

12-47

# THE POLAR TIMES



Commander Finn Ronne, U.S.N.R.

# **National Oceanic and Atmospheric Administration**

## **The Polar Times**

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## RONNE ANTARCTIC RESEARCH EXPEDITION



COM. ISAAC SCHLOSBACK

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 MRS. FINN RONNE, Recorder  
 COMDR. ISAAC SCHLOSSBACH, U.S.N. (Ret.) Second-in-Command and Skipper of Ship  
 DR. ROBERT L. NICHOLS, Geologist and Senior Scientist  
 H. C. PETERSON, Physicist  
 ANDREW A. THOMPSON, Geophysicist  
 WILLIAM LATADY, Aerial Photographer  
 CAPTAIN JAMES W. LASSITER, Pilot, on active duty from Air Forces with expedition  
 LIEUTENANT CHARLES J. ADAMS, Pilot, on active duty from Air Forces with expedition  
 HARRY DARLINGTON, Pilot, and MRS. HARRY DARLINGTON  
 JAMES B. ROBERTSON, Aviation Mechanic  
 CHARLES HASSAGE, Ship's Chief Engineer  
 C. O. FISKE, Climatologist  
 NELSON McCLARY, Ship's Mate  
 WALTER SMITH, Ship's Mate, Navigator and Trail Man  
 LAWRENCE KELSEY, Radio Operator  
 DR. DONALD McLEAN, Medical Officer  
 CHIEF COMMISSARY STEWARD SIGMUND GUTENKO, U.S.N., on furlough with expedition  
 ROBERT H. T. DODSON, Assistant Geologist and Surveyor  
 E. A. WOOD, Ship's Engineer  
 ARTHUR OWEN, Boy Scout and Trail Man



CLARENCE O. FISKE



ANDREW A. THOMPSON



ROBERT McLEAN



SIGMUND GUTENKO



LAWRENCE D. KELSEY



HARRIES-CLICHY PETERSON



NELSON C. McCLARY



HARRY DARLINGTON

# The Polar Times

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## Ronne Men Marooned 5 Days in Setting Up Weather Study Camp

North American Newspaper Alliance.

**RONNE EXPEDITION BASE,** Stonington Island, Marguerite Bay, Antarctica, July 16 (Delayed)—Comdr. Finn Ronne and a party of five departed this morning on the first trail trip of the year.

Also on this morning's trek were Photographer Bill Latady, Boy Scout Arthur Owen and Co-Pilot Charles Adams.

By Comdr. Finn Ronne

**RONNE EXPEDITION BASE,** Marguerite Bay, Antarctica, July 23 (Delayed).—I have returned to our base after establishment of a camp on the mile-high plateau 17 miles east of here. Three of the men returned with me, while two—Physicist Peterson and Geologist-Surveyor Dodson remained there for an indefinite period to do scientific studies in weather and solar radiation, as well as to conduct cold-weather tests of various winter equipment.

During the eight days' absence from this camp, our party experienced the worst weather that can be encountered in the Antarctic. For five days the entire party was marooned in their tents, while an Antarctic wind of cyclonic proportions swept northward from the hinterland. Steady winds of 75 miles per hour, with some wind gusts exceeding 95 miles per hour were recorded. At the same time the thermometer went down to 30 degrees below zero, Fahrenheit.

On our first day out of this base camp, our party reached the foot of the glacier where we pitched an overnight camp in utter darkness. That night the temperature went down to 20 below and for those who had never before slept in a sleeping bag, it was a great surprise.

The elevation of our camp the second night was 5,600 feet. Here we witnessed the liveliest display of Antarctic beauty—one of the things which make men return to this desolated continent for a second and a third time. Looking southward into the unknown, we could see the most splendid display of Aurora Australis. These beautiful southern lights were intense in their color and strength. There were rapidly occurring changes from streamers to curtains and, at times, they illuminated the entire southern sky.

All those in our party braved the 30-mile wind and the 25-degree-below-zero temperature to take in this made-to-order celestial display.

The wind kept up a continuous roar for five days. We were all off our regular schedules for meals. A number of times I ventured outside and went over to the other tent where four men slept. They were all in their sleeping bags and had been there for hours, pondering as to whether the tent was going to take off any moment.

## Praises Quake Recordings Of Youthful Physicist With Ronne

NEW YORK, July 5 (NANA)—Father Joseph Lynch of Fordham university, world-famous seismologist, reported today that the geophysicist on the Ronne Antarctic Research expedition is now sending in the first reports on earthquake recordings ever made in the antarctic. He said that wireless messages from 27-year-old Andrew Thompson indicated that three Pacific earthquakes and two local antarctic quakes had been picked up on Thompson's seismograph.

"These records are of great interest to us," said Father Lynch. "Thompson's fix on two separate earthquakes north of Guam and one in the Dutch East Indies enable us to get a new bearing on their exact epicenters. His two earthquakes in the antarctic—one of them only 1 miles from his station—are particularly interesting since he has the only record of them."

## Ronne Seismographs Recording Quakes in Unstudied Regions

(The author of this article is the 27-year-old geophysicist in charge of seismological recordings on the Ronne Antarctic expedition.)

By Andrew Thompson

North American Newspaper Alliance

**RONNE EXPEDITION BASE,** MARGUERITE BAY, Antarctica, Aug. 15 (Delayed).—This expedition has been making successful observations of earthquakes and the allied phenomenon called microseisms. We have gathered an unexpectedly large number of valuable records in view of the limited seismological equipment available.

Earthquakes are believed to be the breaking of the earth's crust under great stress, and their recordings give us one of our few means of studying the earth's interior.

Earthquakes are found in belts of weakness in the earth's crust, such as mountain ranges and deep ocean troughs. The great seismic regions of the earth are mainly in two great belts, one surrounding the Pacific and the other running through the East Indies, Himalayas, Alps and the West Indies.

Observations Pushed.

Recording with modern sensitive instruments have been made only since about 1915, hence such belts are not fully defined and even now many areas are beyond range of existing instruments. Though about 80 per cent of the earthquake energy of the earth is released in the Pacific belt, knowledge of this area is lacking from Chile to New Zealand. We now are making observations on this unknown zone.

The area is a continuous belt of mountains. It is believed the An-

The Jesuit priest also stated that Thompson's findings were unique because they represent the youthful geophysicist's first attempt to make seismograph recordings. "I certainly admire the young lad," said Dr. Lynch. "On a partially sponsored expedition like that, everyone's got to fight for any equipment he can get. He spent some time here, learning how to operate a seismograph, but declined our offer of a loan of a machine. It was an old-type instrument and was the only one we could spare, so he went out to St. Louis where they're made and bought a more advanced model. I think it must have cost about \$1000, and I imagine he paid for it himself. He deserves a lot of credit."

A former graduate student at Columbia university, Thompson is also doing the magnetic and oceanographic research for the Ronne expedition.

dean structure extends south through Antarctica's Palmer Peninsula, and our geologist, Dr. Robert Nichols, will try to trace it and find if it connects the Edsel Ford range and Rockefeller Plateau. The latter is near a great "fault zone" containing the only active Antarctic volcano.

We have picked up several weak quakes 50 to 80 miles away, possibly in the sound between Alexander Land and Palmer Peninsula, which is probably a faulted area. We recorded a large quake on July 23 which was picked up in the United States. Our estimate of its location, confirmed by the Jesuit Seismological Association and the Coast and Geodetic Survey, was in the Sandwich Islands. This is in the possible trend of the Andean structure. Most of the distant quakes recorded here lie in the belt from New Zealand to Japan.

Microseisms Studied.

Our study of microseism is interesting. These are ever-present tiny vibrations in the earth. The Navy has correlated microseisms with tropical storms and, by use of seismographs, has tracked many Atlantic and Caribbean hurricanes.

Although we have limited instruments for this work, we have found good correlation between bad weather periods and microseismic records on our seismograph. So far all winds over 30 miles per hour have corresponded with strong microseisms, and we hope to use these indications for general weather analysis and forecasting.

An interesting sidelight on our seismological work is the recording of local disturbances, probably due to ice falls or ice slides. These should increase in summer. So far we have correlated loud sounds of falling ice with disturbances recorded on our seismograph and with tidal waves recorded by our tide gage.

It is evident that a vast field of important scientific investigation lies at hand.

## 76-Degree Change Reported by Ronne

By Comdr. Finn Ronne, U. S. N. R.

North American Newspaper Alliance

**RONNE EXPEDITION BASE,** Antarctic, July 14 (Delayed).—We have been through two weeks of the most unusual weather ever recorded during an Antarctic winter. At one point the temperature stood at a normal 36 degrees below zero—but a few hours later it had changed an unprecedented 76 degrees! A warm front had come in upon us and sent the mercury up to 40 above zero, an exceedingly warm temperature for the Antarctic winter. Instead of snowing, it began to hail.

Only yesterday a line of hovering cumulus clouds passed over us. This was the second time within these two weeks that we have seen cumulus clouds and the whole party turned out to watch the phenomena. The velocity of the lower clouds was registered at 5 miles per hour. Higher clouds were going at twice that velocity.

Surface winds have held at a steady 40 miles per hour, a sufficient speed to pile high snowdrifts that have almost buried our base camp. Every one is now using snow tunnels to get from one building to another.

The hours of twilight are growing longer, and more outdoor work is being done. Our first trail party, which will establish a weather station on a 6,000-foot plateau 17 miles from here, will probably get under way in a few weeks.

## QUAKES LINKED TO STORMS

Ronne, in Antarctic, Sees New  
Weather-Forecasting System

By COMDR. FINN RONNE, USNB

North American Newspaper Alliance.

**STONINGTON ISLAND,** Palmer Land, Antarctica, July 1 (Delayed).—An unusual method of weather forecasting now is being carried out successfully in the Antarctic.

Physicist H. C. Peterson and geophysicist A. A. Thompson have observed definite correlation between the presence of low-pressure storms and recordings on the seismograph of minute earth vibrations technically known as microseisms. Although too weak to be felt, microseisms are easily detected by the equipment used to record earthquakes.

Mr. Thompson has been operating a sensitive seismograph since the expedition established its base here, and his records have been compared with meteorological observations furnished by Mr. Peterson. It was noted that the intensity of microseisms doubled or tripled one to three days before each storm.

It is believed that this discovery, on which further studies are being made, should prove especially helpful in forecasting weather in remote areas lacking a network of weather stations.

## Ronne Antarctic Ship, Now Fast in Ice, Is Checked Constantly

By Comdr. Finn Ronne

North American Newspaper Alliance

**RONNE EXPEDITION BASE, Stonington Island, Marguerite Bay, Antarctica, Aug. 8 (Delayed).**—Every one here has daily chores to do but few have as interesting—and important—assignments as Chief Engineer Charles Hassage and Skipper Ike Schlossbach. They make constant inspections of the Port of Beaumont, the vessel which brought us here and, we hope, will take us back.

The Port of Beaumont now rests in her ice-bound harbor in Marguerite Bay between Stonington Island and a huge piedmont glacier whose sheer ice face is between 80 and 100 feet high.

Our plan has been to freeze the ship into the bay ice during the winter months, thus avoiding the necessity for more than one round trip. Extensive plans were made in advance to insure the utmost possible safety and preservation of the ship during its 13-month period of inactivity.

The tales of wooden ships frozen in Arctic and Antarctic waters are time honored. Some were caught unaware by pack ice or enormous bergs in early whaling and exploration days, when ship masters knew little of constantly changing polar weather. Even in such circumstances, the dangers of losing a ship were not great if the wooden hulls were strong enough to withstand ice pressure—and if the ship's food supply held out until the following year's thaw.

From the time the expedition arrived in Marguerite Bay on March 12 no safety precaution was overlooked which would contribute toward preserving the condition of the ship and its machinery. The Port of Beaumont is constructed of heavy timber, sufficiently strong to withstand all the pressure this bay's ice could force upon her. She is anchored in 32 fathoms of water and frozen into the ideal position, with her bow facing southeast.

This is an advantage since the strongest prevailing winds always occur from that direction. This will also prevent large amounts of blizzard snow from collecting on the ship's decks which might add too much weight topside for her safety.

The ice sheath around the ship's hull at present is approximately

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AUGUST HOWARD, Editor

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## Mrs. Ronne First Woman On Antarctic-Based Flight

By Comdr. FINN RONNE, USNR

North American Newspaper Alliance

**RONNE ANTARCTIC RESEARCH BASE, Stonington Island, Aug. 21 (Delayed).**—Capt. James Lassiter took off on a reconnaissance flight today in our L-5 single-engine, ski-equipped plane with Mrs. Ronne along as observer. It was the first Antarctic-based flight by a woman.

Many years ago the wife of a Norwegian explorer flew over a portion of the continent with her husband but she did not land there.

Today's trip was to check flying approaches to the 6,000-foot plateau, on which we have established a weather station, before flying in additional equipment. I had set up the station on a dog-sledge trip last July in forty-below temperatures.

During the flight Mrs. Ronne observed dark-water skies, indicating open water northwest of Alexander I Island.

4 feet thick and will, no doubt, increase to the usual 5-to-6-foot thickness. The ship and ice rise and fall twice a day with a differential tide of approximately 4 feet.

While the vessel itself is safely frozen into the bay ice there are numerous small items of equal importance which need attention to insure getting the ship homeward bound once again. Chief Engineer Hassage's problems include all topside hatches and exhaust vents which are sealed off against high gales and wind-driven snow. Condensation is due to a warmer seawater temperature at the ship's bottom than at the outside water line. At 38 degrees below zero the engine room thermometer remains at 10 degrees above zero, a difference of 48 degrees.

Condensation is ruinous to any electrical equipment, so the ships two 750-horsepower diesel generators and the main propulsion motor must be kept as dry as possible. All electrical motors and equipment aboard ship have been sealed in the engine room. Fresh and Salt water pipes have been drained and blown out with compressed air to prevent freezing and bursting of the pipes. Periodic checks reveal that rust presents no problem as yet and so far there has been no condensation.

However, the coming Antarctic summer season with its warm sun rays will constitute the real test for the sealed machinery.

Skipper Schlossbach skis out to the vessel a half-mile away daily, looks at the bilges, frames and beams and notices if the ship is taking any pressure on the inside of her hull. To date no pressure has been noted. He also checks the watertight bulkheads to ensure watertight integrity below the main deck.

To date, everything has gone in accordance with plans for the preservation of the ship and I am confident that, with continuing care, the ship will be ready to perform efficiently when the expedition is ready to make passage back to the United States perhaps in April of 1948.

## Special Problems for Ronne Group Pilots

By Mrs. Finn Ronne

North American Newspaper Alliance

**RONNE EXPEDITION BASE, Antarctic, Aug. 21 (Delayed).**—Antarctic flying poses so many special problems that the combined experience of our pilots is sometimes barely enough to cope with them.

The vast, unknown area compares to long overwater flights across the Pacific and Atlantic. The high mountain range with seasonal, low-hanging clouds provide conditions much like those met in flying over the hump between India and China, and special Antarctic problems—such as lack of navigational aid and the extreme cold—can be compared to conditions nowhere else in the world.

Before every flight, the plane must be dug out of the ice and snow which buries it completely after each of our frequent blizzards. Subsequent outside work at temperatures way below zero is particularly trying because, in that cold, tools become brittle and snap, ratchets stick, nuts freeze against the plastic windows, windshields become hard brittle sheets and the touch of freezing metal against bare skin will cause a nasty burn far more rapidly than an open flame.

With all available personnel working at top speed and assuming the weather doesn't change, the plane should be ready to load after two or three days' work.

Weight is an even more serious factor in Antarctic flying. Ski-equipped planes are largely dependent upon the texture, depth and

hardness of surface conditions to control how much they may carry. New, light snow is almost fluid and won't support even the smaller liaison-type aircraft, while corn or wind-packed snow makes the ski-plane about 75 per cent effective at takeoff.

Emergency equipment of 150 pounds must be carried for each man going on the flight. This will include such important items as down-filled sleeping bags, highly caloric pemmican, primus stoves, a tent, man-hauled sleds, back packs, skis, extra clothing and an emergency radio. This weight alone is enough to change the standard two-place aircraft into a one-man plane.

Radios must be tuned for maximum output and sensitivity here. It is vital that position reports are plotted constantly and weather changes must be received soon enough to enable the fliers to return safely. For long flights, dog or tractor teams are sent as far out into the field as possible along the route of the flight to provide ground support in case any unforeseen events should make a forced landing necessary. Radio contact is maintained constantly during the flight with both the home base and the trail parties.

Both flight and ground crews are careful to attend to the most minute detail. Despite the extensive flying experience of the pilots, none questions even the most detailed preparations and precautions taken.

The last few days have seen our aviation personnel digging out the L-5 plane, which will be used for local reconnaissance work until the two longer-range planes are assembled. Then the extensive aviation program will commence.

## Ronne Flyers Carry Supplies to Plateau For Weather Station

By Comdr. Finn Ronne

North American Newspaper Alliance

**RONNE EXPEDITION BASE, Marguerite Bay, Antarctic, Aug. 27 (Delayed).**—The last three days of mostly good weather have been utilized for much preliminary flying in our L-5, prior to the beginning of the field program. The first flight, to make a landing beside the weather station on top of a 6,000-foot plateau, 17 miles east of this base, was made by Lt. Charles J. Adams of the Army Air Force, on active duty with this expedition.

Five flights under ideal weather and snow conditions landed more than a ton of supplies at the station. Capt. James W. Lassiter of the Army Air Forces, also on active duty here, was the pilot for three of the flights; Lt. Adams piloted the first and fifth flights. Both agree that low atmospheric pressure on the plateau cause loss of engine power which made the take-offs for the return trips somewhat of a problem.

Since the L-5 carries only 400 pounds counting the pilot and emergency equipment, the project entailed five well-loaded trips.

A four-man trail party, consisting of McClary, Dodson, Owen and Robertson, was on hand at the meteorological station to greet the plane when landing. Aviation Me-

chanic Robertson had marked off a suitable landing field with orange-colored trail flags. After completion of the flights and storing the deposited equipment, the trail party returned to this base.

Within a few days, two men—Wood from our expedition and McLeod of the British camp—will be flown to the plateau station to begin their operation of meteorological recording which will continue into 1948.

Photographs were needed of the country to the east of Marguerite Bay and a flight was ordered to cover the coastline from the plateau weather station south along the Weddell Sea as far south as Cape Keeler and back across the peninsula to Nyen Fjord, to enable dog teams and their personnel to negotiate a safe route over to the Weddell Sea coast. This too proved quite a problem and meant taking a heavily loaded reconnaissance plane, at 10,000 feet, for more than 300 miles.

The flight took off successfully last Friday, but was forced back by the extreme turbulence over the mountainous area just to the east of our camp. The time of the take-off was then shifted to early in the morning on Saturday, and, with Capt. Lassiter at the controls, also was successful. Photographs were obtained that will be extremely important to our trail parties. These same photographs, it is believed, will also change a part of that area and correct some of the discrepancies indicated on existing maps. They will surely enable us to complete further unknown and un-plotted portions of that sector.

## RONNE PARTY CALLED BACK IN ANTARCTICA

By COMDR. FINN RONNE, USNR

North American Newspaper Alliance.

STONINGTON ISLAND, Marguerite Bay, Antarctic, Sept. 1 (Delayed)—Our main southern trail party left this morning. Just after dawn they headed across the frozen waters of Marguerite Bay to start a 1,200-mile journey into unknown areas that will keep them on the trail for 100 days.

Four men and two dog teams composed the party. It was under the direction of our geologist, Dr. Robert L. Nichols, head of the geology department at Tufts College, Medford, Mass., and also head of the Geological Society of America. The two other Americans in the party are Robert Dodson, our assistant geologist and surveyor, and Arthur Owen, a Boy Scout from Texas who will act as dog driver and radio man.

A British observer, Lieut. Kevin Walton of the Royal Navy, made the trip as a representative member of the British group here. This is part of a joint cooperation plan agreed upon by our expedition and Base E of the British Falkland Islands dependency. Nelson McClary, a biologist and former Navy officer who is a member of our expedition, will accompany a British trail party scheduled to leave in about three weeks.

Dr. Nichols' party will go south and east into unexplored territory to locate and "fix" definite ground control points to which we can later orient the horizon-to-horizon photographs we will take from the air.

RONNE EXPEDITION BASE, Stonington Island, Marguerite Bay, Sept. 13 (Delayed)—Our first trail party, which left thirteen days ago on the start of a projected 1,200-mile trip into the interior, has been ordered to return to this base.

Since the departure of Dr. Robert Nichols and his southern sledge party on Sept. 1, I have been advised by radio of the bad conditions through which the party has been inching its way south along the coast of Palmer Peninsula in Marguerite Bay. The 24 dogs and four men have been struggling with two heavily loaded sledges through 12 inches of newly fallen snow and huge growler fields.

The unusual weather conditions have made traveling on the bay ice extremely dangerous. One to 2 inches of thin, new ice cover 20-foot gaps of open water. Soft snow and slush also cause the dogs and sledges to bog down in numerous places.

When camping at night it was impossible for the men to keep dry.

A plane ordered to the area to help was unable to land because of the rough surface, but made a reconnaissance flight further along the projected route. When the plane reported open leads in the ice ahead, I ordered the party back to base at once to reorganize and make another attempt in a few days. The present cold (20 below zero) should permit the weakened surface to harden within the next week.



JAMES ROBERTSON

## 2 Planes Assembled By Ronne Expedition

By Comdr. Finn Ronne, U. S. N. R.

North American Newspaper Alliance

RONNE EXPEDITION BASE, Antarctic, Sept. 2 (Delayed).—Yesterday after our first trail sledge party left on the start of a 1,200-mile trip into the interior, we unloaded the Beechcraft and Norseman planes from the M/V Port of Beaumont, Tex.

The planes had been left on board our vessel during the freeze-up and the long winter's gales because of the risk involved in any attempt to unload them onto a ramp built on our small boats. Now with the bay ice frozen deep and solid, it was a simple matter to hoist them overboard and tow them ashore. While on board they were well covered with tarpaulins and were securely lashed for protection against the winter weather.

Today, Aviation Mechanic James Robertson has been doing incredibly difficult work—he is assembling the Norseman plane in weather so cold that his skin is "burned" as soon as it touches bare metal. Since many of the assembly processes are so exacting that they must be done without gloves, he is having a tough time.

Mr. Robertson is working in the open and without shelter or adequate equipment, but he has built himself a jury rig for lifting the 800-pound wings and the heavy engine. He estimates that the plane will be ready for test flying within one week. Once it is assembled, he will begin working on the Beechcraft.

RONNE ANTARCTIC RESEARCH EXPEDITION BASE, Stonington Island, Sept. 15 (Delayed).—Our sledge dogs were in harness before dawn on the morning of August 30, when the main southern trail party left. The group set out as soon as day broke over the northern horizon.

The temperature stood at 22 degrees below zero and there was a slight overcast.

The 24 dogs harnessed in two teams pulling a total load of 2,200 pounds on three sledges started out like streaks of lightning. Drivers have to be on their toes until the teams settled down or they would be left behind. Had the dogs realized

# Ronne Mechanic Tells Of Difficulties In Assembling Airplane In Antarctic Cold

BY JAMES B. ROBERTSON  
Ronne Expedition Mechanic

RONNE EXPEDITION BASE, PORT OF BEAUMONT, STONINGTON ISLAND, MARGUERITE BAY, ANTARCTIC, SEPT. 10.—(By Wireless)—(Delayed)—Since one of the Ronne expedition's main objectives was exploratory flying and aerial photographic work, the first task to be tackled upon our arrival in March 1947 was to get ashore our Stinson L-5 airplane for use on reconnaissance flights. This airplane is equipped to fly from any type surface—

land, sea or snow. As the terrain here is completely covered with snow and ice, the skis were installed aboard ship to eliminate work in assembling the plane on the beach. Two motor launches were lashed together to make a raft for transportation to the shore.

The engine was given a periodic inspection and an engine heater was used to warm it while the oil was being heated on the galley stove. As the temperature was below zero the oil thickened very quickly. After two hours the engine-head temperature had risen to 122 degrees fahrenheit. The hot oil, heated to the same temperature, was poured in and the engine heater and cover were removed. After two or three tries, the engine kicked over and ran perfectly. When the engine had been given a test run of three hours the L-5 was ready for flight.

We were forced to set up our repair shop in the open. Gloves cannot be worn while handling tools, so picking them up with bare hands in sub-zero weather is an unpleasant job. You may lay a wrench down and walk away to find the wrench still sticking to your hand.

During our winter months, the L-5 was given an extensive inspection and all necessary repairs were made. The wings were completely re-covered and unnecessary items such as landing and navigation lights were removed. The fuselage was stripped in the same manner.

Standard emergency equipment includes: a large blowtorch for heating the engine, engine cover, tie-down ropes, one-man tent, skis and poles, alpine ice-ax, 30-day food ration, sleeping bag, primus stove, medical kit and shovel. All these items are essential and no flight approaching major proportions could be made without them.

The following procedure is routine for every flight: a meeting is held at which our next flight is discussed. After the date is set, the meteorologist is consulted for weather forecasts. On the night before the flight, the night watchman is told to wake the pilot and myself at dawn, providing the weather is good. The procedure of heating the oil for the engine and removing tie-down ropes requires about three hours' work and the flight is just about ready at nine a. m. The radio and airplane is given a final check and off we go.

then that they faced a 100-day, 1,200-mile journey they might have conserved their energies.

The first leg of the journey took them over the sea ice southward along the coast. Unknown to us, however, sea leads (open water) had formed in the last few days, with only a thin crust of ice and snow covering them.

Twelve miles from base, the 11-dog team pulling one of the sledges had the shock of their lives when, speeding over solid ice, they came to a lead before the driver realized it.

The "solid" ice dumped all 11 dogs into the water. Still tied in their harnesses, they tried desperately to get a firm footing on the ice walls. The dogs' predicament in the icy water was a serious one.

Fortunately, one of the drivers of the second team saw the accident and rushed over. Within a few minutes the two men had pulled all the dogs to safety.

The dogs shook themselves to regain their warmth and were soon ready to haul again. The heavily loaded sledge had stopped on the solid ice and was therefore not harmed. Minutes after the accident, the journey had been resumed, just as though nothing had happened.

STONINGTON ISLAND, MARGUERITE BAY, ANTARCTIC, SEPT. 19.—(By Wireless)—(Delayed)—Their bearded faces completely covered with an icy mask, the four members of the first trail party ar-

rived back at this base today. Their projected 1200-mile sledge journey into the interior had been canceled several days ago, and the men ordered back after two weeks of bad weather and open water in the bay made further journeying unwise.

The men made an excellent 15-mile run today, after breaking their last field camp early this morning. When they advised us by radio last night that they were only 15 miles from here, we sent our motorized weasel out to a rendezvous point at Red Rock Ridge, nine miles from this base.

The trail party, led by Geologist Robert Nichols, was delighted to spot the "mechanical dog team" approaching this morning. The men unloaded most of the sledge cargo and put it into the weasel. With their load lightened, the dogs made a fast two-hour run back to camp.

Once here, the men drank quantities of hot tea and coffee, to relieve cold and dehydration, and then launched into several ours of talk on the rigors of traveling across bay ice when the ice turns out to be only inches thick in spots.

When they were through telling how tough it was, they sat right down and figured out what supplies they would need to start the trip again. Lowering temperatures mean a stronger surface, and so they soon should be able to leave. And here they are, still cold and miserable, talking excitedly about another trip into the interior. They're fine explorers.

## Ronne Plane Saves British Fliers Trekking After Antarctic Crash

By COMDR. FINN RONNE

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RONNE ANTARCTIC RESEARCH EXPEDITION BASE, Stonington Island, Antarctica, Sept. 23 (Delayed)—Three British fliers lost in the deadly Antarctic wilderness for nine days have been found and rescued.

They were discovered by Capt. James Lassiter, pilot of the plane N.A.N.A., walking back to base—but still thirty miles (or about ten days' travel) away. Each man had lost about twenty pounds and was exhausted. But none was injured in the forced landing and subsequent crash of their light Auster plane.

The men are now sleeping, after a light meal of bread, oatmeal and tea. They had been living on an emergency ration limited to 600 calories per man a day. They had had to struggle against blizzards through knee-deep slush a few miles a day, dragging their supplies in the belly tank of their plane.

Their boots were frozen and as stiff as boards. The Britons had had no sleep the last several nights, since their sleeping bags were just chunks of ice.

The intensive air and ground search in which both British and American expeditions participated despite snow-laden winds of up to 80 M.P.H. began on Sept. 15, when the small British plane failed to make a rendezvous with the Norseman plane N.A.N.A. of the Ronne expedition. They were to cache supplies at Cape Keeler, 120 miles from base, for a projected trail party.

It develops that the Auster landed and began staking out a strip with orange trail flags for the N.A.N.A. But the American plane was flying so high, it did not see the strip or the small plane. The Britons lit a red smoke-bomb, but the Norseman had already gone over the area. A little later, the N.A.N.A. flew back, but when she continued in the direction of the base, the crew of the Auster realized they had not been seen. Since the overcast was closing in fast, they quickly readied for a take-off themselves. The overcast closed in around them a few minutes after they were airborne. They had to fly blind on instruments, a particularly difficult undertaking in the Antarctic. Pilot W. H. Thompson became slightly turned around and of two possible hills he could use for guidance, he picked the wrong one. Realizing his mistake too late, Pilot Thompson headed in the direction of Marguerite Bay, having decided to set the plane down as soon as possible, spend the night where the party landed, and make the base the following day.

Besides Pilot Thompson, the rescued men are Bernard Stonehouse,

co-pilot, and Reginald Freeman, surveyor.

But by the time the men in the Auster reached bay ice, visibility was down to 100 yards. In landing, the plane hit a rough break in the ice and one ski was broken off. At a landing speed of 40 M.P.H., this toppled the craft over, ripped a wing off and broke the ship's back. The three men were shaken up but were not injured.

They immediately pitched a tent beside the plane and tried to make contact with the base on their small radio. The transmitter was damaged and would not function, but they were able to hear the base calling them. This continued until the following morning, when the batteries went dead.

The day after the crash, the three Britons removed the Auster's belly tank and turned it into a man-hauled sled for their emergency gear. They knew their approximate position and realized how long it would take them to walk back, so they went on a ration of 600 calories a day each. They had little hope of rescue, since they were well off course and searchers would not think of looking for them where they were.

Progress was painfully slow. The men were wading through knee-deep slush and battling blizzards of 60 and 80 M.P.H. At the end of the fifth day of walking, they sighted a seal. They were too weak to kill it immediately, so they rested a few minutes and then, while one man threw snow in the seal's eyes to divert it, another stole up behind and killed it with a blow over the head. They ate the liver, raw but still warm, and promptly felt new strength.

Meanwhile, an extensive search network had been established, the personnel of both bases acting under Maj. K. S. Pierce-Butler, leader of the British expedition (Base E of the Falkland Islands Dependencies Survey). The large Norseman plane, N.A.N.A., of the Ronne group searched independently and also supplied a field search base from which the smaller American plane, a Stinson L-5, was operating. The two radio operators maintained a twenty-four-hour watch.

High winds during the last two days had grounded both the L-5 and the N.A.N.A., but this morning the larger ship took off for the field search base at Mobiloil Bay. At noon (New York time), the Norseman returned to the Ronne base to pick up supplies and fuel and twenty minutes after this plane took off again, it reported by radio that it had sighted the three Britons.

On the ground, the men did not at first realize that they had been seen. Hurriedly, they struggled to light their last red smoke-bomb. Only when the big plane turned in for a landing did they realize that their nine-day agony was over.

Captain Lassiter landed in an extremely small area and under conditions of some peril, since the slush was deep. The British observer aboard the American plane was so excited that he leaped out

## Britain, America To Run Antarctic Weather Station

By Comdr. Finn Ronne

North American Newspaper Alliance

RONNE EXPEDITION BASE, in the Antarctic, Sept. 14.—Yesterday, on the first good flying day in two weeks, one man from our expedition and one from that sent out by the British Falklands Island dependencies survey were flown to the mile-high plateau weather station east of here. There they will remain during the entire trail season, radioing meteorological information which will be invaluable to us in preparing for plane and sledge trips into the interior.

Our member of the permanent weather detail is Ernest A. Wood, erstwhile assistant engineer on the merchant vessel Port of Beaumont, the ship that brought us here. The British representative is K. E. McLeod, a radioman.

as soon as the craft had come to a stop—completely forgetting that the line to his headset still linked him to the plane!

"Jim," Thompson said to Lassiter as soon as the latter climbed out, "I'll never fly in a plane again!"

"Okay," Lassiter told him, "I'll leave you here, Tommy, to walk in while I fly the others back."

"I'll make an exception and fly this time," said Thompson, hurriedly.

Boy Scout Arthur Owen and the British observer remained on the bay ice, to lighten the Norseman enough to carry the rescued men back. They prepared to spend several days there, but were picked up later that day by Capt. Lassiter who also flew in the men from the Mobiloil Bay base.

When the rescued Britons stepped out of the "N. A. N. A." at the base, Surveyor Reginald Freeman was still clutching the pemmican box, which was about half full. We commented on the care with which they had conserved their food.

"Oh, well," Mr. Freeman replied, "we still had a few miles to cover, you know."

## Army Weasel Proves Worth on Seal Hunt By Ronne Expedition

By Mrs. Finn Ronne

RONNE RESEARCH BASE, Antarctica, July 29 (Delayed) (NANA).—A recent seal hunt afforded our first opportunity to try out the Army weasel (or snowmobile) we had brought with us. The mechanical mule was most successful.

Physicist Andrew Thompson, Navigator Walter Smith and Dr. Donald McLean crossed Neny Fjord and during a two-day hunt bagged six seals—five Weddells, weighing about 700 pounds each, and a crab-eater of about 500 pounds. It was obviously impossible for the three to manhaul them back to camp. So a party left base with a weasel driven by Climatologist Larry Fiske for the sealing camp, 9 miles away.

This evening, the Ronne expedition invited the personnel of the British base to dinner and movies, to celebrate the rescue. At dinner, Maj. Butler read the following message from the governor of the Falkland Islands, addressed to me as commander of the American expedition:

"I am directed to convey to you the grateful thanks of the secretary of state for the colonies for the unstinted help you have given in the search so happily rewarded for your three British colleagues. May I add my own most sincere appreciation and good wishes to you all."

### Ronne Plane Equipped for Aid

The Ronne party's Norseman-type plane, N.A.N.A., is powered by a 650 horsepower engine. It was primarily designed for use as a cargo-carrying plane in the northern areas of Canada and Alaska. The plane is particularly efficient for cold regions, since it is marked by low gas consumption and high cruising speed and performs even more satisfactorily when equipped with skis or pontoons in place of wheels.

Since the N.A.N.A. was unloaded from the expedition's ship at the Stonington Island base two weeks ago, aviation mechanic James B. Robertson had been working daily on its assembly, Commander Ronne reported. Considering that it had made a 7,000-mile sea journey and has remained idle for more than eight months, the plane's mechanical condition was excellent.

The plane was completely overhauled and unnecessary equipment discarded to increase its cargo-carrying capacity and cruising range.

A special 171-gallon gas tank is to be installed which will increase the plane's cruising range to 1,800 miles. This will enable the craft to make flights of up to 800 miles and return with an adequate safety margin, into the uncharted sector of Antarctica below South America, where the American and British parties are working.

The N.A.N.A. is manned by a pilot and co-pilot at all times. In addition to the emergency equipment, it carries a fuel and cargo load of 3,000 pounds.

The weasel already had rendered valiant service hauling coal, ice and equipment around the base. But this was its first venture onto the relatively smooth bay ice beyond the base area. The ice for miles into Marguerite Bay is frozen to a depth of over 3 feet, more than strong enough to hold the 5,000-pound weight of the weasel and the 4,000 pounds of seal on a sled behind.

The party made a speed hitherto unheard of in Antarctic surface travel—18 miles an hour. It is considered outstanding for dog teams to keep up a speed of 5 miles per hour over any long distance. The trip to the sealing camp and back to base with the meat for the dogs took not much over an hour.

The weasel more than proved its worth. Its wide tractor grips distributed the weight over the surface, much as do skis carrying a man over thin snow. The load was easily drawn on sleds behind the weasel, which is powered by a six-cylinder engine identical with that used in one of the leading makes of automobile.

## Ronne Weather Expert Reports on Life at Antarctic Station

By F. A. Wood

North American Newspaper Alliance  
**PLATEAU WEATHER STATION, MARGUERITE BAY AREA, Antarctica, Oct. 7 (Delayed).**—One of the first examples of working-level international co-operation in the South Polar regions, this meteorological outpost was established and occupied August 28 atop an unnamed plateau 5,740 feet high, 17 miles from Stonington Island, main base of the British and Ronne expeditions on which we depend.

In the middle of one of the last blank areas on the maps of the world, we form nevertheless a key link in the chain of thousands of weather-reporting stations in every land whose combined efforts—ignoring territorial or national barriers—result in the invaluable weather forecasts in everybody's home town.

Though we're only 17 miles from the Ronne main base, it's a three-day journey by dog team over unusually rugged terrain. Most of our supplies were therefore transported by plane. Now a member of the British expedition (the Falkland Islands Dependencies Survey) and I are completing the job of setting up the camp. Already, however, it is very comfortable.

### Two Tents in Camp.

The camp consists of two tents. One houses us, the other is a storage tent. We have set up our meteorological instruments and a wind generator which supplies electricity to light our tents and power to operate the radio.

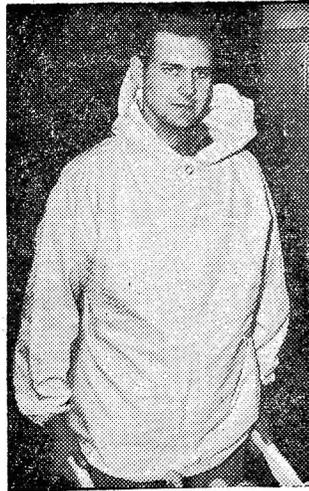
This station is, of course, in continuous contact with the main base and has also proved invaluable—because of its strategic elevated position—as a relay point between aircraft or field parties and the main base. A case in point was the air and ground search for the crew of the ill-fated British Auster plane. Indeed, the crew was able to hear this station after the crash, even though they were not always able to hear the more powerful sender at the main base.

The radio is invaluable as a companion in our leisure hours. We listen to the United States, Great Britain or South America when we are not working, reading, writing, playing games or just relaxing in our sleeping bags. Often, too, the main camp radio provides amusement for us and for the advanced exploration base toward the Weddell coast, by playing record programs.

### Cook on Small Stove.

The small kerosene stove on which we cook also warms the living tent. Our quarters are therefore quite comfortable, despite outdoor temperatures in the minus 20s.

On clear days, visibility from this height is extraordinary. From a hill rising above the level plateau north of our camp, we can see right across and out over the Weddell Sea. Alexander Island, 60 miles away, appears clearly to the southwest, and to the northeast the Lockheed mountains, 80 miles off, can easily be discerned.



ERNEST A. WOOD

## RONNE BEGINS SURVEY OF WEDDELL COAST

By COMDR. FINN RONNE, USNR  
 North American Newspaper Alliance.

**RONNE ANTARCTIC BASE, Stonington Island, Sept. 30 (Delayed)**—Our geographical program is now under way, and we have started a scientific attack on the unknown sector of the Weddell Coast.

Taking advantage of a sudden break in a heavily overcast sky after fourteen days of equinoctial storms, the Norseman plane Nana took off with a full load of men and equipment for Cape Keeler, where the first (later the intermediate advanced) base is to be established.

Meteorologist Clarence Fiske and Second Mate Walter Smith will man this base, the former as radio operator and meteorologist, while his companion takes recordings of solar radiation, terrestrial magnetism and, if possible, tidal shift.

In addition to these two men and Pilot James Lassiter, the Nana carried an unusually heavy load of 2,400 pounds of cargo. She taxied far across the snowy surface before taking to the air. Later the smaller L-5, piloted by Charles Adams, climbed to rendezvous with the Nana at 7,000 feet above the high plateau.

The planes traveled together to Cape Keeler, where Pilot Adams landed and staked out a strip for the more heavily loaded Nana. The two pilots then flew the larger craft to Mobiloil Bay and brought to Cape Keeler all the equipment and supplies cached at Mobiloil Bay when three Britons who had been lost there were flown out.

**STONINGTON ISLAND, Marguerite Bay, Oct. 6 (by Wireless) (Delayed)**—Pilot James Lassiter and Charles Adams flew the Nana and the L-5 back here today from the advanced exploration base at Cape Keeler, after having been grounded there for five days by bad weather. They reported that the camp there was "a most comfortable home."

During their enforced stay they

## U. S.-British Party Starts 1,000-Mile Antarctic Journey

By Comdr. Finn Ronne  
 North American Newspaper Alliance

**RONNE ANTARCTIC EXPEDITION BASE, Marguerite Bay, Oct. 11 (Delayed).**—The joint British-American Weddell Coast sledging party left here this morning on a 1,000-mile journey of exploration, southward along an unknown portion of the shores of the Weddell Sea in Antarctica.

There are four men in the group: Two Britons from Base E of the Falkland Islands Dependencies Survey, Maj. K. S. Pierce-Butler, leader, and Douglas Mason, surveyor, and two Americans from the Ronne expedition, Nelson McClary, surveyor, and Boy Scout Arthur Owen as radio operator and dog driver.

The three loaded sledges were drawn into position for departure, close to "dogtown" at the main base. The 27 dogs were quickly harnessed into three teams of nine each. And, once in harness, the dogs strained against their chest straps, eager to be off. This made good-byes hurried, though movie and still pictures of the departure were quickly taken.

The dog drivers adjusted harnesses, checked lashings, snapped on their skis and then, with sharp yaps from the dogs to the other teams, they were off.

Their trail left an impenetrable cloud of swirling snow, which disappeared after a few minutes, only to reappear 400 feet up the glacier slope. By the time they reached the top of the 100-foot knoll, the dogs' pace had noticeably settled down. As usual, they'd begun in a fierce burst of energy difficult to keep under control. Minutes later, the three teams had disappeared over the last hill into the unknown.

For the next three months, the only means of communication with civilization open to the four men will be by a small, hand-cranked radio, on which they can obtain operational information up to a distance of 900 miles.

The party is expected to reach the bottom of the first glacier before

helped the two men who will man the base—Clarence Fiske and Walter Smith—to build two igloos and fix up the main tent.

Mr. Fiske already has established a radio station for sending weather reports. Meteorological recordings have been taken three times a day since their arrival. Mr. Smith is currently sighting the exact position of the supply cache with relation to surrounding heights so as to be able to get at it later, when snow may cover other marks.

The Nana flew to Keeler and back again today, carrying gasoline for the advanced base. We listened from the main base by radio to the progress of the flight and the coordination of the four radios was most impressive. The main camp, the Plateau Weather Station, the advanced base and the plane's own radio are all on the same frequency.

making camp tonight. Tomorrow they will work up to the mile-high plateau weather station. They then will make their way across that glacier and down to the Weddell Coast, whence they head south for Mount Tricorn.

The exploratory party is expected to remain in the field until some time in January 1948.

**RONNE ANTARCTIC EXPEDITION, Marguerite Bay, Oct. 15 (Delayed).**—A broken bone and a broken sledge in the Antarctic wastes have delayed the joint British-American Weddell coast exploratory sledging party.

The first day, the two Britons and two Americans journeyed 13 miles, climbing 2,000 feet to the bottom of the steep glacier which ascends the 6,000-foot plateau on which our weather outpost is located. They camped five days at the base of the glacier while winds of up to 90 m.p.h. blew constantly. Then, preparing to continue their trip, they found that two bridges were broken on one of the party's three sledges.

Since they were still only 13 miles from base, it was decided that Douglas Mason (of Base E of the Falkland Islands Dependencies Survey) and this expedition's Nelson McClary would take the sledge back and bring up a new one.

The dog team started the return trip with such speed that Nelson only just managed to grasp the bars at the rear of the sledge. But the violent winds of the past days had dug deep indentations or sastrugies in the snow, forming waves of up to four feet in height.

As the galloping team sped off, Nelson made ready to throw on the brake. Before he could do so, however, the sledge drove straight into the side of a sastrugi. McClary flew through the air, was flipped over and landed in front of the sledge, which had tipped up.

He felt a sharp pain in his shoulder. Quick examination revealed that his collarbone had broken cleanly. Mac realized that there'd be no exploratory trip for him; his next five weeks were going to be spent at base with a cast on his shoulder.

## Ronne Group Struck By 73-Mile Winds

By Comdr. Finn Ronne

North American Newspaper Alliance

**RONNE ANTARCTIC RESEARCH EXPEDITION BASE, Stonington Island, Antarctica, Sept. 29 (Delayed).**—Winds of nearly hurricane force lashed at this base during the week of September 21-27, the highest average speed sustained over a recorded minute being 73 m.p.h.

Winds blew down from the mile-high plateau nearby with tremendous force and rapidly changed the snow cover—in some spots a hard snow cover several feet deep was completely eroded in one day, in other spots drifting snow has completely filled up depressions several times a man's height.

The snow borne by the wind cuts at a man's face worse than a sandstorm and forbids facing the wind.

Strangely though, this wind is only "skin deep"—upper air soundings with pilot balloons show that at a few hundred feet above the ground, wind velocities are only 10 to 20 miles per hour.

## RONNE QUILTS BASE TO MAP POLAR AREA

Party Flies to Advanced Post to Fill in Last Uncharted Part of Weddell Sea Coast

By MRS. FINN RONNE

North American Newspaper Alliance

**RONNE ANTARCTIC RESEARCH EXPEDITION MAIN BASE, Stonington Island, Marguerite Bay, Nov. 4 (Delayed)**—Comdr. Finn Ronne and his party left this base by air today for the advanced exploration base at Cape Keeler on the Weddell Sea coast. Depending on the weather, the miniature city that has sprung up there soon will be moved by air still farther south on the east side of the Palmer Peninsula, whence exploratory flights will fan out to map the hitherto unexplored sections of the Weddell Sea coast—last stretch of coast still unmapped around this vast continent.

The weather has seriously delayed the entire operation. For weeks, overcast had kept the planes grounded at the main base. Today's clear weather was only momentary but was immediately seized upon to get the two heavily loaded planes, the "Ed Sweeney" and the "Nana," off the ground. The weasel had packed the snow on the runway, as it had in anticipation almost every day recently, but the heavy loads and the absence of wind made several taxiing runs necessary.

Eventually Capt. James Lassiter and Comdr. Ronne left in the Beechcraft "Ed Sweeney" with a full load of gasoline and field equipment as well as the three trimetrogon aerial mapping cameras and 150 pounds of film. Lieut. Charles Adams and photographer William Latady left in the Norseman plane "Nana" with more gasoline and field equipment.

Both pilots had hoped to return to the main base today, as they had yesterday, to take on additional fuel and cargo and to pick up mechanic James Robertson; but the overcast closed in again as soon as the planes had left, making additional landings here today impossible.

Captain Lassiter and Lieutenant Adams each made a round trip to Cape Keeler yesterday, leaving Comdr. Isaac Schlossbach there. The base has already taken on considerable life, they reported on their return, numerous small tents and igloos dotting the white surface of the area.

Before the pilots left yesterday, the joint British-American sledge party pulled into camp after their long overland haul. They plan to leave at midnight tonight for Cape Knowles and Mount Tricorn. Navigation Walter Smith will replace Physicist Andrew Thompson in the sledge party, continuing south with Boy Scout Arthur Owen and the two Britons.

En route, the sledge party found that one of the huskies was "expecting." She was excused further harness duty and trotted the rest of the way to the Keeler base leashed to a sledge. She is now waiting at Keeler to be flown back

## Ronne Antarctic Flight Solves Mystery of Weddell Sea Isles

By Comdr. Finn Ronne

North American Newspaper Alliance

**ADVANCED BASE, CAPE KEELER, PALMER LAND, Antarctica, Nov. 7 (Delayed)**—We completed tonight the first, short exploratory flight eastward from this base over the Weddell Sea. The three-hour flight revealed 15,000 square miles of Weddell Sea area never before seen by man. Knowledge of the contour of the Larsen ice shelf was extended by 150 miles.

But the main object of this flight was a search for previously reported Weddell Sea islands. We saw none and solved, thus, a question which has puzzled Antarctic geographers since 1928.

In that year Sir Hubert Wilkins flew south from Deception Island along the Weddell Coast. He reported the appearance of land off the coast east of Cape Keeler but increasingly bad weather and lowering visibility prevented verification of the presumed islands. In a similar flight over that area in 1940 I reported the semblance of land to the east, far off the coast. And, during the last two months, our pilots flying to and from Cape Keeler have from time to time reported what they also believed to be low-lying islands.

Today's flight solved the matter once and for all, even if negatively. The explanation of the prior reports is now felt to be either low-flying cloud or mirage.

Lt. Charles Adams and I took off in the L-5 from Cape Keeler at 17:20 GMT. We located and crossed the edge of the Larsen shelf in the first hour of the flight. Beyond it, to the east, from 5,000 feet altitude, we could see nothing but the treacherous, ice-filled waters of the Weddell Sea. Visibility was perfect; the sun stood bright to the north in a clear blue sky.

One hour after taking off the Palmer Land Mountains along Isaiah Bowman coast disappeared behind us in a slight haze and from then on Lt. Adams navigated on instruments. We flew due east for 100 miles, until large tabular icebergs filled the open water below, then set a course due south.

The icebergs were drifting aimlessly with the ocean current. There was no sign of animal life—such as seals or penguins—in this desolate stretch of never-before-seen ocean.

The second, southern leg of the triangle flown seemed to follow the general direction of the barrier's edge. Due north, the steep ice cliff disappeared over the horizon. A point 15 miles north of our position marked the southernmost penetration of Capt. C. A. Larsen's ship Jason through the Weddell Sea pack ice in 1893.

The Larsen ice shelf stretches from the Palmer Land coast about 100 miles out to sea, its edge paralleling the coast. It extends approximately 400 miles along the coastline. We explored some 150 miles of this today for the first time. The shelf is believed to be about 700 feet thick some 100 feet of which rises above the waterline.

We reached the easternmost point of the Larsen shelf today, where the barrier drops off into the open Weddell sea. It was not considered safe to fly the small, single-engined plane over the dangerous open water, so the southern course was laid to follow the extension of the barrier cliff as far south as Cape Eielson, latitude 70°30' south.

Approximately 25 miles east of Cape Keeler, a number of lenticular holes could be observed in the ice. They looked as if huge sections of the Piedmont glacier had been systematically pushed down into the shelf ice proper. They were a mile in length and up to 300 yards wide. Their appearance usually follows the same pattern and their existence in various parts of the Antarctic is one of the mysteries of this continent.

## Aerial Cameras Are Tried Out By Ronne Party In Antarctic

BY COMDR. FINN RONNE, USNR

**RONNE ANTARCTIC RESEARCH EXPEDITION BASE, STONINGTON ISLAND, Oct. 28.**—After three weeks of impatient waiting, the weather lifted sufficiently today to permit a trial of the special photographic equipment installed in our Beechcraft plane to map hitherto uncharted areas of the Weddell sea coast. The tests are completely successful and we are only waiting for another break in the weather to set off for the advanced base at Camp Keeler.

Pilot James Lassiter roared the twin-engined plane down the hard snow runway for an easy takeoff soon after noon today, when a fresh southwesterly breeze lifted continuous overcast. He climbed to 10,000 feet, where Photographer Bill Latady started the electrically driven trimetrogon cameras. The plane was in the air for nearly two hours and brought back a series of overlapping aerial photographs of Marguerite bay covering a distance of about 100 miles.

Once developed, the pictures

showed that no further adjustments were necessary, that the cameras were in perfect order for the important mapping job ahead.

To take these photographs, three cameras are mounted in the plane in such a way that three simultaneous exposures photograph a strip of land from horizon to horizon. There is a slight overlap at the sides, while succeeding pictures, taken as the flight progresses, overlap by 60 percent. This makes it possible to measure altitude directly from the pictures. It also permits plotting the position of topographical features more accurately than any aerial photographic system hitherto used.

Everything had been in readiness for the Weddell sea flight for the past three weeks, except for the necessary test flight. Now that that is accomplished, the next break in the weather will see us off to the Cape Keeler advanced base where final preparations will be made for the long flight along the unexplored sector of the Weddell coast. All three of our planes have been standing by for the flight.

## Ronne Chief Steward Preparing 1,400 Lbs. Of Food For Trail

By Comdr. Finn Ronne

North American Newspaper Alliance

**RONNE EXPEDITION BASE, Stonington Island, Marguerite Bay, Antarctic, July 15 (Delayed)**—No body has been able to sleep well for the last week because of the fine aroma of frying bacon which comes from the galley all night long. Chief Commissary Steward Sigmund Gutenko, an old hand at the job, is finishing the ingredients for 1,000 pounds of pemmican to be eaten by the men of our first trail party.

Pemmican is the basic food taken on trail parties, and its importance is obviously great. Students of nutrition believe that faulty and insufficient diet caused the unfortunate death in 1912 of Capt. Robert F. Scott's party of five when they froze to death just 11 miles short of one of their major food depots.

Pemmican has been much improved since those days. There are many different varieties of the mixture. Ours is a tried and true formula first conceived by Dr. Dana Coman, who spent many years in the polar regions.

Our pemmican contains a high percentage of fats, to quickly furnish body heat. Other ingredients are soybean flour, bacon, dried beef, liver powder, milk and oatmeal.

In the 1940-1941 Antarctic expedition, I used this pemmican exclusively while on the trail for 84 days. During this trip we covered 1,264 miles by sledge and dog team, and I can truthfully say that I never felt more physically fit. What's more, I consider it delicious, both hot and cold. When it is served hot it is melted from its hardened form and mixed with water to make a thick soup resembling heavy pea soup.

Dr. Coman and Chief Gutenko made large batches of pemmican by this same formula for American Army and Navy units during the war. Gutenko says the secret of making pemmican tasty is in the accurate weighing and mixing of the different ingredients. The mixing is best done by hand.

As soon as Gutenko finishes the pemmican, he and Climatologist Larry Flske, who has been working with him in the galley, will turn their hands to making 400 pounds of delicious oatmeal trail biscuits. When they're through with that, they'll start making up the actual packages of trail rations.

Trail rations for any given man are first divided and put into small bags. These small bags are then put into one large bag, which is known as a one-man ration. It will last one man for 30 days.

Each daily ration contains 5,500 calories, in addition to all essential proteins, minerals and vitamins, and yet it weighs only 37 ounces. The biggest single item is pemmican, which makes up 12 ounces of the daily diet, followed by six ounces of biscuit, four ounces of milk chocolate, four ounces of whole milk powder, two ounces of oatmeal, and two of butter. Other items include jump sugar, bacon, dried fruit, peanuts and almonds, cocoa, salt and pepper.

# RONNE FILLS IN MAP OF WEDDELL COAST

Explorer Names Region, Lying South of Palmer Peninsula, the Edith Ronne Land

By **COMDR. FINN RONNE, USNR**  
North American Newspaper Alliance.

RONNE ANTARCTIC RESEARCH EXPEDITION BASE, Stonington Island, Nov. 22 (Delayed)—My flight force and I returned to this Palmer Island base tonight, having successfully completed the Filchner Ice Shelf mapping flights from the advance base on the Weddell Sea coast at Cape Keeler. The United States flag was dropped from the plane at the southwesternmost and southeasternmost points of the flight.

As a result of our work, an estimated total of 100,000 square miles of new territory was explored for the first time and mapped, in the name of the United States.

I took off on Nov. 21 at 13:45 GMT, with Comdr. Isaac Schlossbach, Capt. James Lassiter, Lieut. Charles Adams and Aerial Photographer William Latady in the planes Ed Sweeney and Nana. Both crafts were heavily loaded with food supplies, emergency equipment and gasoline. The Nana had to run for more than two miles before being able to take off. Even then, the pilot narrowly missed a huge ice-pressure area full of crevasses that would have wrecked the plane.

The Nana, with Lieutenant Adams as pilot and Commander Schlossbach as co-pilot, laid a course due south, following the coastline to Mount Tricorn. The Beechcraft, a faster ship, took off an hour and a half later, Captain Lassiter piloting. Radio contact was maintained throughout the flight between the two planes, and with both the advanced and main bases until we reached a point 30 minutes north of Tricorn, when we got out of radio range from the bases.

### Mount Tricorn Relocated

We rendezvoused at 10,000 feet over Tricorn—which we found to be thirty miles farther north than previously located on maps.

We then found a suitable landing spot at George Bryan Inlet, which was also farther north, by forty miles, than previously mapped.

When we stepped out of the planes, we were just about 300 miles farther south on the Weddell coast than human foot had ever before trodden. The surface party was 350 miles to the north.

A radio was set up at this point, manned by Lieutenant Adams and Commander Schlossbach, while I took off in the Ed Sweeney, with Captain Lassiter at the controls and accompanied by Mr. Latady.

Our first project was to follow the coastline, wherever it led. As the flight was to be recorded by the trimetrogon mapping cameras, we climbed immediately to 10,000 feet, at which altitude the coast could be followed easily, as it curved generally to the southwest.



COMMANDER FINN RONNE



WILLIAM R. LATADY

We sighted numerous mountain ranges during our two-hour southwestward flight; their elevation mostly around 6,000 to 8,000 feet.

After some two hours, the coastline dwindled to nothing. To the south and southwest was smooth, level land which appeared to rise gradually. There was no longer any sign of mountains in that direction. We had perfect visibility of between 120 and 150 miles.

At the southwesternmost turning point—78 south, 74 west, dead reckoning—we could see no land

in any forward direction.

I unfolded the Stars and Stripes, attached to a small pole, and dropped the flag while we were making the turn.

The return flight was made on a course roughly parallel to the outward journey but fifteen miles away, so that the mapping photographs would overlap. When we got within sixty miles of the stand-by base, we sighted the huge ice barrier that is presumably the eastern extension of the Filchner Ice Shelf. We set a course to the

southeast, toward open water, so as to follow the barrier and determine its connection with the shelf ice.

The Filchner Shelf has been explored to the east as far as Moltke Nunatak, at 78:20 south, 36 west. The thing still unknown along this coast is the connection of the barrier to the shelf ice.

The edge of the barrier was soon reached and a flight line was laid parallel to it, about five miles inland. To the south, undulating shelves would be seen faintly. These slight offsets were spaced about forty miles apart. It is assumed that the land rises gradually as it goes farther south until it connects with mountains that undoubtedly are those ringing the South Polar Plateau.

Out to sea we noted many wide leads in the otherwise heavy pack ice. For the whole distance of the flight we saw open water near the ice barrier, varying from a quarter of a mile to two miles in width. We could see no sign of animal life.

At the southeasternmost turning point—estimated to be 78:30 south, 4° west—the plane circled for pictures and the United States flag was again dropped.

### A Deep Bay Is Observed

Ahead to the east, a deep bay could be seen running south, with an ice shelf straight on our course and to the north. The bay's eastern side formed a peninsula with the previously explored part of the Filchner Ice Shelf to the east. Some newly-formed ice could be seen in the open-water area next to the high ice shelf.

The return flight to the stand-by base was uneventful. We had taken a total of more than 2,000 trimetrogon pictures recording our new discoveries.

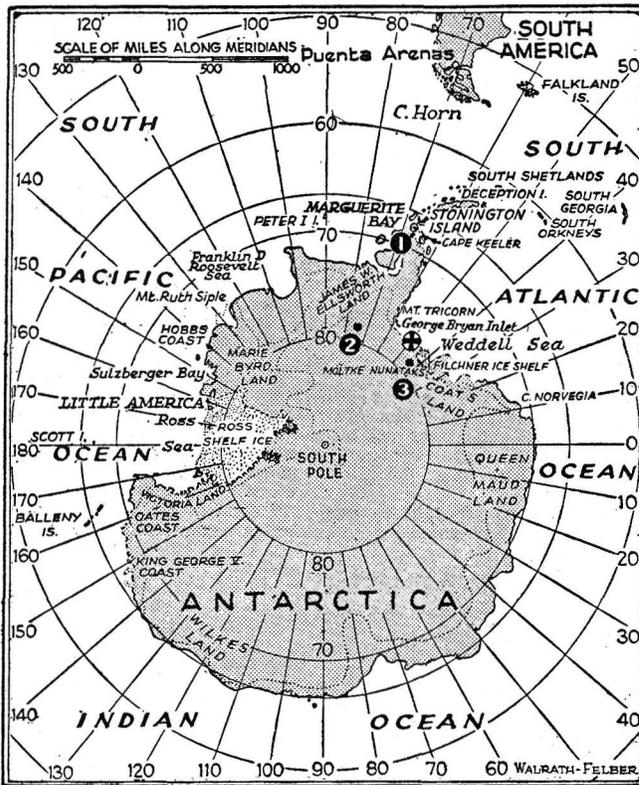
The newly discovered land from the farthest westing to the farthest easting, I shall propose to the Board of Geographical Names should be called Edith Ronne Land, in honor of my wife, who is with me on the expedition and who was the first woman ever to set foot on the Antarctic Continent.

Within twenty minutes of our reaching the stand-by base, both planes were speeding toward the advanced operational base at Cape Keeler, 520 miles away. Since the weather held good, we climbed to 10,000 feet for trimetrogon pictures.

Although the sun at this latitude is above the horizon, even if low, for twenty-four hours a day, heavy overcast closing in from the north forced us to land 120 miles short of Cape Keeler, on the smooth Piedmont surface at Steel Island. After a few hours of sleep, we found that the clouds had lifted and flew on to Cape Keeler, arriving exactly 29 hours 45 minutes after first heading south on our exploratory flight.

The area mapped from Mount Tricorn to Moltke Nunatak on the Filchner Shelf was until now the last completely unknown Antarctic coastal region.

## PREVIOUSLY UNKNOWN ANTARCTIC AREA



In a flight starting at his advance base at Cape Keeler (1) and extending as far southwest as (2) and as far southeast as (3) Commander Ronne and some of his aides have charted the unmapped area between Mount Tricorn and a position on the Filchner Ice Shelf (cross), an area of about 100,000 square miles.

POLAR veteran Finn Ronne, commander, USNR, has lived and breathed exploration since he was a child of nine in Horten, near Oslo, Norway. At that time young Finn's father, Martin Ronne, went on his first polar expedition to the Antarctic with the world-famous Norwegian explorer, Captain Roald Amundsen.

## RONNE PLANE MAPS PALMER PENINSULA

6-Hour Flight Covers 100,000  
Square Miles—Charcot Isle  
Again Eludes Cameras

By Comdr. FINN RONNE, USNR  
North American Newspaper Alliance.

RONNE ANTARCTIC BASE, Palmer Land, Nov. 27.—(Delayed).—The crew of the camera-equipped plane Ed Sweeney made a six-hour mapping flight today from this base over Palmer Peninsula—north to 67 south, 67 west, then south following the 6,000-foot, ice-covered plateau to King George VI Sound before crossing the 7,000-foot Douglas Mountain range on Alexander Island in the direction of Charcot Island to 71 south, 73 west and thence back to the main base.

The group covered an area of approximately 100,000 square miles, taking 2,250 trimetrogon photographs.

The aircraft took off in the early afternoon. The destination was Crane Inlet to the north of Stonington Island on the Palmer Peninsula and as much of the general area as it was possible to cover, since this had never before been mapped accurately.

### Cameras Are Started.

Photographer William Latady started his three electrically driven cameras—which take overlapping horizon-to-horizon pictures—as soon as the plane reached 10,000, while Pilot James Lassiter followed the coastline, flying close to 7,150-foot Mount Gaudry on Adelaide Island, northward for 150 miles.

Just as Crane inlet was reached, ground fog prevented further mapping to the north. Mr. Lassiter therefore turned eastward for the 6,000-foot Palmer Land Plateau. From the center of the plateau, a course was laid southward to King George VI Sound. Mr. Lassiter then crossed Alexander Island to Wilkins Strait, separating elusive Charcot Island from Alexander Island.

Charcot Island was first sighted by the French explorer Jean Charcot from the deck of his ship, the *Pourquoi-Pas*, in 1910. It was not seen again for 18 years. In 1929, Sir Hubert Wilkins flew over the island to determine its area. It is of fair size, though three small mountain peaks, rising to only 2,000 feet, are its sole conspicuous features. From time to time, surface vessels have tried to penetrate the heavy belt of pack ice surrounding the island, but every effort has been in vain. Helicopters or an arduous sledge journey appear to be the only ways to get to the island surface.

### Island Evades Mapping.

On today's flight, the elusive island in the Bellingshausen Sea once again managed to evade mapping cameras—a ground fog coming in from the west covered the island except for two of its peaks. These, at least, should be visible when the trimetrogon negatives are developed. We plan another flight later to try to get Charcot Island into this expedition's picture record.

Mr. Lassiter flew northward on the return flight along the coast of Alexander Island, rounded its north-

ernmost extremity, then headed south along the island's eastern coast before crossing King George VI Sound to Mount Edgell.

Visibility was perfect. An unbroken ice mass held the Antarctic coastline for at least 100 miles. So it will probably remain until February or March 1948, when seasonal changes will break up the ice to float seaward as drifting pack.

The plane followed the coast of Marguerite Bay past Cape Jeremy and Cape Berteaux and so back to the main base here, after a flight of five hours and 55 minutes.

### 4,250 Photos Taken.

So far, mapping flights by this expedition have secured a total of 4,250 trimetrogon aerial photographs, plus several 4x5 aerial pictures. The photographic record covers 300,000 square miles of antarctic terrain, much of it never before mapped or at least not recorded accurately. Mr. Latady has developed sample negatives and finds them excellent.

After several days of co-ordinating the findings and reports on our November 21 flight over the South Weddell coast, we find that we covered and mapped 170,000 square miles of hitherto unknown territory, not 100,000 as originally estimated.

The eastern leg of this flight, over the as-yet-unnamed Weddell coast ice barrier, covered approximately five times as much of the barrier as was seen by the German explorer Filchner from his ship, *Deutschland*, in 1913. He landed at Vahsel Bay, which is as far south as any vessel has ever penetrated in this sector.

### Region Is Inaccessible.

The area covered during our November 21 flight—now known as Edith Ronne Land—is the most difficult and inaccessible region of the Antarctic. It would have taken dog teams years to cover Edith Ronne Land, which we mapped in less than a day.

Only two ships have ever attempted to penetrate through this ice in an effort to make landings on the Weddell coast—Mr. Filchner in the *Deutschland* in 1913 and the British expedition's *Endurance*, commanded by the famous Sir Ernest Shackleton, in 1915.

Both vessels were caught in pack and drifted helplessly with the currents. The ice freed the *Deutschland* after many months and her crew managed to get her out to safety in the open ocean. Not so with the *Endurance*, whose sides eventually cracked under the tremendous pressure of the ice.

The men aboard her managed to salvage food and some equipment before she sank. They drifted north for a year on the ice to Elephant Island. Here the main body waited another nine months while Sir Ernest and four others sailed a small boat to South Georgia to bring outside help. Not a man perished in this venture despite almost unbelievable hardships.

RONNE ANTARCTIC RESEARCH EXPEDITION BASE, Stonington Island, Nov. 29

Some 170,000 square miles of Edith Ronne Land were mapped during our November 21 flight over the South Weddell coast. Six days later, a mapping flight covered 100,000 square miles of the Palmer peninsula.

During these two flights, Aerial Photographer William Latady's non-

## ANTARCTIC MAPPING EXTENDED BY RONNE

Southwest of Palmer Land,  
He Finds New High Peaks  
on Alexander Island

By COMDR. FINN RONNE, USNR  
North American Newspaper Alliance

RONNE ANTARCTIC BASE, Stonington Island, Dec. 4 (Delayed).—After being grounded for five days by winter overcast, this expedition carried out another mapping flight today. We extended the known depth of Ronne Bay by more than 20 miles, discovered a mountain and a mountain range on Alexander Island—but again failed to photograph elusive Charcot Island.

In this six-hour flight, 2,250 trimetrogon aerial mapping photographs were taken, bringing out total up to 6,500. These will be turned over to cartographers on our return to America, so that more precise charts may be drawn of the Palmer Peninsula from latitude 66 degrees, southward over newly discovered Edith Ronne Land to latitude 80 degrees and south and west to include Alexander Island.

Yesterday's flight was to cover the so-far unmapped region of Alexander Island and other areas in the vicinity.

### Sea Is Ice Covered.

On the way south along the eastern side of Marguerite Bay we noted that ice covered that part of the Bellingshausen Sea as far as the eye could see. Wide leads, due to ocean currents, broke the otherwise monotonous surface.

Photographer William Latady started his trimetrogon cameras as soon as the Beechcraft plane reached the necessary 10,000 feet. But the sun was at its brightest in the Marguerite Bay area. Looking south for 100 miles, on reaching King George VI Sound, only mountain peaks could be seen above the clouds. After reaching latitude 71° 30' south, farther advance along the east side of King George VI Sound was impossible. A return course was laid parallel to and about 25 miles to one side on the outward course.

Close to the entrance to King

chance—or his confidence in the ability of Capt. James Lassiter as a pilot—was amply demonstrated.

On the return flight November 21, the weather closed in rapidly while both planes were still 150 miles short of the advanced exploration base at Cape Keeler. Mr. Latady, in the Ed Sweeney, stopped his cameras and stretched out atop the spare gas tank, exhausted after his hours of work.

"We're making an emergency landing in the fog," Capt. Lassiter yelled a few moments later.

"What do you want me to do?" Mr. Latady asked, without moving or even opening his eyes. "You're flying the plane."

And on the more recent flight, when both engines stopped at an altitude of 12,000 feet, as Capt. Lassiter drained gasoline from one tank to another, the pilot turned to watch the photographer.

Mr. Latady shrugged. "It's up to you," he called.

George VI Sound, clouds around the mountain peaks on Alexander Island began opening up and another course was set to cover the area of Charcot Island and to the south. At an altitude of 12,000 feet, we crossed the Douglas mountain range of Alexander Island and found that the highest peak of the range in the vicinity of our course was 11,700 feet, approximately a mile to port.

### Discover New Range.

We discovered a new mountain range on Alexander Island as well as a fair-sized mountain peak at the western end of that island.

When we reached never-photographed Charcot Island, gray cloud banks again hid it from our cameras. For a while, indeed, clouds closed in completely around the plane, forcing us down to 9,000 feet. We set a southwest course into clearer weather.

We flew for an hour, following without trouble the barrier coastline of Alexander Island as far south as Ronne Bay. I discovered this bay in 1940 and named it after my father, Martin Ronne, who was with Amundsen when he discovered the South Pole.

Cape Perce, the westernmost of the bay, we found to extend farther west than previously located, thereby extending the depth of Ronne Bay by more than 20 miles. I watched from the air with special interest as portions of the coast flew by below along which I had sledged with a dog team in 1940. Sitting in the co-pilot's seat, I recalled with particular vividness the 84-day trail trip seven years ago on which I also named the Robert English coast at my farthest westing, some 100 miles southward from Ronne Bay.

## Ronne Group Benefits By Birth of Puppies

By Comdr. Finn Ronne

North American Newspaper Alliance

RONNE EXPEDITION BASE, Marguerite Bay, Antarctic, Sept. 14 (Delayed).—Puppies are being born here like mad. A few weeks ago, Pansy, our smallest husky, gave birth to a happy brood of eight. Recently, another husky, Sad Eye, produced a litter of nine.

Sad Eye now shows complete indifference to the welfare of her progeny so we have engaged Pansy, whose pups are in the stumbling stage, to act as mother and sitter.

Pansy wasn't fooled for a minute. She knew these new pups weren't hers and she accepted them reluctantly. But then she decided to play her role to the hilt. In the dead of night, with only the expedition radio operator, Lawrence Kealey, as a witness, Pansy carried Sad Eye's squealing puppies, one after another, around the science building hunting for a hideaway. She finally selected a home under the double-decked floor where the temperature is generally below zero.

The following morning, when nothing would induce Pansy to bring her newly acquired family into the open, Walter Smith, the expedition's navigator, crawled beneath the floor and placed a blanket there for the protection of the group. Pansy appears only at mealtime and otherwise tends to her adopted family alone.

## RONNE COMPLETES EXPLORING FLIGHTS

Covers 1,500 Miles, Extending  
Mapping of Ice Barrier  
Along Weddell Coast

By **COMDR. FINN RONNE, USNR**  
North American Newspaper Alliance.

**RONNE ANTARCTIC RESEARCH EXPEDITION BASE,** Stonington Island, Dec. 14 (Delayed)—At 5:20 A. M. local time on Dec. 12 Pilot James Lassiter, Aerial Photographer William Latady and I took off in the Ed Sweeney plane from Mount Tricorn on the last major flight of this expedition's exploratory program. After having flown for seven hours and thirty-five minutes, we landed safely at Cape Knowles, where a gasoline refueling cache had been previously deposited for the return journey.

Our flight successfully accomplished the following:

1. Explored and photographed the recently discovered barrier along the Weddell Coast to a point farther southeast than was reached on our Nov. 21 flight, thus connecting the unknown link with the previously explored coastline beyond a doubt.
2. Definitely established that this heretofore unknown sector of the Weddell Coast contains land beneath its enormous ice mass—land that gradually increases in elevation until it joins the south polar plateau itself.
3. Proved conclusively that the Antarctic is one continent and is not divided by a frozen body of water from the Weddell Sea to the Ross Sea.
4. Explored an additional 60,000 square miles of previously unknown territory over and above the 170,000 square miles explored on the Nov. 21 flight.

The flight marks the end of our exploratory program, in which a conservatively estimated total of not less than 230,000 square miles of new land has been discovered and explored in the name of the United States in the most difficult and inaccessible sector of the Antarctic Continent—from 78 South, 73 West to 79° 15' South, 40 West. More than 4,500 aerial pictures record this expanse of land and will enable cartographers to make more accurate maps.

Although this flight was the last in our exploratory program, aerial mapping of the more accessible regions of the Palmer Peninsula will continue until our supply of aviation gasoline is exhausted. This mapping program, which has been maintained right along with the exploratory program, has in addition photographed 145,000 square miles. This makes a conservative total estimate of 385,000 square miles of territory mapped in a total of over 9,000 aerial pictures.

We left the main base for this most recent flight on Dec. 8 and flew over to Mount Tricorn to meet the joint British-American sledge party. We left Mount Tricorn the same day, but the weather closed down and forced us to return to Tricorn.

We managed to take off on Dec.

12. Our course was set due south of the barrier's edge, and then changed to southeast. Twenty-five minutes after our take-off, we flew above the Ronne Weddell Coast sledge party, traveling at a snail's pace over the sea-ice below.

Generally there was open water along the whole southeastern route on this flight, and I definitely believe it is safe to say that a vessel would have no difficulty in reaching the barrier's edge in that latitude during this time of the year.

After flying in a southeasterly direction over the newly discovered barrier to the vicinity of 78° 40' south, 40 west, I observed that the barrier's edge gradually turns in an easterly direction. We were by then well over the coastline which Filchner had previously determined.

A cloud formation lay ahead, so the flight course was therefore changed to due south. We followed the edge of the cloud bank southward for half an hour before reaching clear weather with unlimited visibility of at least 150 miles. There were no signs of mountains as far south as we could see.

The course was then changed to a northwesterly direction and one hour later the edge of the barrier cliff was reached. The plane's radio altimeter indicated that the elevation of the barrier gradually goes down from 700 feet at our farthest southing to 300 feet and finally to 100 feet at the water's edge.

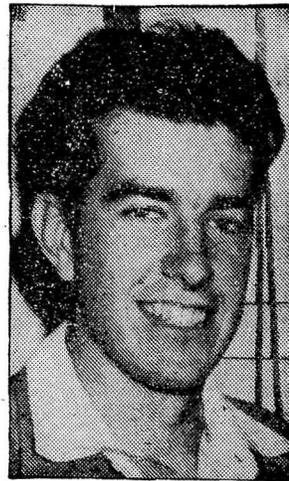
The gradual increase of the elevation southward definitely establishes that there is land beneath this huge ice mass which, I believe, gradually rises higher the farther south it goes—until this land joins the polar plateau itself. The fact that the Antarctic continent is land mass and is not divided by a frozen body of water from the Ross sea to the Weddell sea is now a certainty.

As we flew along the barrier's edge on the return flight, the voice of Radio Operator Lawrence Kelsey at the main base was picked up on the radio. Although over 600 miles away and despite the usual radio interference—caused mainly by the very mountainous terrain surrounding the main base—Kelsey was clearly audible from then on.

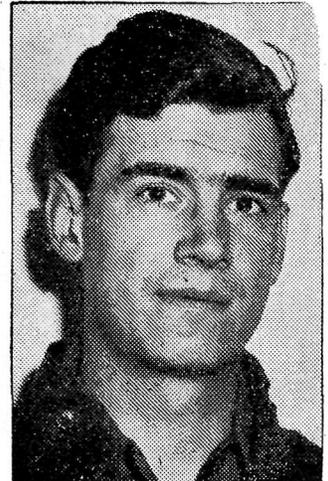
Upon reaching the coastline, we headed inland and flew over the highly mountainous terrain so that Latady could make another flight trace of pictures on the northward run. As we passed Mount Tricorn at an altitude of 10,000 feet, Pilot Charles Adams was asked by radio to take off in the NANA and follow us. Two minutes later I observed him through my field glasses taxiing to a takeoff position.

At 12:55 p. m. we reached the Cape Knowles gasoline cache and landed there to refuel. At 6 p. m. after having covered more than 1600 miles during the day, we came into the main base for a safe landing on the bay ice alongside our frozen-in ship, the "Port of Beaumont, Texas."

Undoubtedly mountains will be found south of our farthest southing on this last big flight. The high mountain range which is the long solid backbone of the Parker peninsula stops or dies out in latitude 78 south and longitude 72 west, we have proved. These ranges swing westerly to this location from latitude 76 south. The rocks in these mountains appear to be igneous and therefore have no connection with the sedimentary rock formations found on Alexander island



ARTHUR OWEN



WALTER H. SMITH

## U. S.-British Party Reaches Mt. Tricorn

By Mrs. Finn Ronne

North American Newspaper Alliance

**RONNE ANTARCTIC BASE,** Stonington Island, Dec. 9 (Delayed).—The joint British-American Weddell Coast sledge party reached Mount Tricorn Sunday, December 7. It has taken them since October 10 to travel the 500 miles from this base, averaging 16 miles a day by dog sledge on every day on which travel was possible.

Yesterday the two big American planes flew to Tricorn—73 degrees 58 minutes south, 60 degrees 41 minutes west—to greet their leader, Maj. K. S. Pierce-Butler (chief of Base E of the Falkland Islands Dependencies Survey, a British expedition located beside us on Stonington Island), and other members of the trail party.

Boy Scout Arthur Owen and Second Mate Walter Smith, the two American members of the party, soon will continue further south along the Weddell Sea coast, as the Ronne Weddell Coast party. Comdr. Finn Ronne and the two planes NANA and Ed Sweeney will support their surveying of newly discovered Edith Ronne land. Tricorn is the end of the trail for the joint party, however.

The first obstacle facing the trail group after they set out from Stonington Island was the crossing of 6,000-foot Palmer Land plateau, following steep crevasse-cut glaciers which funnel violent Antarctic blizzards.

Just two days out the party was caught by a blizzard. They made camp promptly, piling all heavy stores on the upwind flaps of their tents. They were storm-bound for five days. Lying on sleeping bags in the tents, they were unable to hear even the roar of the Primus stove beside them for the screaming

northwest of this base in King George VI sound.

In closing the exploratory program for this expedition, I have now completely covered the width of this particular sector of the Antarctic from west to east. On my sledge journey west in 1940, my turning point was close to longitude 80° west

of the wind outside. The men ventured outside only to feed the dogs. The wind was so strong that a 56-pound box of dog food was blown 100 yards before it could be rescued.

The party managed to break camp and move ahead on the sixth day, although the snowstorm was still blinding. They had to rely solely on the ability of the lead dogs to keep a straight course. Visibility was so bad that, although the sledges were only 5 yards apart, they had to rope together.

They reached the first food cache and camped there until visibility improved. This cache had been laid by the British crew of the small Auster plane which crash-landed on Marguerite Bay ice a few days later, causing a stoppage of almost all research by both expeditions in favor of a widespread search.

Once on the ice shelf, the trail party made up for lost time and soon reached the American advanced base at Cape Keeler. One and a half miles south of Keeler, on the next leg, bad weather again overtook them and kept the men in tents for two days.

Good snowy surfaces and clearing weather then permitted fast time to Cape Knowles, where the NANA and the smaller L-5 plane landed the party's third load of supplies.

From a point slightly south of Knowles the men traveled over territory never before trodden by man, as far as Mount Tricorn. The undulating shelf ice, they reported, was split at frequent intervals by open sea leads, the crossing of which is a menace to dogs and sledges as well as to the men.

The leads were a boon, however, in that a plentiful supply of fresh meat was assured by the seals which come to the surface in these cracks in the sea ice. The dogs' joy is obvious, but no hungry explorer would scoff at seal liver or a good seal steak, either. Trail diet normally consists of pemmican, varied by pemmican, plus biscuits, cereal, dried fruit, butter and chocolate. It gets a bit monotonous.

about 73 degrees south. On our recent flight, our easternmost turning point was longitude 40 degrees west of Greenwich and latitude 79 degrees south. This is the exact segment claimed by great Britain, but which claim up to the present has not been recognized by the United States.

## TWO RONNE FLIGHTS MAP PALMER LAND

**Antarctic Check-Up Adds 3,000 Feet to a Mountain—All of Peninsular but Tip Charted**

By Comdr FINN RONNE, USNR  
North American Newspaper Alliance.

**RONNE ANTARCTIC RESEARCH EXPEDITION BASE, Stonington Island, Marguerite Bay, Dec. 24 (Delayed)**—We have just completed two new trimetrogon mapping flights in the Antarctic.

A Dec. 21 flight covered 15,000 square miles of territory to the north of this base along the western side of the Palmer Peninsula. Twelve hundred and fifty aerial pictures were taken from an altitude of 12,000 feet.

On Dec. 22, an area of 60,000 square miles along the east coast of the Palmer Peninsula was covered in 1,700 trimetrogon aerial pictures. Five new glaciers and a new bay were discovered.

Passing over Adelaide Island on the Dec. 21 flight, we found that Mount Gaudry, the southern mountain peak on the island, which had been formerly estimated at 7,500 feet, measured by the plane's altimeter, was not less than 10,500 feet high. The crew was further surprised to find two new peaks to the northeast of Mount Gaudry. All were of the same height. They were for the most part snow-covered.

It was also found on this flight that the whole area other than in the immediate vicinity of our small island base is completely free from ice. Pilot James Lassiter saw no reason why a ship could not easily sail straight into Marguerite Bay from the South Pacific ocean.

This is quite a contrast to the seasonal ice conditions I found on a previous expedition in this same area in 1941. In that year, the ice in Marguerite Bay did not open at all and we were forced to evacuate the base by two hazardous plane flights.

The Palmer Peninsula has now been completely mapped from both its east and west coasts from latitude 65 South to latitude 80 South for the first time. The very northern tip of the peninsula is alone left unmapped.

On our exploratory and trimetrogon flights to date, we have found many discrepancies in the existing Antarctic maps—particularly in the area along the east coast of Palmer Peninsula as far south as Mount Tricorn. Several features had been called islands when they actually were capes connected to the mainland. Capes Charbonneau and Barlington, formerly indicated as islands, are good examples.

It has been found that Cape Joerg protrudes into the Weddell Sea twice the distance previously indicated on maps. We have found that from Cape Knowles southward to Mount Tricorn, the whole coastline is located thirty miles

farther to the west. Pullen "Island" on the map is a cape with a 1,000-foot-high peninsula connecting with the mainland. Mount Tricorn itself is located fifty miles farther to the north than previously mapped.

It must be remembered that Tricorn was the farthest southing of the plane flight survey made on the United States Antarctic Service Expedition, 1939 to 1941. Without ground control points, drift and ground speed of an airplane are at times very difficult to determine accurately enough for making detailed maps. The maps made at that time were based on the old type of oblique aerial pictures.

The features of the immediate vicinity south of Mount Tricorn were not found to be as previously indicated. Tricorn is located in latitude 73:57 South, longitude 61:46 West of Greenwich.

The only feature that corresponded to the discoveries indicated south of Tricorn in 1940 was Nantucket Inlet. What is marked as George Bryan Inlet does not exist, as in this latitude—76:30 South—the coastline has already swung considerably west.

In latitude 75:20 South on our first long flight, on Nov. 21, we came across a deep bay surrounded with low-lying snow-covered piedmonts. The depth of this bay is about thirty miles and in the center a low mountain is located which is connected to the head of the bay by a low peninsula. At the bottom of the bay two wide glaciers ascend westward up to the high plateau.

This island is about 2,000 feet high and it contains rock outcroppings beneath a snow-capped top. The bay's direction from the coastline bears northwest and was therefore not detected before we were on top of it.

The above, which are only a few of the discrepancies that we have found on existing maps, clearly illustrates the desirability of having ground-control parties in the field. The more modern trimetrogon aerial mapping cameras greatly facilitate the task, but do not entirely eliminate the need for ground control.

## Ronne Expedition Hen Takes Credit for First Egg Laid in Antarctic

By Sigmund Gutenko  
STONINGTON ISLAND, Antarctica, July 26.—Credit for the first hen's egg to be laid in the Antarctic goes to the chick Petunia. But I feel pretty proud myself of yesterday's happy event—considering the care chickens need in polar regions. The egg was perfectly shaped, with a strong shell.

It all began in January of this year, when the Texas division of the National Poultry Council gave me five chickens and a rooster before we sailed from Beaumont.

The birds started the 7,000-mile voyage in two coops lashed to the rail outside by galley on the vessel "Port of Beaumont, Texas." They got feed regularly and eggshells once a day for calcium. They reciprocated with an average of two eggs a day until we reached the Roaring Forties south of Valparaiso.

## Ronne Mapping Plane Makes Forced Landing On Antarctic Icefield

By Comdr. Finn Ronne  
North American Newspaper Alliance

**RONNE ANTARCTIC BASE Stonington Island, Dec. 31 (delayed)**—On its last mapping flight of the year, the trimetrogon-camera-equipped Beechcraft plane, Ed Sweeney, had to make a forced landing in a heavily crevassed area 55 miles away from this base today, with Capt. James Lassiter at the controls.

At an altitude of 5,000 feet, Capt. Lassiter suddenly observed the plane's port engine vibrating and throwing out billows of black smoke. With the aid of his crew—Bill Latady and Sig Gutenko—he hurriedly picked out a suitable landing spot in the center of a large, crevassed ice field over which they were flying.

At the same time, Capt. Lassiter notified the main base by radio of his plight and position and requested pilot James Adams to fly mechanic Jimmy Roberston to him.

The L-5 was ready, and within 30 minutes Mr. Robertson had assembled and loaded the necessary repair tools and emergency gear—sleeping bag, food, etc., required when going into the field.

The Beechcraft was easily located. Mr. Robertson soon discovered the trouble was a stuck valve and within five hours the difficulty had been fixed. Meanwhile, Pilot Adams returned Mr. Latady and Mr. Gutenko to the base in the L-5.

When the Beechcraft was ready to return, however, our variable weather in this area once again began playing tricks at the wrong time the earlier ceiling and visibility unlimited at the main base suddenly changed to ceiling zero.

Within two hours the weather here had improved sufficiently to allow the plane to land. But then

The the motion and the cold cut down on incentive among the sea-going hens. So I moved them below decks, into a dark but airy closet. This was close to the men's sleeping quarters and the chickens and I came in for some bitter "chaff" on account of the odd hours the rooster choose to greet the "dawn" and his ladies to publicize their production.

The problem when we reached these shores was to get the birds from ship to camp without exposing them to the penetrating cold. So we wrapped the coops in blankets while they were rowed ashore. And, since the chickens are a legitimate scientific project (though their non-scientific or gustatory qualifications are not ignored), they were housed in the science building.

This has led to some bitterness among the more academic of our scientists; though personally I feel that some of their discussions are on a par of monotony with the chickens' debates.

However a temporary truce was called yesterday when Petunia presented evidence of her worth. And now, with more daylight coming and thanks to the constant temperature of the science buildings, I have high hopes of getting my hatching program started—if the other chicks follow Petunia's lead.

All I hope is that our frozen egg

the men with the Beechcraft radioed that their weather had deteriorated to such an extent as to make a takeoff there impossible.

Capt. Lassiter and Mr. Robertson will be making good use of their emergency equipment tonight. They have pitched a tent beside the grounded plane and are prepared to camp in the field until the weather permits their return.

It was for just such an eventuality as this that carefully selected emergency gear has always been carried as part of each of our planes' equipment and by each individual aboard on all flights, no matter how short.

In the 310 hours of flying completed so far under most strenuous conditions in the three expedition planes, this is the first time mechanical difficulty has been experienced. This speaks well for Aviation Mechanic Robertson's maintenance work. The proximity to the main base of this forced landing was indeed fortunate when considering that at the height of our aviation program, flights were made as far as 1,000 miles from this area.

It is hoped that within the next 24 hours the weather at both ends will permit the Beechcraft to return to base.

Her flight may be the last of our current stay in the Antarctic, for, within the last few days, the bay ice has been getting noticeably thinner. Before long it will be impossible to utilize this bay ice as a flying field—and the only alternative would be the long sloping glacier field with its hidden and exposed crevasses. Since a loading dock doesn't exist in this part of the world and as we have to make use of the things nature provides, the larger planes must be loaded aboard ship while the bay ice still surrounding the "Port of Beaumont," Texas, provides a steady loading platform. As our major flying program now has been completed successfully, the time has come for the two larger planes—the Ed Sweeney and the Nana—to be loaded aboard the ship for return to the United States within the next few months.

supply will be enough to satisfy the increasingly jaded appetites of our 11 six-footers and the others. Science must not be denied once more!

## Ronne Steward Harvested First Produce in Antarctic

NEW YORK, July 26 (NANA).

—Chief Commissary Steward Gutenko (now on leave from the Navy to accompany the Ronne expedition) was the first man to harvest any sort of produce in the Antarctic. As a member of the 1938-1941 United States Antarctic Service Expedition at West Base, Chief Gutenko planted peas in an insulated can filled with sawdust and chemicals.

The can was placed in the rafters over the galley stove with a 100-watt light burning constantly over it. Every 12 hours the vines were fed more chemicals by syringe.

Within six weeks the vines had blossomed and were pollinated with a camel-hair brush.

Fourteen fully developed pea pods were "harvested" when the outside temperature was 30 degrees below. A second "crop" of five more pods was harvested later. The plants lived for 98 days.

## Ronne Flies to Warn Sledge Expedition of Danger as Radio Fails

By Comdr. Finn Ronne

North American Newspaper Alliance

**RONNE ANTARCTIC BASE, Stonington Island, Dec. 6 (Delayed).**—Radio failure in the Antarctic can be a serious matter, involving men's lives and valuable scientific knowledge. A recent Antarctic adventure of this sort ended more happily, however, thanks to our planes. And it is now possible to report that the geological field party led by Dr. Robert L. Nichols, with Robert H. Dodson as assistant, is on the last leg of its return journey to this base.

They are traveling over the sea ice of Marguerite Bay toward Stonington Island. The party left here September 29 and sledged 150 miles to Alexander Island. There they worked among sedimentary rock formations in sectors of the island previously unexplored.

Pilot James Lassiter spotted Dr. Nichols' camp on the bay ice on our most recent flight from the Cape Keeler advanced base. It was a relief to all, since the sledge party had been having difficulties with the radio for over a month and had been unable to contact the main base.

Their last known position was established three weeks ago, when second Pilot Charles Adams parachuted food supplies, as previously agreed. Since then, however, our flights had shown open water around the western end of Red Rock ridge and sea leads opening and closing with the weather along the route we assumed they would follow.

Radio operator Lawrence Kelsey had transmitted this information to the sledge party. But we had no way of knowing if they'd received it. They couldn't acknowledge.

We realized that the two men were already on the way back, so on every flight in their general direction, we scanned the ground carefully for any sign of them. On our most recent flight, we saw several black specks on the bay ice. I thought one of these might be their tent. But field glasses proved that the specks

were shadows cast by ice-pressure ridges.

Thirty-five miles south of the base, however, one of many black specks near a Rocky outcropping close to the entrance to Windy valley suddenly came to life. Mr. Lassiter spotted a red smoke flare and immediately began to circle, dropping lower. He assured me that the ice beside the small camp was safe for a landing, so we went in.

Mr. Dodson and Dr. Nichols rushed to greet us as we stepped from the plane. We were the first humans, other than each other, they'd seen or spoken to in more than two months. Bearded, tanned by the sun, the geologists were in excellent health, hardened by the strenuous life on a trail trip.

We learned with relief that their receiver was in good order even if their transmitter was not, and that they had heard our warning broadcasts. I repeated our latest information on ice conditions ahead and the sea leads they would have to cross or go around.

I also offered to fly them back. They were horrified. After traveling that far by sledge, they chorused, they had every intention of making a triumphal entry into camp—by sledge. No one was going to do them out of what they considered rightfully earned limelight!

The two were so enthusiastic about the work they'd accomplished at Alexander Island that, even before getting back to camp, they were already discussing another trip in a new direction. I was hardly off the plane before they were telling me about it.

Before leaving, I asked Dr. Nichols if I could take back anything in the plane. He mumbled something about a small bag he'd like to be rid of. He went to the sledge and brought over a rucksack. It was surprisingly heavy. I looked inside and found it full of rock specimens. At least they wouldn't be lost if the party went into a lead—such seemed to be Dr. Nichols' evident thought.

The geologist estimated they'd be back here within the next two weeks, depending on the amount of geological work they found to do on the last leg of the trip.

When we roared off, the dogs were already back in harness and straining to be away. But they had nothing on Dr. Nichols and Mr. Dodson.

base today with a report on the party's progress to date.

The first day out, the trail party made 12 miles over slushy, slightly gritty surfaces. The teams had trouble hauling the heavy loads and the men were forced to relay the supplies over short distances. Surfaces were so soft at times that the sledge runners—specifically iced to facilitate progress—bogged down constantly. However, they got to Refuge Island that night and cached a quantity of man and dog food for the return trip.

The second day out, the party had to relay the loads twice over difficult surfaces. The third day they made 10 miles. The fourth day they came upon a growler field and snow was also falling heavily, making for very poor visibility.

The sledge party reached Mushroom Island by the evening of the seventh day. They had covered some 60 miles since leaving base. Dr. Nichols was drawn to some rocks there and decided to pause for a couple of days.



ROBERT L. NICHOLS



ROBERT DODSON

## SEAL MEAT SAVES RONNE GEOLOGISTS

### Two Face Starvation When Storm Delays Food Plane for Month in Antarctic

By MRS. FINN RONNE

North American Newspaper Alliance.

**RONNE ANTARCTIC EXPEDITION BASE, STONINGTON ISLAND, Marguerite Bay, Dec. 29 (Delayed)**—The Ronne geological sledge party returned to this base three days ago after a ninety-day trail journey, twenty-two full days of which were spent entirely on geological research. Here is the report of Dr. Robert L. Nichols, head of the Geology Department of Tufts College, who was in charge of the expedition, and his assistant, Robert Dodson.

The party left here Sept. 28, accompanied by Kevin Walton and Dr. Richard Butson of the neighboring British expedition.

Mushroom Island, sixty-three miles away and never before visited, was reached on the seventh day out. There the Britons turned back for Stonington Island as had been prearranged. After geologizing for a day there and leaving man-and-dog-food caches, Dr. Nichols and Mr. Dodson turned southwest for Alexander Island.

The next seven days were the hardest of the trip. The temperature dropped to 35 degrees below zero. Travel was painfully slow and relaying was necessary because of deep fresh-fallen snow, brash fields and iceberg mazes.

Alexander Island was reached Oct. 15. But they had to hurry seventeen miles south, along the Alexander Island coast, to keep a rendezvous with a plane that was bringing them 500 pounds of equipment and supplies. They left a 300-pound food cache.

The plane was due Oct. 18. Dr. Nichols and Mr. Dodson reached the rendezvous point the evening of Oct. 17. However, a period of almost continuous snowfall, overcast and poor visibility now set which lasted for almost a month. It was impossible for the plane to leave the main base.

The sledge party's trail radio broke and communication with the base was stopped. Little geology was done as there were no outcrops in the vicinity.

Food began to get low and, to conserve it, the two geologists ate seal meat. It was decidedly not good eating; the two men reported. They were constantly hungry. What they called their "starvation diet," while laid up in their tents, consisted of one cup of lemonade and two cups of seal meat a day. Meanwhile, the snow began to accumulate and they began to worry about the cache seventeen miles to the north.

On Oct. 29, with food for less than four days left, they broke camp and headed for their cache.

Because of poor surfaces, low visibility and heavy snowfall, it took them three days to reach the vicinity of the cache. They made camp one mile south of it as the dogs were too tired to continue. After setting up camp, Bob Dodson skied north to the cache. He found that all the trail flags were buried and only two and a half feet of the eight-foot bamboo pole marking the cache was visible. It was a close call.

Four more days were spent waiting for the plane, geologizing and killing seals for man and dogs. But the bad weather continued, and on Nov. 7—with only twelve days of food left—they headed northeast for the base.

Four days later, they arrived at Mushroom Island, after having traveled 17.7 miles under the midnight sun. Within one hour after the tent was set up and camp made, they heard a plane. Soon two beautiful red parachutes blossomed out like huge flowers and floated slowly down on to the sea ice. That evening there was a feast, for 150 pounds of man food had been dropped.

After having camped at Mushroom Island for five days waiting for good weather and traveling surfaces, the geologists headed for Terra Firma Island. Here volcanic and plutonic rocks were found as well as evidence that the Piedmont glaciers were much thicker and more extensive a short time ago than now. The geology of several areas on the mainland was subsequently studied and it was found that this part of Marguerite Bay had had a long and complicated geologic history.

## 2 Ronne Scientists Begin Field Trip

**RONNE ANTARCTIC EXPEDITION BASE, Marguerite Bay, Oct. 8 (Delayed).**—This expedition's geologist, Dr. Robert L. Nichols, left by sledge September 28 for King George VI Sound, accompanied by Robert Dodson, surveyor, on a journey which will keep them in the field at least until Christmas.

A 15-dog team is pulling their supplies and equipment and an additional 500 pounds of man and dog food will be brought them by plane when they reach the head of the sound, to be cached there. Two Britons from Base E of the Falkland Islands Dependencies survey accompanied Dr. Nichols and Mr. Dodson for the first seven days with another dog team, to permit them to make good distances with their initial load. The Britons got back to this main

## U.S. Designates 850 Names for Antarctic Maps

**Most Old Titles Retained; Cordell Hull Glacier and Ruppert Coast Are New**

WASHINGTON, July 22 (AP).—The United States sorted out 850 names today by which future government maps and documents will identify the land and sea features of the Antarctic.

In general, the old, established titles were retained on the official list presented to Secretary of the Interior J. A. Krug by Meredith F. Burrill, director of the Board of Geographical Names.

Large numbers of the names are of European origin. However, some of the new designations include:

**Cordell Hull Glacier**—Named for the former Secretary of State.

**The Swanson Mountains**—For the late Claude A. Swanson, Secretary of the Navy from 1933 to 1939.

**Glacier Named for Ochs**

**Ochs Glacier**—For the late Adolph S. Ochs, of "The New York Times" and patron of the first Byrd expedition to the Antarctic.

**Sulzberger Bay**—For Arthur Hays Sulzberger, publisher of "The New York Times" and supporter of both Byrd Antarctic expeditions.

**Ruppert Coast**—For the late Colonel Jacob Ruppert, owner of the New York Yankees. Mr. Ruppert provided a ship for the second Byrd expedition.

**Wrigley Gulf**—For Philip Wrigley, Chicago industrialist who helped support the United States Antarctic service expedition in 1939-'41.

**Cape Byrd and Byrd Head**—For Rear Admiral Richard E. Byrd, the Polar explorer.

Mr. Burrill told a reporter that the 850-name list constitutes "one-third of all the names known to have been applied or proposed in the Antarctic—and all the controversial ones."

**Duplication of Names**

"Place-names for the Antarctic have been a problem for more than 100 years," he explained. "There have been ninety-four Arctic expeditions, starting with that of Captain James Cook in 1772. Some of them did a great deal of place-naming, often in ignorance of names already applied or simultaneously being applied by other explorers. The size and inaccessibility of the continent have added to the problem. Many of the natural features have a marked similarity, and their appearances vary with the angle of view or from time to time."

With the organization of the United States Antarctic service expedition in 1939, the matter was referred to the Board on Geographical Names. In 1943, Mr. Burrill appointed a special committee on Antarctic names.

Besides the newer names, it ap-

## Roosevelt Blocked Naming of a Polar Sea In His Honor; Preferred 'Smoking Volcano'

WASHINGTON, July 22 (AP).—The late President Franklin D. Roosevelt and Harold L. Ickes, former Secretary of the Interior, declined to have a South Polar Sea and mountain range named in their honor, it was disclosed today.

Mr. Roosevelt vetoed the naming of a sea in his honor because Norwegians previously had given it the name of famed explorer Roald Amundsen, Meredith F. Burrill, director of the Federal Board of Geographical Names, told a reporter. He said Mr. Roosevelt preferred having "a smoking volcano" named for him.

"A proposal to call an important range the Ickes Mountains was dropped at the firm insistence of Mr. Ickes," Mr. Burrill added.

"Mr. Ickes said that, since the ultimate responsibility for the Board of Geographical Names was with the Secretary of the Interior, he could not permit his own name

proved these widely-accepted designations for Antarctica's four great bounding, marginal seas:

**Bellingshausen**—For Admiral T. von Bellingshausen, commander of a Russian two-vessel expedition in 1819-'21.

**Ross**—For Sir James Clark Ross, of the 1839-'43 British expedition.

**Weddell**—For James Weddell, of England, who discovered the sea in 1823.

**Amundsen**—For Roald Amundsen, the Norwegian explorer, whose expedition discovered the South Pole Dec. 17, 1911.

*The Christian Science Monitor*

Mr. Burrill's anecdote has set Washington cartographers to recalling how Rear Admiral Robert E. Peary once honored one of his benefactors by giving his name to just the "smoke."

Some 40 years ago—when Admiral Peary was nearing the goal of his life-long North Pole Quest—a strange new land was seen on the misty horizon far away toward the north and west. There, where the chart of the Polar Sea showed only a white void, loomed a noble mountain range.

The explorer carefully plotted in his discovery on the chart, and made meticulous notes in his journal about the new terrain, to which he gave the name "Crocker Land," after a friend and financial backer.

Admiral Peary kept going for the Pole. But about a decade later, Donald B. McMillan, a member of Peary's successful polar expedition, set out on a special expedition to explore and map Admiral Peary's newfound land.

After a summer of fruitless searching, the leader of the Crocker Land expedition reluctantly returned to announce that it was only a myth.

Admiral Peary had unwittingly bestowed Crocker's name on a magnificent mirage.

Cartographers pointed out that this naming geographical discoveries for royal patrons, financial backers, as well as explorers, family members, or ships, was

to be used."

He said some news dispatches from the Navy's 1947 expedition referred to Amundsen Sea as Franklin D. Roosevelt Sea because it was so listed on certain Navy charts.

"President Roosevelt's name had been applied apparently in ignorance of the earlier Norwegian naming," Dr. Burrill said.

"The matter was called to Mr. Roosevelt's attention. The President said emphatically that Amundsen's name should be retained. He added that he didn't want a frozen ocean named after him anyway—that he would prefer a smoking volcano.

"Informed that we were fresh out of smoking volcanoes at the South Pole, the President replied, 'Maybe we'll have to send (Admiral Richard E.) Dick Byrd back there to find one.'

"However, his name is honored on our list—in Roosevelt Island."

old stuff, even before the American continent was named after an Italian sailor known as Amerigo Vespucci.

**Wall Street Names**

Admiral Peary's paths of glory, it is pointed out, are liberally strewn with landmarks named after well-to-do backers. Bache Peninsular and Jessup Land, for examples, were names fresh out of Wall Street 50 years ago. Admiral Peary named his last ship for the first President Roosevelt.

## Scientist Reports Thaw in Antarctic

**But It Was 5,000 Years Ago, He Tells Chicago Session**

CHICAGO, Dec. 31 (AP).—The South Polar continent apparently had a little warmer climate and a touch of spring-like melting only 5,000 years or so ago. The temperature probably did not go up much at that time, maybe 10 to 20 degrees. Then it got colder again. But the great ice cap that has covered Antarctica for millions of years may have retreated somewhat during that spell, and then grown forward again.

Some evidence that the climate did get warmer was reported today to the American Association for the Advancement of Science by Dr. Jack L. Hough, University of Illinois geology professor. Dr. Hough represented the Wood's Hole (Mass.) Oceanographic Institution on the 1946-'47 Navy Antarctic expedition.

In the Ross Sea ice pack, at points a few hundred to 700 miles from Little America, Dr. Hough took samples of the ocean bottom. In one sample particularly, he found layers of different material.

On top were sediments and pebbles up to an inch or more in diameter that had been dropped by icebergs. Under a three-foot layer of this material, however,

## ANTARCTIC OASES FOUND PART OF SEA

**Navy Analysis Reports Water Is Salt—Exit to Ocean Is Under Deep Ice Sheet**

*North American Newspaper Alliance.*

WASHINGTON, Sept. 10—The Antarctic oases discovered by a United States Navy expedition last winter off the Knox and Princess Ranghild coasts of that continent are salt-water creeks—backwash of the Ocean.

This somewhat prosaic anticlimax to what seemed the expedition's most colorful discovery—described at the time as a 200-square-mile ice-free area of blue and green lakes at an elevation of 200 feet above sea level—has become apparent from a chemical analysis of the water just received at the Navy Hydrographic Office.

It is salt water and, very definitely, sea water. There is an unmistakable difference between salt water from the ocean and from inland lakes, such as the Dead Sea or Salt Lake. The 200-foot elevation reported must have been in error. Such a mistake is easy to understand when the difficulties of accurate altitude measurements are considered. The lakes must be at sea level just on the edge of the continental coast.

At the same time the discovery presents a new picture of one of the mechanisms by which the earth emerges from an ice age. These are shallow creeks, their bottoms are black rock and, during the long Antarctic summer, this rock absorbs a large amount of solar radiation, even through the ice of early spring. This heat is reradiated slowly, and all the ice melts over a considerable area.

The red islands reported by Navy aviators who landed on the largest of the lakes are supposedly the result of great rock falls from near-by hills in the shallow, sluggish waters. Seaward, the water is deeper and the sunlight does not penetrate through the ice to the bottom. Hence the ice sheet over the "lakes" is perpetual and appears to separate them from the strip of open water that surrounds most of the Antarctic continent.

Presumably a similar phenomenon occurred along the coasts of North America toward the end of the last Ice Age.

The existence of life in these "lakes"—countless billions of one-celled plants that give their characteristic colors to the waters—is considered the first step in the re-establishment of life after the retreat of a glacier.

were five or six inches of much different type of sediment, and then below it was more of the kind that might come from icebergs.

This indicates that there had been no icebergs coming out that far for a period of time, Dr. Hough said, possibly because the climate had turned warmer for a while some 5,000 to 10,000 years ago. A relatively small rise in temperature would be enough to start a retreat of the ice

## BRITONS' HEROISM AT POLE RECALLED

Scroll Left by Shackleton Aides in Antarctic 30 Years Ago Found by U. S. Sailors

By WALTER S. SULLIVAN

The agony and fortitude of British explorers near the South Pole have been made to live again with the discovery by American sailors of a yellowed document deposited there thirty years ago.

It was found while the United States Navy's Antarctic expedition was south and has recently been turned over by Rear Admiral Richard Cruzen, task force commander, to the British Admiralty via the British Naval Attaché in Washington.

On Feb. 20 of this year the Navy icebreaker *Burton* Island nosed into the solid ice of McMurdo Sound. A small party went ashore on Cape Evans to examine the long-abandoned camp from which two British expeditions marched south toward the Pole and disaster.

It was a desolate and lifeless scene of snow and volcanic rock. The hut built by Capt. Robert F. Scott was sealed and intact. On the ground near by a member of the boat crew noticed a copper cartridge corked at the open end.

Removing the cork, he drew forth a scroll headed with the initials of the Imperial Trans-Antarctic Expedition.

These three men died within a few miles of their base on Cape Evans, homeward bound on an 830-mile sledge journey toward the pole. Lieutenant Mackintosh was leader of the party.

### Shackleton's Epic Escape

Their Expedition, headed by Sir Ernest Shackleton, sought to achieve the as yet unfulfilled dream of antarctic explorers—to cross that vast and lifeless continent. It met with a chain of disasters. Sir Ernest's ship, the *Endurance*, was crushed by pack ice on the other side of the continent and his party escaped after an epic march across the ice floes.

Lieutenant Mackintosh, without radio, was unaware of Sir Ernest's plight. He and five others marched south from McMurdo Sound to leave supplies at Beardmore Glacier for Sir Ernest as the latter came across the continent. On the way all of this party became crippled by scurvy, their legs black and weakened.

The supplies were left on the glacier for transcontinental explorers who never came. The six men headed north with only four dogs to pull their sledges. Mr. Spencer-Smith was the first to die, after an eleven-day blizzard. They were two days' walk from fresh food.

That was on March 9, 1916. Lieutenant Mackintosh, himself to die before the end of the trip, wrote in his diary: "Poor Smith, for forty days in pain he had been dragged on the sledge, but never grumbled or complained. He had a

## U. N. Unit Rejects Plea On Polar Areas Control

LAKE SUCCESS, N. Y., Dec. 11—Suggestions that the United Nations take over control of the Arctic and Antarctic Polar regions as internationalized trust territories were turned down today by the trusteeship council as being outside its competence.

Three petitions from the Women's International League for Peace and Freedom urged that a United Nations committee be created to that end. The petitions asserted that possible benefits included meteorological observation and research, shortened aviation routes uncomplicated by national regulations or claims, equal and free access to raw materials, organized scientific surveys and research, especially in connection with atomic energy, and equitable arrangements for whaling, fishing and sealing rights.

"It is to be noted," the petition said, "that the absence of settled and indigenous populations would simplify administrative problems and make them less political and more purely economic and technical."

srenuous time in his wet bag, and the jolting of the sledge on a very weak heart was not too good for him. Sometimes when we lifted him on the sledge he would nearly faint, but during the whole time he never complained."

After recovering from their scurvy on seal meat obtained at Hut Point, Lieutenant Mackintosh

and Mr. Hayward set forth alone across young bay ice on the last leg of their journey to Cape Evans. A blizzard set in and apparently the ice on which they were walking blew out to sea. Their footsteps were later followed to the edge of open water.

Sir Ernest, after rescuing his own part of the expedition, came south aboard the *Aurora* to evacuate the McMurdo Sound group. Learning of their reduction from ten to seven men he went on a final search for the bodies.

He wrote in his journal, "During my absence from the hut Wild and Jack had erected a cross to the memory of the three men who had lost their lives in the service of the Expedition." Presumably Sir Ernest wrote out the scroll himself and placed the cartridge in the cairn supporting the cross. The cross was probably levelled by a tremor of Erebus, the great volcano on whose slopes the camp was built.

The cross was erected on Jan. 16, 1917. The next day Sir Ernest and his men sailed north and left the camp to the winds and endless blizzards of thirty years.

## HEARD ISLAND BASE SET UP

Australian Antarctic Party Has Station South of Indian Ocean

Canberra, Dec. 15 (A. P.).—The Department of External Affairs announced today that L. S. T. 3501, lead ship of Australia's antarctic expedition, landed a party on Heard's Island, 2,000 miles southwest of Fremantle, last Friday and established a

food depot. The department said aerial reconnaissance had established that the highest mountain on the lonely island was 11,000 feet—not 7,000 as previously reported.

SYDNEY, Australia, Dec. 28 (Reuters) — Group Capt. Stuart Campbell, leader of the Australian Antarctic Expedition, signaled today that on Friday his party ceremonially hoisted the Australian flag on lonely Heard Island, more than 2,500 miles from civilization at the southern end of the Indian Ocean.

In a message to Dr. Herbert Ewart, Australian Minister for External Affairs, Captain Campbell said that all the expedition's stores and equipment were landed from the ship *Wyatt Earpe* yesterday.

He added that he had formally initiated the operation of a full Class-A weather station on Heard, which is at Latitude 53:1 South, Longitude 72:31 East. From the Heard Island base, the Australian party is to conduct extensive cosmic ray observations and topographical and geological surveys on the Antarctic Continent.

## Two Mammals in Antarctic

The only mammalian life in the Antarctic is found in the sea—various species of whales and a few species of seals which live through the winter by keeping blow-holes open in the sea ice.

## WORLD'S ICE BOX

There is enough ice in Antarctica today to cover the entire globe with a layer 120 feet thick.

# Operation Antarctica:

Volunteers Embark on Meteorology Mission . . . . . By Melita Spraggs

LONDON

Twenty-five volunteers have sailed down the Thames River on their way to spend a year or two living in small groups in unpopulated, snow-covered regions of the antarctic.

Forty men living in wooden houses scattered over seven bases in the snow-covered wastes of Antarctica eagerly await their arrival. For 25 of them it means return home—for the rest, supplies of new equipment and, most important of all, letters from home for the first time in six months.

The volunteers, who will live at meteorological stations cut off from the world except by radio, sailed in the wooden-hulled motor vessel *John Biscoe*. The name of their ship was chosen in memory of Explorer John Biscoe, who discovered the southern part of Graham Land in 1833.

As a result of top secret Operation Tabarin, carried out by the Admiralty in 1943, Britain became the first country to establish a series of meteorological stations within the antarctic. The cloak of official secrecy was withdrawn after the war, and the Falkland Islands Dependencies Survey was formally set up to carry out the work of more permanent settlement.

With improved equipment, the expedition is embarking on a more ambitious program than ever before. The new occupation party includes geologists, meteorologists, surveyors, and biologists, under their leader, Dr. V. E. Fuchs, himself a geologist with previous experience of exploration in Greenland and East Africa.

The Falkland Islands Dependencies Survey had its origin in December, 1943, when a party under command of Lieutenant Commander J. W. S. Marr, RNVR, left Britain for the Dependencies. Bases were set up in February, 1944, at Port

Lockroy in the Palmer Archipelago off Graham Land and at Deception Island in the South Shetlands. A Newfoundland sailing steamer was used in the southern summer of 1944-45. In February, 1945, a third base with a complement of 13 men was established at Hope Bay.

The base at Hope Bay was supplied with dog teams and sledging equipment, and during 1945 a party sledged southwards, surveying James Ross Island and the east coast of Trinity Peninsula to Cape Longing.

Surgeon Commander E. W. Bingham, RN, led the 1945-46 expedition, which set up new bases at Cape Geddes in Laurie Island in the South Orkneys, at Stonington Island, Nony Fjord, Marguerite Bay, in southwest Graham Land, and at Admiralty Bay.

Extensive geological and biological collections have been made, and the whole project has been planned with a view to making a systematic study of all aspects of the Falkland sector of the antarctic.

In April, 1947, Major K. S. Pierce-Butler took command of the expedition. Long-range sledging trips have been undertaken, including one in cooperation with an unofficial American expedition based at Marguerite Bay.

The Falkland Islands Dependencies, the most important of which are the South Shetlands, the South Orkneys, South Georgia, and Graham Land, lie in the South Atlantic Ocean, and consist of a number of groups of islands together with part of the mainland of the Antarctic Continent. The majority of these regions are completely covered with snow and ice and are almost destitute of plant life.

Miss Spraggs is a member of the London News Bureau of The Christian Science Monitor

# NAVY PLANS ATTACK ON ANTARCTIC ICE

Main Job Is to Get Ground Control Points for Air Photos Taken Last Year

By WALTER S. SULLIVAN

Two Navy icebreakers, now nearing the icebergs south of New Zealand, will attempt a feat unique in polar exploration, it was learned Dec. 11

Off the region of colored lakes discovered by the Byrd expedition last year they plan to force their way through a hitherto unconquered icepack. Thence they will try to circumnavigate half of the vast Antarctic continent, sailing through open-water canals that usually fringe thousands of miles of the rocky and icy shoreline.

Not since Sir James C. Ross first broke through the pack in 1841 have circumstances conspired to make such an undertaking possible. In 1940 Rear Admiral Richard H. Cruzen in the Bear pushed east from the Ross Sea to a point about 100 miles beyond Sulzberger Bay, but he was hampered by lack of a modern icebreaker.

### More Powerful Ships To Be Used

The U.S.S. Burton Island and U.S.S. Edisto are considered ten times as effective as the Bear. Their primary job will be to hug the coast and obtain ground control points by which aerial photos taken last year can be oriented.

Planes from the two Navy seaplane tenders that nearly circumnavigated the continent a year ago were forced to fly over hundreds of miles of frozen sea and drifting floes before they saw land. With only the sun to sight on, their navigation was difficult. Furthermore there were gaps in coverage, so that a continuous photo-map of the coast was impossible.

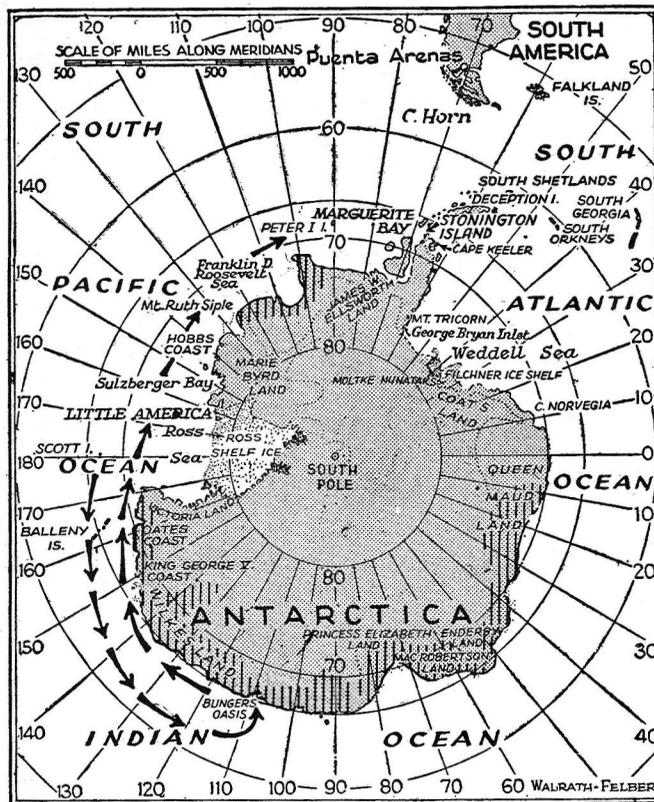
Within the next few weeks it is hoped that the two icebreakers will be able to reach the coast south of Australia where the open lakes were found. Thence they will work eastward, seeking prominent mountains, bays and other landmarks that appear in the photographs taken by the high-flying planes. By careful calculations the ships can then pin-point these places.

Each ship is equipped with an amphibian plane and a helicopter with which to explore the icepack and the inshore regions. A landing at Bunger's Oasis, with at least a hurried study of the snow-free ground and water, is planned.

The eastward progress of the ships from there depends on the wind. Normally, cold air from the pole blows seaward with speeds sometimes surpassing those of cyclonic winds. Blasts of 200 miles an hour have been reported. These push the drifting ice belt, sometimes 700 miles wide, away from the coast, creating the "canal" of open water.

In some places eddies apparently force the floes and icebergs against the shoreline, and these will present obstacles to the craft, which

## ROUTE OF NAVY'S SOUTH POLE VENTURE



Two Navy icebreakers will start near Scott Island and sail west, skirting the outside of the icepack. After breaking through the pack off Bunger's Oasis, they will attempt to sail east inside the ice. The area with vertical lines indicates the region explored by tender-based seaplanes a year ago.

can ride up on solid ice twelve feet thick and tediously crack a path through it.

Mindful that in the past ships have been crushed or have been trapped through one or more winter-long nights, the Burton Island and Edisto plan to keep within a day's steaming distance of each other for mutual assistance. Normally explosives are carried for use as a last resort.

Those in the Navy Department who helped plan the operation hope that if the season permits, the ships will be able to reach the Ross Sea and force their way beyond to Marguerite Bay. It is there that Comdr. Finn Ronne heads another American expedition that has been exploring the Weddell Sea area.

The two icebreakers met at Samoa early this month, having started from the East and West Coasts of the United States. They sailed from Samoa on Dec. 5, proceeding independently to Scott Island off the Ross Sea, where most explorers have attempted to penetrate the pack.

They, however, will turn here and skirt the icefields until they reach a point off Bunger's Oasis, where they will plunge into the ice.

Thus, according to the plan, after skirting the outside of the pack, they will know how much ice lies between them and home as they fight their way around inside. This may be a governing factor if the ships get into a tight spot. Operations are planned until weather send them home, probably early in March. That would bring the ships home about mid-April.

## NORSE SCIENTISTS ON WAY TO ANTARCTIC

OSLO (AP)—A Norwegian scientific expedition has left for the Antarctic on board the 500-ton seal hunter Brattegg.

The ship, carrying five scientists headed by the zoologist Holger Hølgersen of Bergen, is skippered by Capt. Nils Larsen, who previously participated in 18 Antarctic expeditions.

The party will land on Peter I Island visited by man only once before. The scientists will make meteorological observations, examine currents as well as flora and fauna.

The expedition, which is financed and equipped by the Norwegian Whaling association, expects to return to Oslo in May, 1948.

## ARGENTINE FLIES SOUTH

BUENOS AIRES, Dec. 13 (AP)—The Marine Ministry said an Argentine Navy Douglas transport plane flew over Deception Island, off the Antarctic continent, on an exploratory trip today.

The mission, headed by Rear Admiral Gregorio Portillo States, took off from the Comandante Piedra Buena base in southern Argentina; reached the island non-stop in nine hours, and at last report was on his way back.

Deception island is in the South Shetland group, about 550 miles south of Cape Horn, at longitude 61 West, latitude 65:70 South.

## ANTARCTICA STUDY SET

Member of Navy Party Will Seek Biological Information

WASHINGTON, Nov. 8 (Science Service)—More penguins for the National Zoological Park and information for the National Museum about life in the strange "oases" in Antarctica's icy desert are the objectives of two young naturalists who will accompany the Navy's new expedition to the world's southernmost waters.

The still-unknown life forms of the mysterious ice-free areas seen from the air by members of the recent Navy expedition will be studied on the ground by David C. Nutt. He will also make collections of marine life along the shores of Antarctica and by dredging on the bottom under the ice shelf.

Malcolm Davis, keeper of the bird house at the National Zoological Park, brought back a big flock of penguins when he returned from his previous Antarctic trip with the first Byrd expedition and has been a collector of birds and animals in the tropics as well. He is particularly anxious to obtain Emperor, Adelle and Gentoo penguins on this expedition and, if possible, some Antarctic seals.

## Navy Bags 19 Penguins

WASHINGTON, Dec. 31 (UP)—The Navy's Antarctic Task Force "attacked" the Shackleton Ice Shelf today and captured nineteen penguins. Dispatches from the U. S. S. Edisto, one of two ice breakers now in the Davis Sea mapping the Antarctic coast line, said the invasion was led by representatives of the Smithsonian Institution. The birds outnumbered the men and the Navy ascribed their surrender to the fact that, "since penguins have no natural enemies, their curiosity far exceeds their fighting spirit."

These flat-footed, flightless birds are partial to the Southern Hemisphere, says the National Geographic Society. Some species live as far north as the equatorial Galapagos Islands. They are unknown in the Arctic.

Largest of nearly a score of living species are the emperor and king penguins. Their stalwart adults average a yard high, and include individuals that surpass 40 inches in height, 80 pounds in weight, and an estimated 30 years in age. Small species grow only 15 inches tall. Fossil discoveries indicate many species that are now extinct, among them a family of six-footers.

Millenniums ago when Antarctica was green with vegetation, the penguin flew along its coasts. As the region's ice age came on, it continued to live from the sea, but as land enemies disappeared, it forgot to practice flying.

The body of the bird amphibian developed fat to protect it from extreme cold. Its bones grew heavier and stronger to cope with life at sea level. Its wings gradually changed to flippers useful in swimming and in maneuvering on ice, but useless in flight.

If pursued or desiring speed, the penguin forsakes his comical waddle and toboggans over the snow or ice on his smooth-feathered dress-shirt, using feet and flippers much as he does in the water.

# Nascopie Sinks in North; All 50 Aboard Saved

OTTAWA, July 22—The Canadian Arctic supply ship Nascopie has gone aground near Cape Dorset on the southwest corner of Baffin Land, according to a radio message from Nottingham Island.

All crew members and passengers were reported safe at Cape Dorset, where the Hudson's Bay Company, owner of the ship, has a post. It is believed the ship and supplies will be lost.

Transport Minister Lionel Chevrier has ordered the icebreaker N. B. McLean, now near Belle Isle Straits, about 1,200 miles from Cape Dorset, to go at once to take the passengers and crew to Churchill.

The Nascopie, which for thirty-four years has carried supplies to forty police posts, missions and hospitals throughout the Arctic was on her scheduled last trip.

Although some shortages of food and fuel may be experienced if all the supplies on the ship were lost, there will not be an acute situation because all police posts north of the Arctic Circle have a two years' supply in reserve.

Three women were among the fifty passengers and crew on the Nascopie. She carried 100 tons of cargo, including refrigerators ordered by Eskimos.

CHURCHILL, Manitoba, July 28 (Canadian Press)—The ice breaker N. B. McLean was proceeding today toward Churchill with the crew and passengers of the Nascopie, Arctic supply ship that foundered on a Baffin Land reef July 21.

H. A. Hope, the Hudson's Bay Company representative from Winnipeg, who is here to arrange further transportation for the survivors, said they would be taken to a special train for the 1,000-mile journey to Winnipeg. From there they will go to their homes in Canada.

Montreal, July 23—(CP)—The RMS Nascopie, famed supply ship of the far north, has picked her resting spot in the region she knew so well without loss of any of her 50 passengers and crew. No more will the Nascopie bear the mail and supplies on the 11,000-mile annual voyage to Royal Canadian Mounted Police, missionaries, trading post agents and Eskimos who had no other transportation to the outside world.

Her owners had announced this as her last voyage and as she sailed down the St. Lawrence from here early this month vessels all along the line saluted a bon voyage to the old lady of the north whose shrill whistle blew out a happy thank you.

Since she was built at Newcastle-On-Tyne in 1912 her history has been a story of Canadian sailing in a little chartered region that reached into the Arctic Circle. During World War II when German subs menaced the western Atlantic, the Nascopie armed herself with a gun, life rafts, other wartime equipment and underwent a complete camouflaging job. Not once was she touched.

As she made her annual summer trip into the northland a variety of eager Canadians jostled for berth aboard the ship. Schoolboys, industrialists and even honeymooners made the voyage that often included 22 ports of call.

Missionaries to the north depended on the Nascopie for transportation to their churches and the men they were relieving returned the same way. Mounties and Hudson's Bay Company agents alike relied on her for their outbound and homecoming voyage.

In 1945 besides the usual passengers, crew and supplies for the coming year she carried a man northward to make the first presentation to an Eskimo of the Royal Life Saving Society award. On more than one occasion an author sailed her to gather factual material for a book. Doctors went north to check the health of the people.

The wealthy cargoes of furs which her 2,521 tons brought back will never again fill the hold that now lies in the watery bed which the bravest sons of Neptune choose for their closing days.

Nascopie was in command of Capt. James Waters, making his second voyage as her captain. The expedition itself was in charge of James G. Wright, superintendent of the Eastern Arctic, assisted by Alex Stevenson, whose main task was to give hospital attention to matters connected with payment of family allowances to the Eskimos.

Before Nascopie left Montreal, July 5, officials said this would be the most uncertain of her career

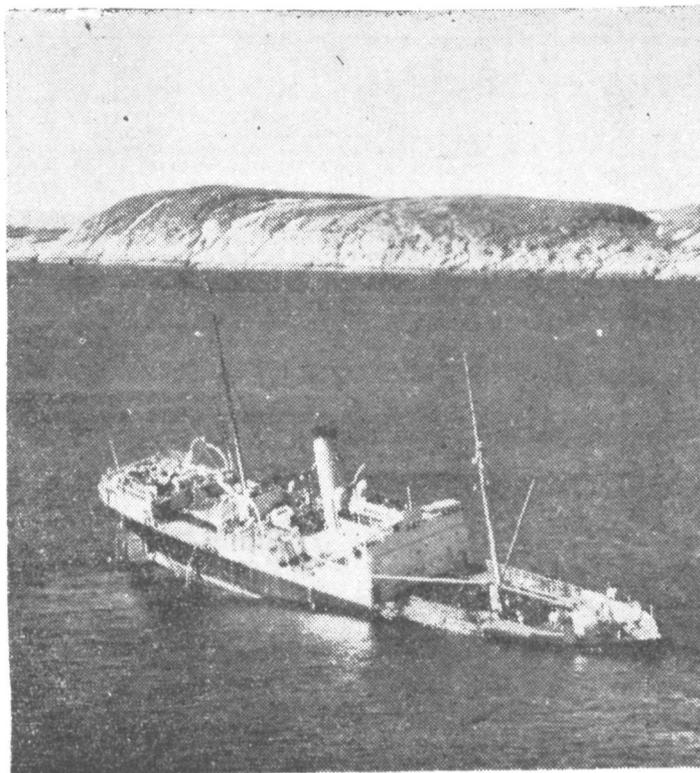


ARROW on map indicates Arctic area where Nascopie ran aground off Cape Dorset

because of sketchy reports of northern ice conditions. She was due back Oct. 6.

In all some 40 trading posts, missions, hospitals and RCMP posts depended on Nascopie's annual supply trip for their food, clothing, and other supplies. While there is no fear these posts would run short since most carry at least a year's supply, plans are being made to fly supplies into any area which reports a shortage.

Among the Nascopie's passengers was Dr. H. W. Lewis, of Ottawa, and Dr. James Cumming, of Toronto; Edward Bind, Toronto optometrist, who was to have engaged in biological studies on Southampton Island.



HER FORWARD decks awash, though not fully submerged, the doomed supply ship, Nascopie, is seen at high tide in this aerial view. held fast on an Arctic reef off Cape Dorset

## Nascopie's Last Hours Described

WINNIPEG, July 26—(C.P.)—Last hours of the veteran Arctic supply ship Nascopie on a reef off Cape Dorset, Baffin Land, were described yesterday by one of the ship's complement who came to Winnipeg by airplane.

James V. Anderson, eastern Arctic manager of the Hudson's Bay Company, was one of six brought here from Cape Dorset aboard an amphibian aircraft.

Anderson said the Nascopie, which sailed from Montreal July 5 on her 34th annual mission to northern outposts, was outward bound last Wednesday from Wolstenholme to Cape Dorset when she struck a reef off Beacon Island, near the entrance to the harbor at Cape Dorset, at 5 p.m. She was nearly eight miles from the coast.

The day was dull and overcast but the sea was quiet. At first the 2,500 ton ship touched lightly, then took a second heave and landed more firmly on the reef. Although the engines were full speed astern, even before she struck, the ship failed to budge.

Her bow was high in the air but soundings taken immediately indicated the vessel was not taking water. Capt. James Watters issued orders for all passengers to take two blankets and proceed ashore. Most of them went in a new steel landing barge the ship was carrying. Others went in the ship's passenger boat and reached the mission post at Cape Dorset about 6 p.m. Tuesday.

For the first night the passengers were housed in the H.B.C. manager's house and in a heated Eskimo house. Meanwhile captain and crew tried to refloat the ship.

A heavy kedge anchor was put out astern, deck boats removed and at high tide the first efforts were made. But the hawser to the anchor snapped without the vessel having moved.

The chief steward and his staff and some of the firemen then were ordered ashore.

Shortly afterwards, the Nascopie refloated herself on a high tide and slipped into deep water. She was found to be taking considerable water forward but the pumps kept her under control. Hopes were still high she might be saved.

But during the night the weather took a turn for the worse with a heavy breeze blowing. It was cold, miserable weather.

About 3 a.m. the anchor was weighed and an attempt made to get under way but the ship proved unmanageable in the treacherous rip tides around Beacon Island. Her bow touched on another part of the same reef. To avoid it, she was driven full speed astern and it was then she drove hard aground with her propeller half out of the water.

The Nascopie took a 30-degree list to starboard, developed serious leaks and orders were given to abandon ship. Captain Watters and the remainder of his crew left in the lifeboat at 4 a.m.

On July 23 chief officer Addy and a group of volunteers rowed out to the wreck to obtain badly-needed food supplies and recover the remainder of the mail being carried to the outposts. When they saw the Nascopie they realized both she and the cargo would be a total loss.

## Supply Ship Grounds On Hudson Bay Reef

Churchill, July 31—The 200-ton Hudson's Bay Co. auxiliary motor vessel Neophyte which ran aground Tuesday about seven miles off the mouth of the Severn river, is a total loss and her cargo unsalvageable, according to a brief message received here last night.

The Neophyte sailed Friday from here with a cargo of about 250 tons of general supplies bound for Wenuck, about 400 miles east of here on Hudson Bay and intermediate trading posts. She carried a larger cargo than usual, including a number of pre-fabricated houses since it was the intention to use the Neophyte and her sistership, the Severn, to supply some of the more southerly posts usually supplied by the ill-fated Nascopie.

The eight members of the crew were all rescued and are at Fort Severn.

The Neophyte was commanded by Capt. Eric Coyle, veteran northern pilot and tractor train operator, who pioneered the 500-mile advance Muskox expedition to Baker lake. The Neophyte was to have stopped at York Factory, but for some reason apparently failed to do so, and York Factory, Fort Severn and Wenuck supplies are all lost.

CHURCHILL, Man., July 31 — (C.P.) — Arrangements have been made to supply Fort Severn and Wenusk, the two supply points which the Hudson's Bay Company motor vessel Neophyte failed to reach before running aground Tuesday; company officials said today.

Company officials said smaller vessels in the James Bay area can easily supply both these points.

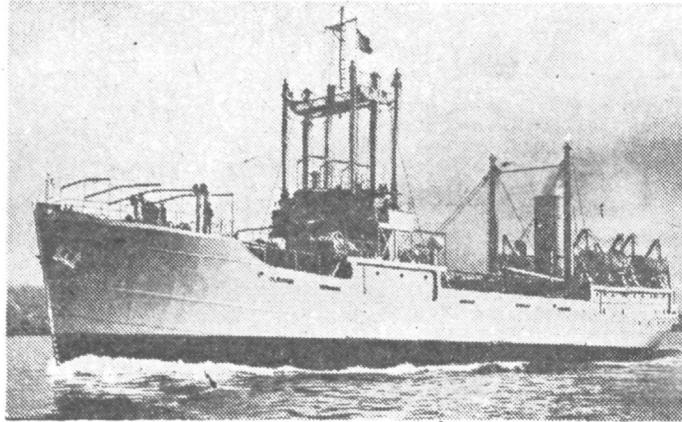
## Canada Invites Arctic Aid

### Any "Northern Nation" Offered Share in Weather Stations

OTTAWA, July 4 (UP).—Canada welcomes the co-operation of any "northern nation" in developing Arctic regions, External Affairs Minister Louis St. Laurent told Commons today.

Speaking with particular reference to weather stations in the Arctic, Mr. St. Laurent said that although activities were being carried out only by the United States and Canada there was no intention of excluding other powers.

## Rush Supplies to Far North Posts



The S.S. NORTH PIONEER which has been chartered from the Clarke Steamship Company Limited to rush supplies to places on the eastern part of the itinerary of the ill-fated Nascopie.

MONTREAL, Sept. 27—(CP)—The North Pioneer, still damp from the chill mists in the great loneland of the north country, came home today, home to the slips, warehouses, docks and early-morn searchlights and working stevedores that are her home port of Montreal. She was returning as substitute for the Nascopie, worthy little supply ship of the Hudson's Bay Company, on the run to supply northern outposts. The Nascopie had grounded on a northern shoal.

Back of the North Pioneer were 6,000 miles of tortuous sea travel, fraught with hazards of icebergs and ill-marked shoals. In command of this little ship was Capt. James Waters, the man who took the Nascopie north for many years.

He was the man who was forced to abandon the Nascopie in Baffin Bay. He took over North Pioneer

when she left on her relief voyage Aug. 16.

Lashed on the Pioneer's deck was the steel landing barge that Capt. Waters took aboard the Nascopie in July. When the Nascopie was abandoned, her company reached land on that barge.

Two days before the North Pioneer reached Pangnirtung on her relief voyage, a baby was born to Dr. and Mrs. J. G. Osborne.

"We had plenty of fog and lots of ice," Capt. Waters reported. "Ice conditions on the whole were good."

Hudson Bay posts that had depended on the Nascopie for their food, ammunition, cooking utensils and medicine for the winter were serviced by schooners from Churchill. North Pioneer called at posts and trading settlements along the shores of Davis Strait and Baffin Island.

## Greater Snow Study Is Urged

Canada is covered with snow more than six months every year and consequently research on problems created by the presence of snow on Canadian soil should meet the approval and support of every Canadian, Col. P. D. Baird, commander of the army's 1946 Exercise Musk-Ox, told the Junior Section of the Engineering Institute of Canada. Oct. 21

Now Director of the Montreal

Office of the Arctic Institute of North America, located at McGill University, Col. Baird said. "snow and ice were problems on Musk Ox and they are problems for all Canada . . . it is high time more research was devoted to the peculiarities of water in its solid form." He suggested that more effort could be concentrated on discovering the best means of transportation in the northern regions.

G. Klein, of the Mechanical Engineering Division of the National Research Council, Ottawa, emphasized the necessity of finding "the best possible designs for overcoming friction and improving transportation" in snow-bound areas.

## Oblates Sail With Food to Arctic

Montreal, July 26—A sturdy little ship is loading today at Montreal, preparing to make an attempt to reach the Arctic with the food and clothing and medicine that the Nascopie cannot take to traders, trappers, missionaries, policemen and Eskimos.

Property of the Oblate fathers, the small wooden craft was rushed to completion yesterday. Except for a handful of shipyard workers who watched, the little vessel went unnoticed as she slipped into the St. Lawrence. The Regina Polaris, as she has been named, looked

pitiful and lost amongst the busy flow of heavy shipping moving in the river.

The ship was being built originally as a minesweeper for Russia, but when the war ended construction was halted. The Canadian government sold it to the Oblate father, who planned to use it as a helpmate to the Nascopie.

The Oblate fathers had another ship, but it met an end similar to the ill-fated Nascopie three years ago. For the past two years the missionaries have been unable to help the Hudson's Bay Co. in distributing the needs of life to the

Arctic residents.

There are 12 Catholic missions and 35 missionaries spread over the far northern section of Quebec. Dependent upon them are scores of Eskimos, trappers and their families, according to Father Ferron.

The Church of England has five missions and a hospital in the Arctic. The 24-bed hospital is at Pangnirtung, on Baffin Island.

Specialty constructed for her perilous beat, the 1,000-ton Regina Polaris will carry from 250 to 300 tons of cargo. She replaces the Oblate ship N.S. Therese, lost in northern waters two years ago.

## Two Ships Held In Arctic Ice

EDMONTON, Aug. 8—(C.P.)—Two veteran western Arctic schooners have been caught in the ice of Amundsen Gulf, about 1,200 miles north of Edmonton, on their first 1947 voyage into the interior of the Canadian Western Arctic Archipelago, it was learned here yesterday.

The schooners are the Fort Ross of the Hudson's Bay Company and the St. Roch, famous Royal Canadian Mounted Police patrol boat which during the war made historic west-east and east-west voyages through the North West Passage.

Likelihood of the imprisonment being temporary was seen because the ice is expected to break up shortly.

The Fort Ross, a 150-ton schooner carrying a 250-ton load of supplies for Western Arctic posts, left Tuktoyaktuk, northeast of Aklavik, about a week ago. With good conditions, the voyage to Coppermine in Coronation Gulf, the first stop, would be completed in three or four days, for the 700 mile trip.

The present location of the imprisoned schooners is nearly halfway to Coppermine from Tuktuk.

The Fort Ross is commanded by Capt. R. J. Summers and it is believed Staff-Sergeant Henry A. Larsen, who piloted the St. Roch on its North West passage voyages, is again captaining the R.C.M.P. patrol boat. Both are veterans of Arctic sea travel.

The St. Roch went into the western Arctic this season recently from Vancouver around the Alaskan peninsula. She made the voyage from Point Barrow, Alaska, to the present location in three days.

Victoria, Nov. 21 (CP).—The St. Roch, tiny Royal Canadian Mounted Police patrol ship, will spend still another winter weathered in at Herschel Island off the mouth of the Mackenzie River on Canada's northernmost coastline, but sub-inspector Henry A. Larsen, her Arctic-toughened skipper, will be home for Christmas.

Veteran of many winter-long vigils waiting for the ice to relax its grip on the 80-foot hull of the sturdy, Vancouver-built ship, Capt. Larsen is making the trip the hard way—by dog team 120 miles to Aklavik, NWT, then by ski-equipped plane to Edmonton. Final leg of the journey to Victoria will be by rail and boat. Unusually bad ice conditions prevented the St. Roch from reaching far northern Winter Harbor on the south shore of Melville Island, forcing her return to Herschel Island.

## Cows Flown to Far North

YELLOWKNIFE, N. W. T., Nov. 21 (CP).—Canada's farthest north gold-mining town is going to have fresh milk without getting it by air express. Six registered Holstein cows have been flown into this community 675 air miles north of Edmonton. They made the 500-mile flight from Peace River in northwestern Alberta in a Canadian Pacific Air Lines plane.

## Full Citizenship Urged For Canada's Eskimos

EDMONTON, Aug 23 — (C.P.) — Canada's Arctic Eskimos should be taken into Canadian society as citizens, A. E. Forsild of Ottawa, advisor to the Federal Government on the Arctic reindeer project, said here Thursday.

Mr. Forsild has just returned from a visit to the main reindeer herd east of the Mackenzie River delta, where he inspected grazing conditions. In the 12 years since he last visited the area, the Eskimos had made surprising progress in adapting themselves to the language, the political customs and the material features of Canadian life outside the Eskimo society.

He found that a great many Eskimo children, who have been going to Mission Schools since they were quite young, converse in English much of the time. Some had gone so far in this lingual direction that they even experienced some difficulty with their native tongue.

As an example of the adoption of material features of modern living, he cited the general use of the radio by the Arctic people. This trend had gone so far, there seemed to be a radio aerial above nearly every Eskimo tent home.

Mr. Forsild said the next move in the reindeer project probably will be the establishment of herds under the management of trained young Eskimos in the Eskimo lakes area, about 30 miles inland from Tuktoyaktuk northeast of Aklavik.

There are four suitably trained herders available but it will be necessary to convince them of their ability to handle the job before they will be agreeable. They appear to be hesitant about making the change from normal Eskimo pursuits to the herder's life for fear they will fail and thus "lose face" with their fellows.

The pinch of increased population in the Aklavik area and of a much lower fur price may help to convince them of the advisability of starting in this new career.

The Government plan is to loan branch herds to Eskimos, who will in due course pay back the original number of animals to the central herds out of the increase on their branch herds. Such a system would make the project self-perpetuating.

Mr. Forsild estimated more than 30 young men have been trained in herding at the main herd north of Aklavik and at the Anderson

### ESKIMOS SHUN HERDING

Show Little Interest in Chance to Raise Reindeer

SWIFT CURRENT, Sask. (Canadian Press)—Harry Hargrave of the staff of the Dominion Experimental Station here, spent six weeks last summer in the Far North inspecting the more than 7,000 head of reindeer the Canadian Government brought in from Alaska several years ago to help provide food and clothing for the Eskimos. The herd had increased from 2,475 to 7,000 but the Eskimos weren't particularly interested, Mr. Hargrave found. Many of them were making more than \$5,000 a season from the sale of furs and refused to take on the added responsibility of a reindeer herd, even if it would, as the Government assured them, stabilize their economy.

The dog team still was prevalent throughout the North, but the igloo was only used while traveling. Huts and tents were replacing it and motor-boats had replaced many canoes.

Riverherd, farther east.

"If we can once get two of them started and they find it works out all right, that will convince others. Nothing succeeds like success," he said.

The main herd, he said, was in good condition. The herd is being kept at a strength of between 4,000 and 5,000 deer, by killing the increase for food and hides for the Eskimos. The range, he added, is in good shape and the fodder was more plentiful than 12 years ago, due perhaps to cultivation by the hooves of the deer.



### POLAR SHIFT CONFIRMED

Canadian Scientists Report a Movement 200 Miles North

EDMONTON, Alta., Aug. 15 (AP). —Dr. J. L. Robinson, Dominion geographic surveyor, said today he and other officials will attempt to explore the interior of Prince of

### Icing Conditions Bad in Far North

OTTAWA, Aug. 19 — (C.P.) — In the midst of August heat, the R.C.A.F. said today that airmen operating in the Far North were reporting the worst icing conditions ever encountered.

For instance, an amphibian Canso which took off from here July 19 to plot the exact location of the magnetic North Pole advised that only six out of a planned 14 magnetic survey points had been established because landing conditions were found to be blocked by floating ice masses.

Reports from Norsemen aircraft of a photographic detachment operating out of Norman Wells, N.W.T., indicated similar conditions. Of 50 astronomical fixation points it was to establish, only 17 had been completed to date.

Wales Island in the Canadian Arctic to establish a definite location for the magnetic pole.

The magnetic pole, which controls compasses, has been tentatively located on Somerset Island east of Prince of Wales Island.

Prince of Wales Island is 1,400 miles north and slightly east of Edmonton. Even coastline mapping there has not been done since the middle of the nineteenth century and its interior has never been seen except possibly by Eskimos, Dr. Robinson said.

OTTAWA, Aug. 16—The North magnetic pole seems to have moved 200 miles north since the year 1904, according to the first findings of four scientists of the Canadian Department of Mines and Resources, who left here by air July 19 in quest of the pole's present position.

Hazardous ice conditions have prevented the party from landing in the immediate vicinity of the pole itself, department officials reported today, but its findings have so far tended to support the belief that the pole is situated on Somerset Island between Peel Sound and the Prince Regent inlet.

Unusual compass variations when the party landed on an unnamed lake in the interior near Petersen Bay, 250 miles north of Cambridge Bay, suggested the presence of magnetic ore deposits, samples of which it is hoped geologists in the party will be able to bring home.

### ARMY PLANE LANDS ON ICE TO SAVE GI

WESTOVER FIELD, Mass., Nov. 26 (UP)—The story of "mission double dare" in which a C-47 Transport plane made a hazardous landing on ice only twenty inches thick to rescue a stricken soldier was told today by the Air Transport Command.

The rescue, far above the Arctic Circle, was completed within eleven minutes after the landing while ice cracked under the plane.

ATC officials said the mission, which took its name from the almost impossible conditions under which it was carried out, saved the life of Corporal Jean J. Harter of 711 West State Street, Fort Wayne, Ind.

Corporal Harter, who was stationed at a remote ATC weather outpost in the River Clyde region of Baffinland, was stricken with a critical jaw infection. As his condition grew worse the air force base unit at Goose Bay, Labrador, was alerted for a rescue flight.

Pilot Lieutenant Robert V. Studer of Wesley, Iowa, took off on the flight Nov. 11 with a Goose Bay Base surgeon, Capt. R. J. Hall, of Dayton, Ohio, and a medical party aboard.

Lieutenant Studer located the lake to which Corporal Harter had been carried by dog team for the evacuation. The pilot warned all aboard to stand by for a crash landing as he made two passes at the ice-covered lake and a trial landing on the third pass. The plane came down in a successful landing on the fourth try but the ice started cracking almost immediately under its weight.

Corporal Harter was only a few yards from the plane.

## Radio to Instruct Outpost Children

The Christian Science Monitor

Ottawa

The Canadian Army radio station at Aklavik on the Mackenzie River will begin shortly to send out educational programs for the children of the Mackenzie district.

This is the latest of a series of steps being taken to bring the vast northern territories into the social orbit of the Dominion.

A large number of recordings concerning historical events, legends, well-known books, and the Canadian Parliament are being flown to this most northerly of Canadian radio stations.

Among those to whom the new programs will be directed will be the families of Indian and Eskimo trappers and hunters who, because of the nomadic lives they

follow, have little chance to send their children to any school. Not very many Indians but the majority of Eskimos have receiving sets, and it is expected the Indians will be getting more of them.

Schoolroom radiocasts are given daily by stations at Edmonton in Alberta and Watrous, Saskatchewan. Under favorable conditions these programs reach the lower reaches of the Mackenzie district, but not as far north as Aklavik or other northerly posts along the Mackenzie.

Radio reception from the south is not very good in the Mackenzie district. In the eastern arctic, missionary, Royal Canadian Mounted Police, fur trading, and other posts get European programs quite clearly, but in the west reception

even from the southern stations is less clear.

A radio station is to be established shortly at Yellowknife, near Great Slave Lake, and this, it is expected, will overcome many of the difficulties.

The Northwest Territories Council, which is setting up this new radio station, also in providing a number of battery-powered radio receivers for the schools which haven't these sets already, and records of educational programs.

In the gold mining district of the Yellowknife (which got its name from the copper knives used by the Indians) the need of acquiring the amenities of life is particularly urgent, on account of the growth of the mining settlement.

## CANADA AND U.S. ESTABLISH 2 ARCTIC WEATHER POSTS

Ottawa, Oct. 22—Two of nine projected weather reporting stations in the Canadian Arctic have been established this year, Rt. Hon. C. D. Howe, minister of reconstruction, announced today.

The first station was set up on Ellesmere Island at Eureka Sound within 600 miles of the North Pole, and the second and main station on Cornwallis Island at Resolute Bay, near the western end of Barrow Strait. Both are now reporting four times daily.

The weather stations are a joint Canadian-U.S. project.

Men and equipment for the Eureka Sound outpost were taken in by aircraft, while the Resolute Bay station was established by a water-borne expedition.

In reporting the first year's progress on the three-year Arctic program, Mr. Howe said that a supply expedition, headed by the U.S. ice-breaker Edisto, had been able to reach the newly established station at Eureka Sound this summer with further equipment and supplies.

"This is the first time any vessel has navigated these waters," he observed. "Ice conditions in this area were exceptionally good this summer and it was possible to land special instruments to measure wind velocity."

The main station was set up at Resolute Bay after ice conditions had ruled out another site farther west on Melville Island. J. D. Cleghorn of Montreal and a party of 17 Canadian and U.S. meteorologists, together with equipment and sup-

plies, were landed at Resolute Bay. Prefabricated buildings and houses were erected and equipment assembled, and all major construction work had been completed when the supply vessels left Sept. 13.

In addition to the manned weather reporting stations, an automatic station was established by the expedition at Devon Island. This will be serviced by the R.C.M.P.

### Bear Mauls Weather Man

Operator at U. S.-Canadian Post in Arctic Circle Injured

OTTAWA, Oct. 25 (CP)—A marauding polar bear invaded the joint Canadian-United States weather station on Cornwallis Island, in the Arctic Circle, yesterday and mauled E. R. Gibson, a Toronto radio operator, before it was killed.

A message to the transport department said the injured man was treated by an Army doctor and was not in serious condition. It was planned to bring him out on a plane to be sent from Goose Bay, Labrador.

The bear was killed by J. D. Cleghorn, of Montreal. The message indicated that bears were causing trouble, for it asked that husky dogs intended for the post be sent as soon as possible to help guard against the marauders.



DR. JACQUES ROUSSEAU

## Arctic Group Lists Awards

MONTREAL, July 22 —

The Board of Governors of the Arctic Institute of North America today announced the award of the following Institute Fellowships for research to be undertaken during 1947:

"\$2,000 towards a botanical survey of the east coast of Hudson Bay, to be carried out by Dr. Ilmari Hustich, of the University of Helsinki, Finland; \$1,000 towards a botanical survey of the area between the head of Romaine River and Ungava Bay, Northwest Territories, to be carried out by Dr. Jacques Rousseau, Director of the Montreal Botanical Garden, and \$1,000 toward the completion of a social-anthropological study of the community around Fort McPherson, Mackenzie Valley, Northwest Territories, to be carried out by R. D. Slobodin, of Columbia University, New York."

Dr. Rousseau is also general secretary of the Association Canadienne-Francaise pour l'Avancement des Sciences, and a Fellow of the Royal Society of Canada. He is well known for his botanical work in Northern Quebec. His plans call for an investigation of the area between the head of Romaine River and Ungava Bay, in the course of which he will collect flora, study the distribution of plants and the limits of important species, and gather ethnobotanical data. Dr. Rousseau's work is also supported by the Province of Quebec.

courts in the territory.

Labrador has little agricultural value although its hinterland could support large herds of reindeer, similar to the Alaskan meat and hide producing animals. Fish are abundant along the coastal waters and hair seals once furnished clothing and food.

OTTAWA, Dec. 29 (AP)—The Canadian-Labrador northland was described to the Geological Society of America today as potentially a "new important source of iron ore on the North American continent"

## Arctic Stations Being Set Up

U.S. Announces Plan;  
Two in Canada

WASHINGTON, Aug. 16—(A.P.)—Three stations along the northern coast of North America, equipped with navigation aids for Arctic air travel, are being set up by the United States, the Army Air Forces said last night.

The main station is at Campbell Lake at the northwestern corner of Canada. Two smaller stations, subsidiaries, are at Point Barrow, Alaska, and on Cambridge Bay on the south coast of Victoria Island off the north coast of Canada.

The stations are expected to be in operation in October. They will have loran—low frequency, long-range navigation equipment—and will form a network.

Planes equipped with receivers can determine their position while flying over huge areas in which other types of navigation aids do not exist.

Ships in the Arctic Ocean, Bering Sea and Alaska Gulf also can navigate by the system. Land expeditions exploring the far north also could tune in if equipped with loran receivers.

Canada is constructing the Cambridge Bay and Campbell Lake bases. The United States is building that at Point Barrow.

At Ottawa it was recalled that establishment of the Canadian loran stations at Campbell Lake and Cambridge Bay were announced by External Affairs Minister Rt. Hon. L. St. Laurent during the recent session of parliament.

He said they would prove a boon to northland flying working as a network with a station the United States was establishing at Point Barrow, Alaska. They were being established in co-operation with the U.S. which was lending Canada the required personnel to man them until sufficient Canadian personnel could be trained.

The loran navigational aid stations are in addition to a number of weather stations Canada is establishing at various points in the northland over the next few years, also in co-operation with the United States.

and probably a worthy successor to the Lake Superior region.

J. A. Retty, chief geologist of the Hollinger Consolidated Gold Mines of Canada, which controls concessions on the Labrador peninsula, made a report on the extent of deposits. He said the virgin iron ore deposits are geologically similar to those of the Lake Superior region in type, age and natural environment.

He said the Labrador ore beds are found along a structural trough in the earth crust 350 miles in length and up to forty miles in width. The most promising bodies occupy a ninety-mile stretch of trough, where drill holes are testing reserves in advance of mine operations, reported scheduled to start in about ten months. He said the company is well on the way to proving up an initial goal of 300,000,000 tons of ore.

## Report Labrador Rich In Mineral Resources

By Science Service.

WASHINGTON, Nov. 5—Unimportant and little-known Labrador faces a promising future because of its mineral deposits, particularly its iron. It is said to have reserves of this essential metal ore as rich in iron as the Mesabi Range, Minnesota, and in far greater quantities than these famous deposits ever had.

That Labrador had iron ore has been known for more than a half century. Two decades or so ago, it was learned that the deposits were vast. Now an American and a Canadian company have started jointly to exploit them. It is a difficult job because they are located in an uninhabited area some 600 miles northeast of Quebec, and many millions of dollars will be required to build connecting railroads.

Labrador has other minerals besides iron. Gold, antimony and copper have been found. It is believed there are important deposits of lead, silver, nickel and zinc. Mica and hornblende are already produced, as well as the semi-precious crystalline feldspar known as labradorite.

The present Labrador, with a

population of some 5000 Indians, Eskimos and whites, is about equal to Arizona in area, but is somewhat pyramid-shaped with its base to the south. It lies on the Atlantic, with Quebec province on its west and south. Its apex touches Hudson Strait, the entrance to Hudson Bay.

The name Labrador is often applied to a much larger territory, including part of what is now northern Quebec. Labrador proper, by a decision made by the English Privy Council in 1927, was given to Newfoundland, which is not a part of Canada. The decision has never been satisfactory to Quebec, or to Canada as a whole. Now, with the promised development of mining, Canada is said to want it included in the Canadian Dominion.

The laws of Newfoundland apply to Labrador, but are little enforced due to the smallness of the population and the scattered conditions under which they live. Indians and Eskimos have minor local regulations. Crime is said to be very rare, and intoxication rarer still. Newfoundland maintains no

# Arctic Polar Survival School Is Set Up for U. S. Flyers in Alaska

**Pilots Fly in Any Weather to Train for Emergency, Improve Rescue Methods**

By Wilbur Forrest

Assistant Editor, the New York Herald Tribune

NOME, Alaska.

A school, probably the first of its kind for airmen, is being established here by the United States Army. It is the Arctic Polar Survival and Indoctrination School with a brief course in the art of beating the elements, the latter being winter temperatures ranging from zero to 50 or 60 below in such out-of-the-way places as the Alaskan wilderness, waters, mountains or the polar ice cap.

Temperatures here at Nome during winter vary from zero to 30 and 40 below zero, which makes this side of the Seward Peninsula a good frosty testing ground for men and planes. A major factor in training is the psychological assurance that in forced landings, wherever such may occur, there is a good chance of rescue even in regions of Alaska never yet explored or in temperatures never yet endured.

Alaska aviation is under the command of Major General J. H. Atkinson, who this year will train as many aviators under nature's cruelest weather conditions as Congressional appropriations make possible. He recently established this unique school at Nome because weather and peculiarities of terrain on the Seward Peninsula are similar to those north of the Brooks Range, a barren, frozen plain within the Arctic Circle sloping gradually to the Arctic Ocean.

## Good Chance of Survival

Only a comparatively few American aviators have flown in weather such as an Alaskan winter can produce. It is important that they erase from their minds any fatalistic attitude or sense of insecurity and know that in case of a forced landing or accident they have a good chance to survive if they keep their heads and make intelligent use of Army equipment.

While the Survival School is new and interesting, the principal rescue agency in Alaska is the 10th Air-Sea Rescue Squadron, with headquarters on Elmendorff Field at Anchorage. Detachments of this squadron are based permanently at Adak in the Aleutians, Cold Bay on the end of the Alaska Peninsula, Ladd Field (Fairbanks) and a special task force has recently moved to Point Barrow on the Arctic Ocean to continue work of perfecting rescue methods on the polar ice cap.

Flying in the Arctic and over unknown regions, whether mountain or tundra, is high adventure. The Army seeks to instill in the minds of its flyers that all the wiles of the Eskimo, the sourdough, the Arctic trapper and trader, and the famous Bush aviator may be



A contrast in air-sea rescue equipment used by United States Army personnel in Alaska. In foreground is an Eskimo-driven dog team for rescue by land after survivors have been spotted by plane. Behind it is a huge amphibian plane which can drop non-capsizing Higgins boats to crews of planes down at sea

rolled into one in missions of rescue.

The work of the 10th Air-Sea Rescue Squadron is well known to Alaskans. Like a fire department, its personnel are alert day and night with paraphernalia and equipment which includes great multiple-motored, amphibian planes capable of dropping completely equipped, non-sinkable, non-capsizable Higgins boats in water or parachuting supplies, sleds and dog teams to land. Then there are the small, puddle-jumper planes of the L-5 type which have landed on polar ice 200 miles north of Point Barrow.

## Use Plumb-Lines

In such regions where everything is white and without horizon and the depth perception of the human eye is faulty, rescue pilots drag plumb-lines to determine whether pressure ridges are present. Often such ridges fifteen feet in height are still imperceptible without plumb-line investigation.

Last year a small task force on the polar cap got too little practice because the ice broke up early. Army reconnaissance squadron planes have found that breaks and flows in the cap extend all the way to the North Pole from June to October—and that the Pole is just plain water.

The Nome Survival School is under the direction of Captain Harold Lovell Strong, United States Army, an experienced Arctic guide and explorer, reindeer herder, and trainer of sledge dogs. An accomplished Arctic navigator as well as hunter and fisher, Captain Strong, Massachusetts born, was transferred to the Alaska Command in April of this year and assigned the duty of officer in charge of search and rescue activities. Last September he was charged with the establishment of the Arctic Indoctrination School and became its first commanding officer.

Students in the school come to

Nome from various air commands and are given six days to learn their lessons, three days on barren tundra and three days on ice. They are taught that a man who has familiarized himself with conditions in the Arctic will not "let his panic indicator go up for lack of information," to use one of Captain Strong's expressions.

"If people have the normal amount of equipment and keep their heads, they are fairly sure to survive in the Arctic," says Captain Strong. "Special emphasis must be placed on the utilization of natural resources in addition to proper procedures for use of standard Air Force survival equipment.

At the Strong "College of Arctic Knowledge," there were groups of soldiers building igloos of snow blocks and Eskimo dogs hitched to sledges as well as other dogs chained to a strong rope line. Some of the dogs were frisking and pulling at their chains in the ten-below-zero weather and others were comfortably bedded down on bare ice. All were waiting for the one daily meal of oily meal and dried fish.

One does not scratch an Eskimo sledge dog behind the ear, except at the risk of an arm. They are work animals and live the hard way. Many are descended not too recently from the wolf, yet Captain Strong explained that actual half-wolf huskies are too dangerous and treacherous for sledge work and are apt to turn on humans suddenly and without provocation. Dog sled drivers are almost without exception Eskimos who are enlisted in the Army and hold rank up to sergeant.

Arctic rescue work has proven several things. One is that the most reliable land rescue team is still the dog team and is superior to the helicopter or the "weasel." The former bogs down in heavy snow and soft ice and the latter, an amphibian caterpillar vehicle, develops various difficulties peculiar to frigid temperatures.

In addition to amphibian air equipment, the 10th Air-Sea Rescue Squadron employs large gliders when it becomes necessary to make landings on the roughest terrain. The standard DC-3 plane, the two-motored sky work horse so well known on world airways, is also equipped with large skis when necessary to land on snow or ice.

## Dogs Get "Parachute Pay"

When entire dog teams, sledges and the Eskimo drivers are dropped from planes by parachute, the dogs are given "parachute pay"—a bowl and a half of mush instead of just a bowl.

Due to Arctic rescue work, which includes succor for civilian hunters and trappers as well as airmen, the mysterious area north of the Brooks Range within the Arctic Circle is no longer a complete land of the unknown. There is no part of Alaska in which rescue operations are not possible, according to officers of the 10th Air-Sea Rescue Squadron.

Kotzebue Sound is on the northern side of the Seward Peninsula, on which further south is situated Nome, the frigid seat of training for aviators who must fly under conditions simulating that of the territory northward to Barrow. Just east of the Seward Peninsula is the Bering Strait, and just across the fifty-odd miles of water is Russia.

## Eisenhower Above Arctic Circle.

BARROW, Alaska, Aug. 7 (AP).—General of the Armies Dwight D. Eisenhower, Army Chief of Staff, today visited this top-of-the-world settlement, far north of the Arctic Circle, and made a tour of the area in a "Weasel" (a light cargo carried used in crossing snow and mud areas). He inspected the Navy's oil project briefly. His visit was part of his tour of Alaska military installations. He will go from here to Adak in the Aleutians. His party flew here from Fairbanks yesterday.

## Super-Camera Is Mapping Alaska

By the United Press.

SEATTLE, Nov. 3.—The world's largest multi-lensed aerial camera is back in Nome, resuming a 20-year task of taking Alaska's picture.

The photographer's subject is docile enough. Alaska has sat patiently for ten years while her picture was being snapped. The job is half done.

The nine-eyed giant has lenses that can spell out s-t-o-p on a traffic sign 14,000 feet below.

Its job is "mapping" Alaska and the Aleutians from a plane preliminary to more thorough groundwork of Coast and Geodetic field surveyors. Lt. L. G. Taylor of the Survey is in charge of the immense operation of re-charting coastal waters for waterborne navigation.

Although a photographer himself, Lt. Taylor's job will be lightened by the work of civilian Byron Hale. Mr. Hale is the only civilian in the plane's nine-man crew. Seven crew-members are coast guardsmen.

Designed by Comdr. O. S. Reading of the Survey in 1936, the 350-pound goliath was rebuilt in 1944 after having been wrecked in an Adak plane crash. The only one of its kind—it cost \$40,000—the king size Kodak requires such highly-skilled photographers to keep its intricate seeing apparatus in precise adjustment that mass production was discouraged.

Twenty-six thousand miles of coastline from British Columbia to the tip of the Aleutians, thence northeast to Point Barrow and on to the Canadian border is the long, ragged profile the camera must see.

### SUB-SEA PEAKS CHARTED

Electronics Devices Aid Government in Bering Sea Survey

SAN FRANCISCO, Oct. 11.—Electronic devices perfected for wartime navigation have verified suspicions long held by mariners plying the Bering Sea, according to Captain F. S. Borden of the United States Coast and Geodetic Survey.

A chain of submarine volcanoes, the existence of which sea captains have suspected, has been discovered and accurately charted under waters north of the Aleutians, Captain Borden said.

The chain was located during a six-months' survey by Captain Borden's command, the U. S. S. pioneer, which returned to this port this week. Wartime electronics developments, he said, were of a major help in finding the sub-surface peaks.

Captain Borden said the largest of the chain is a subsea mountain which rises 6,000 feet from the ocean bed and has its summit 360 feet below the surface. It is 30 miles northwest of Kiska.

One part of the extensive chain breaks the surface of the sea. It is the small Aleutian Island known as Buldir.

## First Rescue By Helicopter In Far North Saves Alaskan Trapper

WASHINGTON, Sept. 10 (UP)—The first rescue by helicopter in the Far North, in which a marooned Alaskan trapper was plucked out of a tough situation, was reported today by the army air forces.

A 'copter piloted by 1st Lt. Charles O. Weir of Bloomington, Ind., member of the 10th rescue squadron, flew recently to the interior of Alaska to bring out George Plucinski, who due to a series of misadventures had been living on a diet of berries and small animals for two weeks.

The trapper had been flown to a point near Bettles, 185 miles northwest of Fairbanks by a civilian pilot. Arrangements were made to resupply him with food

dropped from the air, but animals got to the food first and when he arrived at the spot it was gone.

He was to have been picked up by a float plane, but low water conditions prevented that.

He then fashioned a crude sign, "get army," as a call for help. A civilian pilot saw it, notified the rescue squadron and the helicopter was dispatched from Ladd field at Fairbanks.

Weir located the trapper despite oncoming darkness and rain squalls, landed his R-5 helicopter on a sand bar and then took off with his passenger.

Army helicopters have been used at several other spots in the world for rescue work but this was the first Arctic case.

## NAVY'S SCIENTISTS HUNT MOLTEN ROCK

Magnetic Charting of Aleutian Area May Bring Forecasts of Volcanic Eruptions

To gain data that some day may make it possible to predict tidal waves and volcanic eruptions, the Navy is charting the Aleutian chain magnetically, it was announced Aug. 22

The airborne magnetometer—new war weapon which spotted enemy submarines, helped prospect for Navy oil in Alaska and recently located ice-buried islands near Little America—now is attempting to detect large bodies of molten rock near the earth's surface.

The Navy is interested in any form of volcanic or seismic activity that affects ships or planes. This includes, besides tidal waves, eruptions which block harbor entrances and clouds of volcanic ash that fill the skies.

The magnetometer, suspended by a cable from a Catalina patrol bomber, can map the infinitesimal magnetic properties of rocks beneath the sea. Thus the geological pattern of the Aleutian Trough can be mapped. It is in this trough, along the southern side of the Aleutian Islands, that many destructive tidal waves have originated. One, on April 1, 1946, engulfed a lighthouse in the Aleutians and did widespread damage in Hawaii.

Simultaneous observations on the ground will be used in the Aleutians. Similar surveys in the Hawaiian and Marshall Islands are planned, it was announced.

According to the Navy more is known about Hawaiian volcanoes than about any others. Thus the magnetometer's information can be checked against previous knowledge. The Navy announcement said indications were "encouraging" that the instrument could detect hot or molten rock.

The surveys are due to be completed late in September, when the Navy and Geological Survey scientists will return to the United States.

## Array of Metals Await Miner's Pick in Alaska

Among the minerals of Alaska that have not been mined in any appreciable quantity are iron, nickel, zinc, molybdenum and bismuth in the metallic group and asbestos, barite, garnet, graphite and sulphur in the non-metallic group.

With the knowledge of Alaska's resources at hand, the United States Department of the Interior, which administers Alaska, confidently predicts that the supply of all these metals but copper can become greater. Gold is no exception.

It is for military reasons that much of the information known about Alaska's reserves has not been released. Vast expanses, says the United States Geological Survey, have not been touched, but the Survey, working in conjunction with the Army Air Forces, has made maps of this virgin territory writes George E. Jones in "Alaska." Nearly 300,000 square miles of terrain—rivers, glaciers and other topographical features—have been photographed for military use, representing as much territory as Ohio, Illinois, Indiana, Michigan, Missouri and Iowa

## Study Cosmic Rays on Peak

BOSTON, Aug. 9 (UP).—Cosmic ray data has been recorded atop North America's highest mountain and turned over to the University of Chicago for analysis. Bradford Washburn, director of the New England Museum of Natural History, said members of his Operation White Tower on Alaska's Mt. McKinley took Geiger counter observations 18,150 feet above sea level.

Although planes have taken cosmic readings at greater heights, Washburn said the observations obtained by his expedition would have both practical and scientific value. They were the first ever taken continuously at such a high altitude, he said.

## Expert Urges Study Of Arctic Isolation

By Science Service.

WASHINGTON, Oct. 31.—Human ecology needs to be applied to problems of maintaining airfield crews and other personnel in the Arctic, according to Dr. M. C. Shelesnyak of the Office of Naval Research, in the forthcoming issue of Science.

Traditionally, what is known as Arctic isolation is supposed to drive some men mad or affect them in other ways. Dr. Shelesnyak suggests that studies be made of the powers of physiological and psychological endurance possessed by men used to isolation in both Arctic and non-Arctic surrounding.

There are special environmental conditions in the Arctic that require study—the terrible cold, the long Arctic winter, and the silence

## Submarines Maneuver Beneath Ice Off Alaska

By the Associated Press

JUNEAU, Alaska, Aug. 26.—A United States submarine task force was en route today to Victoria, British Columbia, and Seattle after weeks of maneuvers near—and at one time below—the Arctic ice pack along the northern rim of Alaska.

The Navy kept secret results of the cruise, which took the submarines Boarfish, Caiman, Chub and Cabezon and the tender Nereus through the Bering Strait to Point Barrow.

Watching the maneuvers was Rear Admiral A. R. McCann, head of the submarine force of the Pacific Fleet, who joined the unit at Adak in the Aleutians after preliminary phases along the island chain and northward to the Pribilofs.

From there the task force moved into the Bering Strait, knifing through the icy waters near the international line and within sight of the Siberian shoreline. Beyond the narrow passage the unit fanned out into the Arctic Ocean, testing equipment specially designed for Northern operations.

Navy officials in charge said on their arrival here that one of the submarines had submerged below the unbroken ice pack for 30 minutes, but they gave no further details.

They dismissed questions about the cruise with the remark that it was merely "routine."

## Made Survey of Arctic Plants

MONTREAL (CP)—Vegetation flourishes and supports a considerable wealth of animal life far north of the Arctic Circle, Dr. Nicholas Polunin, Professor of Botany at McGill University, said on his return from a summer expedition in the Arctic. Operating from a base camp north of Great Bear Lake, Professor Polunin made two trips to the Arctic coast, the first largely on foot and the second largely by air. Besides making large collections of plants for the herbariums of the National Museum of Canada, the British Museum and Oxford, Harvard and McGill University museums, he carried out detailed surveys of the vegetation at points within and beyond the forest line.

# ALL ARCTIC OPEN TO THE AIR FORCE

## Tests Show 3 Magnetic Poles Instead of 1, With Center on Prince of Wales Island

By ANTHONY LEVIERO

WASHINGTON, Oct. 19 — The United States Air Force announced today that its combat units could fly anywhere and in any season in the Arctic regions.

At the same time the Air Force disclosed that it had discovered two new magnetic poles, in addition to correcting the position of the one recognized by science. The major magnetic pole was found on Prince of Wales Island. One of the new "local poles" was located on Boothia Peninsula, hitherto regarded as the site of the "Magnetic North Pole," and the other was on Bathurst Island. The three poles constitute an elliptical magnetic field, it was said.

While claiming the mastery of frigid flying weather, the Air Force, following a year of intensive action in the Alaskan area, acknowledged that only a start had been made in consolidating its work in Alaska as one of the most critical outposts of this country.

Following a recent inspection trip there, Gen. Carl Spaatz, Chief of Staff of the Air Force, said that Alaska was "a still unconquered immensity, calling for wisdom and strength, and challenging the ingenuity of Air Force engineers and scientists."

The Forty-sixth Reconnaissance Squadron was credited with pioneering in grappling with the known and unknown conditions of the Arctic. In the year of experimentation and research, the squadron criss-crossed the Arctic in 5,000 hours and 1,000,000 miles of flight. It also made more than 100 flights over the "Geographic North Pole" and its immediate vicinity, the Air Force said.

The Army, during the year, tested men, theories, materials and equipment, unknown areas were mapped and many discoveries made in the conquest of polar flying weather. Oil deposits were sought.

The 46th began its operations in June, 1946, and flew its first mission on July 21, 1946, from its base at Ladd Field, Fairbanks. Later other units joined it or temporarily went to Alaska for polar training. Among these were the 57th Fighter Group, the 54th Troop Carrier Squadron, the 415th Night Fighter Squadron, and the 10th Rescue Squadron.

The major mission assigned to the 46th was to learn to fly under

## The Air Force Adds Its Bit to Polar Discovery



U. S. Air Force photo  
 Diagram of an elliptical north magnetic field determined on Polar training flights during the last year by the Air Force. Instead of a single north magnetic pole, these observations disclosed that there are three such poles—the major one on Prince of Wales Island and two local poles on Bathurst Island and Boothia Peninsula, at the lower tip of which the single magnetic pole was formerly supposed to be located (marked by star). The observations contribute considerably to the knowledge of terrestrial magnetics

any polar weather conditions. Operations during World War II emphasized the strategic value of Alaska, the Air Force said, but also uncovered broad gaps in knowledge of polar flying conditions. Consequently wartime missions were restricted by inadequate navigational facilities and seasonal weather conditions.

The Reconnaissance Squadron also received the long-range mission of making aerial photographic maps of the Alaskan area. These maps will be used for the strategic disposition of United States defense elements. These include an interdependent system of early warning sites, fighter bases and

underground fighter-control centers, and facilities for cold-weather testing of heavy bombardment units.

For the Navy, the forty-sixth photo-mapped a 35,000-square mile area in a search for possible oil-bearing formations. This squadron also made exploratory flights to obtain data for establishing a regularly-scheduled air-transport service in Alaska.

Other operations carried out in cooperation with the Army Ground Forces put infantrymen and their equipment and weapons to the test of extreme cold. They also experimented in movements by air to obtain data on the possibilities of tactical mobility in a

region of perpetual ice and snow.

When the Forty-sixth got down to work, the Air Force said, its navigators found large white areas marked "unexplored" on its maps. They were also informed that conventional means of navigation were useless in the polar areas. In their early missions they also found that landmarks shown on maps were out of position, and small closely-grouped islands were depicted as large land masses.

Discovery of the exact location of the major magnetic pole on Prince of Wales island and of the two minor poles was based on more than 1,000 variation readings. In this wise it was also established that the whole magnetic field of the poles was elliptical in shape.

The lower tip of the ellipse of Boothia Peninsula, said the Air Force, had hitherto been recognized as the magnetic pole. The new center on Prince of Wales Island was said to be 1,750 miles northeast of Ladd Field.

The exact location in latitude and longitude of these important discoveries in terrestrial magnetism were withheld for security reasons, a spokesman said. In this particular discovery the Canadian Government cooperated, as Prince of Wales Island is part of its territory.

On a night flight in October, 1946, over the top of the world, a navigator established by a celestial "fix" that his plane was exactly over the Geographic North Pole. The Air Force believed that this was the first time that the Pole's position was determined by sightings on stars.

The Air Force said, in a summation of the year's test, that the operations showed that much of its standard-type ground equipment was inefficient for polar operations. The Air Materiel Command at Wright Field, Dayton, Ohio, is now modifying the equipment on the basis of the new data.

Despite the extreme vagaries of Arctic weather, according to the Air Force, pilots concluded that polar weather "looked worse than it was." The air was found stable for the most part. Fog, snow or ice haze constituted the major hindrance in flying. Few clouds appeared in winter.

No thunderstorms were encountered, and icing of aircraft was insignificant. Frequently it was found that temperatures were 90 degrees warmer at the 3,000-foot altitude than on the ground. The North Pole was warmer in winter than Ladd Field.

Winds were very strong. One mission flew into a cyclone of 100 knots' velocity over the polar cap.

Among the idiosyncrasies noted was that winter missions were flown in continual darkness, while average summer missions of twenty hours could be flown in continuous daylight. The longest mission flown was approximately thirty hours.

Flying in continual twilight proved hazardous. Consequently flights were held to a minimum during the fall and spring equinox periods. Twilight in these periods barred reference to the stars for navigation, and made it extremely difficult for pilots to estimate height and distance in landing and taking off.

## NAVY SETS UP POST NEAR NORTH POLE

Expedition Leaves Force of 16 and Year's Supplies for Weather Observers There

North American Newspaper Alliance.

WASHINGTON, Oct. 4—Members of a three-ship Navy Arctic Expedition back in the United States after two adventurous months in the Arctic ice report that they set up scientific equipment at the farthest-north weather station in the world, and established a large central station for a network of five observatories. The expedition also made four futile attempts to get through the northwest passage north of Devon Island.

This expedition, led by the Navy icebreaker U. S. S. Edisto, was commanded by Capt. Robert S. Quackenbush, executive officer of the Navy antarctic expedition last winter. Under Captain Quackenbush, the first job was to carry supplies to the joint American-Danish weather bureau station at Thule, Greenland, at Smith Sound, West Greenland. This station has been in operation for a year with a personnel of eleven Americans.

The second job was to carry a year's supplies and set up a delicate "rasonde" apparatus for the newly established Canadian-American station at Eureka Sound on the west coast of Ellesmere Land—250 miles north of Thule and about 600 miles from the North Pole. This is the farthest-north post ever to be occupied permanently by white men.

This station is manned by 16 men, eight Americans and eight Canadians, under the command of the Canadian meteorologist, Dr. Justin Courtney.

The post was set up entirely by air from Thule about six months ago. The "rasonde apparatus," used for tracking helium-filled pilot balloons above the clouds and thus determining wind directions, had to be carried in by ship.

All necessary supplies for a year have been transported to the post. There will be monthly air mail service, with the mail bags dropped by parachute in summer since it is impossible to land on the soft tundra.

The Edisto left the weather observers at the start of six months of darkness when they will experience temperatures as low as 70-below zero. Among the supplies carried in was a dwelling house with fiber-glass insulation provided by the Canadian government. Tests have indicated that this type of arctic dwelling will prove quite comfortable.

Biggest job of all was to set up a central weather station on Cornwallis Island. Here a substantial air station with a landing strip was set up. It will serve as a supply base for all American-Canadian arctic stations.

## Smithsonian Marks Polar Epic With Exhibit of Andree Flight

WASHINGTON, July 12.—An Arctic epic of half a century ago was commemorated today by the Smithsonian Institution in a special exhibit marking the pioneer polar flight of Prof. Salomon August Andree, Swedish balloonist, and two companions.

The exhibit, which opened yesterday in the institution's Aircraft Building, will be on display at least until the end of the month. Paul E. Garber, curator of aeronautics, arranged the exhibit.

It consists of a bronze plaque of Andree, sculptured by Dr. August von Borosini of Los Angeles, who knew the explorer and his companions; a small Swedish flag presented to the doctor by Andree himself; a map of the area from which the expedition started, drawn by Nils Strindberg, companion of Andree; original photos of Andree and Strindberg, made in Stockholm, and a picture of the balloon house from which their balloon, "The Eagle," had risen.

These are among the gifts of Dr. Borosini to the Smithsonian. The institution has added other photographs and descriptive labels to the exhibit.

In 1897, the Smithsonian published, in its annual report, the story of Andree's flight, so far as it was then known, as part of its contribution to scientific knowledge. But the full story of the expedition did not come out until a 1930 expedition found the bodies of Andree and his companions—Strindberg and Knut Fraenkel.

A remarkable circumstance was that photographic film they had taken 33 years before was intact and was successfully developed so well had it been preserved by the Arctic.

During the next few months two other stations will be set up from Cornwallis Island. All the necessary supplies and instruments were left there. The sites have not definitely been determined. One will be to the west and the other to the northwest of Cornwallis.

The entire network of five stations, it is expected, will give an adequate, daily picture of weather a d upper air conditions in the arctic basin. This is of growing importance for weather prediction not only of conditions across the North Atlantic but over much of North America.

**NORWEGIAN** coal mines on the arctic island of Spitzbergen all but destroyed during the war are expected to produce 280,000 metric tons of coal this year, according to recent estimates. Above-ground installations at the Svea mines have now been rebuilt while repairs have been progressing steadily at the Kings Bay site. Storage and loading facilities at Longyear City have been repaired as have power plants, warehouses, and barracks.

The new Longyear City is in reality three different establishments, built in three different

parts of the valley. A modern hospital there complete with X-ray, a fully equipped operating room, and all modern facilities, was completed late this summer is capable of serving a maximum of 3000 workers. At the present time, 900 miners are expected to winter at Longyear City and 270 at the Svea Mines. Kings Bay mines will probably be manned by a crew of from 250 to 300 men during the coming season. Next season, it is hoped that the Longyear City and Svea Mines will be able to produce 700,000 tons, with the Kings Bay works turning out from 150,000 to 200,000 tons.

Their diaries were well enough preserved to piece together the story of their last days.

The Andree party took off from Spitzbergen on July 11, 1897. The balloon was in the air for some 65 hours, although the hydrogen-filled balloon's basket at times skimmed the ice, and came down near Franz Josef Land. The balloon traveled about 350 miles and was little less than 500 miles from the North Pole when they landed.

The group then began the dreary journey back toward civilization.

They traveled almost as far afoot as they had by balloon over the Arctic wastes, dragging their heavy sledge. Death overtook them at White Island, off the northeast coast of Spitzbergen, in October, 1897. A walrus expedition found the first hint of the disaster in 1930 when two men discovered an aluminum lid and a canvas boat filled with various articles.

As a follow-up to this, an expedition to White Island found the bodies, charts, diaries, films and other objects. The bodies of Andree and his fellow explorers were cremated in Stockholm after a public funeral.

Andree, who had served as a janitor at the Centennial Exposition at Philadelphia in 1876 because it gave him a good chance to study the exhibits learned about ballooning from John Wise, American leader in that field.

In 1882, Andree went on an Arctic expedition. He had operated a machine shop and was an assistant at the Royal Institute of Technology at Stockholm. Strindberg was assistant professor of physics at the University of Stockholm and was keenly interested in photography. Fraenkel was a civil engineer on the Swedish State Railways.

### U. S. Aids Uruguay in Sealing

WASHINGTON, Aug. 21 (AP).—The Fish and Wild Life Service disclosed today a project designed to help Uruguay make a comeback in the fur seal industry, in which the United States has established a virtual monopoly. The agency said it had sent Raul Vaz Ferreira, Montevideo biologist, to the Pribilof Islands of Alaska to study sealing operations. Aside from the Pribilofs, the only commercially important herds are off Uruguay and off South Africa's Cape of Good Hope.

## AAF BEGINS TESTS IN CLIMATIC HANGAR

\$8,000,000 Florida 'Laboratory' Provides Extremes in Heat, Cold, Rain, Wind

WASHINGTON, July 19 (AP).—The Army Air Forces has begun using a giant \$8,000,000 climatic hangar to test planes and equipment in extremes of cold, heat, rain, snow, sand and wind at Elgin Field, Fla., headquarters of the Air Proving Ground Command.

The AAF is now able to make the initial test of new aircraft under controlled weather conditions instead of taking them to bases in Arctic or tropic regions. This is expected to save many months in the early phases of type testing, but experiments with groups of planes and personnel still must be made in the field, according to one officer.

Described as the world's largest cold weather testing laboratory, with "unlimited and timely possibilities in this era of polar projection routes," the main unit will accommodate the Consolidated B-36, the global bomber with a 230-foot wingspan.

This climatic hangar is 200 by 250 feet, with a ceiling peak of sixty feet, and incloses 2,900,000 cubic feet. The floor is stressed to carry a 300,000-pound airplane—considerably more weight than the B-36.

Temperatures inside the hangar and its associated units for specialized jobs can be varied from 70 degrees below zero to 165 degrees above, and humidity can be controlled from 10 to 95 per cent at temperatures above 50 degrees.

Wind storms up to 100 miles an hour, with sleet, snow, rain, dust or sand, can be created as needed. Artificial sunlight can duplicate the effects of midday on the desert.

The hangar is so equipped that all parts and equipment of the largest military airplane now designed can be fully tested. The engines can be run, guns fired, bombs dropped, takeoffs and landings can be simulated, brakes can be checked, and electrical, hydraulic and heating and ventilating systems can be tested.

The hangar can be used also to study motorized group equipment, along with the men needed to operate and maintain it.

### Rather Cold for July

DAYTON, Ohio, July 25 (AP).—Two soldier "guinea pigs" ended today a ten-day stay in a 25-degree-below-zero chamber to test an Arctic ration kit, and after five more days to complete the test, they will start on thirty-day furloughs as rewards for volunteering. Master Sergeant Harold Buffinbarger and Corporal Harlen Plummer appear none the worse for the experiment, designed to simulate conditions air crash survivors would meet in the Arctic. They lived on chocolate malted milk bars, egg-nog bars, cheese bars, gum drops, soluble coffee, bouillon, water, chewing gum and cigarettes.

## Spitzbergen Coal Prospects

## SCIENTISTS STUDY ARCTIC ANIMAL LIFE

Group at Naval Laboratory at Point Barrow Seeks Data on Adaptation to Climate

North American Newspaper Alliance.

WASHINGTON, Aug. 30—A laboratory for the study of the adaptation of animal life to Arctic living conditions has been set up at Point Barrow, Alaska, by the Office of Naval Research.

Here, it is expected, university scientists will carry out individual investigations, using facilities of the Navy.

The first party is already at work on studies of the metabolism of warm and cold-blooded animals, the expenditure and economy of animal heat, and the orientation and metabolism of Arctic birds during migration.

Following these processes through the transitions from summer to winter and winter to summer is expected to yield data on the basic biological requirements for adaptation to an Arctic environment.

Point Barrow is the only settlement in the possession of this country lying within the Arctic Circle. It faces an Arctic Ocean whose shores, waters and ice have been little explored, biologically. Southward, the tundra land rising gradually to the Brooks Mountains also is essentially unknown from the standpoint of biology.

The first group of scientists is composed of Drs. Laurence Irving, P. F. Scholander, Reidar Wennesland, Walter Flagg and Erik T. Nielsen of Swarthmore College and Donald R. Griffith and Raymond J. Hock of Cornell University. They are working under Navy contracts.

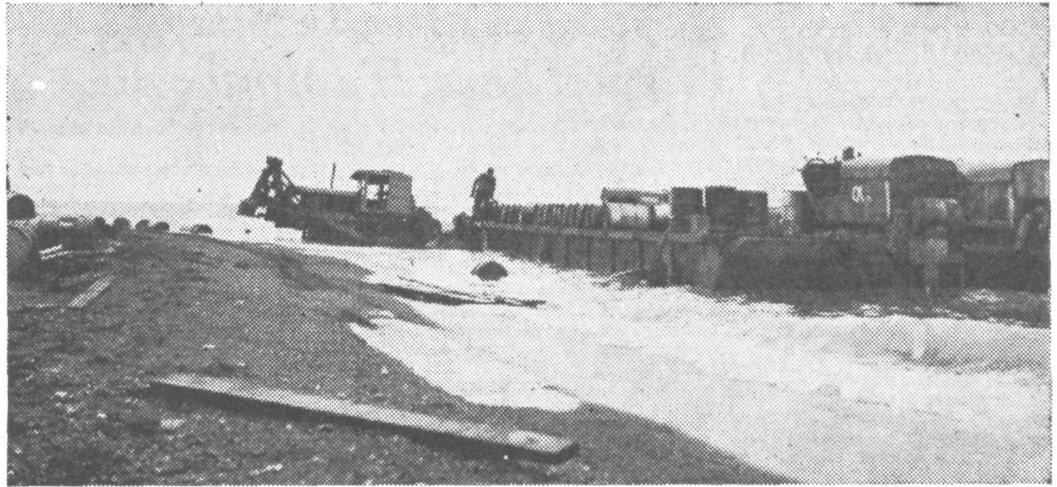
Ability to live in the Arctic is becoming of increasing importance, especially from a military standpoint, since these frozen wastes provide the shortest air routes between the Eastern and Western Hemispheres and might possibly become a no-man's land in another war.

A great deal of data, it is expected, can be obtained from the actual ways of life of the Eskimos and far-north Indians. The Navy is interested, however, in much more fundamental information upon which to base clothing, ration and housing requirements.

An announcement of the project to the American Association for the Advancement of Science states:

"Over these regions, modern transportation is rapidly extending geographical, geological and oceanographic surveys which provide clear outlines upon which to examine the patterns of Arctic life and its active adjustments to many of the high-latitude conditions which cover large and important areas of the earth.

"These areas hitherto have been screened from view by the difficulties of travel and existence. Now that Arctic outposts have be-



**ARCTIC OIL FOR THE NAVY**—These gasoline and food supplies are for contractors determining whether there is oil in the Navy Petroleum Reserve in this Alaskan wasteland at Point Barrow. There are only three weeks in the year when supplies can be unloaded this far north.

## Cold Routes 5 GIs in Arctic Test

By Science Service.

WASHINGTON, Dec. 6.—This is a cold weather story—and a dismal preview of the foxholes in the Arctic if there is a next war.

Do you hate to eat out in the cold outdoors? Do you sit and shiver instead of moving around to keep warm? Do you get angry when you are out in the cold wet of winter?

If so, you are a very bad risk as a soldier who may have to fight in the cold and the wet of the frigid areas near the top of the world.

Dr. G. W. Molnar, of the Army's field research laboratory, Fort Knox, is authority for this prophecy.

Eight infantrymen and a lieutenant fought a battle in Adak Island in the Aleutians and Dr. Molnar reported it to the American Physiological Society meeting

at the Army Medical Center here this morning.

They were under orders to hold the line by staying in their foxholes for 48 hours. But five of them could not stand it and retreated to a near-by warm hut after 16 hours. The other four were then ordered back and the endurance test was over.

### Will Study Arctic for Navy

SAN FRANCISCO, Aug. 9 (AP)—The Navy's 12th district announced yesterday that seven civilian scientists from Swarthmore College and Cornell University would arrive at Barrow, Alaska, this month to start a Navy-supported program of biological research within the Arctic Circle. Object of the research is to determine human needs for life in the Arctic. The study will extend over a year to allow observation in the various seasons. The scientists are Dr. Laurence Irving, Dr. Per F. Scholander, Dr. Erik Tetens Nielsen, Dr. Reidar Wennesland and Walter B. Flagg, all of Swarthmore, and Dr. Donald R. Griffin and Raymond J. Hock of Cornell.

Differences in psychological make-up rather than in physical make-up or body physiology seemed to determine which men could endure the wet-cold. The men were of about the same age, 21 to 23, weight, 153 to 154 pounds, and height, about 5 feet 8. The ones who left the foxholes against orders had had more combat and foxhole experience than the others.

Added protection in the form of heat, clothing or shelter does not necessarily increase endurance, Dr. Molnar said.

## U. S. AGENCY CAUTIOUS ON RAISING OF MUSK OX

WASHINGTON, Aug. 9 (AP)—Milton C. James, assistant director of the Fish and Wildlife Service, said this week the agency was making an inventory—at lonely Nunivak Island, north of the Aleutians—of the country's only musk-ox herd.

Whatever the outcome, Mr. James added, the Government did not look with favor upon the musk-ox raising business in general.

To the three Governors, two Representatives and scores of other individuals who have asked about animals with which to start experimental herds, the Fish and Wildlife Services, on the basis of its own experience, has dispatched a form-letter reply which says, flatly:

"It is entirely impracticable to raise musk oxen as a farm or commercial enterprise, and any attempt to do so should be regarded only as an expensive experiment almost certain of failure."

Congress appropriated \$40,000

The men in the test were not allowed foxhole covers or sleeping bags, but wore standard clothing for Arctic duty plus wet weather parkas and trousers. They got E rations every six hours with canned heat to warm the rations, and measured amounts of water and coffee.

The wind blew at an average velocity of 30 miles per hour during the first 14 hours of the test, rising to 72 miles an hour during the last 10 minutes. The men said the wind had only a slight cooling effect. It began to snow six hours after the men entered the foxholes.

Measures to prolong endurance, Dr. Molnar said would have to be either such as would dull the excitatory centers of the brain, like some drug, or such as would reinforce the desire to be a good soldier, confidence in the scientist directing the test and desire to help science.

in 1930 for the purchase of musk oxen with which to repopulate Alaska, once the home of thousands of the clumsy beasts which combine the characteristics of cattle and sheep.

Captured in Greenland, thirty-four oxen were shipped via Norway to New York, transported to Seattle by rail, and released eventually on a 4,000-acre pasturage near Fairbanks, Alaska.

Six years later, when the herd had dwindled to thirty-one, it was removed to Nunivak, twenty-five miles off the mouth of the Yukon, out of the reach of bears and wolves. There, on a million-acre, sub-Arctic ranch forty miles wide and seventy miles long, conditions appeared ideal for rapid population growth.

During the war years, the Government had no time for Nunivak census-taking. In 1945 an aerial survey indicated that, unless too many animals were counted twice, the herd might have increased to 115. Last year clouds, fog and rough water interfered with boat and plane travel, and only thirty oxen could be found.

To date, the project has cost an estimated \$125,000.

## 'GHOST SNOWSTORMS' REPORTED BY ARMY

WASHINGTON, Sept. 6, NANA — "Ghost snowstorms," a hitherto unknown meteorological phenomenon, are reported from an Army Air Forces study just made public through the American Geophysical Union here.

They are storms in which no snow falls, but which create an electrical pattern in the atmosphere similar to that encountered during a blizzard.

The study was undertaken under the direction of Dr. Vincent J. Schaefer on the summit of Mount Washington in New Hampshire because of the electrical effects on planes caught in storms. Snow crystals are electrically charged and the charge may be either positive or negative. An aircraft the size of a B-29 encounters about 10,000,000,000 of these charged particles per second. As a result enormous static is built up. Instruments, especially radio communication, go out of commission and sometimes weird balls of blue flame, St. Elmo's fire, appear on wing tips.

Hitherto there has been no understanding of this phenomenon. In this study a classification was made of the different types of snow crystals and the type of electrical charges they carried. Among the findings: that of the ghost storms. Quite frequently, it was found, planes would encounter about the same atmospheric electrical conditions in the absence of falling snow through a quite limited area.

This condition results, it was learned, when snow crystals start to fall but melt or evaporate before they reach the lower levels of the atmosphere. But the charges in the air persist until they either are neutralized or leak off to the ground.

The "ghost storm," it was discovered, usually persists longer than the electrical pattern of a real snow storm. This, clears up phenomena which have been inexplicable to fliers in the past. It is quite likely that the ghost storms may have been responsible for serious accidents through the sudden failure of communications for no known reason.

## 'Snow Isn't Really Snow', Expert Says; It's Mostly Air

TORONTO, Aug. 12 — (C.P.) — It may be difficult to explain this to a skier who spends much of his time sitting on it, but snow isn't exactly snow—it's mostly air—says G. J. Klein, snow expert of the National Research Council at Ottawa.

Here attending the meetings of the International Meteorological Conference, Mr. Klein dealt with the cooling subject on a hot day when he presented the lowdown on the white stuff

For instance he told the conference that a snowflake when falling was 90 per cent air and even when hard-packed was still half air.

There were nine kinds of snow, judged by size and shape of grains, hardness and free water content.

Mr. Klein said that "back in 1934 Canadian scientists became interested in the slidability of skis and sleigh runners. By 1940 they learned a lot no one ever knew before about snow—no one that is except the Eskimos."

"For example, Eskimos know that up north when it is very cold, the best sled runner is one that is very long and narrow, say 25 feet by 2½ inches. Tests showed that the front foot or two of the runner melts the snow just enough to form a lubricant for its remaining length. In fact, the lower the temperatures are, the longer the runner should be.

Mr. Klein said the Meteorological Division in Canada was co-

operating with the National Research Council in studying snow characteristics at stations from Gander, Labrador to Whitehorse, Yukon.

With specially-designed instruments daily measurements were made of penetrability of snow, hardness, thickness, depth, specific gravity, free water content, temperature and size and shape of grains and crystals.

With information gleaned through years of study, Mr. Klein said, "snow scientists are able to predict the occurrence of an avalanche in mountainous regions. So much so that in Switzerland they will often order trench-mortaring of a threatening slope in order to precipitate an avalanche when it will do the least damage.

## ESKIMO SCHOONER WRECKED IN GALE

WINNIPEG, Man., Oct. 2 (U.P.)—The shipwreck of the Eskimo schooner Lady Richardson in a gale on the western Arctic Sea was disclosed with the arrival of her crew at the settlement of Tuk-poyakup, from which she set out on Sept. 8, the Hudson Bay Company said today.

A second schooner, the Kutchnik, also is believed to have been wrecked in the storm and an aerial search is on for the crew.

Eskimos of the Lady Richardson reached land by small boat after their ship struck a reef and was wrecked. Both the Lady Richardson and Kutchnik were bound for Holman Island. Another schooner, the Blue Fox, reached the island with some beams open, on Sept. 25.

The Lady Richardson's crew said they last saw the Kutchnik on Sept. 16, when the storm was raging, and believed the other schooner may have been wrecked on Booth Island.

Owned and operated by Eskimos, the schooners are chartered by the Hudson Bay Company to haul freight.

## 'TIS SPRING AT BARROW

FAIRBANKS, Alaska, July 19—Spring came to Point Barrow, the northernmost village of America, at 1:21 P. M. on July 15 when the Arctic Ocean's ice cap was wrenched free from the shore.

Employees at Ladd Field, Eskimos and several hundred workers at the Navy's oil exploration camp cheered the seaward drift of the giant iceberg as it clears the way for the annual hazardous run of supply vessels with a year's provisions.

Point Barrow is usually ice-free for about six weeks. Navy vessels customarily plan on dumping their cargoes on the coarse black Barrow beaches during the first and second weeks of August and then scurry for the safety of Bering Strait's open seas under the guidance of flying ice patrols.

## Sea Otters Reported Thriving in Remote Section of Aleutians

Sea otters, once almost extinct on the Pacific Coast and still among the rarest of fur-bearing animals, are reported to be thriving and multiplying in a remote section of the Aleutian Islands.

British Columbia authorities have been advised of this development by members of the United States Coast and Geodetic Survey. The almost unapproachable site of the otter sanctuary is being kept secret to prevent poaching.

One officer of the survey reported that he counted more than 100 in a single herd.

Sea otters were once the prized fur bearer of the British Columbia Coast, and, in the early days of white settlement on Vancouver Island, Capt. John Meares developed an exceedingly profitable trade with the Chinese, shipping otter skins across the Pacific. The sea otter trade established by Captain Meares led to the historic Nootka dispute which almost led to a renewal of warfare between Britain and Spain.

Unlike the fur seals, which are now breeding in great numbers on the Pribilof Islands under control of the United States Government—a result of the Pelagic Sealing Treaty of 1911—the otters were hunted almost to extermination before protective laws could be passed.

## Pribilof Seals at Peak

WASHINGTON, Aug. 16 (AP)—The Fish and Wild Life Service reported today that the fur seal population of Alaska's Pribilof Islands had reached a new peak of 3,613,653—a 6.72 per cent increase over the 1946 total—with a value of more than \$100,000,000. The agency said the catch, however, from the Pribilofs' famous herd, for the season which ended July 31, was only 61,447 skins—3,276 less than taken during the summer of 1946.

The Pribilof herd, containing 132,279 animals when the government took it over in 1910, now represents about 80 per cent of the fur seals of the world.

# Parachuting Dogs Rescue Fliers in Arctic

By WILLIAM F. McMENAMIN,  
United Press Staff Correspondent.

GOOSE BAY, Labrador, Aug. 19.—The U. S. Army Air Forces at this northern base are training parachute-jumping dogs for rescue work on the ice to help save stranded fliers in the far north.

Sgt. George Abbott, 20, Norfolk, Va., a paratrooper on special assignment to Air-Sea Rescue Service, jumps with the dogs, dog sled, food and medical supplies. The idea is to drop them near any airmen who are forced down in the Arctic. The dog sled would carry them to safety.

"Some of the dogs really like to jump," Sgt. Abbott said. "They walk right out the door. I guess

they don't mind it because the snow cushions their fall and they don't get hurt."

### Plan Iceberg Destruction.

He uses huskies and Greenland Eskimo dogs of which there are four full teams at this, the northernmost heavy bomber and air transport base on the east coast of the North American continent.

Another experiment is being planned for the destruction of icebergs with bombs dropped by AAF planes before they drift down into the shipping lanes.

The air forces are working on the problem of what kind of bomb to use. It is difficult to penetrate the ice. Armor-piercing bombs may have to be used. The work

would provide valuable peacetime training in sea search and bombing for combat bomber crews.

Goose Bay is manned by slightly more than 1000 officers, men and civilians, together with about 200 Royal Canadian Air Force personnel. It is the center of a northern network of emergency landing fields and air-weather stations.

### An Year-Round Base.

In the event of another war Goose Bay might play a vital role in the nation's air defenses, AAF officers believe. It can be operated all year around. In winter the snow packs on the runways hard enough to handle the heaviest bomber.

The northern bases operate

under the Atlantic division of the U. S. Air Transport Command. The Atlantic division controls 50,000 miles of air routes. The bases are also under control of the joint Canadian-U. S. Board of Defense.

Temperatures at Goose Bay go down to 42 below zero and snow sometimes piles higher than the housetops. Fire is the greatest danger. The hangar burned down last winter in sub-zero weather.

The commanding officer is Col. Paul A. Zartman, AAF. The base is equipped with all the comforts of a town in the States, including a hotel, officers' club, men's recreation hall, movies, stores, post office and even a bank.

# Reds Declare Arctic Has Sprouted 3 Poles

By the United Press.

LONDON, July 15.—The Russians, indefatigable students of Arctic geography, claim discovery and conquest of two new north poles.

An account published by the Northern Sea Route Administration, which has over-all control of Arctic exploration and navigation, said Soviet scientists had discovered and studied the "Pole of Inaccessibility," and had confirmed the existence of a second magnetic pole.

The Pole of Inaccessibility is a phrase coined by the Canadian explorer, Vilhjalmur Stefansson. It has no planetary or magnetic significance. Rather, it is that general area of the Arctic most distant from any inhabited land, and hence the most difficult of all parts of the Arctic to reach.

A spokesman for the Scott Polar Institute at Cambridge University said the term referred to the general area, perhaps on the other side of the north geographical pole from Greenland. That would be in about latitude 85 degrees north, and somewhere between longitude 130 degrees east to 140 degrees west.

The Russians did not disclose the location of the pole precisely, but said an expedition visited it during 1941, when, according to the institute spokesman, they had 40 or 50 expeditions out.

"The expedition established that in the area of the Pole of Inaccessibility, the ocean is from 6000 to 11,000 feet deep and not 21,340 feet, as previously believed," the Russian announcement said.

"North of the 78th parallel, the spaces between the pack ice were filled not only by 'younger' ice, but also by clear water. This confirmed the prediction that rarified ice and clear water should be

found in the area of the Pole of Inaccessibility."

Many explorers have crossed the area of inaccessibility, but the region is so difficult to reach that no party except the Soviet group has been able to land and make observations on the floating ice pack, it was stated.

In 1926 the Norwegian Roald Amundsen, with the American Lincoln Ellsworth and Italian Umberto Nobile, floated across the heart of the area in a dirigible during the flight from Spitzbergen to Alaska. Before the war several Russian crews flew airplanes from Russia over the heart of the Arctic to the United States West coast.

A party of Russian explorers established a base camp at the North Pole and floated with the pack ice over many months, gradually being taken by previously unknown currents to the southern limit of the Arctic basin. They made exploratory trips into the area of inaccessibility.

The Russians claimed, meanwhile, to have confirmed the existence of a second magnetic pole, but like the Pole of Inaccessibility, they did not give its location.

"Observations in the area between Wrangel Island and Franz Josef Land confirmed the existence of the second magnetic pole," the Russian announcement said.

## Soviet Has Arctic Gardens

MOSCOW, Aug. 16 (AP)—The weekly newspaper Socialist Agriculture said today that vegetables were being grown successfully on the Soviet Union's Taimyr Peninsula, the northern tip of which has about the same latitude as northern Greenland. The newspaper said that greenhouses were used to start plants and that fields were heavily fertilized.

# Greenland's Role Vital In Air and Sea Traffic

By Science Service.

WASHINGTON, Oct. 30.—American weather, radio and airport stations on Greenland, which played an important part in the war, are now essential for peacetime navigation by air or water from the United States to European ports by the Great Circle route.

It is the short route to much of Europe. Planes from New York to western Europe pass over Newfoundland, then south of Greenland. Ocean liners follow a parallel route, particularly during the non-iceberg season. Both, on the eastern half of their trip, are subjected to weather bred in Greenland. In fact, all western Europe is affected by Greenland-bred weather.

Greenland is a Danish possession. By treaty with Denmark these essential stations can remain indefinitely under peacetime conditions. Some believe that Greenland should be purchased from its present owner and become proper-

ty of the United States. The stations would then be secure. Russia is said to object to the American operation of such stations either under treaty or ownership of the island.

Weather reports from them assisted the Allied armies in their invasion of France and Germany. They also were of great help to the American convoys to Russian Arctic ports by way of Iceland.

Greenland is the largest island in the world, not counting the Australian continent. It is estimated to contain 736,518 square miles of territory, about one-fourth that of the continental United States. But most of Greenland is covered with ice; only about 31,000 square miles, along the southeast and southwest coastlines and south of the Arctic Circle, is free of ice and suitable for settlement. It is along these coasts that most of Greenland's 21,000 people live.

# Russia Looks to the Arctic

BY MICHAEL O'MARA

C.P. Staff Writer

LONDON, Research in animal husbandry and soil cultivation designed to make Russia's Arctic communities self-sustaining, is going forward successfully, the Soviet News Press Service reports.

Almost half the territory of the U.S.S.R.—rich in mineral wealth—thus will be opened up for full exploitation, according to Philip Gulchak, director of the Leningrad Arctic Farming and Animal Husbandry Research Institute.

The Institute, established in 1937, tackled the problem of making it possible for "the constantly growing communities of Arctic settlers, many of them already fair-sized towns," to feed themselves instead of relying on grain, flour and tinned goods brought long distances from the interior of Russia.

Its work has mainly been concerned with developing frost-resistant crops, improvement of the reindeer strains bred by native tribes similar to Canada's Eskimos, and the introduction of such southerly types of livestock as could be bred to withstand Arctic conditions.

\* \* \*

SPECIAL varieties of vegetables have been developed which do well in the rigorous climate. Potatoes, cabbages, turnips and radishes grow in the open as far north as the 72nd parallel—six

degrees north of the Arctic Circle.

Crop-yield is not as high in the black-earth areas of Russia but cabbage averages 270 hundredweight to the acre and potatoes 320 hundredweight.

"Quite good" results have also been obtained with spring sowings of wheat, barley and oats, and it is hoped that by 1950 it no longer will be necessary to send grain into the Arctic areas. Flax, hemp, Makhorka (a kind of coarse tobacco), camelina (a type of mustard), buckwheat and kok-sagyz (a rubber-yielding plant) are crops still in the experimental stage.

The Institute has crossed southern-born farm animals with those found in the north and thus "greatly improved" standard types of livestock for adaptation to Arctic conditions. Introduction of modern feeding and housing methods, also part of Gulchak's work, has "doubled and even trebled the milk yield of Arctic cows" and better feeding of reindeer improved the breed.

Gulchak sums up:

"The work of the Institute has proved the possibility of farming and animal husbandry in the Tundra of the Far North . . . formerly almost uninhabited and whose mineral wealth lay untouched. This work will continue until every settlement, every mine and port is able to provide all it needs for the sustenance of its population."

## PEARY LAND SURVEYED

Uncharted Area, Volcanos Found by Danes in North Greenland

COPENHAGEN, Denmark, Aug. 31.—Count Eigil Knuth returned here today from the Greenland expedition which is exploring Peary Land, the farthest northern reaches of the island.

He said the expedition had sent scientists into hitherto unexplored areas and had discovered uncharted land between Independence Firth and Denmark Firth. It had found volcanic highlands in this region.

The expedition's chief, Dr. Ebbe Munk, and the rest of the staff are due back about the middle of September. The expedition was to establish a new Danish station in Peary Land.

## Danes Plan Airports In North Greenland

COPENHAGEN, July 2.—(Reuters)—A party of young Danish scientists prepared today to leave for the extreme north of Greenland where they will spend the next three years looking for air landing sites. The Danes believe future world air lines are likely to pass over Greenland.

## Arctic Seals Sought

Russia has launched an expedition, including four ice-breakers and a squadron of scouting planes, to hunt seals in the White Sea. The ships sailed from Murmansk and Archangel. It is claimed that Greenland seals from the Arctic yield palatable meat and valuable furs and oils.

## U. S. Greenland Landing Explained as Map Survey

WASHINGTON, Sept. 15 (AP)—A State Department official said today that Denmark had asked the United States about a group of Americans who landed in Greenland two weeks ago, and was satisfied upon learning they were correcting maps.

The official termed it "a very minor matter." He said the group landed in three small planes and departed upon making the check. He said the party had assumed it was all right to do so as part of mapping work begun during the war.

## Mapping Resumed

COPENHAGEN (Reuters)—Mapping of Greenland, begun in 1927 and interrupted by the war, was resumed in June by an expedition of some 70 persons working under the Danish Geodetic Institute.

The expedition has at its disposal the most modern means of map-making, including two Catalina flying boats bought in the United States to help in the huge task of accurately reproducing Greenland's lengthy coastline.

## Ice Coats Most of Greenland

Scientists have found that of Greenland's area of 736,518 square miles, more than 705,000 square miles consist of a gigantic ice cap and only 31,284 square miles are ice-free land.

## Competition Lifts Pay Of Whale Harpooners To \$1,000 a Week

By Alec De Montmorency

North American Newspaper Alliance

NEW YORK, Dec. 22.—Skilled Norwegian whaling harpooners, traditionally the world's highest-paid manual workers, will receive 100,000 Norwegian crowns, more than \$25,000, for their work during the six-month whaling season this year. This unprecedented pay scale, amounting to around \$1,000 a week, has been caused by international bidding resulting from new curing and preserving methods which have made whale meat edible for humans.

The Stockholm newspaper Svenska Dagbladet, in a dispatch from Sandefjord, the little South Norway town which is the "capital" of the whaling industry, reports intense recruiting competition among Great Britain, Russia, the United States, Argentina, Denmark, Holland, South Africa, Australia and Japan.

New inventions, improving the curing and preserving of whale meat to make it edible, are, however, the chief reason for enhanced profits in the industry and consequent higher pay. Kosmos III, the new 25,000-ton factory ship, for example, will bring back from the Antarctic huge quantities of frozen whale meat, to be sold principally in England and in the Anglo-American zone of Germany.

A German invention to deodorize whale oil and make the flesh edible has been brought into use through a Hungarian engineer who was in on the secret—all records of which had been destroyed by the Nazis before their defeat. As a result, a great deal of whale oil will be used to manufacture high-grade margarine for the fat-short British and European markets.

Medical advances are making additional portions of the whale commercially valuable. Between 200 and 250 pounds of insulin can be extracted from a whale, for example. Formerly, only very small quantities of this essential anti-diabetic drug could be obtained from pigs.

Dr. Hans Christian Haagedorn of Copenhagen, one of the world's leading insulin specialists, will head a team of Danish scientists to the Antarctic. They are to supervise the extraction and preservation of insulin which will be flown in small capsules to Europe and the United States well ahead of the return from South Polar waters of the factory ship Thorshavn.

Another scientist, Prof. Leopold Ruzicka of Switzerland, will be in charge of extracting hormones, which have of late become an important component of many health-saving drugs.

Although harpooners will earn fabulous sums for their highly skilled work—much more than their skippers, and more than the salary of the admiral in command of the Norwegian navy or even that of the Norwegian prime minister—their work bears no resemblance to a fishing trip.

They must sleep fully dressed, ready to jump out of their cots instantly on the call of "hvaler!" ("whales!") and then to stand by in the icy spray as long as a whale is

## Soviets End Antarctic Hunt For Whales With Huge Catch

MOSCOW, July 8

The first Soviet whaling expedition to Antarctic waters since the 1820's has docked in Odessa after what is described as a highly successful and profitable voyage. Its flagship was the "floating blubber factory" SS Slava of 28,000 tons displacement and equipped with 20 giants boilers for processing blubber. The Slava was accompanied by eight whaling vessels of smaller tonnage.

The leader of the expedition was Capt. Vladimir Voronin, noted Arctic veteran and a member of the Supreme Soviet of the USSR.

Interviewed by a correspondent of his hometown paper, Leninskoye Znamya, of Petrozavodsk, capital of Carelofinn Republic, Captain Voronin reported a total catch of 386 whales which boiled down to around 6,000 tons of blubber. This, he added, enabled his floating blubber factory, whereof he was combination captain and manager, to fulfill its plan by 130 per cent.

Their biggest catch was something to dwarf the fisherman's tallest yarn—a blue whale 28.6

in sight—sometimes several days on end.

Above all, they have to maintain a high average of hits in the heavy seas around the South Pole—otherwise they may have to forfeit part of their pay, and perhaps a chance for another job next year.

Harpooning still is a Norwegian monopoly, with the specialists training only close relatives or friends in their craft. To make sure that the monopoly remains in Norwegian hands, the Norse parliament decreed 20 years ago that none might sell his services to a foreign whaling company and making it a felony for a Norwegian to train a foreigner in harpoon-shooting.

Two years ago, however, to help alleviate world famine, the Norwegian government agreed to relax temporarily the first of these two provisos—and Norwegian harpooners now serve on foreign vessels.

**Soviet Whalers At Cape Town**  
PRETORIA, South Africa, Nov. 29.—The Russian whale factory ship Slava and eight whalers, which arrived at Cape Town late last night from Odessa, were busy today loading supplies to the value of \$100,000. The ships will leave for the Antarctic as soon as they are provisioned.

### Baleen Whale's Speed

The baleen whale, the world's largest animal, weighing up to 100 tons, travels through the water at an average speed of twelve to fourteen miles an hour, but if frightened can "run" for a while at a speed of twenty-three miles an hour, reports Dr. Raymond Gilmore, of the United States Fish and Wildlife Service, who has recently returned from a whale survey expedition to the Antarctic.

meters long with a jaw length seven meters and weighing 140 tons. It took four harpoons to bring it in. Captain Voronin added that the episode of catching this monster and everything else of interest on the expedition was filmed by Stalin prize winner Cameraman Esskogan.

Captain Voronin described as splendid the performance of Soviet-made harpoon guns which he said proved superior to Norwegian ones used hitherto. Captain Voronin expressed hope that the voyage of the Slava would prove the first of many Soviet Antarctic expeditions. Heretofore Soviet whalers operated in the Pacific, basing themselves at Vladivostok.

Captain Voronin stressed that this was the first time Russian vessels had broken Antarctic ice in more than 100 years, that no Russian ship had sailed these waters since the expedition in early 1820's under Admiral Bellingshausen in two sloops, Vostok and Mirny, for whom the honor is claimed of being the first to reach the high southern latitude and circumnavigate the Antarctic continent.

## Japan's Whalers to Set Out

Hope to Top Last Year's Catch in Antarctic by 16,000 Tons

TOKYO, Oct. 5 (UP).—The goal of Japan's second post-war whaling expedition to the Antarctic is about 16,000 tons more than last year, officials told the Kyodo News Agency today on the eve of the expedition's departure.

With 2,500 men on board, the two fleets comprising the expedition are scheduled to sail Monday. The ships are from the ports of Yokosuka, Kobe and Osaka.

Last year the catch totaled about 34,000 tons of whale products. Officials said that this time the fleet hoped to kill 1,700 whales.

YOKOHAMA, Nov. 6 (AP).—Nine ships and 1,270 men left Yokosuka today on a Japanese whaling expedition to the Antarctic.

TOKYO, Nov. 16 (UP).—Two more Japanese whaling ships of 10,000 tons each are to sail Nov. 20 to join Japan's second post-war Antarctic whaling expedition, which is already on its way, the financial newspaper "Nihon Keizai" reported today.

### Japan to Ship Whale Oil

TOKYO, Japan, Dec. 3 (UP).—The International Emergency Food Council has instructed that Japan ship to Europe 7,200 of the 12,200 tons of whale oil produced by the Japanese antarctic whaling expedition, C. M. Adams, chief of the production section of the Supreme Command fisheries division, announced today. The first shipment of 900 tons will leave Tokyo tomorrow for Bremen, Germany, he said.

## 17 WHALING EXPEDITIONS SAIL FOR ANTARCTIC

By the Associated Press

CAPETOWN.—Seventeen whaling expeditions are about to leave South African ports for the Antarctic on one of the greatest mass whale hunts ever known in history. The first factory ship to leave Capetown was the Baleana, whose owners were anxious to get in as much sperm whaling on the fringe of the Antarctic as possible before the season officially opens December 8.

The Dutch factory ship Willem Barendz will sail south with eight catchers. The Thorshamer expedition is on its way south from Dakar and a new Norwegian factory ship Thorshavet is making its maiden voyage.

## Big \$5,000,000 Whaler Finished in Scandinavia

The whaling ship Kosmos III, described as the largest in the world, has been completed and will put to sea soon on its first expedition.

Built for the Norwegian Kosmos Line at the Gotaverken yard in Gothenburg, Sweden, the 643-foot vessel has a loading capacity of 25,000 to 27,000 tons and is equipped with tanks capable of carrying 1,125,000 cubic feet of whale oil. Diesel engines of 8,330 horsepower will give her a speed of more than fourteen knots. Construction costs totaled more than \$5,000,000, but the line said the whaler can pay for herself in one season with good catches.

Oil production of the new plant is set at 450 tons per day with a storage tank capacity of 27,500 tons. The vessel is also equipped to process vitamin oil, extracts, meal, and a number of other products in addition to whale oil. The complement of 400, including 150 factory personnel, will enjoy first-class conditions aboard with a special meeting hall, library, hospital, etc. There is even a "farm" where 60 pigs will guarantee a fresh meat supply during the long whaling season in the Antarctic. The "Kosmos III" was the last of the Norwegian whalers to leave for the field.

**Whale Milk Rich in Vitamin C**  
LONDON (Science Service).—Young whales get concentrated vitamin in their mothers' milk, it appears from analyses in the British science journal Nature, published here. Prof. Michael Begg of Marischal College, Aberdeen, reports that in a small quantity of milk from the main duct of the mammary gland of a captured Antarctic fin whale the antiscorbutic ascorbic acid (vitamin C) had nearly double the concentration of the same vitamin in cow's milk at its best. It was close to the best assay for vitamin C in human milk.

**Dutch Report on Whale Oil**  
AMSTERDAM, Dec. 31 (Aneta).—The Dutch Antarctic whaler Willem Barendz produced 1,209 tons of whale oil and 680 tons of sperm oil in the first twelve days of this season up to Dec. 20, the Netherlands Whaling Company here reported today.

## British Seeking Bigger Yield of Fish in Arctic

### Scientists Plan Six-Week Research Expedition in Specially Built Trawler

LONDON, July 19.—A team of British scientists is preparing to explore the little-known areas of the Arctic Ocean for data that may solve many deep-sea fishing problems and result in much bigger catches. The purpose of the expedition is to discover why large shoals of cod and haddock regularly gather in waters around Bear Island. It also will seek to find what effect currents and temperatures have on movements of fish.

This information will enable trawling fleets to locate shoals with great accuracy and eliminate time now lost in searching for them. This amounts to as much as five to six days and has a serious effect on the size of catches, because as many as two hundred vessels are usually at work in Arctic fishing grounds.

A special ship, the Ernest Holt, is being built by the British Ministry of Agriculture and Fisheries and will be ready for launching early next year. It is being modeled on the well tried type of Arctic trawler with a length of 175 feet and a speed of twelve knots. The hull is being specifically designed to resist pressure from icepacks.

There will be accommodation for a crew of thirty, and fittings include the very latest type of scientific instruments for examining sea life.

The expedition, which will last six weeks, is being organized and led by Michael Graham, the principal of Britain's Fisheries Laboratory, who is one of the world's greatest authorities on deep-sea fish and their habits. Recommendations made by the laboratory have already formed the basis of several international agreements, and its research work was discussed by the International Advisory Committee on Over-fishing when it met in London last month.

This party of British scientists is breaking entirely new ground, for never before has it been possible to do more than send out individual observers on commercial trawlers. This expedition, with a specially fitted ship, will mean that full-scale programs of research can now be carried out in Arctic waters. In addition to trials with nets having meshes of differing gauge, research is to be carried out on conditions governing the drift of eggs from spawning grounds. Analysis of sand and fauna from the ocean bed will also be made.

There are still many questions to which the world's fishery scientists are seeking answers, the two most important being the feeding

habits of cod and the extent of the large nurseries which nourish immature fish. Vast new fishing grounds have been opened up in the Arctic which will be of great importance to the solution of world food problems. Britain's experts aim, however, to find a satisfactory solution to questions which are still baffling scientists and preventing the greatest possible yield being brought back from these additional trawling areas.

### NORSE SAVE HISTORIC SHIP

#### Vote \$6,500 to Repair Gjoa, Amundsen's Famous Sloop

SAN FRANCISCO, (UP)—The Norwegian Parliament has added more laurel to the memory of its country's illustrious explorer, Roald Amundsen. It appropriated \$6,500 to aid in the restoration of the 70-foot wooden sloop Gjoa, which has been in San Francisco's Golden Gate Park since Amundsen landed here 40 years ago.

Norway presented the ship to San Francisco after Amundsen completed the first successful negotiation of the perilous Northwest Passage. The city fathers brought it up on dry land and made a memorial of the sturdy little ship. But four decades of weather have been hard on the wooden hull.

### NAVY LIKES ESKIMO FURS

#### Officer Says They Are Better Than Our Combat Clothing

WASHINGTON, Nov. 22 (AP)—The Navy admits that the furs of the primitive Eskimo are still superior to Army and Navy cold weather combat clothing.

Lieut. Comdr. James W. Maggard of the Navy Supply Corps explained why at a meeting this week of civilian scientists with naval research experts:

"To keep warm, men must wear layers of cloth, and in so doing perspire at the least provocation. The Eskimos' clothing fits more loosely, allows for free circulation and provides maximum warmth."

Maggard said it obviously is impossible to mass produce enough furs to outfit an Army and Navy, so the armed services are working on substitutes.

"The use of fiber glass and other plastics," he said, "seems to present some promise of success."

### Follow Seals West of Aleutians

WASHINGTON, Nov. 15 (AP)—United States scientists have branded 20,000 seal pups at Alaska's Pribilof Islands and are following them out beyond the Aleutians to determine whether they migrate into Japanese or Soviet waters. To avoid international incident, the scientists have been ordered to halt their westward journey at the International Date Line. Where the seals go beyond that point will remain a matter of conjecture.

### Matches, Wet 6 Hours, Light

A match has been devised that will light readily after being in the water for as long as six hours. It was developed by the Army Quartermaster Corps.

### NITA AMUNDSEN TO TEACH

#### Eskimo Adopted by Explorer Is Taking College Course

RED DEER, Alberta (CP)—Nita Amundsen, adopted daughter of the explorer Roald Amundsen, has become a student at Nazarene College here. Her Eskimo father was cook on Amundsen's ship the Maud and he obtained permission to take his infant daughter along with him.

When Amundsen returned to Norway after failing to drift across the North Pole in 1918 he took the little Eskimo girl with him and put her in school at Oslo. After several years there she was sent to schools in California and Washington, and during her stay in the United States, her foster father was lost heading an airplane rescue expedition for the Italian dirigible Italia.

Following his death Nita moved to Canada and worked on a fur farm at Cloverdale, B. C., before moving to Red Deer. She plans to spend two more years at college here, then two years finishing her training at some college in the United States. Finally she plans to go to Alaska to teach natives in a mission school.

### BARTLETT SCHOONER SWEEPED BY FIRE HERE

Fire swept Nov. 29 through the Effie M. Morrissey, a two-masted schooner that won fame in Arctic waters under command of the late Capt. Robert A. (Bob) Bartlett. The fire was discovered at 9 P. M. in the galley. Two hours later it had spread to the forward section, but was reported under control. A major portion of the interior, however, had been destroyed.

The ship had been moored several months at the end of the pier in Flushing Boat Basin. The barrier at the shore end of the pier had to be torn up to permit the fire apparatus to run onto the dock.

The Morrissey had been in service for fifty-three years, having made a long series of exploratory trips to the North and serving as an Army radio observatory in the arctic during the recent war.

The schooner's large Diesel oil tanks, which give her a range of 13,000 miles under auxiliary power, were said to be aft and not in danger.

The Morrissey was purchased from the Bartlett estate last year by Sydney Jackson, an admiralty lawyer living at 5 East Fifty-seventh Street.

### Denmark Honors Admiral Smith

The Cross of Commander of the Order of Dannebrog, First Class, has been conferred by the King of Denmark on Rear Admiral Edward H. Smith, commander of the Eastern Area and Third Coast Guard District, for "valuable services to Denmark during the war," it was announced Nov. 2.

Admiral Smith was cited for his speed and efficiency in directing conversion of a fleet of Boston fishing trawlers into armed patrol craft for defense of Arctic waters. According to the citation, enemy forces were repulsed on several occasions from gaining a foothold in Greenland, Denmark's most important colony.

### FAMED POLAR SHIP

#### U. S. S. BEAR ON SALE

MONTREAL, Dec. 8 (Canadian Press)—A man with a hobby of buying ships with historic and marine background, Frank Shaw of Montreal, added another to his collection today as the United States Maritime Commission accepted his bid of \$5,199.99 for the famous 74-year-old U.S.S. Bear, a former Arctic supply ship. Mr. Shaw has not yet announced what he will do with the Bear, which once saw service in the Antarctic with Admiral Richard Byrd and during the war was used as a patrol vessel.

The vessel was launched at Dundee, Scotland, in 1874. With a 2½-inch iron sheathing ringing her hull at the waterline, the 198-foot ship went into service as an Arctic sealer.

The United States Navy purchased her in the Eighteen Eighties and she gained "most immediate fame with another former sealer, the Thetis. Under the command of Commodore W. S. Schley, they pushed into the polar north to rescue Lieut. A. W. Greeley and six other Army survivors of an exploration party of thirty men.

Upon her return, she was turned over to the United States Revenue Service and began a forty-year tour of duty as a revenue cutter at San Francisco. Most of her service was in Alaskan waters.

In 1927 the Bear was attached to the Coast Guard base in San Francisco, and two years later she was sold to the city of Oakland, Calif., and converted into a marine museum. During this period she was taken out to sea under full sail and used for filming of Jack London's "The Sea Wolf."

Admiral Byrd bought her in 1932 and used her on two Antarctic expeditions. For her second mission to Little America, she was fitted with a new set of sails and her steam engine was replaced with a 600-horsepower diesel engine.

### OLD BYRD SHIP TO BE SOLD

#### Peary, Used in 1925 Expedition, Will Go at Auction

DETROIT, Sept. 6 (AP)—The little steamer Peary, which carried Admiral Richard E. Byrd on his first voyage of Arctic exploration, made port today to await the auctioneer's hammer after sixteen years on the Great Lakes.

The United States Lakes Survey retired the 155-foot vessel to make way for a modern diesel ship.

Built in Canada as a minesweeper for the French Government in 1918, the Peary finished World War I in European waters.

In 1925 she was one of two ships which carried the Navy-MacMillan Expedition to Greenland. She was commanded by Byrd, then a lieutenant commander, who followed this voyage with a notable career of exploration in Arctic and Antarctic regions.

M. F. Bramley, Cleveland contractor, purchased the Peary in 1929 for a South Pacific voyage. In 1930 he sold her to the Lake Survey.

## Navy's Century of Arctic Exploration Pays Dividends

By Ansel E. Talbert

*Herald Tribune aviation editor*

America is reaping today the harvest of a century of exploration and pioneering work in the polar regions by the United States Navy.

In 1850 the first Navy men to probe into the Arctic wastes sailed from New York City, and began a battle against the ice and sub-zero cold which still continues. On April 6, 1909, Admiral Robert E. Peary, accompanied by Matthew Henson, Negro explorer who now lives in New York, and four Eskimo companions, pushed on after several unsuccessful attempts and were the first explorers to reach the North Pole.

Navy engineers have just struck oil at Point Barrow, Alaska, the most northerly spot inhabited by white men on the North American Continent.

If present indications that the oil of the Point Barrow reserve is there in both quantity and high quality turn out to be true, the strike will be of tremendous importance in the nation's efforts to secure the Arctic frontier against all enemies.

A few days ago in Juneau, Alaska, this correspondent viewed a naval task unit composed of the submarine tender *Nereus* and the submarines *Chub*, *Cabezon*, *Caimon* and *Boarfish* on its way northward to study submarine operations in Arctic waters. War-developed radar allows the crews of both submarines and surface ships to pick up any icebergs which might be encountered far in advance of a collision.

A group of civilian scientists from Cornell University and Swarthmore College have arrived at Point Barrow to launch a new



*Some of the Navy's earliest Arctic explorers, as drawn by their leader*

and intensive Navy-supported program of biological research within the Arctic Circle. The object of this program is to determine human needs for comfort and health in the Arctic.

Considerable data on this already have been accumulated by Dr. Paul Siple and other scientists who have accompanied the various expeditions of Admiral Richard E. Byrd to the Antarctic.

Strategists of all the armed services now agree that the defense of the Arctic frontier would be a most vital concern in a future war. The shortest routes for bombers and guided missiles be-

tween North American industrial centers and the Europe-Asia land mass lie across the North Polar basin.

The first Navy men who went to the Arctic had little background of scientific information upon which to draw and they suffered terrible hardships under almost unbelievably difficult conditions with primitive equipment. Dr. Elisha Kent Kane, a Naval surgeon and amateur naturalist, was a moving spirit in these early attempts to explore the northern frontier.

In 1850 he persuaded the Navy Department to allow him to accompany an Arctic expedition

consisting of two small wooden ships. A wealthy New Yorker, Henry Grinnell, outfitted these to search for Sir John Franklin, one of Britain's pioneer explorers of the Arctic, who had disappeared several years before in the vicinity of Greenland.

The expedition returned without discovering the fate of Sir John. Dr. Kane was in feeble health from the hardships of northern life, but he was determined to return.

He traveled throughout the United States lecturing on the importance of the Arctic, to secure funds. In 1853, with what he had collected and with some further aid from Mr. Grinnell, he organized a new expedition. A picked group of volunteers sailed under Dr. Kane from New York City that year in a tiny brigantine called the *Advance*, of which he had been given command.

After passing through Smith Sound at the head of Baffin Bay Dr. Kane advanced into an enclosed sea now named for him and established a route followed by many later expeditions.

He and his men passed two winters in the Arctic ice, with several deaths and considerable suffering. In June, 1854, they reached 80 degrees 35 minutes north latitude—a high point for polar explorers which stood for sixteen years. The *Advance* finally was abandoned in the ice pack and survivors of the expedition—believed dead by the Navy and their relatives—finally reached Upernavik, Greenland, on Aug. 5, 1855, with all their scientific notes. They were picked up there by a Navy relief expedition and returned as heroes to civilization.



*Transportation difficulties in 1853 expedition, drawn by its leader, Dr. Elisha Kent Kane*

## Canon Turner Succumbs After Arctic Mishap

WINNIPEG, Dec. 9 — (C.P.) — Death ended the saga of Canon John Hudsphith Turner today, the Anglican missionary whose evacuation from an Arctic sickbed Nov. 22 became one of the storied exploits of Army-Air Force rescue operations. He died in hospital here at 6:30 a.m. C.S.T., Dr. H. M. Speechly, medical representative of the Anglican church, announced.

It took death to balk the English-born canon's determination to return to his mission post at lonely Moffet Inlet following hoped-for recovery from an accidentally-inflicted bullet wound Sept. 24, just as Polar blizzards for seven weeks balked efforts to fly him south from his Arctic diocese following the injury.

His eventual evacuation, performed by an RCAF Dakota aircraft piloted by FO. Bob Race at Edmonton, came after the long Arctic night had swept down from the Pole to shroud the mission 1,000 miles north of timber in a wintry twilight of storms, fogs and wailing winds.

Canon Turner was wounded on his return from a seal-hunting expedition. The rifle bullet pierced his brain, causing a skull fracture, and other complications.

Since 1929, save for two furloughs in England, he had spent all his time in the shadow of the Pole, his headquarters missions at Pond Inlet and Moffet Inlet, the latter 400 miles north of the Arctic Circle.

Born July 14, 1905, at Felixstowe, Suffolk, Eng., he came to Canada for mission work in the Arctic in 1929 after graduation from the theological and missionary college of the Bible Churchmen's Missionary Society at Clifton, Eng.

Ordained as a priest July 12 that year in Christ Church at Aylmer, Que., he went north shortly after, opening a mission at Pond Inlet on Eclipse Sound in the northeast section of Baffin Island.

He was not the first of his family to turn to the north. His brother, Rev. Arthur Turner, joined the Church of England diocese of the Arctic the previous year and served the nomad Eskimo population at Port Harrison on Hudson Bay and Pangnirtung on Baffin Island.

In 1939 he was made a canon of the Cathedral of All Saints at Akdaviik, Northwest Territories. Five years later he married. His wife, the former Joan Hobart of Felixstowe, came to Canada in 1944.

During his almost 20 years in the Northland Canon Turner walked with death on several occasions. It was last September, however, that Canon Turner's name became known across Canada. When word of his injury reached Ottawa, military officials authorized evacuation by a combined force of Army and Air Force personnel.

Four Army paratroopers, one a doctor, jumped to his aid Oct. 4. At that time no plane could land near the mission, 1,700 miles north of Winnipeg. As the weeks went by, however, ice on the northern lakes thickened sufficiently to serve as air strips. But fogs which fold the Arctic in ghost-like gloom,

## Fitzhugh Green's Death

Autopsy Shows It Was From Natural Causes

DANBURY, Conn., Dec. 3.—Fitzhugh Green, of New Canaan, Conn., retired Navy commander and polar explorer, died of natural causes, Dr. John D. Booth, medical examiner, reported here today. Dr. Booth ordered an autopsy performed because of the circumstances of the death yesterday in Danbury Hospital.

Born in St. Joseph, Mo., on Aug. 16, 1888, Commander Green was graduated from the naval academy in 1909, received a Master of Science degree from George Washington University in 1913 and was graduated from the Naval War College in 1924. After being promoted through successive grades to commander, he shifted to the Naval Reserve in 1927.

During the second World War he was on active duty with the rank of commander and took part in the preparation and execution of the Guadalcanal campaign.

In 1913 he accompanied Donald B. McMillan to the Arctic on the S. S. Erik as art engineer and physicist. The purpose of the expedition was to search for Crocker Land and to explore the unknown areas of the Polar Sea. He served as a staff officer in European waters in World War I.

Commander Green was the co-author with Charles A. Lindbergh of "We," and wrote many books, including biographies of Robert Bartlett, Martin Johnson, Rear Admiral Richard E. Byrd and the late Admiral Robert E. Peary.

## JOHN MUNRO

CHICAGO, Aug. 26—John Munro, who was a member of Vilhjalmur Stefansson's expedition to the Arctic in 1913-14, died here yesterday. His age was 60.

Mr. Munro spent twelve years in the British Navy early in life and then joined Stefansson's expedition, which was sponsored by the Canadian Government. He was first engineer of the exploring party. Their vessel, the Karluk, was crushed in the ice and the party was marooned on Wrangell's Island from January to September, 1914. Mr. Munro was one of eleven men surviving of the twenty-eight who had sailed.

At his death Mr. Munro was safety engineer for the Travelers Insurance Company.

He leaves his wife, Maude, and a son, John A. of Detroit.

storms whose frenzy is only equalled by the cold of the snow, and clouds which reach down to touch the rock-bound hills, delayed flight of the aircraft to Moffet Inlet.

Nov. 2, however, despite climatic conditions, a successful landing was made. The canon, his wife, two children, and an Eskimo ward, together with the paratroopers, boarded the silver-winged aircraft. The next evening the long flight to Winnipeg ended.

The canon was rushed to hospital, where his once sturdy 240-pound frame—his weight went down to 160 before his death—fought a stubborn battle for life and a return to the Arctic, his "first love and where I have spent the best years of my life."

## LADY KENNET, NOTED AS BRITISH SCULPTOR

LONDON, July 25—Lady Kathleen Kennet, sculptor and widow of Capt. R. F. Scott, explorer, who succumbed trying to reach the South Pole, died today. In 1922 she was married to Lieut. Comdr. Edward Hilton Young, now Lord Kennet.

Lady Kennet stood in the public mind as one of the finest symbols of emancipated post-Victorian women. At the age of 18 she decided to make art her career and studied in London and Paris. She had already earned a considerable reputation as a sculptor at the start of the first World War.

In 1914 she helped organize an ambulance service to cooperate with the French Army. Having seen that launched satisfactorily, she responded to a call for women workers by taking a job first as a munitions worker and later as a civil servant. But she also found time to continue with her sculptures.

There are many busts, statues and public monuments to the credit of Lady Kennet. Among her subjects were four Prime Ministers, King George V, and King George VI. One of her best-known public works is the statue of her first husband in Waterloo Place, London.

After the death of Captain Scott in 1912 the rank and precedence of the wife of a Knight Commander of the Bath were conferred by royal warrant upon his widow, later Lady Kennet. She was married to Captain Scott in 1908.

## FRANK W. CRILLEY

By the Associated Press

VERONA, N. J., Nov. 25.—Frank W. Crilley, 63, who won world fame and the Congressional Medal of Honor during his 30 years as a Navy deep-sea diver, died Sunday night in Brooklyn Naval Hospital after a long illness.

Mr. Crilley earned the Nation's highest military decoration for his work in the salvage operations of the submarine S-4 off Waikiki Beach, Oahu, T. H., in 1915. He made a dive of 306 feet, then a record, with a pressure of nearly 153 pounds per square inch on his diving suit, to raise the trapped body of a fellow diver.

In 1931, as chief diver, Mr. Crilley accompanied Sir Hubert Wilkins on his attempted undersea exploration of the North Pole on the submarine Transarctic Nautilus. Upon the return of the party, crew members revealed that their modest, quiet-spoken chief diver had gone down into the icy depths in an attempt to repair the rudder when it was discovered that the device had been destroyed by ice.

## ALWAYS COOL

The Arctic tern probably enjoys longer hours of daylight than any other creature, living under the midnight sun in both northern and southern hemispheres. This bird flies 11,000 miles between its northern and southern homes. It nests in the far north and spends the northern winter near the shores of the Antarctic continent.

## CAIRNS FOUND IN ARCTIC

May Solve Mystery of Fate of Franklin Expedition

REGINA (Canadian Press)—A series of cairns in the barren lands lying north and west of Churchill may contain the answer to one of the most baffling-mysteries of the North—that of the fate of members of the expedition led by Sir John Franklin, which vanished into remote vastness of Canada's Arctic more than a century ago.

This is the theory of ex-inspector Frank French of the then Royal North West Mounted Police. French blazed the trail later followed by the Canadian Army's Exercise Muskox, which in its trip through the wilderness covered 5,553 miles in eleven months.

On his trip French came across three of the cairns, each of them between 150 and 200 miles apart on a rough line linking Bathurst Inlet, which bites into the North West Territories, with Fort Churchill, far to the southeast.

The cairns, he contends, could have been built only by a large group of men, for boulders weighing more than a ton formed the base of the largest. He believes their regular spacing confirms his belief that a large body of men was marching by navigational instruments. Further, Fort Churchill was the one place in the region which could provide supplies to winter a large body of men.

Two of the Franklin expedition's ships went down in the ice off the west coast of King William Island. French argues that the expedition on foot might have been trying to make its way to the mouth of the Coppermine River, which Franklin visited on a previous expedition. But on his death and the promotion of a new commander, the course was set for Churchill.

## New Theory on Franklin's Fate

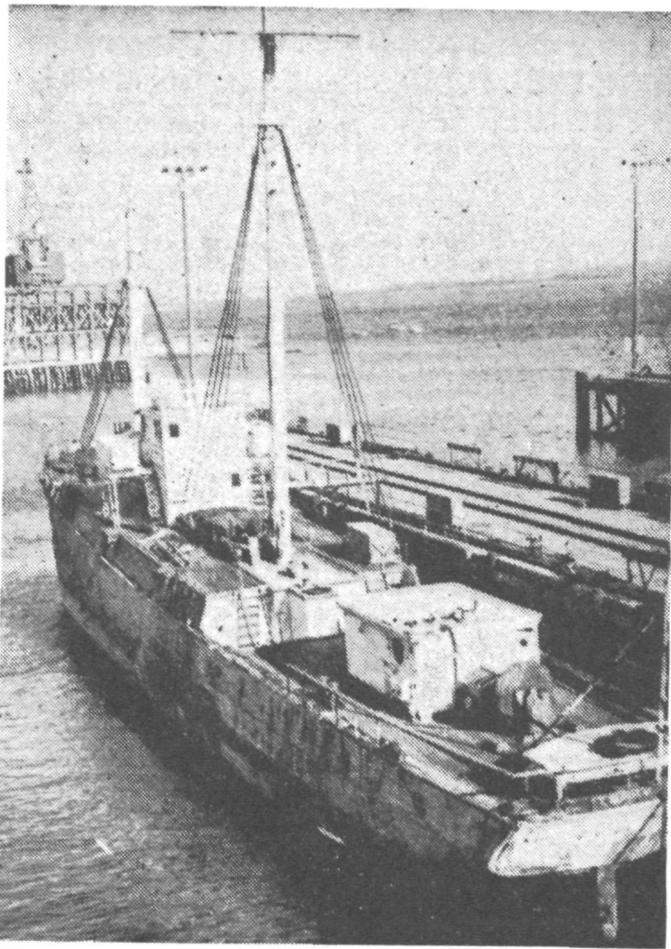
REGINA, Sask. (Canadian Press)—A new theory on the fate of Sir John Franklin, leader of the ill-fated Arctic expedition of a century ago, was revealed here by R.C.M.P. Cpl. F. S. Farrar, ace photographer of the schooner St. Roch, first ship to navigate the Northwest Passage from west to east in 1942. He said Sir John's body might yet be found "encased in cement," and described a meeting in 1942 with an old Eskimo woman. She related a tale that natives saw men bringing the body of a man from one of two large ships on the west side of Prince of Wales Island and pour a "white liquid" over it.

## SCHOONER BOWDOIN BACK

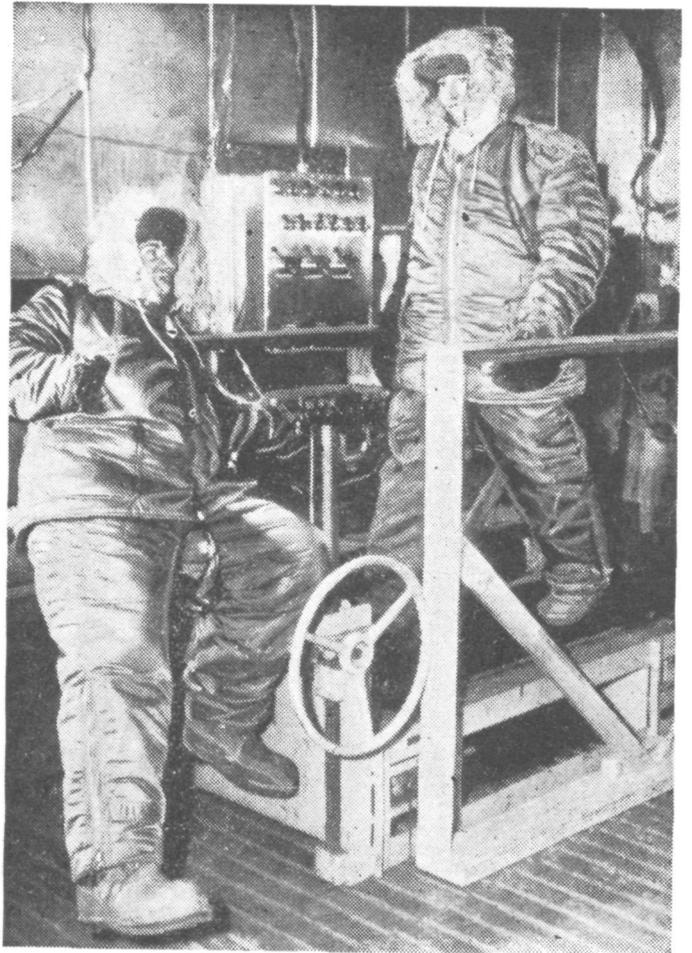
MacMillan's Arctic Ship Arrives at Island Off Maine

MONHEGAN ISLAND, Me., Sept. 15 (AP)—The schooner Bowdoin, bringing Comdr. Donald B. Macmillan back from his twenty-fifth Arctic expedition, dropped anchor in the harbor at this little offshore island today on the way to Boothbay Harbor, on the mainland, about fifteen miles distant.

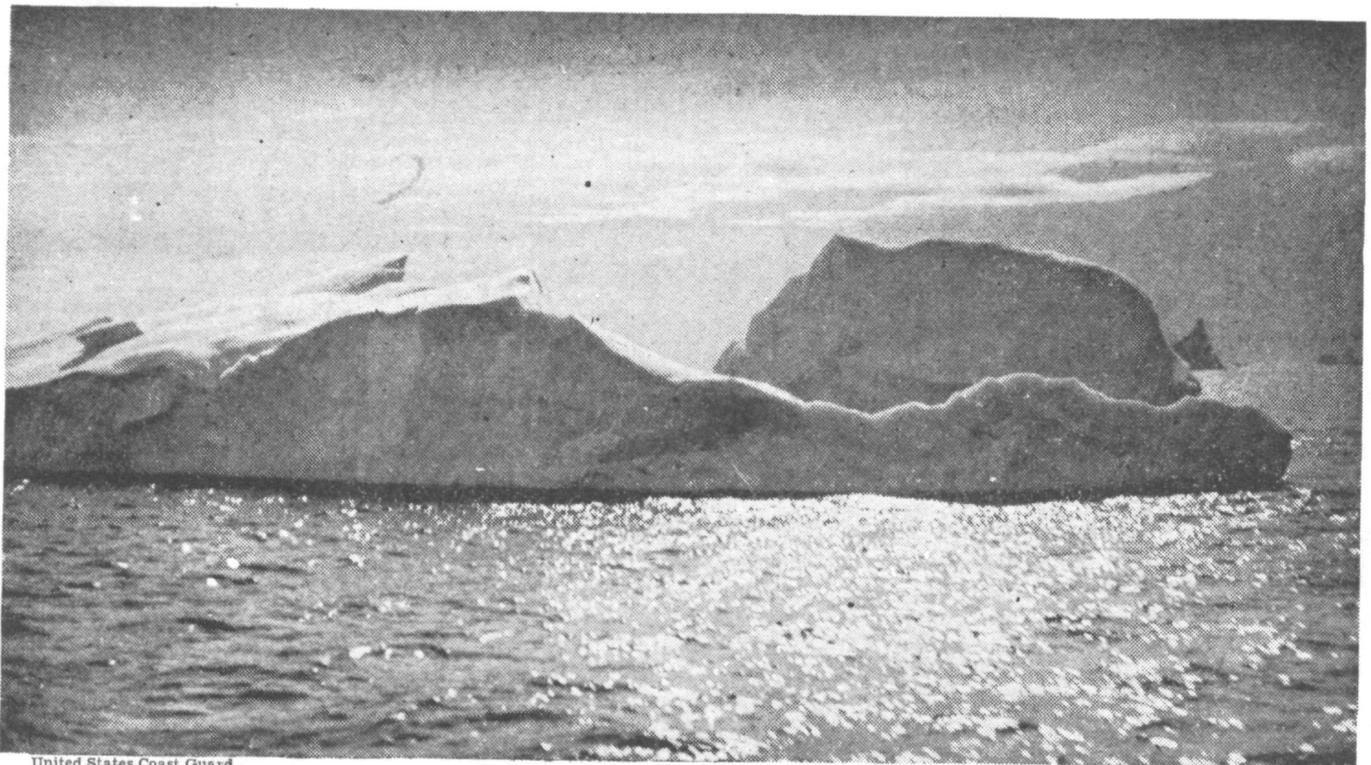
Sixteen scientists and college students cruised 8,000 miles with the veteran explorer this summer under sponsorship of the Chicago Geographical Society.



With her colorful history packed with 73 years of adventure and excitement, the 200-foot barkentine *Bear*, the ship used by Rear Admiral Richard E. Byrd for his Antarctic expedition of 1940, is tied up to a Hingham, Mass., dock waiting final disposition after the United States Maritime Commission offered her for sale. As rescue ship, sealer, revenue cutter, and polar exploration vessel, the log of the *Bear* offers interesting material for many books.



*Corporal Harlen Plummer, of High Point, Ohio, walking on a treadmill for exercise as Sergeant Harold Buffinger, of Osborn, Ohio, takes it easy inside a cold chamber at Wright Field, near Dayton, Ohio. The two men ended their ten-day test of Arctic ration kits in a constant temperature of twenty-five degrees below zero and got thirty-day furloughs for their work*



United States Coast Guard

**Ice Patrol Again Will Warn Mariners of Location and Drift of Menacing Glacial Giants**