe collision. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.29-34.

Shestopalov, V.P., 1983: Kompleksnye radiofizicheskie issledovaniia ledovykh pokrovov. (Integrated radiophysical studies of ice covers.) Akademiia Nauk SSSR. Doklady, 272(3), p.598-600.

Shine, K.P., A. Henderson-Sellers, R.G. Barry, 1982: Albedo-climate feedback: The importance of cloud and cryosphere variability. EOS, 63(51), p.1298.

Shine, K.P., R.G. Crane, 1984: Sensitivity of a one-dimensional thermodynamic sea ice model to changes in cloudiness. Journal of Geophysical Research, 89(C6), p.10,615-10,622.

Shine, K.P., A. Henderson-Sellers, 1985: Sensitivity of a thermodynamic ice model to changes in surface albedo parameterization. Journal of Geophysical Research, in press.

Shirokolobov, V.N., ed., 1982: Kompleksnye Issledovaniia Prirody Severnykh Morei. (Complex investigations of the nature of northern seas.) Apatity, 66p.

Shuchman, R., C. Livingstone, B. Burns, R. Larson, 1984: ERIM/CCRS CV-580 SAR data collection and ERIM surface observations during MIZEX 84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.110-111.

Siniurin, IU.N., 1971: Graficheskii sposob opredeleniia smeshcheniia kromki plavuchikh l'dov v zavisimosti ot vetra. (Graphic method of determining the displacement of floating ice edge, depending on wind.) Meteorologiia i Gidrologiia, no.9, p.100-101.

Smith, D.C., IV, J.H. Morison, J.A. Johannessen, N. Untersteiner, 1984: Topographic generation of an eddy at the edge of the East Greenland Current. Journal of Geophysical Research, 89(C5), p.8205-8208.

Smith, S.D., R.J. Anderson, G. Den Hartog, D.R. Topham, R.G. Perkin, 1983: An investigation of a polynya in the Canadian Archipelago, 2, structure of turbulence and sensible heat flux. Journal of Geophysical Research, 88(C5), p.2900-2910.

Smith, W.O., 1983: Oceanography of the antarctic marginal ice zone. Antarctic Journal of the U.S., 18(5), p.190-192.

Spindel, R.C., 1984: Acoustic tomography source. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.158.

Squire, V.A., 1983: Dynamics of ice floes in sea waves. Journal of the Society for Underwater Technology, 9(1), p.20-26.

Squire, V.A., P. Wadhams, A.M. Cowan, S. O'Farrell, R. Weintraub, 1983: MIZEX 83 data summary. Scott Polar Research Institute. Sea Ice Group, 154p.

Squire, V.A., 1984: How waves break up inshore fast ice. Polar Record, 22(138), p.281-285.

Squire, V.A., 1984: On the critical angle for ocean waves entering shore fast ice. Cold Regions Science and Technology, 10, p.59-68.

Squire, V.A., 1984: Theoretical, laboratory, and field study of ice-coupled waves. Journal of Geophysical Research, 89(C5), p.8069-8079.

Stoliarova, G.A., 1976: Prognoz ledovitosti Tatarskogo proliva. (Forecasting ice conditions in the Tatar Strait.) Vladivostok. Dal'nevostochnyi Nauchno-Issledovatel'skii Gidrometeorologicheskii Institut. Trudy, 62, p.154-167.

Streten, N.A., 1983: Antarctic sea ice and related atmospheric circulation during FGGE. Archiv fur Meteorologie, Geophysik und Bioklimatologie. Serie A, 32(3), p.231-246.

Streten, N., 1984: Climate of the South Pacific. In: Climate of the Oceans, World Survey of Climatology, v.15, (H. Van Loon, ed.), p.263-429.

Stringer, W.J., 1980: Nearshore ice characteristics in the eastern Bering Sea. In: Eastern Bering Sea Shelf: Oceanography and Resources, (D.W. Hood, J.A. Calder, eds.), Washington D.C., U.S. Department of Commerce, p.167-187.

Stringer, W.J. 1982: Characteristics of nearshore ice in southwestern Alaska. Journal of Environmental Sciences, 25(5), p.23-29.

Svendsen, E., K. Kloster, B. Farrelly, O.M. Johannessen, J. Johannessen, W.J. Campbell, P. Gloersen, D. Cavalieri, C. Matzler, 1982: Evaluation of the Nimbus 7 Scanning Multifrequency Microwave Radiometer for Sea Ice Research. NORSEX, II, 24p.

Svendsen, E., 1983: Evaluation of wind estiamtes over open ocean from Nimbus 7 Scanning Multichannel Microwave Radiometer. University of Bergen, Norway. Norwegian Maritime Remote Sensing Program, Geophysical Insitute, 12 p.

Svendsen, E., K. Kloster, B. Farrelly, O.M. Johannessen, J.A. Johannessen, W.J. Campbell, P. Gloersen, D. Cavalieri, C. Matzler, 1983: Norwegian Remote Sensing Experiment: evaluation of the Nimbus 7 scanning multichannel microwave radiometer for sea ice research. Journal of Geophysical Research, 88(C5), p.2781-2791.

Svendsen, E., 1984: MIZEX-84 oceanography cruise report, KVITBJORN (POLARQUEEN). In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.40-42.

Symonds, G., 1984: Bedford Institute of Oceanography Buoy Program. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.63-65.

Symonds, G., I. Peterson, 1984: MIZEX 83--BIO Buoy data summary. In: MIZEX Bulletin. 4. Initial Results and Analysis from MIZEX 83. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-28, p.13-18.

Takizawa, T. 1976: Sea ice conditions in Lutzow-Holm Bay from December 1974 to February 1975, observed by the 16th Japanese Antarctic Research Expedition. Antarctic Record, 55, p.92-98. (In Japanese with English summary.)

Thomas, R.H., T.V. Martin, H.J. Zwally, 1983: Mapping ice-sheet margins from radar altimetry data. Annals of Glaciology, 4, p.283-288.

Top, Z., H.G. Ostlund, 1984: Tritium laboratory field operations. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.38-39.

Topham, D.R., R.G. Perkin, S.D. Smith, R.J. Anderson, G. Den Hartog, 1983: Investigation of a polynya in the Canadian Archipelago, 1, Introduction and oceanography. Journal of Geophysical Research, 88(C5), p.2888-2899.

Tsurikov, V.L., G.K. Zubakin, O.I. Sheremetevskaia, eds. 1983: Issledovaniia Ledianogo Pokrova Severo-Zapadnykh Morei. (Studying ice covers of northwestern seas.) Moscow, Nauka, 96p.

Tucker, W.B., III, 1981: Application of a numerical sea ice model to the East Greenland area. U.S. Naval Postgraduate School, Monterey, CA, Master's thesis, 110p. NTIS no. AD-A114 453.

Tucker, W.B., III, 1982: Application of a numerical sea ice model to the East Greenland area. U.S. Army. Cold Regions Research and Engineering Laboratory. Report, 82-16, p.1-40.

Tucker, W.B., III, R.G. Barry, 1984: Climate of the North Atlantic Ocean. In: Climate of the Oceans, World Survey of Climatology, v.15, (H. Van Loon, ed.), p.193-262.

Tucker, W.B., III, A.J. Gow, W.F. Weeks, 1984: Sea ice properties. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.82-83.

Tucker, W.B., 1984: Some simple concepts on wind forcing over the marginal ice zone. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.43-48.

U.S. National Weather Service, 1984: Oceanographic Monthly Summary. Eastern-Western Arctic Sea Ice Edge Climatology. Silver Spring, MD, 58p. NTIS no. PB84-233782.

U.S. Naval Polar Oceanography Center, 1979: Eastern-Western Arctic Sea Ice Analysis, 104p.

U.S. Navy. Fleet Weather Facility, Suitland MD, 1975: Antarctic Ice Charts, 1973-1974, 112p. NTIS no. AD-A028 256.

U.S. Navy. Office of Naval Research, 1982: Arctic Program. 126p.

Van Leer, J.C., 1984: Cyclesonde measurements in MIZEX 84. In: MIZEZ Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.30-33.

Verrall, R., J. Ganton, 1977: Reflection of acoustic waves in sea water from an ice covered surface. Canada. Defence Research Board. Defence Research Establishment, Pacific. Technical Memorandum, TM-77-8, 31p. NTIS No. AD-A047 298.

Vinter, A.IA., N.F. Orlov, 1977: Ob opredelenii pogreshnosti polozheniia kromki l'da po faksimil'nym ledovym kartam. (Determining errors in ice edge positions on facsimile maps.) Problemy Arktiki i Antarktiki, 52, p.67-69.

Vinter, A.IA., N.F. Orlov, 1982: Error estimation in locating the ice edge from facsimile ice maps. Problems of the Arctic and the Antarctic, 52, p.81-83.

Voevodin, V.A., A.A. Romanov, 1981: Osobennosti szhatiia l'da v Antarktike. (Peculiarities of ice compression in Antarctica.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 372, p.129-134.

Votaw, C.W., S.C. Wales, 1984: CTD and deployment activities aboard USNS LYNCH during first leg of NRL cruise 707-84 for the marginal ice zone experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.152-154.

Wadhams, P., 1972: Measurement of wave attenuation in pack ice by inverted echo sounding. In: Sea Ice, (T. Karlsson, ed.), National Research Council of Iceland, Reykjavik, p.255-260.

Wadhams, P., 1973: Attenuation of swell by sea ice. Journal of Geophysical Research, 78, p.3552-3563.

Wadhams, P., 1973: The effect of a sea ice cover on ocean surface waves. University of Cambridge, Ph.D. dissertation.

Wadhams, P., 1975: Airborne laser profiling of swell in an open ice field. Journal of Geophysical Research, 80, p.4520-4528.

Wadhams, P., R.T. Lowry, 1977: A joint topside-bottomside remote sensing experiment on Arctic sea ice. In: Canadian Symposium on Remote Sensing, 4th Quebec, Canada Remote Sensing Society. Proceedings, p.407-423.

Wadhams, P., R.J. Horne, 1978: An analysis of ice profiles obtained by submarine sonar in the AIDJEX area of the Beaufort Sea. Scott Polar Research Institute. Technical Report 78-1, Cambridge, England, 65p.

Wadhams, P., 1978: Characteristics of deep pressure ridges in the Arctic Ocean. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 4th, Memorial University of Newfoundland, St. John's, Newfoundland, September 26-30, 1977. Proceedings, 1, p.544-555.

Wadhams, P., 1978: Sidescan sonar imagery of sea ice in the Arctic Ocean. Canadian Journal of Remote Sensing, 4, p.161-173.

Wadhams, P., 1978: Wave decay in the marginal ice zone measured from a submarine. Deep-Sea Research, 25, p.23-40.

Wadhams, P., 1979: Field experiments on wave-ice interaction in the Labrador and East Greenland currents, 1978. Polar Record, 19, p.373-379.

Wadhams, P., A.E. Gill, P.F. Linden, 1979: Transects by submarine of the East Greenland polar front. Deep-Sea Research, 26A, p.1311-1327.

Wadhams, P., R.J. Horne, 1980: An analysis of ice profiles obtained by submarine sonar in the Beaufort Sea. Journal of Glaciology, 25(93), p.401-424.

Wadhams, P., 1980: A comparison of sonar and laser profiles along corresponding tracks in the Arctic Ocean. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, WA, p.283-299.

Wadhams, P., V.A. Squire, 1980: Field experiments on wave-ice interaction in the Bering Sea and Greenland waters, 1979. Polar Record, 20, p.147-158.

Wadhams, P., 1980: Ice characteristics in the seasonal sea ice zone. In: Internationsal Workshop Seas Sea Ice Zone. Cold Regions Science and Technology, 2, p.37-87.

Wadhams, P., 1981: The ice cover in the Greenland and Norwegian Seas. Reviews of Geophysics and Space Physics, 19(3), p.345-393.

Wadhams, P., S. Martin, O.M. Johannessen, W.D. Hibler, III, and W.J. Campbell (eds.), 1981: MIZEX. A program for mesoscale air-ice-ocean interaction experiments in Arctic marginal ice zones. 1. Research strategy. U.S. Army Cold Regions Research and Engineering Laboratory. Special Report 81-19.

Wadhams, P., 1981: Sea ice topography of the Arctic Ocean in the region 70°W to 25°E. Royal Society of London. Philosphical Transactions, Series A, 302, p.45-85.

Wadhams, P., V.A. Squire, 1983: Ice-water vortex at the edge of the East Greenland current. Journal of Geophysical Research, 88(C5), p.2770-2780.

Wadhams, P. 1983: Mechanism for the formation of ice edge bands. Journal of Geophysical Research, 88(C5), p.2813-2818.

Wadhams, P., 1983: Sea ice thickness distribution in Fram Strait. Nature, 305(5930), p.108-111.

Wadhams, P., V.A. Squire, A.M. Cowan, 1984: Scott Polar Research Institute Programme on ice edge kinematics, waves and aerial photography during MIZEX-84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.70-73.

Wales, S.C., 1984: HLF-3 acoustic source activities aboard the USNS LYNCH during NRL cruise 707-84 for the marginal ice zone experiment. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.155-157.

Walker, G., 1947: Arctic conditions and world weather. Quarterly Journal of the Royal Meteorological Society, 73, p.226-256.

Walker, E.R., P. Wadhams, 1979: On thick sea-ice floes. Arctic, 32, p.140-147.

Walsh, J.E., 1978: A data set on northern hemisphere sea ice extent, 1953-76. World Data Center-A for Glaciology (Snow and Ice). Glaciological Data, Report GD-2, p.49-51.

Walsh, J.E., C.M. Johnson, 1979: An analysis of Arctic sea ice fluctuation, 1953-77. Journal of Physical Oceanography, 9, p.580-591.

Walsh, J.E., C.M. Johnson, 1979: Interannual atmospheric variability and associated fluctuations in Arctic sea ice extent. Journal of Geophysical Research, 84, p.6915-6928.

Walsh, J.E., 1980: Empirical orthogonal functions and the statistical predictability of sea ice extent. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.373-384.

Walsh, J.E., J.E. Sater, 1981: Monthly and seasonal variability in the ocean-ice-atmosphere systems of the North Pacific and the North Atlantic. Journal of Geophysical Research, 86(C8), p.7425-7445.

Walsh, J.E., W.D. Hibler, III, B. Ross, 1984: Model simulation of 20 years of northern hemisphere sea-ice fluctuations. Annals of Glaciology, 5, p.170-176.

Walsh, J.E., W.D. Hibler III, 1984: East Greenland sea ice variability in large-scale model simulations. In: MIZEX Bulletin. 3. Modeling the Marginal Ice Zone. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report, 84-07, p.9-14.

Walter, B.A., 1980: Wintertime observations of roll clouds over the Bering Sea. Monthly Weather Review, 108, p.2024-2031.

Wamser, C., 1984: Meteorological investigations on FS "POLARSTERN". In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.90-91.

Warren, B.A., 1981: Deep circulation of the world ocean. In: Evolution of Physical Oceanography, (B. Warren and C. Wunsch, eds.), Massachusetts Institute of Technology Press, Cambridge, MA, p.6-41.

Washington, W.M., A.J. Semtner, C. Parkinson, L. Morrison, 1976: On the development of a seasonal change sea-ice model. Journal of Physical Oceanography, 6, p.679-685.

Washington, W.M., A.J. Semtner, G.A. Meehl, D.J. Knight, T.A. Mayer, 1980: A general circulation experiment with a coupled atmosphere, ocean and sea ice model. Journal of Physical Oceanography, 10, p.1887-1908.

Weaver, R.L., R.G. Barry, J.D. Jacobs, 1976: Fast ice studies in western Davis Strait. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 3rd, University of Alaska, Institute of Marine Science, 11-15 August 1975. Proceedings, 1, p.455-466.

Weber, J.R., M. Erdelyi, 1976: Ice and ocean tilt measurements in the Beaufort Sea. Journal of Glaciology, 17, p.61-71.

Weber, J.E., 1977: Heat and salt transfer associated with formation of sea ice. Tellus, 29, p.151-160.

Weeks, W.F., A. Kovacs, W.D. Hibler, III, 1971: Pressure ridge characteristics in the Arctic coastal environment. In: International Conference on Port and Ocean Engineering Under Arctic Conditions, 1st, Technical University of Norway, Trondheim, August 23-30, 1971. Proceedings, 1, p.152-183.

Weeks, W.F., A.J. Gow, 1978: Preferred crystal orientations in the fast ice along the margins of the Arctic Ocean. Journal of Geophysical Research, 83, p.5105-5121.

Weeks, W.F., A.J. Gow, 1978: Preferred crystal orientations in the fast ice along the margins of the Arctic Ocean. U.S. Army. Cold Regions Research and Engineering Laboratory. Report, 78-13, 24p.

Weeks, W.F., M. Mellor, 1978: Some elements of iceberg technology. In: Iceberg Utilization, (A.A. Husseiny, ed.), Pergamon, p.45-98.

Weeks, W.F., A.J. Gow, 1979: Crystal alignments in the fast ice of Arctic Alaska. U.S. Army. Cold Regions Research and Engineering Laboratory. Report, 79-22, 21p.

Weeks, W.F., W.B. Tucker, M. Frank, S. Fungcharoen, 1980: Characterization of the surface roughness and floe geometry of the sea ice over the continental shelves of the Beaufort and Chukchi Seas. In: Sea Ice Processes and Models, (R.S. Pritchard, ed.), University of Washington Press, Seattle, p.300-312.

Weeks, W.F., A.J. Gow, 1980: Crystal alignments in the fast ice of Arctic Alaska. Journal of Geophysical Research, 85(C2), p.1137-1146.

Weeks, W.F., S.F. Ackley, 1983: Recent advances in understanding the structure properties, and behavior of sea ice in the coastal zones of the polar oceans. In: International Conference on Port and Ocean Engineering under Arctic Conditions, 7th, Helsinki, Finland, April 5-9, 1983. Proceedings. Espoo, Finland, Valtion Teknillinen Tutkimuskeskus, p.25-41.

Weertman, J., 1957: Deformation of floating ice shelves. Journal of Glaciology, 3, p.38-42.

Weitz, M., J.B. Keller, 1950: Reflection of water waves from floating ice in water of finite depth. Communications in Pure and Applied Mathematics, 3, p.305-318.

Weller, G., 1968: Heat energy transfer through a four-layer system: air-snow-sea ice-water. Journal of Geophysical Research, 73, p.1209-1220.

Weller, G., 1980: Spatial and temporal variations in the South Polar surface energy balance. Monthly Weather Review, 108, p.2006-2014.

Wendler, G., 1973: Sea ice observation by means of satellite. Journal of Geophysical Research, 78, p.1427-1448.

Wendler, G., K.O.L.F. Jayaweera, 1976: Some remarks on the unusual Beaufort Sea ice conditions in the summer 1975. University of Alaska, Geophysical Institute, Report UAG R-246, Fairbanks, 28p.

Wendling, P., 1984: Arctic stratus cloud programme. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.86-87.

Westhall, V.H., H. Li, 1976: An analysis of sea ice bottomside data in the Denmark Strait. AIDJEX Bulletin, 31, p.101-114.

Wetzel, V.F., R.K. Atwater, T.E. Huta, 1974: Arctic ice movement and environmental data stations. In: The Coast and Shelf of the Beaufort Sea, (J.C. Reed and J.F. Sater, eds.), Arctic Institute of North America, p.269-284.

Whitehead, J.A., 1980: Rotating critical flows in the ocean. In: International Symposium on Stratified Flows, 2nd. Trondheim, Norway. Proceedings, (T. Carstens and T. McClimens, eds.), p.72-80.

Wiese, W., 1922: Die Einwirkung das Polareises in Gronlandischen Meere auf die nord-atlantische zyklonale Tatigkeit. Annaler der Hydrographie, 50, p.271-280.

Wiese, W., 1924: Polareis und atmospharische Schwankungen. Geografiska Annaler, 6, p.273-299.

Wiese, W., 1925: The significance of ice in spring in the Greenland Sea and of the East Iceland Polar Current for the following winter temperature distribution in Europe. Inst. Hydro., 14. (In Russian.)

Wilheit, T.T., W. Nordberg, J. Blinn, W.J. Campbell, A. Edgerton, 1972: Aircraft measurements of microwave emission from Arctic Sea ice. Remote Sensing of the Environment, 2, p.129-239.

Wilheit, T.T., A.T.C. Chang, 1980: An algorithm for retrieval of ocean surface and atmospheric parameters from the observations of SMMR. Radio Science, 15, p.525-544.

Williams, E., C.W.M Swithinbank, G. de Q. Robin, 1975: A submarine sonar study of Arctic pack ice. Journal of Glaciology, 15(73), p.349-362.

Wilson, J.G., A.L. Comiskey, R.W. Lindsay, V.L. Long, 1984: Regional Meteorology of the Bering Sea During MIZEX-West, February and March 1983. U.S. National Oceanic and Atmospheric Administration, Pacific Marine Environmental Laboratory, 115p.

Wittmann, W.I., J.J. Schule, 1966: Comments on the mass budget of arctic pack ice. In: Symposium on the Arctic Heat Budget and Atmospheric Circulation. Proceedings, (J.O. Fletcher, ed.), Rand Corp., Santa Monica, CA, RM-5233-NSF, p.215-246.

Wohl, G.M., 1978: A study of sea ice conditions and synoptic climatology for the Beaufort Sea coast of Alaska. University of Colorado, Boulder, M.A. thesis, 166p. Unpublished.

World Meteorological Organization/International Council of Scientific Unions, 1979: The Polar Sub-Programme. GARP Publication Series. No.19, Geneva, 47p.

Wust, G., 1933: Das Bodenwasser und die Gliederung der atlantischen Tiefsee. Wissenschaftliche Ergebnisse der Deutschen Atlantischen Expedition auf dem Vermessungs und Forschungschiff 'Meteor', 1925-27, 9(1), 107 p.

Yakovlev, G.N., 1975: Ledovyye Puti Arktiki. (Ice routes of the Arctic). Moscow, Mysl. Publ. House. English translation, 1977: Ottawa, National Defense Headquarters, DGIS Tranlation Library, no. 1653, 342p.

Zakharov, V.F., 1977: O prognoze srokov nachala ledoobrazovaniia v more Laptevykh. (Forecasting the dates of ice formation in the Laptev Sea.) Leningrad. Arkticheskii i Antarkticheskii Nauchno-Issledovatelskii Institut. Trudy, 346, p.61-67.

Zakharov, V.F., L.A. Strokina, 1978: Recent variations in extent of Arctic Ocean ice cover. Soviet Meteorology and Hydrology, 7, p.35-43.

Zakharov, V.F., 1981: L'dy Arktiki i Sovremmenye Prirodnye Protsessy. (Ice of the Arctic and present day processes.) Leningrad, Gidrometeoizdat, 136p.

Zhitkov, IU.V., V.A. Genkin, V.V. Klaving, 1984: Radiolokatsionnoe obnaruzhenie morskikh l'dov. (Radar detection of sea ice floes.) Sudostroenie, no.1, p.27-29.

Ziemer, F., 1984: Sea wave measurements on board M/S "VALDIVIA" during MIZEX '84. In: MIZEX Bulletin. 5. Summer Experiment PI Preliminary Reports. U.S. Army. Cold Regions Research and Engineering Laboratory. Special Report 84-29, p.51-53.

Zubakin, G.K., 1973: O spektre vetrovykh voln u kromki l'da. (Wind wave spectra at the ice edge.) Meteoroglogiia i Gidrologiia, no.5, p.95-97.

Zubakin, G.K., 1973: Wind-wave spectrum at the edge of the ice. Meteorology and Hydrology, no.5, p.88-92.

Zubakin, G.K., A.N. Zuev, B.V. Larin, O.N. Maiorov, 1977: Issledovanie dreifa l'dov v iugo-vostochnoi chasti Barentseva moria s pomoshch'iu RLS BO "Toros". (Using the "Toros" side-looking radar in studying ice drift in the southeastern Barents Sea.) In: Prirodnye Usloviia i Estestvennye Resursy Severnykh Morei, (V.T. Zhevnovatyi, ed.), Leningrad, Gidrometeoizdat, p.83-89.

Zubakin, G.K., A.N. Zuev, B.V. Larin, O.N. Maiorov, 1980: Investigation of ice drift in the southeastern part of the Barents Sea with the aid of a "Toros" peripheral scanning radar station. U.S. Army Cold Regions Research and Engineering Laboratory. Translation, 741, 7p.

Zuberbuhler, W.J., J.A. Roeder, R.G. Paquette, R.H. Bourke, 1976: Oceanography, Mesostructure, and Currents of the Pacific Marginal Sea-Ice Zone - MIZPAC 75. (Final Report 1 July 75-30 June 76) U.S. Naval Postgraduate School, Monterey, CA., 197p. NTIS no. AD-A032 056.

Zubov, N.N., 1943: L'dy Arktiki. (Arctic Ice). Izdatel'stvo Glavsevmorputi (Northern Sea Route Administration), Moscow, 360p. English translation, 1974: U.S. Naval Oceanographic Office 217 and American Meteorological Society, 491p. NTIS No. AD-426-972.

Zwally, H.J., P. Gloersen, 1977: Passive microwave images of the polar regions and research applications. Polar Record, 18, p.431-450.

Zwally, H.J., F.D. Carsey, P. Gloersen, W.J. Campbell, R.O. Ramseier, 1979: Antarctic sea ice variations 1973-1975. In: U.S. National Aeronautics and Space Administration. Weather and Climate Review, 4, (E.R. Kreins, ed.), p.335-340.

Zwally, H.J., J.C. Comiso, C.L. Parkinson, W.J. Campbell, F. Carsey, P. Gloersen, 1982: Antarctic Sea Ice Cover, 1973-76, from Satellite Passive Microwave Imagery. U.S. National Aeronautics and Space Administration. Goddard Space Flight Facility, Greenbelt, MD, 2 volumes.

Zwally, H.J., J.C. Comiso, 1982: Antarctic sea ice concentrations inferred from Nimbus 5 ESMR and Landsat imagery. Journal of Geophysical Research, 87(C8), p.5836-5844.

NOTE

DATA MANAGEMENT FOR THE MIZEX-EAST PROGRAM

Introduction

The National Snow and Ice Data Center (NSIDC)[1] assumed responsibility for the management of data from the Marginal Ice Zone Experiment (MIZEX)-East on 1 October 1983. The objectives within this management task include the following:

1. Etablish and implement a data accession and archival program.
2. Establish and coordinate data exchange standards.
3. Coordinate data flow from principal investigators to the participating data centers and/or other principal investigators.
4. Promote and facilitate interchange of data management information between principal investigators and other scientific staff.

All data accession and archival procedures are compatible with those of the National Geophysical Data Center (NGDC), a facility of NOAA's National Environmental Satellite, Data, and Information Service. Specific technical advice pertinent to MIZEX data are supplied to NSIDC, on request, by the MIZEX Science Group, and in particular, the Committee on Data Management.

The data management plan is an example of the effort to address the task of data management at an early stage in a large research project and should provide a useful example for future projects. Although the data sets are currently available only to MIZEX investigators, this report on NSIDC activites may be of interest to our readers as illustrative of the widening role of NSIDC/WDC-A for Glaciology in data management for snow and ice phenomena.

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[1] NSIDC was designated by NOAA/NESDIS in 1982 as a center colocated with WDC-A for Glaciology in the University of Colorado, serving specific national needs for archiving/management of snow and ice data.

Data Management Activities

During the first two years of the project, NSIDC has worked on the development and implementation of the MIZEX Data Management Plan, to satisfy the task objectives. The Data Management Plan was approved by the Data Management Committee and was published in Chapter VIII of the MIZEX 1984 Operations Manual.

A computerized listing of all data sets and reports submitted to NSIDC has also been prepared. This data inventory is posted on the MIZEX Bulletin Board within the electronic mail system TELENET and is available to all MIZEX personnel on a continuous basis. The inventory is updated approximately once every two months, depending on the number of accessions. The catalog is a part of the overall data base management system and can be searched by categories such as author, discipline, data type, platform, etc.

All data sets in the catalog listing are available to the MIZEX investigators on request as well as to certain scientific staff of the U.S. Navy. **Any data requests coming from outside this group must first receive approval from the relevant principal investigator except in those cases where documents are clearly specified to have unlimited distribution.** Hardcopy data, manuscripts, and reports are duplicated at NSIDC and mailed to the party making the request with minimal delay, usually within one to three days. Requests for magnetic tapes are handled through duplicating copies of originals which generally requires no more than 3 to 5 days.

With regard to magnetic tape data, a standardized procedure has been adopted to verify, copy, label, and store each incoming tape within the established system operated by NGDC in Boulder. All original data tapes, complete with supporting documentation, are archived at NSIDC while the verified copies are located within the tape storage facility of NGDC. All tapes are scanned at appropriate intervals to maintain their integrity.

Future Plans

Upon completion of the first two years of the MIZEX Data Management Project, the tasks outlined in the above sections have been established and have become operational. As data continue to arrive at NSIDC the management tasks will largely shift from data base development to the more routine tasks of accession, archival, and distribution of data within the framework of the existing system.

In the future NSIDC will continue to provide the following services:

1) NSIDC will continue to give the highest priority to maintaining contact with all MIZEX personnel and to familiarizing them with the data transfer, storage, and exchange program. The MIZEX Data Manager will continue to consult directly with the Data Management Committee regarding the completeness of the data from the 1983 and 1984 field experiments. Discipline Chairmen will be asked to comment on any data they feel have not been included in the 1983-1984 catalog within their field and NSIDC will attempt to obtain those data sets.

2) NSIDC will continue to service data requests, update the data inventory contained in the MIZEX Bulletin Board, and to assist all principal investigators and associates in the location, acquisition, and transfer of data as required.

3) All MIZEX journal articles and published reports will be contained in the comprehensive Marginal Ice Zone Bibliography which has been prepared by NSIDC and is contained in this issue of Glaciological Data. All references in this bibliography are linked to NSIDC's CITATION data base which allows complete computerized access and retrieval.

4) An expanded data catalog inventory will be maintained which will contain additional details regarding the location, time frame, frequency, and measurement system for each data set as well as more complete references for published reports. It will be possible to key data searches to either the brief or extended form of the catalog depending on what level of detail is required for the initial search.

5) In conjuction with 4), a document coding system has been developed which assigns a brief alphanumeric code to each data item produced within the MIZEX program. This system allows all types of data to be easily identified and tracked, whether they might be field notes, photographs, magnetic tapes, maps, charts, or published reports. This index code serves the specific needs of MIZEX and is compatible with existing systems at NSIDC and the National Geophysical Data Center.

6) A set of Defense Meteorological Satellite Program visible and infrared imagery which covers part of the 1983 MIZEX field experiment has been assembled from the NSIDC archives. We are currently in the process of expanding this coverage to include the entire 1983 as well as the 1984 experiment.

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GLACIOLOGICAL DATA SERIES

Glaciological Data, which supercedes Glaciological Notes, is published by the World Data Center-A for Glaciology (Snow and Ice) several times per year. It contains bibliographies, inventories, and survey reports relating to snow and ice data, specially prepared by the Center, as well as invited articles and brief, unsolicited statements on data sets, data collection and storage, methodology, and terminology in glaciology. Contributions are edited, but not refereed or copyrighted. There is a $5 shelf stock charge for back copies.

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Contributions or correspondence should be addressed to:

World Data Center-A for Glaciology (Snow and Ice)
CIRES, Box 449
University of Colorado
Boulder, Colorado 80309
U.S.A.
Telephone (303) 492-5171; FTS 320-5311

Barry, R.G., ed. (1984) Snow and Ice. Chapter 9, CODATA Directory of Data Sources for Science and Technology, E.F. Westrum, ed. New York, Pergamon Press. (CODATA Bulletin, no. 53, 87p.

This chapter provides an overview of the principal agencies and institutions involved in glaciological data collection. It covers information relating to all forms of terrestrial snow and ice - snow cover, freshwater and sea ice, glaciers, ice sheets, and ground ice. The principal listing is by country, and subject and name indexes are provided.

The information was compiled from a survey distributed by the World Data Center A for Glaciology (Snow and Ice) to addresses of centers, agencies, and institutions available through the mailing lists of the WDC-A and the International Glaciology Society.

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