



Senators Visit Pole

story and photo by Alexander Colhoun

Amundsen-Scott South Pole Station

With his hand balanced atop the wooden marker planted at the geographic South Pole, Senator Slade Gorton (R-WA) danced a jig across the roof of the world, placing a foot in each of the world's time zones as he walked around the pole.

It was a day of excitement and oversight for Gorton and five other United States senators, including Ted Stevens, Alaska's senior Senator and Chairman of the Senate Appropriations Committee. Not since Admiral Byrd visited the South

...cont. on page 5

INSIDE

Fresh Air Dedication Scientists and staff dedicate the new Atmospheric Research Observatory (ARO) at South Pole.

Trouble and Triumph at the Dome A season of troubles and triumph comes to a close this week as Siple Dome workers return from the field.

Sorting the Trash Mystery McMurdo will retrograde four million pounds of solid waste this season, sending it back to the continental United States via container ship to be recycled or otherwise processed.

Perspective Having friends over to your room for coffee on Sunday morning is a tradition in McMurdo. The Bailey's and conversation flow freely, warming otherwise cold days.

Profile From the Bering Sea to the North Slope, Rhonda Ecker has worked Alaska's toughest jobs. Now she's come to drill for science in Antarctica.

Roaming the Ross Sea with ROAVERRS

story by Alexander Colhoun

A massive chunk of ice the size of a New York city block peels off a glacier, tearing with it tons of debris collected over thousands of years as it scoured the Antarctic continent. The iceberg floats out to sea, blown by katabatic winds and carried by ocean currents. Months pass as the berg melts and slowly deposits its ancient cargo of rocks across the gray, silty floor of the Ross Sea.

End of story? Far from it.

Fast forward to January 1998 and the ROAVERRS (Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea) cruise of the research vessel *Nathaniel B. Palmer* (NBP). As the ship charts the Ross Sea, tracing the path of countless thousands of icebergs, it drags a specially housed Hi-8 video camera (dubbed the 'Mudscud') and lighting system at a depth of 1,000 meters.

"Watch this," says Rob Dunbar with excitement in his voice as we tune in to a color film of the ocean floor zipping by. "There, you see that rock? It fell out of an iceberg. It's covered with fauna, organisms grow all over it. And there! That fish, its probably never been illuminated before."

Dunbar's excitement is contagious. His conversation ranges from one discovery to the next. One minute we're discussing the 800 fish



Wendy Cunningham and Alison Ridder take water and algal samples from a specially designed basket suspended from the research vessel *Nathaniel B. Palmer* while out on a cruise through the Ross Sea.

photo by Rob Dunbar

brought aboard the ship during the cruise, at least two of which had never been seen or identified before ("That's a home run for Joe Eastman's project," said Dunbar); the next he's explaining bathymetric mapping carried out by 20 separate ship board echo sounders delivering highly-detailed maps of the ocean floor.

"Our goal is to understand what makes the Ross Sea tick," said Dunbar. If that's the case, Dunbar's role is that of a Swiss watchmaker.

...cont. on page 10



Nathan Hill, a National Oceanographic and Atmospheric Administration officer, collects data atop the newly dedicated Atmospheric Research Observatory at the South Pole.

and Atmospheric Administration (NOAA) officer. "Scientists will use it to form theories for centuries to come."

As well, scientists will enjoy use of the new Atmospheric Research Observatory (ARO) at South Pole, dedicated on Monday, January 12th. Joe Bordogna, the Acting Deputy Director of NSF; D. James Baker, the Administrator of NOAA and the Undersecretary for Oceans and Atmosphere at the Department of Commerce; and Dave Hofmann, Director of NOAA's CMDL labs, attended the dedication.

The ARO replaces the old Clean Air Facility and houses not only NOAA's South Pole laboratory but also a LIDAR experiment, a UV-Monitoring experiment, and an aerosols monitoring experiment. Completed last year, ARO has served as the base for these experiments for just under one year.

Located in the northeast sector of South Pole Station, the ARO is perfectly situated to greet prevailing winds that have traveled thousands of miles without direct influence by man. The closest non-Antarctic landfall is Cape Good Hope, South Africa, some 5,000 miles away.

"The wind here is nearly constant, so we tend to flag the anomalies of the data" said Hill. "Our instruments are so sensitive, we can pick up a human walking through the sector," said Hill. Even planes flying in and out of South Pole are routed to avoid flying through or above the clean air sector.

The new clean air facility joins seven other facilities managed by NOAA in faraway sites that include Barrow, Alaska, Pongopongo, American Samoa and the summit of Mauna Loa in Hawaii. *

Fresh Air Dedication

story and photo by Alexander Colhoun

With a vacuum-sealed glass flask in hand, Nathan Hill heads out into the clean air sector of the South Pole. With each breath his lungs enjoy a taste of the world's cleanest air – air he has come to capture. Even a wisp of his own breath could contaminate the sample. Sucking in lung-full of air, Hill

opens the flask lid and, while holding his breath, walks downwind 30 yards while the flask fills.

A weekly ritual for Hill, this collection of air will join a data set that has been accumulating since 1957. "We collect this data over decades," said Hill, a National Oceanographic

John Johannesen enjoys a bowl of McMurdo's finest chili at the annual Chili Cook-Off. "This stuff is tasty," said Johannesen, "mighty tasty in fact."



The Antarctic Sun, part of the United States Antarctic Program, is funded by the National Science Foundation. Opinions and conclusions expressed in The Sun are not necessarily those of the Foundation.

Use: Reproduction and distribution is encouraged with acknowledgement of source and author.

Editor: Alexander Colhoun

Publisher: Valerie Carroll, ASA

Contributions are welcome. Contact The Sun at sun_news.asa@asa.org. In McMurdo, visit our office in Building 155 or dial 2407.

Web address: <http://www.asa.org>



Troubled and Triumphant at the Dome

story by Alexander Colhoun

A season of troubles and triumph comes to a close next week as Siple Dome workers return from the field. Beset by mechanical troubles, abysmal weather and every conceivable failure Mother Antarctica could generate, the field camp took on the spirit of a feudal castle under siege.

Fashioning their response to these conditions like Trojans, however, Siple Dome workers refused to accept defeat, pulling the rug out from under pessimists' secret wishes. "We had the right people with incredible enthusiasm," said Kristen Scott, ASA's flight operations director. "But it seems they were in the wrong place at the wrong time."

Siple Dome's hand-picked team faced challenges right from the start. The PICO (Polar Ice Coring Office) drill team arrived at Siple Dome with excitement to begin working with a large five point two-inch drill rig. There was a hitch. The drill was sitting in a state of disrepair at PICO's headquarters at the University of Nebraska.

When the rig finally moved towards Antarctica, extended across three massive palettes, it became mired in unexpected customs clearances, further delaying its arrival.

Meanwhile, ten drillers had arrived on site at Siple Dome to operate a five point two-inch drill. The crew was kept busy building a core-trench into which the cores would be placed for storage while others operated a four-inch rig on site. Even so, it was an inauspicious start.

As if a dark cloud was following the rig to Siple Dome, it soon developed problems. Critical screws were broken and had to be sent back to McMurdo for repair.

Time slipped by. The drill was finally operating, but now a major machining problem was discovered in the core head. "I can't believe anything like that [head] was sent to



Researchers suffered through weeks of abysmal weather, grounding flights of this Twin Otter aircraft, critical to the success of the SOAR project based out of Siple Dome.

this end of the world," said one researcher. In addition, one core barrel was sent back to McMurdo for review by Dave Giles, lead PICO supervisor. It never went back into the field.

Then came warm days, forcing drillers to work in the somewhat cooler evening hours, costing the project countless hours of drilling time. If all that wasn't enough, Giles had to leave the camp due to unexpected health concerns. "Dave has the most experience," said Kristen Scott. "The drillers could turn to him when something unusual happened. It was unfortunate."

Filling his shoes with aplomb was Lou Albershardt. So keen was Albershardt, she refused to let a broken wrist stop her from working and returned to the field, cast and all, after a brief medical visit to McMurdo General Hospital. "The spirit was willing,"

said Scott, "but the machinery was weak."

A mixture of warm air and cold ice brought Siple Dome to its knees. From December 29th until January 13th, 35 Siple Dome flights were cancelled due to fog. The same weather that kept LC-130's from landing also grounded the marquis Aerogeophysical Research Project (SOAR) project.

What's more, the SOAR project had been scheduled to land at Downstream Bravo Camp to refuel their plane. With no planes to fuel, Downstream Bravo residents Sarah Gundlach and Tod Sebens had little to do but test recipes for their Herman Nelson cookbook.

Back at Siple Dome, workers and scientists found ways to pass the time, spending relaxing moments in a hot tub (the real purpose of which was for the safety of drillers if they became covered in a toxic drilling fluid

...cont. on page 7



Sorting the Trash Mystery?

story by Dave Breitenfeld



photo by Alexander Colhoun

Suzanne Tegen, waste specialist of the retrograde program at McMurdo, sifts through boxes of material each week in search of items that can be reused or resold at auction back in the United States.

With twenty-five categories of solid waste defined by the United States Antarctic Program, workers and researchers are often seen with perplexed looks on their faces as they put out the trash.

Each category of trash must be sorted separately into its own waste container. All of this waste, four million pounds this season alone, is sent back to the continental United States via the *MV Greenwave* to be recycled, resold, or otherwise processed in the Seattle, Washington area.

Once in Washington, Philip Service Corporation takes over. Recyclables get recycled, burnables (including solid human waste from field camps) get incinerated, disposables are processed in landfills, and gray water and urine from field camps, gets processed at sewage treatment center.

"The [waste] situation has really improved a lot over the years," said Ted Patenaude, McMurdo's Solid Waste Manager. "We have to make sure that everybody is

aware, and that we have provided the education out there for them to know how to do all of this."

Trash waste is just one aspect of the retrograde process. Also included is material that is sold once back in the United States. "Retrograde is a terrible word because it means different things to different people," said Suzanne Tegen, who runs the retro program. "For instance, if you work at a field camp or at South Pole, retrograde just means 'get it out of here.' For us here in McMurdo retrograde means send it back to the U.S. for resale.

"Retrograde also encompasses reuse here [in McMurdo] so I like to think of it as a reuse program. Between 30 and 35% of what comes through here gets reused at this station or at Pole. If we can't reuse it here, we try at Pole. If we can't reuse it at Pole, we sell it in the U.S."

Once retrograded material arrives back in the United States, it is sold at an auction by

Did You Know ...

by Brenda Joyce

Sir Douglas Mawson claimed 42% (6 million square km.) of Antarctica for Australia following his arduous journeys on the continent. The physicist on Shackleton's British Antarctic Expedition of 1907-09, Mawson organized his Australian Antarctic Expedition (AAE) voyage in 1911-14. His British, Australian and New Zealand Antarctic Research Expedition (BANZARE) explored and charted more than 4,000 miles of polar coastline. Mawson spent a hellish season at Cape Denison, the windiest place on earth, where the average summer temperature is -30 celcius. He overcame starvation, food poisoning, blizzards and falls into crevasses in his determined scientific exploration and died at age 76 "covered in honors."

Francis Drake was the first European to enter the Southern Oceans after being driven south of Tierra del Fuego in 1578 by storms. Although he did not view Antarctica on this voyage, it proved that South America was not connected to *Terra Australis Incognita*, *The Unknown Southern Land*.

Yves-Joseph de Kerguelen reported the bleak sub-Antarctic islands named for him to be inhabited and cultivated. The King of France dispatched him to establish a colony and when he was unable to do so, he was court-marshaled, dismissed from the navy and imprisoned.

Philip Service Corporation. While ASA does not get hard cash back from this sale, they do get a credit against the total waste disposal bill.

The retrograde program is now finishing its first full season of operation. "In the old days material was just retrograded without looking for alternative users," said Tegen. "This way we save the Program money and prevent the need for buying items we already have."

This year alone, Tegen expects the retrograde system to save the program nearly 40,000 dollars. "In this program we reuse everything from hot water heaters to spatulas and asbestos abatement equipment," said Tegen. "Over time, all of that savings adds up." *

Senators ...cont. from page 1

Pole in 1957 has such a distinguished and high ranking team of observers toured the facility.

"This is a very important day for the National Science Foundation (NSF)," said Dr. Neal Lane, director of the foundation. "This is the highest level delegation we've ever had in Antarctica and at the South Pole."

"We want the senators to understand the investment they are considering at South Pole Station," said Erick Chiang, Senior U.S. Representative in Antarctica, "and the importance of United States presence in Antarctica."

According to Jonathan Kamarck, staff director of VA/HUD Senate Appropriations Sub-Committee, the purpose of the trip was to allow the senators to better understand the work undertaken by the National Science Foundation in Antarctica. "This trip allows us to get a proper perspective of the comprehensive needs of South Pole Station and McMurdo," said Kamarck.

Gaining an Antarctic perspective came no easier for the six senators than any other visitors to Antarctica. Bundled in red parkas, black wind pants and white bunny boots, the delegation flew South in the same cargo-netted seats that carry all workers and scientists to the ice.

Like many first time visitors, the senators were awed by the scope of this ice-covered land. "I had no possible way of understanding the immensity of this place," said Senator Larry Craig. "It's a bit like stepping back into the ice age."

Ever-concerned for his constituents, Craig trundled a metal tin of cookies all the way from Idaho to the South Pole at the request of Garnet Smith, the mother of Scott Smith who is working at the Pole.

Upon learning one of his Montana constituents was fueling a nearby plane, Senator Thad Burns promptly marched over and introduced himself. Minutes later, Dave Langstrom found himself holding the Montana state flag with the Senator at the ceremonial South Pole. "That photo is a keeper," said Langstrom with a twinkle in his eye. "My friends are going to love this one."

There was more to the South Pole visit, however, than handshakes and photos. In a day where Congress is ever on the lookout for budget cuts, the visit presented a unique opportunity to impress the delegation with



Six United States senators visited McMurdo and the South Pole last week. Standing for a photo at the ceremonial South Pole are, from left, Senator Larry Craig (R-ID), Sen. Ted Stevens (R-AK), Sen. Slade Gorton (R-WA), Sen. Conrad Burns (R-MO), Sen. Pat Roberts (R-KA), and Sen. Thad Cochran (R-MS). Their visit was the highest delegation ever to visit the South Pole.

both science projects and infrastructure enhancements. By days end at the Pole it seemed the tour had achieved its goals.

"So much is being done here by outstanding, dedicated scientists, the whole world is in their debt," said Senator Thad Cochran. "People here are so dedicated and committed to their work, it really is in the greatest tradition of American adventure."


With wind-chapped smiles etched on their faces, Cochran and the delegation toured much of South Pole Station, visiting everything from the astrophysical facility to the construction site of the new garage arch. "I am very impressed with all the things you can do here," said Senator Gorton. "I am very impressed with this mission and that it is carried out with such enthusiasm."

Neal Lane was equally enthusiastic about that day. "It is clear that if we're going to have a presence in Antarctica and at the South Pole, we need to deal with the deteriorating station. To get all the funding needed to complete this project it is very important that the Appropriations committee see how we intend to invest in this part of the world."

As the South Pole tour day came to an end, Senator Stevens sat down in the galley and soon was surrounded by a small crowd of Alaskans and other interested workers. Stevens stressed the need for vigilance in

spending control but expressed his support, and that of Congress, for the field science as a whole.

Stevens and the rest of the Appropriations Committee have the final word on funding of Antarctic programs. It will be months before Antarctic observers will know how the congressional delegation will react to their information-gathering tour, but many people, including Linda Dugay, NSF's South Pole science representative were optimistic. "It was an outstanding day," said Dugay. "We were able to show the senators South Pole station, one of the greatest frontiers of mankind." *



Chapel of the Snows

Sundays:
Catholic Service 9:30 AM
Protestant Service 11:00 AM

Wednesdays:
Prayer and Praise at 7:30 PM



UPDATES

FROM ANTARCTIC STATIONS AND SHIPS

McMurdo Station by Stan Wisneski

McMurdo's ice pier has been very busy recently. The *R/V Nathaniel B. Palmer* arrived 10 January and completed the port call required to prepare for the 98-1 cruise. The fuel tanker *Richard G. Matthiesen* arrived on 16 January and commenced offload operations later that day. McMurdo received a total of 4,692,014 gallons of fuel bringing McMurdo fuel stocks to 7,461,014 gallons. While this activity was going on the *Polar Star* continued to work the channel and turning basin. With the departure of the *Richard G. Matthiesen*, fuels personnel prepared for Marble Point refueling. The *Polar Star* departed on 20 January to complete this task.

Life in town went on throughout the vessel evolutions. Aerobics and circuit training classes continued as personnel worked to get in shape for vacations planned in New Zealand and other places. Live music continued to dominated the social scene. The annual Chili Cook-Off was a success in spite of the cold blustery weather. The winning chili this year was prepared by Team Marble Point.

South Pole Station by David Fischer

At South Pole ASA and CARA (S-132) completed the installation of the VIPER telescope on its tower. CARA will continue testing the telescope and bring it on-line for winter observations.

Three Australian skiers, three Icelandic skiers, and two Belgian skiers arrived early in the month. The Belgians are continuing their expedition to McMurdo.

ASA's major construction projects continue to make substantial progress, with the new garage arch construction, the raising of the existing garage arch, and the Summer Camp Relocation all progressing well. The installation of the upwind bulkhead on the new garage arch is complete, as is the installation of kneewall footers for the existing garage arch raise. For the Summer Camp Relocation, seven jamesways have been moved to date, and the three new jamesways are completed and occupied. The Ice Palace bathroom has also been relocated and the installation of the new sewer outfall line has begun.

Palmer Station by Ron Nugent

Our long stretch of pleasant weather has ended. The last few weeks brought snow and rain storms. The *R/V Abel-J* has been operating in the area and is being used by the Long Term Ecological Research (LTER) project to complete some early research before the arrival of the *R/V L.M. Gould* on 26 January.

The *Gould* will bring a large amount of cargo to the station, the first significant cargo since May of last year.

Once the cargo is unloaded at Palmer, the LTER work will continue on board the *Gould*. The LTER cruise will end in February and the *Gould* will return to Palmer to pick up retrograde cargo and waste.

R/V Nathaniel B. Palmer

by Dawn Scarborough

The *R/V Nathaniel B. Palmer* returned to McMurdo on January 15th, concluding the highly successful ROAVERRS cruise (Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea).

Cruise NBP98-1 departed McMurdo one day late, January 16, due to flight/weather related delays but the vessel is back on schedule. Cruise researchers will examine the timing of ice sheet grounding and retreat from the continental shelf in the Ross Sea region during the past glacial episode.

R/V Laurence M. Gould

by Dawn Scarborough

The *R/V Laurence M. Gould* arrived in Punta Arenas, Chile on January 16, 1998. The vessel is presently being readied for the start of LMG 98-1 cruise (LTER's annual cruise in the Bellingshausen Sea). ETA from Punta Arenas is January 22 or 23. More on the transit south and LTER will be reported in future Antarctic Sun issues.

R/V Roger Revelle

by Dawn Scarborough

R/V Roger Revelle does not have ASA staff onboard during cruises. However, the scientists sailing on the vessel are diligently supported by ASA Marine Division staff in Colorado as well as during New Zealand and McMurdo Station port calls.

R/V Abel-J

by Dawn Scarborough

Plans are for the *R/V Abel-J* to continue supporting LTER from Palmer Station until early February. She will then sail north to Punta Arenas in her final transit as a chartered vessel of the NSF.

Christchurch, NZ by Brian Stone

Weather delays continue to cause problems with the southbound airlift to McMurdo Station. Flight cancellations and decreased payload resulting from headwinds have continued to frustrate efforts to clear the cargo and passenger backlog which has existed since prior to the holiday season.

The recent visit of the Congressional Delegation headed by Senator Ted Stevens (R-AK) required extensive coordination between all USAP support elements in Christchurch and the US Embassy in Wellington. The US Air Force VC-137 (Boeing 707) aircraft carrying the delegation

attracted onlookers from the airport and local community. The aircraft (tail number 26000) played an important role in American history because it is the aircraft which carried President John F. Kennedy to Dallas, Texas on Nov. 22, 1963, and which returned his body to Washington, D.C. after his assassination. This same aircraft also carried President Richard M. Nixon to China for his historic visits in 1972.

ASA, Denver

by Ron Koger

The *R/V Laurence M. Gould* went on charter upon arrival at Punta Arenas on 16 January 1998. The first science mission in support of Dr. David Karl is scheduled to begin on 22 January. Despite accepting the vessel for use, some performance requirements have not been tested yet, such as docking at the Palmer Station pier and working in ice.

ASA's *Laurence M. Gould* Phase-In Team, led by Rhonda Kelly, has been nominated for the Holmes and Narver High Achiever's Award. This is a quarterly award that is presented to a team, who by working together made a significant contribution. The announcement of the award winner will be made on 19 February 1998.

This time of the year finds ASA with few staff present for duty at headquarters. The Directors of Logistics, Procurement, and Engineering are in Christchurch completing plans for the transition of certain Navy support functions to ASA in March 1998. Those staff now deployed are missing a very smelly re-roofing project now underway on the headquarters building. The asphalt odor is very unpleasant.

ASA has formally accepted the Multibeam System used on the *R/V Nathaniel B. Palmer* from the manufacturer Seabeam Instruments, Inc. There are deficiencies remaining with the system which will be corrected according to a milestone schedule. Acceptance of the system allows full use by science.

National Science Foundation

by Guy Guthridge

President Clinton last week announced his intent to nominate Dr. Rita R. Colwell as Deputy Director of the National Science Foundation. Dr. Colwell is President of the University of Maryland Biotechnology Institute and a Professor of Microbiology at the University of Maryland. She has been a Member of the National Science Board and is the past President of the American Society for Microbiology, the International Union of Microbiological Societies, and the American Association for the Advancement of Science. She chaired the 1987 Committee on the NSF Role in Polar Regions and was a member of the 1997 External Panel that evaluated NSF's administration of the U.S. Antarctic Program. Dr. Colwell has traveled to Antarctica four times. *

Dome

...cont. from page 3

known as N-Butyl Acetate) and long evenings in a Jamesway tent beneath a bright Antarctic sky.

There was, however, more to Siple Dome's season than frustration and broken equipment. Dr. William Harrison, a University of Alaska, Fairbanks professor and researcher was unaffected by Siple Dome's otherwise mitigating problems.

"Operationally it was a big success," said Harrison. "We got in and out fast and finished our task on the last barrel of gas."

Harrison led a team of glaciologists studying vertical strain in glacial ice and how ice deforms at low stresses. To do this, the team used a hot water drill provided by the California Institute of Technology. "We were totally dependent on their drill and they did a great job," said Harrison. "Caltech's drill is well-maintained and backed up with spare parts. It'll go back to California where critical pieces will be inspected and meticulously cared for."

Drilling ice holes was just the beginning of Harrison's work. The biggest concern of the team was generating a reliable measurement philosophy, which required the use of two separate methods of measuring vertical strain.

The first system, developed at the University of Alaska, uses a wire stretched

tightly between anchors one meter apart, which in turn attaches to a hyper-sensitive meter registering discrete relaxation's of the wire, down to one tenth of a part per million.

To better understand the device, imagine freezing a nickel in a layer of the snow that represents the year 1944 (snow falls and accumulates in layers, much like rings of a tree) and a second nickel in a layer representing 1954. Between the two nickels runs Harrison's wire. As the ice compacts and is affected by the strain of weight above, it squeezes out between the layers like jelly coming out of the side of a sandwich, bringing the nickels closer together. This movement data is what Harrison hopes to collect and study.

Researchers from the University of California, San Diego, developed the fiber optic method, which utilizes glass fibers. The fibers are simply hung by a 30 pound weight from the surface and allowed to freeze at lengths ranging from 100 meters to 1000 meters. As the ice deforms, the glass fibers record the change.

By employing two systems of measurement, the team has two methods of checking results. "I wasn't going to come here without two methods," said Harrison. "You just can't go out and make new types of measurements without some checking of the results. We need to eliminate as many errors as we can. With two systems, we've improved our chances considerably."

Harrison believes that his research will help scientists better understand fundamental rates of ice flow. To date, fast-flowing ice is well documented and understood, but little work has been done on deformations that take many years—like the changes in Siple Dome's deep layers. "The work at Siple Dome will serve as a dipstick for the history of the West Antarctic Ice Sheet and the climate history of the area," said Harrison.

In recent weeks Siple Dome activities have surged forward. SOAR researchers have made up for lost time completing more than 30 flights. "They're going like gang-busters," said Scott.

Despite this success and Harrison's enthusiasm, many observers may remember this season at Siple Dome for its challenging weather and troubled machinery. "We had a great plan, a great group all dressed up to go," said Scott with unfettered determination. "Unfortunately, we never found our pace, our rhythm. Every flight, every step was a fight." Even so, Scott and the hard-working Siple Dome team never threw in the towel, which bodes well for a renewed effort next season. *

-- EDITORIALS --

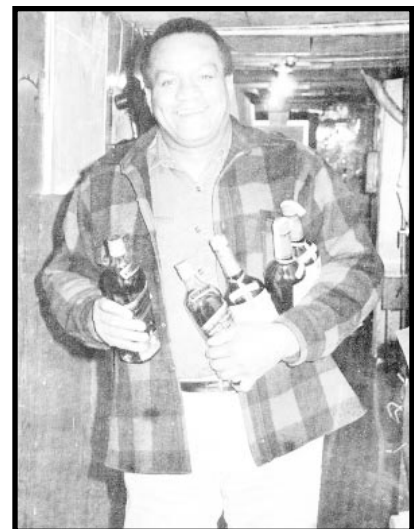
There is a wealth of Antarctic knowledge and information stored in the minds of our readership. This week, ice veteran RMC Billy-Ace Baker, USN (Ret) sheds light on a question raised in our Dec.27th issue. Your thoughts and comments are always appreciated at the Antarctic Sun. You can contact us at: Sun_News.asa@asa.org.

In the December 27 issue of PROFILE Ed Burnette was featured and I found it to be a very interesting article. However, I hate to be the bearer of disparaging words, but Ed was not the first black man to winter at South Pole Station. I don't know who gets that honor, but it could have been Charles Gadsen, see attached photo, of the USWB who wintered at the Pole during DF-71 (1970/1971).

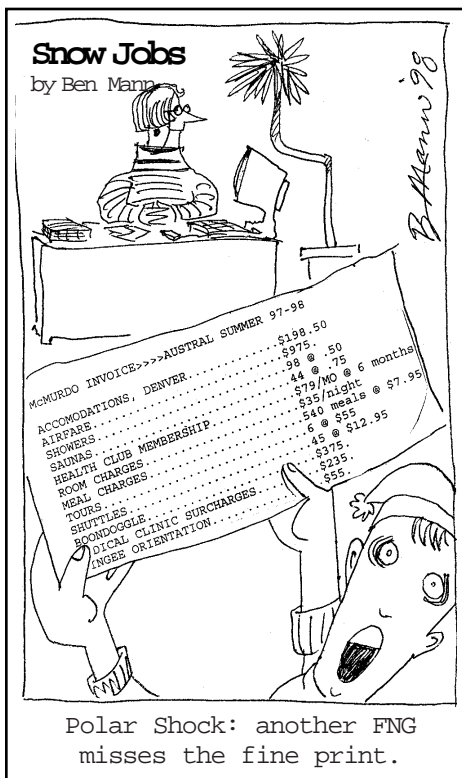
The attached photograph was scanned from, "A Winter's Reflection" which was the crews book for DF-71. To put the photograph in the proper perspective I have extracted the following from the Antarctic Journal:

The Antarctic Journal of the United States, Volume VI, Number 4, July-August 1971, page 137, lists the names of the personnel in the 1971 Winter Over parties at the various U.S. Antarctic Stations. The name Gadsen, Charles T., Jr., meteorology, National Weather Service, NOAA is listed under Amundsen-Scott South Pole Station.

*Sincerely,
RMC Billy-Ace Baker, USN (Ret) OAE*



Charles Gadsen, a meteorologist with the National Weather service, may have been the first black man to winter-over at the South Pole. Gadsen wintered at South Pole in 1971, 16 years before Ed Burnette who previously held this distinction.





Balloon Flight Terminated

by Alexander Colhoun

See cover story "Ballooning over Antarctica", January 10th edition.

Four days into a journey circumscribing the heavens above Antarctica the flight of a science balloon launched by the National Science Balloon Facility was terminated. Researchers and balloon experts hypothesized that the balloon had developed a small tear in the cellophane thin material, causing the dirigible to fall below a minimum altitude needed to carry out research.

"From a science perspective the flight was a success," said Steven Peterzen, project coordinator. Though significantly shortened, the balloon began transmitting useful data within the first 12 hours of flight. "Scientists still got more out of a four day flight than any conventional flight," said Peterzen. "All of the scientists were very optimistic."

As the balloon lifted off the permanent ice shelf just outside McMurdo Station two weeks ago, all indications were excellent. The balloon quickly rose to its maximum altitude of 125,000 feet and stayed there; all the while capturing what scientists describe as significant data.

By the end of day two, however, the balloon had fallen to 114,000 feet, forcing Peterzen to send a command asking the balloon to drop ballast in the form of fine steel pellets.

"The balloon carries 500 pounds of ballast that can be released at a flow rate of 60 pounds per minute," said Peterzen. "We dropped ballast for about two minutes and the balloon responded instantly, rising back to 120,000 feet."

The team began to suspect a leak when, on day three, the balloon again lost altitude, this time falling to 93,000 feet. Foggy conditions at McMurdo Station's Williams Field prevented a reconnaissance flight on day three; but on the fourth morning conditions cleared and Peterzen boarded a New York Air National Guard LC-130 and headed for his balloon.

From 25,000 feet Peterzen and the air crew looked up and saw their objective, floating with

ease around 90,000 feet. Flying in a 22-mile circumference under the balloon, the team attempted to unload more ballast but the balloon failed to react.

"At that point I decided to terminate the mission," said Peterzen. "Despite the high elevation [of the land below] near Vostok and AGO4 (say: egg-o) sites, there was nothing better until the balloon came all the way around [back to McMurdo]."

Using wind speeds, gondola weight information and trajectory scales, Peterzen plotted a descent for the balloon of 38.9 minutes under the canopy of the balloon's parachute. Sending a signal to the balloon a small explosive was fired and the balloon collapsed, sending it into a free fall that was soon slowed as its massive parachute opened.

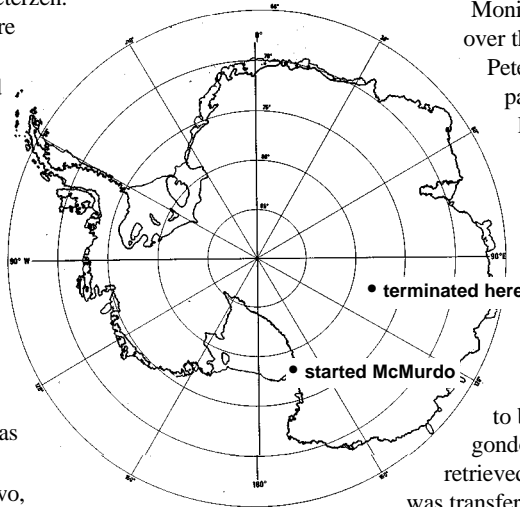
Once on the ground, the gondola was dragged across the frozen wasteland by the parachute filled with air. Unfortunately, commands to fire explosives that release the parachute failed to work and the gondola slowly crawled over the snow.

Monitoring the gondola over the last few days, Peterzen feels the parachute has finally collapsed. The global position system monitors attached to the apparatus have not shown appreciable change since last week.

What remains to be seen is how the gondola will be retrieved. All science data was transferred and collected while the balloon was in flight. Even so, Peterzen and his associates hope to collect their multi-million dollar machinery for use in future flights.

One option is to fly in to the site on an LC-130. The high altitude and heavy snow will make this possibility a challenge and will require the use of jet-fueled burners, not unlike a rocket (JATO - Jet Assisted Take-Off) that attach to the plane's fuselage and help it get airborne. Another option is to remove the essential pieces of the machinery with a Twin Otter—a much smaller, lighter ski-equipped aircraft. A final option would be a recovery traverse from Vostok station next summer. Either way, Peterzen has his work cut-out for him.

With recovery in a hostile environment on his mind, it might be tempting for Peterzen to see the flight as a failure, but with years of



Your Turn—

Your questions and comments are welcome here. We'll publish responses in each issue. Contact us at Sun_News.asa@asa.org.

I know it's against the rules to sell t-shirts, hats and other items independently, down on the ice. Why does the ship-store get a monopoly on this business? The designs put out by independents are much more interesting anyway. Anyone should be able to sell home-designed clothes on this station, we are Americans after all.
—anonymous

The McMurdo store, is a NSF / USAP sponsored operation for the benefit and convenience of all station residents. The store not only provides necessary sundry, food and toiletry items, but also souvenirs and shirts for people to remember this place by. The key to understanding why Antarctica is not a completely "open market" society, with goods from many sources, is centered on the mission of the United States Antarctic Program. In a nutshell, the USAP mission is to provide a platform for the gathering of valuable scientific research.

In accordance with this goal, the USAP Cargo and the APO/FPO Military mail systems in Antarctica are geared towards supporting research and secondarily the morale of us—the USAP participants. Therefore, USAP Cargo and APO/FPO cannot utilize their tax-paid funding to support individual commercial endeavors. That is why the transport of articles for resale by individuals to Antarctica is prohibited.

Not only do USAP stores have the goal of providing goods to the community, but also to turn it's excess revenues back for the benefit of the USAP stations. Simply said, all three of these operations—cargo, mail, and the retail stores—are supported by the NSF Program to meet the desired goal of scientific research first, and should administer its resources to that end.

Michael Baclawski
Retail Operations Supervisor

experience under his belt, Peterzen takes it all in stride. "From the start things here in Antarctica are against you," said Peterzen. "We're talking about floating a balloon made of ultra thin fabric around the continent. So much can go wrong, that's why any success, whatever its size, is so sweet." *

Lost in the Dry Valleys

story and photo by Alexander Colhoun

Buddy was a lucky one. First sighted at Lake Bonnie, 40 kilometers from the ice edge up into the Dry Valley's, the Adelie penguin was thought to be a goner. Two days later the plucky bird waddled contentedly into Lake Hoare camp and happily relaxed with the crew.

"He came right into camp proper and stood there greeting everybody," said Paula Adkins, camp manager. "He loved the people."

Not all wandering penguins (and seals) are so lucky.

From the earliest visits to the Dry Valleys, researchers have been intrigued by the mummified remains of penguins and seals found scattered across these ice-deprived canyons. To put this act into perspective, a seal's journey into the Dry Valleys is not unlike a human traveling without food, water, or use of any limbs into a Utah canyon. It is suicidal.

According to wildlife biologist Tom Gelatt, the majority of the mummified seals in the Dry Valleys and elsewhere are crabeater seals. Crab eaters are the most numerous seals in the world with population estimates of over 20 million.

Ian Stirling and Gerry Kooyman wrote a paper in 1971 on mummified seals which suggested that the occurrence of crabeater seals in the Dry Valleys represents part of a dispersal of seals trapped by the freezing sea ice in McMurdo Sound in autumn. They thought that the crabeaters would not be able to maintain breathing holes, as the



In an act that continues to mystify scientists, seals and penguins occasionally make their way into the Dry Valleys of Antarctica and later die. Radiocarbon dating on specimens like this seal from the Taylor Valley indicates that seals have wandered in randomly over the past 2,000 years.

Weddells are adapted to, and thus if trapped in the Sound by the fast forming ice, would need to travel overland to open water. Intriguing, yet this still doesn't explain why they go the wrong way.

Other researchers from Northwestern University in Chicago have studied the phenomenon using carbon dating. These scientists discovered that mummies of crabeaters as far as 50 kilometers from shore and 900m above sea level dated to ages of 1600-2000 years. Radiocarbon dating on specimens from Taylor Valley indicates that seals in this region have wandered in randomly over the past 2,000 years.

While explanations for the seal's odd behavior run the gamut, no scientific research has been applied to the subject for lack of data. Gelatt feels any explanation carries too many assumptions. "Attempting to explain the extremely isolated occurrence of a seal crawling overland to its death is, I believe, a bit presumptuous on our part," he said, "considering we are unable to explain peculiar behavior of our own species."

Some researchers have speculated the seals and penguins are mistakenly crossing

the valleys in search of a different body of water –modern day Magellans in search of new routes. Gelatt is skeptical. "I do not believe these seals are trying to cross towards water," he said. Gelatt argues that because of the climate, anything dead on the continent would mummify and remain indefinitely. Thus, if only a minute percentage of the

seals were to crawl up and die, they would be visible for a very, very long time.

Even as Gelatt rejects the water theory, he proffers a new perspective on the phenomenon, using the state of California as an example. "Periodically, in the state of California, a state with a population not too far from that hypothesized for crabeater seals, there are instances of people taking a weapon and running into a public place and killing themselves. Experts are baffled as to why this happens. Likewise, people are constantly doing things like jumping off the Golden Gate.

"I may in fact be way off. These seals may truly be confused by the ice or in search of nirvana. The fact is, from an evolutionary perspective, this is a dead-end trait which should not be passed on and thus, I doubt that we can apply an anthropomorphic type reason to the phenomenon." *

Dr. Tom Gelatt contributed to this story.

Roavers ...cont. from page 1

The difference is that this clock is bigger than the state of Alaska.

With eight principal investigators from seven different research facilities, however, Dunbar, a Stanford University professor, has plenty of help to accomplish the objectives of the project. In its broadest context, ROAVERRS researchers hope to understand the affect of atmospheric influences on the Ross Sea from year to year and how these influences effect the Ross Sea ecosystem.

To do this, the ROAVERRS project has combined a variety of fields under one roof, pooling data to generate a more complete picture of the Ross Sea. No data source is left untracked. From the heavens above to the currents below, everything that can be measured is, down to the very salinity of the water column.

Equipped to collect these subtle measurements and hundreds others like them, the NBP is a massive floating laboratory. The main difference between it and land-based labs are bungee cords –hundreds of them– that tie down every last piece of equipment. Even in summer, travel through the Southern Ocean can be rough. ROAVERRS personnel endured one stormy interval with up to 10-14 foot waves.

A rolling ship is a hard place to conduct science, but with such a brief summer window to conduct research, scientists let nothing get in their way. “This is such a short snapshot



photo by Rob Dunbar

Herb Baker, left, and Patrick Whaling deploy a box coring device off the back side of the *Nathaniel B. Palmer* during the ROAVERRS cruise.

view of the Ross Sea, just three weeks,” said Dunbar. “And the processes continue year round.”

To expedite research, no expense has been spared. The computer room boasts what one person called Silicon Graphics biggest and best computer, not to mention an additional twenty monitors clustered around it.

Technology surrounds scientists and crewmen alike aboard the NBP. All 61 people on board the ship have daily access to email via satellite. Every room is equipped with a TV monitor that can access a series of live cameras allowing researchers to stay abreast of the shipboard activity, weather and movement at

...cont. on page 13



Ask Aunt Arctica

...advice for staying healthy on the ice

Aunt Arctica is written by Christopher Walton, a clinical psychotherapist from Washington state with eight years experience working in individual counseling, specializing in cognitive and transpersonal psychologies for personal growth. Please write with any questions you may have. You need not include your name. All queries will be confidential.

Question: *I am a divorced woman working in Antarctica for the first time. I have a pattern of getting attached romantically to men, then panicking emotionally and severing the relationship. What troubles me is my inability to trust my instincts about a partner. I get to this place where I just don't feel safe. Is there a way to meet a man, without holding all my old 'stuff' against him?*

Trust, both physical and emotional is the most important element in a successful rela-

tionship, whether it's a close friendship, a family member or a relationship with a partner. Unless both people in the relationship feel safe and secure, it's impossible for true intimacy to develop and flourish.

Intimacy is built on the opportunity to be ourselves and share our vulnerabilities, to build trust as we experience the strengths and weaknesses that each of us possess.

If a relationship is to be formed, it's necessary to move past fear –fear of failure, fear of loss of power, fear of losing your identity –into a deep and empowering experience of union with another.

A real relationship is an absolutely reliable source of comfort and happiness, but few couples have one. It can be attained by

virtually any two who are willing to make a sustained effort, such as they might in getting into shape, completing an advanced degree, or learning the fundamentals of a new profession.

Strong relationships require work and dedication. Without the essential building blocks of trust and intimacy this is nearly impossible. A good place to begin building trust is within yourself. Building that within yourself means knowing that you will follow through on taking good care of yourself and not sabotaging your own happiness.

Begin by maintaining a journal of your feelings so that you become aware of the place within you that is connected to the old fears preventing you from moving into a deeper intimacy with others. This will allow you the ability to keep the past separated from the present and the knowledge that as you feel those old feelings they are not connected to the person you are becoming intimate with.

MILITARY NEWS:

Zoo Aboard the Polar Star

story and photo by Lt. Claudia McKnight, USCG

The Coast Guard icebreaker *Polar Star* is becoming a zoo. When the cutter left Seattle on October 25th there were six bears and one jaguar on board –six teddy bears and one stuffed jaguar, that is.

These stuffed animals are an important part of the *Polar Star's* Partnership in Education during Operation Deep Freeze 98. This program is a Coast Guard-wide local community enhancement effort, carried out by ships and crews based across the United States.

Dubbed the Geo Kids project, this program built on a similar idea carried out on the *Polar Sea* last year. The concept is to share the ship's journey vicariously with a class of children through a small bear or mascot that travels with the ship and sends back reports so the class can study geography and science encountered by the vessel. The animals on this cruise belong to seven different classes, ranging from kindergarten to the eighth grade, at schools located across the country.

The trip started in Mobile, Alabama as all seven stuffed animals boarded one of the two aviation detachment H-65 helicopters bound for Seattle. At each overnight stop, reports in the form of emails were sent to each of the participating schools. Maps, pins, and yarn were brought out in schoolrooms across the country to trace the mascots' way through nine states, onto the *Polar Star* in Seattle, and across the Pacific Ocean to the Hawaiian Islands.

In Hawaii, a new addition to the program was received from a school in Indiana, Flat Stanley. Flat Stanley was a little boy who was accidentally 'flattened' by a falling chalkboard. Being that his new shape was paper-thin, he was now able to travel across the world in a very convenient manner –in an envelope!

Also joining the program to receive email updates and to track the ship's progress were a middle school from Oregon and an elementary school from Washington State, bringing the total number of participating classes to ten.

During transit through the South Pacific the mascots were initiated into the Realm of the Golden Shellback as the ship crossed the intersection of the Equator and International Dateline. This is an age-old mariner's tradition requiring uninitiated 'wogs' to 'walk the plank'

and crawl through the 'whales belly' before being presented to King Neptune for his acceptance into the Realm.

On December 24th, the ship crossed the Antarctic Circle, and once again the mascots and crew braved another ancient mariner's tradition and became initiated into the Realm of the Emperor Penguin! Definitely a more chilling experience than the previous initiation.

The *Polar Star* arrived at the Ross Ice Shelf on December 28th to begin science support and to commence the important task of clearing a channel to McMurdo Station. The ship's two helicopters were deployed to McMurdo Station with all but two of the mascots. Dixon and Dixie, from the S.S. Dixon School in Pace, Florida stayed on the ship to keep the crew company and observe the icebreaking operation.

Scientists working at McMurdo Station have provided input on their projects to be published on the P.I.E. web page, where each department on the ship is also featured. The National Science Foundation (NSF) in Washington, D.C. has been a gracious and helpful participant, sending copies of an educational booklet on Antarctica to each school.

Hobbs Middle School, from Milton, FL, sent a ten-year time capsule to be left in Antarctica. This capsule holds everything from current news and trends to aspirations of the students for their future ten years from now.

This capsule will remain in Antarctica until 2007 when it will be returned by a Coast



When the *Polar Star* left Seattle bound for Antarctica on October 25th there were six teddy bears and one jaguar on board. Part of the Coast Guard's Partnership in Education program, these stuffed animals, seen here on the Ross Ice Shelf, serve as liaisons to grade schools across the United States.

Guard Icebreaker, and then via an H-65 helicopter to the Aviation Training Center in Mobile, Alabama where it will be presented to the school.

The itinerary for the return voyage has not yet been set. Geo Bears, the jaguar, and Flat Stanley wait in anticipation of their next port-of-call, and what new information they will be able to send home to their schools.

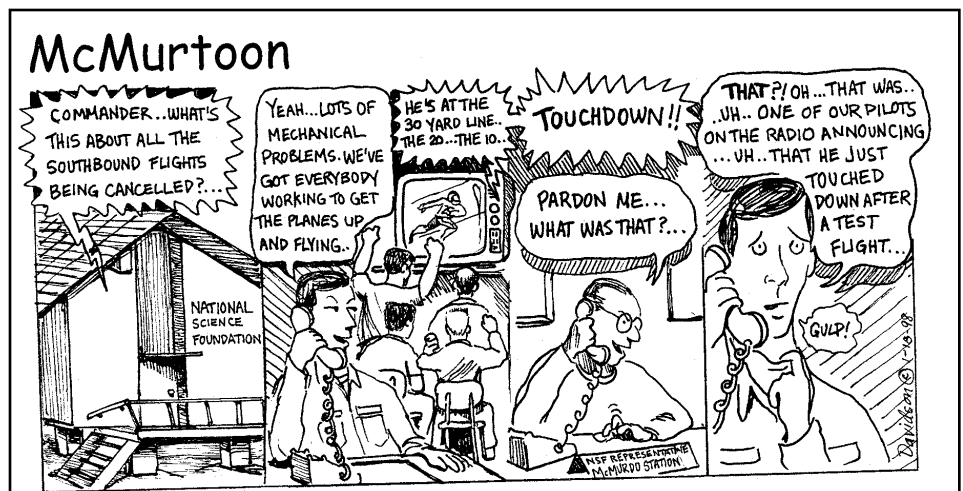
In mid-April the *Polar Star* will pull into the port of San Francisco, home of Blueberry and her 3rd grade class at the Claire Lilenthal School. This reunion will provide a great opportunity for the students who have followed this journey to see where Blueberry and her friends have made their home for the past six months. *

POLAR STAR web site:

www.polarstar.org

CG Pacific Area web page:

www.wenet.net/~uscg/index.html



What's Looming on the Horizon?

WEATHER

by George Howard, MAC Weather
McMurdo Station, Antarctica

When someone mentions the word "mirage," most of us conjure up the image of a thirsty desert traveler, crawling on hands and knees toward a shimmering pool of water that isn't really there. On a more personal level, you may have driven in hot weather and seen "water" on the roadway ahead that never gets any closer.

Both phenomena are caused by hot air close to the surface and cooler air above. The dramatic temperature difference causes light passing through the layers to bend (refract) toward the warmer air. In the case of the hot roadway, the "water" is actually an image of the sky near the horizon that now appears on the road surface. Since the image of the sky appears *below* where it normally would, this type of mirage is called inferior.

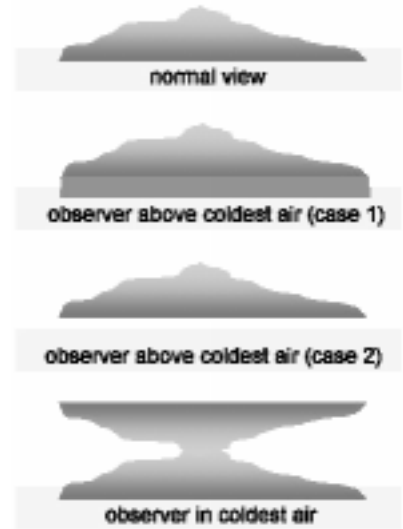
Mirages don't restrict themselves to areas that are hot. They can occur anywhere there are large vertical temperature differences. In Antarctica, we have mirages of our own.

They typically occur when winds are nearly calm over a broad area and very cold air pools at the surface.

Mirages in this situation are called superior mirages because, with warmer air above the cold surface layer, we see objects *above* their actual position. This appearance of elevated images is commonly called looming.

The figures at right show a few of the different ways looming can manifest itself. The first figure represents a normal view of an island surrounded by sea ice. The second and third figures show what you'd see if you were above the coldest layer of air (most frequent in McMurdo).

The lowest portion of the island may be stretched vertically or you may see the entire image of the island elevated above the ice. The last figure depicts what you'd see if you were within the coldest layer of air. Not only is an image elevated above the island, it's inverted.



While looming doesn't occur with great regularity, your best bet to observe it will be under widespread calm conditions while watching the area where sea ice and land meet on the far side of McMurdo Sound.



photo by Alexander Colhoun

McMurdo residents, ever drawn to changes in scenery around town, came out in force to watch *Polar Star*, a Coast Guard ice breaker, prepare the ice pier for the arrival of the *R/V Nathaniel B. Palmer*.

Roavers ...cont. from page 10

any given moment. For the detail-inclined, a global positioning system identifies the ship's location down to the centimeter. More than a science platform, the NBP is technological wonder.

As one person sleeps, another collects data. Meteorologists compile weather data (sea temperatures, wind directions, ice cover and movement), chemists analyze water samples and plant nutrient information while biologists study algal productivity and carbon fluxes. It is a never-ending process and one that changes with every new discovery.

When, through satellite imagery known as SeaWiFs, researchers identified a major bloom of phytoplankton, the foundation material of the food web, the NBP charted a new course toward it. "The ocean was turning green with plankton, the farm was hopping," said Dunbar. "Some products of that bloom will eventually be swept into McMurdo Sound and affect that ecosystem." By traveling to the bloom itself, researchers collected data from the site to better understand conditions that drive this activity.

The array of devices that make this research possible are mostly hand-assembled, state-of-the-art instruments, like the CTD (Conductivity, Temperature and Depth). Launched from a the Baltic Room, a steel-ridden chamber amidships and the most stable spot on the vessel, the CTD is arguably the most sophisticated water bucket in the world.

Shaped like an oversized Gatling-gun, the CTD houses 24 cylindrical bottles on a rosette, each of which can be automatically closed by electrical commands sent through a one-inch diameter umbilical cord used to hoist the apparatus up and down through the water column. Deployed four to six times per day on the ROAVERRS cruise, the CTD collected literally tons of water for analysis.

Surrounded by water 100 meters below the surface are the ROAVERRS' year-round workhorses: deep-sea moorings. These are attached to the Ross Sea floor by 2,000 pound anchors and held taut from above by floats. Necklaces of the ocean, the moorings resemble beads

on a string, each bead representing a different instrument.

Sediment traps on the string are conical in shape. Material that settles into the trap is captured. Meanwhile, every 15 days a new cup rotates into place, thereby dating the type of material collected in the year-long period between mooring retrievals.

This information, along with current flow, salinity, and temperature data, is being collected by 10 moorings throughout the Ross Sea (several of which are maintained by different nations making the project truly international) and is central

to the overall understanding of the Ross Sea ecosystem.

"Each year the Ross Sea is different," said Dunbar. "Simple changes in the atmosphere affect the whole food chain, from algae to killer whales. We want to figure out these atmospheric differences and how they affect the ocean." Until then, Antarctic fishes, starfish and plant forms may suddenly find themselves under the unexpected spotlights of the 'MudScud' Hi-8 video cam as ROAVERRS researchers trawl the Ross Sea for clues about what makes it tick. *

The Antarctic Escapades

by Richard Perales

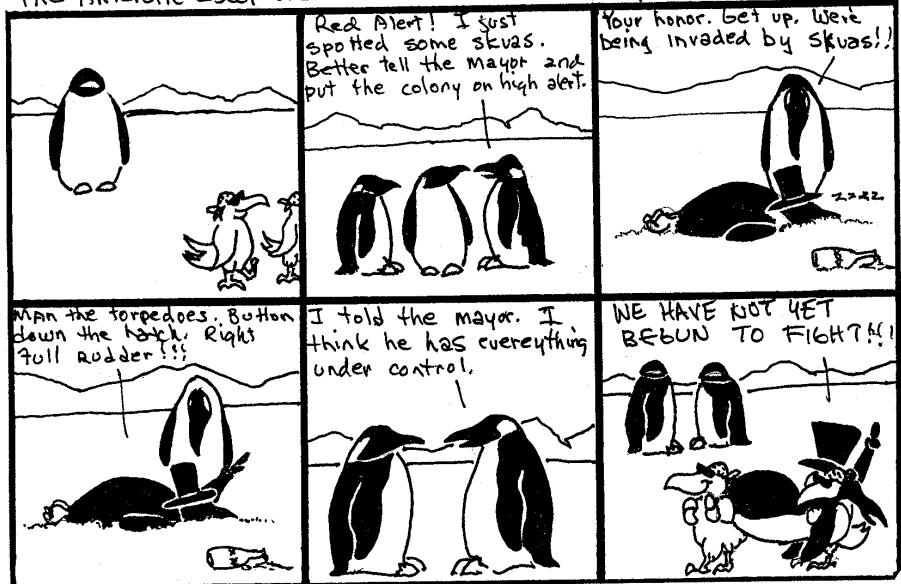


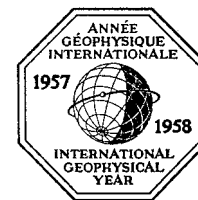
photo by Alexander Colhoun

Clouds break over Williams Field on an overcast evening last week. Each night the sun draws closer to the horizon as Antarctic workers await their first sunset, due February 18th.

What We Learned 40 Summers Ago

fourth in a five-part series by Guy G. Guthridge
 Manager, Antarctic Information
 National Science Foundation, Polar Programs

Forty years ago, 60,000 scientists from 66 nations took part in what has been called the greatest peacetime activity in man's history—the International Geophysical Year, from July 1, 1957 to December 31, 1958. One of the IGY's most prominent achievements was the opening of Antarctica to modern science.



IGY+40

The International Geophysical Year, a short forty seasons ago, brought Antarctica out of a dark age. Before the IGY, half the map of Antarctica was blank—huge areas had not been seen, much less studied. From 1604 to 1951 only five thousand papers had been written. By 1961, a mere decade later, scientists had doubled the number. The IGY didn't do much mapping, geology, or biology. Upper atmosphere physics, meteorology, and glaciology were the focus. Even so, that was enough to show science what it had been missing.

A major IGY achievement was measuring the thickness of the ice. Thousands of miles of oversnow traverses took seismic measurements every 30 to 50 miles. By mid-1958 the IGY Bulletin cited the average ice thickness as 8,000 feet or more (we now know it is just over 7,000 feet). Bedrock in much of Marie

Byrd Land was found to be below sea level –6,500 feet below at one place—establishing West Antarctica's ice sheet as marine based (the world's only) and thus potentially unstable.

The traverses also made gravity and magnetic measurements every two to five miles, showing that the underlying bedrock is irregular and is probably of igneous rather than sedimentary composition. The measurements also showed that the bedrock is depressed as much as 3,300 feet by the weight of the ice. Walter Sullivan, whose 1961 Assault on the Unknown chronicles the IGY, said looking under the "icy shroud" was the IGY's most ambitious goal in Antarctica because it would settle whether the region is one continent or two—it did.

A traverse to the Horlick Mountains, 300 miles from the Pole, found coal seams up to forty feet thick and fossil tree trunks, estab-

lishing that for most of its long history Antarctica had been rich in forests and green meadows.

One of the heaviest items of equipment was a drill rig, which brought up a 4-inch ice core at Byrd Station down to 331 yards deep, giving a climate record back to the sixth century. The drill also made a shallower core nearly to the bottom of the Ross Ice Shelf.

Around McMurdo Sound, IGY glacial geologists found evidence of at least three major glaciations during the Quaternary (the last 600,000 years), one of which must have choked McMurdo Sound, banking at least 2,000 feet up onto the surrounding terrain.

Not all IGY findings have borne themselves out. IGY glaciologists on three widely separated expeditions concluded that Antarctica is receiving more ice from snowfall than it is losing through evaporation and icebergs. Today, however, glaciologists suspect that the Antarctic ice is in mass balance—that ice income, in other words, is about equal to ice outflow.

Some findings were made in the life sciences. Doctors confirmed that "when cold air is brought in contact with diseased teeth, the pain is often considerable" and recommended further research and "protective devices such as rubber teeth guards worn by athletes." Neuropsychiatrists had people write diaries and do voice recordings "to get a picture of group relations under conditions of isolation and stress." Penguin physiology and migration were studied. Coastal personnel all around Antarctica were alerted to record the appearance of seals that were marked at Wilkes Station "by means of a branding iron bearing the initials IGY."

Newspaper headlines about IGY findings were not as big as those celebrating earlier conquests by Amundsen, Scott, and Byrd. But in a mere 18 months the IGY brought international Big Science to the exploration of Antarctica, and it ended forever the region's historic isolation from human affairs. *



Navy photo

Cross-ice traverses like this one were an important part of the IGY data collection effort. In those days, dogs were allowed in Antarctica.

Perspectives

Sunday Coffee Break

by Mariah Crossland

I don't drink much coffee. Some of my friends don't either because they don't want to share in the oppression of third-world coffee bean pickers. I just never liked the taste until I learned to add enough milk to bring it to a shade painters call navajo white.

That pale, the coffee is cold and the milk is warm and there are better things to drink. But having friends over to your room for coffee on Sunday morning is a tradition in McMurdo. The Bailey's and the conversation flow freely, and it's a nice way to warm up to the day off, which is usually cold and stormy.

In order to host a proper coffee, you need to create an environment to entertain in. A little 'feng shui' would go a LONG way in the dorms. Lacking that, you must figure some way to fit two extra-long twin beds into an area the size of a closet, then you can create a living room the size of a cupboard with the rest of your space. Even a competent interior engineer could only make room for four chairs but that shouldn't limit the guest list. OAE's are accustomed to sitting on floors, curling up next to refrigerators or stretching their legs out under a bed.

My roommate, Sharon and I, have such a living room, and a couple of weeks ago we decided to host a Sunday morning coffee. While many McMurdites are used to the comforts of home, the two of us don't own a TV, a VCR, a microwave or a popcorn popper. At the time we did not even have a coffeepot.

Luck was with us when we invited our first guests. Dave and Carey said that if they could sleep-in until ten they would bring their espresso machine over. So I slipped out of the galley with some mugs and spoons in my jacket pockets and figured we were all set.

Sharon and I each invited a few more friends. But Saturday afternoon Dave informed me they would not be able to make

it. Because of the heavy new snow he would have to go to work Sunday morning. With him would go the coffee's coffee.

Our neighbor came to the rescue. Kathy is a Martha Stewart sort who sent down her own set of crystal because she could never serve wine in a milk glass or plastic goblet.

When she heard of our plight she brought her coffee maker and filters right over. Then she brought a sugar bowl and creamer. When she asked if we needed a grinder Sharon and I gave each other strained looks and shook our heads yes. Realizing right then that we had no coffee in any form we couldn't be certain whether we'd need to grind it or not.

Kathy returned with the grinder and stood in our doorway smiling, asking if we needed anything else. I caught Sharon's eye again but neither of us spoke. Then our generous friend offered us some of her fresh coffee beans. We were mortified. She had already supplied us with complete coffee service and neither of us could admit to being so pathetic as to not even having any coffee.

"Oh n-n-no, we're f-fine, thanks for every-th-th-thing," I stuttered.

"We've GOT coffee," Sharon lied. My face was blushing hot and I noticed Sharon's was pretty red too.

When Kathy retreated to her room we burst into laughter. Sharon wanted to know why I hadn't asked for some coffee and I told her there was NO WAY I was going to ask for anything else! I suggested that she go down the hall and borrow some coffee from another friend, Bonnie. This would have solved our problem—if only she ever did what I asked.

We went to a party that night, danced until early morning, then slept in. When we woke up coffee hour was fast approaching. Sharon washed the dishes, I vacuumed the living room and we plugged in the coffeepot. There was no use begging for beans now. The reason that Kathy was not coming over for coffee herself was because she wanted to sleep late. We were not to wake her up. And Bonnie was now at work.

Sharon heated water in the coffeepot and made us tea. I don't imagine that Bailey's is very good in tea but no matter. We didn't have



photo by Zee Evans

Sharon Lewis, left, and Mariah Crossland enjoy a coffee break in their McMurdo dormitory room. Sunday morning coffee get-togethers are a popular way to end the week.

any Bailey's either! We were getting a little bit nervous.

Then a strange thing happened. Nobody showed up. Maybe they were drunk when we invited them and didn't remember. Maybe they were still sleeping. Maybe we didn't have any friends after all, or maybe, like me, they just didn't drink coffee.

While I was out on an errand Sharon got a call. It was Rosemary wondering if she'd missed everything. Sharon told her she had not missed the coffee, but she'd have to bring her own. That was probably confusing to someone that had just woken up. When I got home I waited for her to come over, wanting to somehow salvage the morning. But she never arrived. We had not given her our room number!

By noon we came to the painful realization that our coffee-less coffee was attended by guest-less guests who poured Bailey-less Bailey's and engaged freely in non-conversation. We returned Kathy's equipment and thought it might be best if we didn't attempt any more Sunday morning get-togethers.

But word gets around in a small community. Within two days we had THREE coffeemakers, Folgers, Starbucks, filters, a carton of REAL milk, a fresh bottle of Bailey's and some new mugs! We're ready to give it another go now. So you're invited. Come on over to the room with the Pavlova recipe on the door, curl up next to the refrigerator, pour yourself some Bailey's and have coffee. *

Profile

Passport to Adventure

story and photo by Alexander Colhoun

To listen as Rhonda Ecker spins yarns of her life would make you think she had lived 100 years. Only 37, she's experienced more of the world than a foreign correspondent and shows no signs of relenting.

Even on a continent that seeks to limit movement at every turn, Ecker manages to get around. Just last week she headed to the South Pole, having passed nine days stranded at Byrd Surface Camp deep in the field and several weeks drilling at Siple Dome.

No stranger to drilling, Ecker has seen many days under steel towers with auger-driven bits churning into the earth. In 1987 she was one of the few female drillers working in Alaska. Wiring explosives, drilling and dropping charges, she spent four winters in search of natural gas while living on the Kenai peninsula.

"It was very hard work, very physical, with dangerous augers," said Ecker. "All of those drills are outlawed now—every single one I ever used—they break wrists and black eyes."

You'd never know it today. Red hair cascading across her shoulders and a twinkle in her eyes when she smiles reveals nothing of the hard work that has defined much of her life. Growing up on a farm her father homesteaded in Wisconsin, Ecker attended a reservation grade school with farm kids and Stockbridge Munsee Indian children.

"Growing up I had a lot of native influence," said Ecker. "Many of [the Indians] were in a tight spot with 85 percent unemployment. Tied to their government checks I realized how important it was to get out."

Get out she did. After a year working in a factory and later gaining a college education, Ecker took for the hills. "I had no money, so I decided to go as far as I could without a passport, Alaska.

"I bought a ferry ticket to the first stop and then stowed away for the rest of trip until I got to Haines. From there I hitched to



From the Bering Sea to the North Slope, Rhonda Ecker has worked Alaska's toughest jobs. Now she has come to drill for science in Antarctica.

Homer." And there she stayed.

Arriving in Alaska in its fishing heyday, Ecker soon found herself on the slime-line, cutting and packing fish. "It can be traumatic," she said. "The sheer number of fish, the guts, the slime, long hours and a never-ending line of fish coming at you."

Two seasons in Icicle Seafood's cannery were more than enough. "I figured the guys catching the fish had to be making more than me," said Ecker, who persuaded Mike Brooks, a local fisherman, to take her on. "No one wanted a woman on board," said Ecker. "Mike gave me the chance and I never looked back."

Ten years later, having fished salmon, halibut, black cod and even king crab out on the winter-tossed Bering Sea, Ecker had experienced the best and worst of Alaskan fishing. "Depending on your share, you could make

10,000 dollars on a 24 hour opener, but it was dangerous work.

"I put a halibut hook all the way through my hand. The winch was back hauling me toward the reel. Someone else cut the line free. After we cut the barb and removed the hook, I wrapped my hand up and kept working. We were still three days out."

Fishing for a living had lost its allure, so she became a fisheries technician, tagging and recovering 'pinks' (pink salmon) at a Valdez hatchery. As chance would have it, her time there coincided with the now infamous Exxon oil spill which translated into a new job working as a radio dispatcher. "I was a maritime dispatcher, tracking 220 boats and six helicopters every day," said Ecker. "Those were good lessons in organization."

These newly enhanced skills were put to good use as she began construction of her own log cabin. Made from beetle kill trees on the Kenai, Ecker put 28 employees to work building her 1500 square foot dream home on Diamond Ridge, overlooking the Cook Inlet. "I did rather well, I have to say," said Ecker of her site management skills. "I did a lot of trading and used mostly local materials. My kitchen tiles are made from Homer (Alaska) clay."

Two years of house-building, ten years of commercial fishing, several years in Valdez, and most recently, three summers as a cook on a research ship are just a few of her experiences. Toss in a journey to Antarctica, a trip through the Panama Canal, adventures in Europe, Asia, Central America and Mexico plus 18 years of her youth in Wisconsin and by now Ecker should be well into her fifties.

Her philosophy is simple, but with such a rich variety of life experiences under her belt, who can argue? "My general outlook is to work hard, be a nice person and honest," said Ecker. "If you are, things will generally go your way." *