The Antarctic Sun

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Every Two Weeks

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Polar Star Breaks Through

story and photo by Alexander Colhoun

Eight feet of sea ice crumbled like milk toast under the weight of the *USCG Polar Star* as she battled her way into McMurdo Sound last week. A 399-foot-long icebreaker under Coast Guard command, the *Polar Star* is tasked with breaking through this season's 16 miles of ice between the open ocean and Hut Point on Ross Island.

From a helicopter circling far above the *Polar Star*, she looks innocent enough, resting quietly amid the ice

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INSIDE

Ballooning Over Antarctica

Science at 125,000 feet

story and photo by Alexander Colhoun

Researchers fill their science balloon with Helium gas in preparation for its launch last Wednesday. "You couldn't ask for a better launch day," said Steven Peterzen, project coordinator. "It was a flawless launch." The balloon will travel above Antarctica for up to 20 days.

The balloon's proportions alone are impressive. Fully deployed, the material would cover 16 acres with 26 miles of seams. Inflated, its diameter is 518 feet, long enough for two jumbo jets to sit end to end inside. It is capable of carrying more than 5,000 pounds of payload. Filled with helium, it rises 125,000 feet in the air.

These are no birthday party balloons.

Made of transparent material that rolls between the fingers like cellophane wrap, the balloons used by the National Scientific Balloon Facility look like giant tear drops rising into the sky. Unlike tears, however, the balloons aren't free, and cost up to $100,000 for just one.

Bound for the oxygen-depleted upper atmosphere several miles above Earth, these balloons have been called the cheap seat to space. Minus rocket fuel and astronauts, the balloons achieve many of the same objectives.

"We launch, monitor and retrieve these balloons with an eight person staff," said Steven Peterzen, project coordinator. "A rocket launch requires hundreds of people."

And hundreds of thousands of dollars. Not that the Long Duration Balloon project in Antarctica is cheap, but relatively speaking, there is no comparison: balloons are the workaday ticket to space.

Hard-working and perhaps wiser. There are many benefits, beyond cost, to research via

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Navy photograph

Antarctic explorer Dr. Paul Siple, IGY scientist, makes snow temperature tests in December, 1956.

What's in a Name?

story by Julie M. Palais, Antarctic Glaciology Program Manager, and NSF Science Representative

Siple Dome is the "unofficial" name of an elongated dome of ice situated between Ice Streams C and D in the Siple Coast region of West Antarctica. Siple Dome is about 1000 meters thick and is well-situated to investigate coastal climate conditions and the dynamics of the Siple Coast ice streams, which drain the West Antarctic Ice Sheet.

Although its name appears on maps of Antarctica, Siple Dome is not formally recognized by the Advisory Committee on Antarctic Names as an official place name.

Siple Dome is also the name of a field camp, the largest Antarctic summer field camp ever deployed by the U.S. Antarctic Program. The camp was constructed during the 1996/97 austral field season, and this year is supporting as many as 90 investigators and support personnel who are part of seven coordinated research projects studying the geology, geophysics and glaciology of the region.

Siple Station, also known as "Siple" (by those of us "old timers" who have been here long enough to remember Siple Station), was located at approximately 76°S, 84°W, in Ellsworth Land, West Antarctica. Siple Station was first occupied by scientists from Stanford University doing magnetospheric research in the austral summer of 1969-70. Siple Station served as a year-round station for a number of years and then served as a summer-only station until January 1989 when it was closed permanently.

Siple Station was named after Dr. Paul A. Siple, an internationally known U.S. scientist who first went to Antarctica as a Boy Scout with Admiral Richard E. Byrd on his 1928-30 expedition to Little America. He returned to Antarctica several times and was the first Station Science Leader at the Amundsen-Scott South Pole Station. Paul Siple died on November 25, 1968.

There are four officially recognized features named for Dr. Paul Siple, or his widow Ruth, in Antarctica: Mount Siple, Siple Coast, Siple Island, and Siple Ridge. The first three were named for Paul Siple himself and the last, Siple Ridge, was named in 1992 after Ruth J. Siple, widow of Paul Siple and Honorary President and active supporter of

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Siple Dome at a Glance

by Alexander Colhoun

With up to 90 residents, 12 Jamesway tents, and two huge hot tubs, Siple Dome is the largest field camp ever established by the United States Antarctic Program.

"It's a large camp," said Jill Ferris, ASA's field services manager. "There isn't just one [logistics] factor, you just need more of everything out there."

Getting cargo to Siple Dome can be a battle of its own. Despite being situated on a dome of ice just above the Ross Ice Shelf at an elevation of 2,415 feet, the site is susceptible to foggy conditions.

"The location rests on a main trajectory of systems crossing the Ross Sea," said Randy Spink, a McMurdo weather forecaster. "It sits in a moisture belt. They've been mostly socked in since the 19th of December."

While the fog has disrupted at least one project on site –an aerial survey of the elevation of the Antarctic ice sheet– many others are moving forward, unhindered by the weather.

Siple Dome's location is considered ideal for the support of ice core drilling projects. With compacted water accumulation of less than 12 centimeters per year and its relative isolation between glacial flows, Siple Dome may offer climatological data dating back 100,000 years.

"It is an unusual piece of ice," said Dr. Tony Gow, a long-time ice drilling researcher. "It seems to have a long record of accumulation. This site was not chosen at random." Gow's research is just one of more than ten projects that will collect data at Siple Dome this season. ✹

Field Camp Christmas

story by Bill McCormick

Bill McCormick recites a Christmas poem fashioned after those written by Robert Service. McCormick and Anne Vick spent the Christmas holiday hunkered down in a field camp due to severe weather conditions.

Black Island, Antarctica– It's Christmas day with that traditional conical form draped with a string of tinsel. But it's not a 200-dollar Scotch Pine. It's a yellow Scott Tent. Two of us are inside and the decorations hang from the net drying rack above our heads. A turbine-like whine outside signals the approach of another blast of wind.

The upwind side of the tent slams in and the column of steam rising from the cook pot jumps sideways. Every gust is echoed by a pressure shift inside the tent.

Anne Vick and I raise our eyebrows at each other: the subtext is, "Thank God we aren't camped with the fuel drums on the glacier!" The polished blue ice of the Koetlitz Glacier is at the center of this wind tunnel. We are happily nested in a low spot among rocky moraine hummocks with a measure of protection lent by the terrain. Ice screws, rocks and a rope fix our six-foot-square world to the earth.

Our work will wait, the helicopters can only come for refueling when the weather eases.

Still, Pyramid Fuel Cache Camp is busy on Christmas Day. A holiday outreach of monumental proportions is coming together in the congested space we have affectionately dubbed 'White Trash Camp'.

The internal topography of our tent is a chaos of sleeping bags, food, missing plates and gloves. Crackling in the corner is our PRC 1099 High Frequency (HF) radio. Later we hope to have a holiday offering ready for the radio waves. Madly writing and rhyming, we are putting together a Robert Service-style poem that links friends, past and present, on this continent.

This is my sixth consecutive austral summer, and sixth in a series of Christmas seasons in the Antarctic. Separation from my adolescent daughter at this time of the year has ceased to be the wrench it once was. This holiday passes with now familiar moments of sadness and even regret. The trade-off of other time spent together helps, but not altogether.

Anne was down here five years ago as a dining attendant in the galley. We became friends then and this has become an extended reunion.

Tonight the McMurdo and South Pole choirs will carol the continent over the HF airwaves. We have booked a time slot for our poem on 4770 kHz immediately after them.

The afternoon passes with the sound of our voices and laughter joining the wind as it spills down the glacier, past Pyramid nunatak, the Bulwark and finally out over the Ross Sea. Christmas Day journal entries from the heroic era of Antarctic exploration noted small parties of men dishing up an extra ration of 'hoosh' and on one occasion, sharing a small plum pudding that had been hidden away since New Zealand. One of the gifts exchanged by the Northern party was a bit of fennegrass to be smoked as a tobacco substitute. It was pulled from the givers own boot, which it insulated.

When I first arrived in 1992, I listened for the echo of those explorers' voices in the stillness. Maybe we all do. Now I listen for the voices of friends coming over the radio from Siple Dome, Downstream Bravo, Skelton Neve and the rest of the strange liturgy of field camps. Each camp within a setting of vast glacial and geologic time, and our presenceisas brief as the flicker of the flame on a Coleman two burner.

The radio handset resonating from the bottom of our cook-pot speaker fills our Scott Tent with rousing Christmas carols. After the choirs finish, we begin shouting our stanzas into the microphone with cowboy poet intonations: "There's an austral Christmas story that didn't come from old Lake Hoarey, but was born in West Antarctica!" Finally we finish and, smiling at each other, listen to the cheers, greetings and laughter coming to us from all directions.

And now it's late and quiet at Pyramid Camp. The wind has left, the tent is still, and the sunlight articulates every rock and each ripple of the ancient ice, leaving only the sounds of our breath and silent retorts from the glacier. ✹

When Fuel Spills

story and photo by Alexander Colhoun

Replacing absorbent pillows that capture spilled fuel permeating from the perma-frost soil is a daily chore for McMurdo workers this season. "Its hard to say if its getting better," said Greg Lehman as he made the daily clean-up. "But it is pretty nasty stuff to get on your clothes."

It was a bitterly cold day in August, but the job had to be done. The power plant needed fuel and it wasn't waiting for a storm to blow itself out. Five minutes into the gravity-fed fuel transfer, tragedy erupted, a gasket broke.

In a matter of minutes, 2,300 gallons of fuel gushed from the 10-inch diameter metal pipe. Were it not for the attentive eye of a fuels team monitor, the spill could have been much worse. The line was immediately shut down and the hazardous materials team was called in.

"It was the worst Winfly day we'd had," recalled Dave Nold, Antarctic Support Associates Safety Engineer. "The temperature was negative 40 with negative 90 windchill. It was really, really cold."

Working in these conditions is brutal. Snow soaked in fuel quickly coats and saturates work clothes. Skin exposed to the combination of rapidly evaporating fuel and the cold is in jeopardy of immediate frost-nip if not outright frostbite. Nothing about the job was pleasant, least of all the thought of damage to the environment.

For three days, cleanup teams battled the elements and managed to pump 2,000 gallons of free liquid into a fuel truck, an astoundingly large percentage of the total loss. Typically only ten percent of a spill can be captured.

In the following weeks ASA made recommendations for long-term remediation of the spill. The first hope was to melt surrounding snow. Unfortunately, the massive snow melter was missing parts and could not be operated. Following a secondary plan, ASA workers removed all the contaminated snow and placed it in barrels to be shipped off the continent.

Today, the site looks like a bandaged battle veteran. The muddy banks of the ditch into which the gas flowed are blanketed in white pillows that act like sponges, soaking up what remain of the spill. Further down the ditch are boom-like barriers, set to collect remnants as they flow towards Winter Quarters Bay.

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Did You Know...

by Brenda Joyce

The first stamps produced specifically for use in the Antarctic were issued by the New Zealand Post Office on January 15th, 1908. The "King Edward VII Land" stamp was used on mail for the first time by members of the Shackleton Antarctic Expedition. Since then, there have been a number of stamps issued specifically for use in the Antarctic. There have also been a large number of other stamps issued which show Antarctic designs, but which themselves are not exclusively for use from the Antarctic.

Captain James Cook and the crews of the *Resolution* and *Adventure* became the first men to cross the Antarctic Circle. They eventually circumnavigated Antarctica, crossing the Antarctic Circle three times.

A nuclear power plant was installed by the United States Navy at McMurdo in 1962. It was decommissioned in 1972.

In 1911 Scott ran a telephone line 15 miles to connect his hut at Cape Evans with the hut at Hut Point.

The name Antarctica is derived from the Greek word "Antarktikos" meaning "opposite the Bear". "Arktos", "The Great Bear" (or Big Dipper) is the constellation above the North Pole. The ancient Greeks felt that the earth was a sphere and that it was logical that a southern landmass would be present to balance the known, northern world. Early mapmakers named the assumed continent "Terra Australis Incognita" - "The Unknown Southern Land."

Ernest Shackleton was only 48 when he died of an apparent heart attack on board the *Quest* in 1922. He was buried on South Georgia, ending the "Heroic" era of Antarctic exploration.

In 1935, Caroline Mikkelsson, the wife of a Norwegian whaling captain, became the first female to visit Antarctica when she stepped ashore at Vestfold Hills. The first women to winter on the continent were Edith Ronnie and Jennie Darlington who, in 1947-48, accompanied their husbands to Stonington Island on the Antarctic Peninsula on a private American expedition.

Polar Star

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flows. But as the helo descends, the ship appears to back up, like a charging bull waiting to burst forward. Then, with the authority of 75,000 horses the ship plows ahead. A churning froth of power erupts from the stern as she gains speed. Crushing into the ice, her specially designed bow actually rises up over the ice and settles on top of it, pushing slabs of ice up and away from her broad red hull.

While Coast Guard ships are often identified with their drug-trafficking control and waterway safety roles, this branch of United States military (managed under the Department of Transportation) also carries out a wide variety of assignments ranging from maintaining ocean buoys to search-and-rescue operations.

In Antarctica, however, they have one primary mission: breaking a channel through the ice to McMurdo Sound.

Crushing sea ice into McMurdo is a yearly assignment for the Seattle-based ship, *Polar Star.* Since 1966 the Coast Guard has carried out all icebreaker operations for the United States military and today operates two icebreakers: the *Polar Sea* and the *Polar Star,* rotating Antarctic assignments between the two ships.

The Mobile, Alabama, based aviation detachment on board the *Polar Star* flies HH-65 helicopters. Shaped like flying dolphins, these helos have kept busy since the ship's arrival, moving personnel and scientists from McMurdo to the ship and to various research sites in the region.

The *Polar Star* left Seattle for this tour in mid-October and spent a month training in Hawaiian waters before making her way into more frigid waters.

Arriving at the ice edge in late December, the *Polar Star* spent several days working in a scientific role, supporting researchers as they tracked Adelie penguins from Beaufort and Franklin Islands, situated northwest of McMurdo.

While the *Polar Star* is not specifically built to support science, it is nonetheless a well-heeled science platform having undergone a 54-million-dollar upgrade (in conjunction with the *Polar Sea*) in 1990. Clearly, however, the top priority is ice-breaking.

"This is tough ice-breaking down here," said 22-year Coast Guard veteran Lt. Commander Steve Wheeler. "This ice is made fast to the coast. It's one solid sheet of ice. You break through that and there's no place for it to go." This year's work was made even more difficult by warm ice conditions.

"Unfortunately for us, colder ice is brittle, and breaks easily," said Wheeler. "This stuff is actually bending under the weight of the icebreaker and not shattering." Even so, with three separate props capable of delivering power from either diesel or gas turbine plants (identical to 737 jet engines), there isn't much that can stop the *Polar Star* from her mission.

After approximately 48 hours of ice-breaking, the *Polar Star* reached Hut Point and spent the next few days further clearing the newly opened channel and breaking a large swath in Winter Quarters Bay to allow other ships to turn around safely.

With the power of 75,000 horses, the *Polar Star* breaks through 8 feet of sea ice on her way to McMurdo's Hut Point. This year's warm ice conditions have made ice-breaking a difficult operation.

The *Polar Star* pulled into the McMurdo ice pier on January 9th. It was an impressive and long awaited sight. "For a lot of people it means hard work," said Joel Fox a McMurdo chef. "It's the beginning of the end, the final phase of the season." Fox also looks forward to a surge in wildlife at McMurdo's water edge as the sea animals travel in from the open sea.

A final task for the ice breaker was preparing the ice pier for other ships. From the Loft Conn, a turret high up in the mast structure, the pilot looked 105 feet down to the pier. Using the ships bow like a scalpel, the *Polar Star* spent a day moving back and forth, shaving layers off the ice pier until it was ready for the arrival of the *R/V Nathaniel B. Palmer.*

The *Polar Star* will remain in the Ross Sea region until February 10th when it departs for Australia. ✹

January McMurdo Recreation

Jan. 11	Chili Cook-Off
Jan. 14	Karaoke
Jan. 18	Marathon, Hair-of-the-Dog Run, Golf Tournament
Jan. 21	Bingo
Jan. 22	Poetry Night at the Coffee House
Jan. 23	Play at the Play House
Jan. 24	Play at the Play House
Jan. 25	Scott's Hut Run
Jan. 28	Karaoke
Jan. 31	Casino Night

Note:
The Polar Star will once again offer 'morale cruises' for McMurdo residents. Last season, 727 people enjoyed these McMurdo Sound tours and Steve Wheeler hopes to equal that number in 1998. Contact your supervisor for more information.

UPDATES

FROM ANTARCTIC STATIONS AND SHIPS

McMurdo Station

by Stan Wisneski

The USCG Ice breaker *Polar Star* arrived in the McMurdo area and commenced channel breaking operations. After opening the face of the ice pier the *Polar Star* returned to channel operations in order to prepare for the arrival of fuel tanker *Richard G. Matthiesen.* The *R/V Nathaniel B. Palmer* arrived at the ice pier on 10 January and is changing out science groups and preparing for the NBP 98-1 Anderson cruise.

Life around town goes on, and many people enjoyed the two-day break ringing in the New Year. Ice Stock was held on 1 January with musical acts that entertained many members of the community.

South Pole Station

by David Fischer

South Pole celebrated the holidays with a Christmas Eve dance, the Race Around the World (with 157 participants), a traditional Christmas dinner, and gift exchange. For New Year's, we celebrated with another dance, and greeted two private ski groups –one from Australia and one from Iceland– in the two days following the New Year.

ASA continues to make substantial progress with the major construction projects: the new garage arch construction, the raising of the existing garage arch, and the Summer Camp Relocation. The TDRSS system, a new satellite earth station at the South Pole, continues to go well and, apart from routing issues in the States, is fully operational.

The Polar Ice Coring Office (PICO) finished its first of three hot-water drilled holes for the AMANDA project. AMANDA had its detectors fully installed in the hole on New Year's Day.

Palmer Station

by Ron Nugent

We enjoyed a fine holiday season, celebrating Christmas Eve with a traditional dinner, followed by a party, and a gift exchange the day after Christmas. We celebrated New Year's Eve with a sushi dinner and a party.

Recently, we've been visited by the *R/V Abel-J* on the tail end of a research cruise, and the tour ship *M/V Explorer* carrying 96 passengers. This Sunday the *S/Y Croix Saint Paul II*, a French sailing yacht, visited the station with ten persons on board. With the season half over, we are anticipating increased activity in both science and support operations. We expect four visits by the *R/V Laurence M. Gould* before most of us depart in March.

R/V Nathaniel B. Palmer

by Dawn Scarboro

The 1997-98 ROAVERRS Mooring/Process (S-216) NBP97-9 cruise began at McMurdo Sound ice edge December 20, 1997. ROAVERRS is examining the productivity and biogeochemical cycles influenced by seasonal and interannual atmospheric and oceanographic forces in the western Ross Sea ecosystem.

In addition to ROAVERRS, fish research is being conducted by event S-048 (Eastman) during this cruise. During three benthic trawls, 325 specimens of fish were collected, including a number of rare and possibly two new species of fish.

R/V Laurence M. Gould

by Dawn Scarboro

What a great Christmas present –the *R/V Laurence M. Gould* left Louisiana for Antarctica on Christmas Day. Progress reports to-date indicate the vessel is moving smoothly through the water, weather is beautiful and, following a routine transit through the Panama Canal January 2, 1998, the estimated date of arrival in Punta Arenas, Chile, is January 18, 1998. While transiting south, ASA staff and ECO crew focus intently on final testing and assessment of all equipment onboard, making sure everything is ready for the upcoming Long Term Ecological Research (LTER) cruise scheduled to begin January 22.

R/V Roger Revelle

by Dawn Scarboro

The Chief Scientist for JGOFs Process I, on the *R/V Roger Revelle*, reports the cruise successfully completed its objective of making a transect of long stations to characterize the biogeochemical processes between 53°S and 64.40°S as well as a six-station transect across the subsurface temperature front.

At the completion of JGOFs Process I, JGOFS Cruise Coordinator and Marine Logistics Assistant traveled to Port Lyttelton, NZ, to assist with the JGOFs Survey II port call prior to the next cruise scheduled to begin January 8.

R/V Abel-J

by Dawn Scarboro

Throughout the month of December and to-date the *R/V Abel-J* continued to successfully transit between Punta Arenas and Palmer Station transporting passengers and cargo. Island stops were made at King George Island (COPA), Elephant Island, and Livingston Island (Cape Shirreff) to allow scientists and staff to service equipment and resupply camps.

Plans are for the *R/V Abel-J* to continue support of the Palmer Station LTER scientists (S-028/Quetin) working out of Palmer Station. This initial LTER group uses zodiacs to work in the near-shore foraging areas around Palmer Station and from the *R/V Abel-J*. Team members use mid-water nets to collect zooplankton, krill, and silverfish which are later analyzed and preserved at Palmer Station laboratory.

It's expected the next arriving group of LTER scientists will successfully transfer research from the *R/V Abel-J* to begin research from the *R/V Laurence M. Gould* on or about January 18. Schedule adjustments were made by all involved; the *R/V Abel-J*, LTER scientists and ASA Marine Science staff. This project will have the distinction of being the first science cruise to sail on the *R/V Laurence M. Gould.*

Christchurch, NZ

by Brian Stone

With the holiday season over, we are preparing for the increased activity which usually comes with the beginning of the new year. Cargo and passenger movements to McMurdo Station are already backed up, but coordination has resulted in the addition of several LC-130 southbound missions to keep the passengers and cargo moving.

Mr. Bill Bryant of the National Science Foundation has arrived and has assumed the role of NSF Representative, New Zealand. Mr. Bryant will be acting in this capacity for the month of January.

ASA, Denver

by Dr. Steve Kottmeier

Chris Shepherd, Director, Science Support, and Chris Rhone, Director, Information Systems, departed ASA Headquarters for Antarctica at the end of December and expect to split their time among McMurdo and South Pole Stations and some field camps.

Ron Koger, Project Director, and Sam Feola, Director, Logistics, joined Lee DeGalan and Jackie Samuel at Port Hueneme, CA, for the loading of the *M/V Greenwave*, which began 5 January 1998 and is expected to finish 11 January 1998. The vessel then sets sail for Port Lyttelton, NZ, where loading of Antarctica New Zealand (ANZ) cargo and USAP cargo is planned for 29-31 January 1998. The *Greenwave* arrives at the McMurdo Station Ice Pier 6 February 1998 for an eight-day offload of 400 milvans and loose loaded (break bulk) cargo, and onload of retrograde cargo and wastes. The cargo transported to McMurdo Station represents annual resupply of food and material required by McMurdo and South Pole Stations and Scott Base, which this year involves critical construction materials and equipment for the SPSE and McMurdo Station fuel tank projects.

Purchasing continues to place orders for critical resupply items to be shipped to South

Pole, McMurdo, and Palmer Stations prior to their closure for the austral winter. Orders also continue to be placed for research cruises during the austral winter aboard the *R/V Laurence M. Gould* in the Antarctic Peninsula area and *R/V Nathaniel B. Palmer* in the Ross Sea.

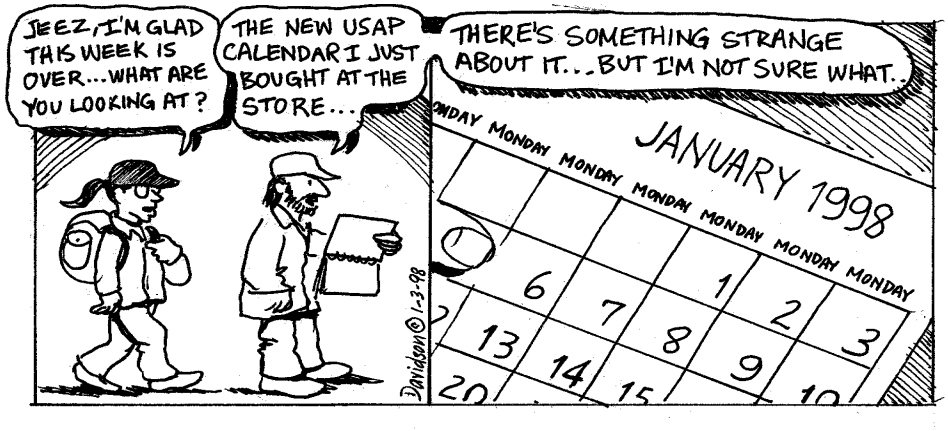
National Science Foundation

by Guy Guthridge

Grant opportunities that cross disciplinary and office boundaries were announced in a recent NSF e-mail to polar investigators. They include Life in Extreme Environments (NSF 97-157, proposals due 15 January 1998), Science and Technology Centers (NSF 98-113, 12 February, notice of intent by 6 January), Earth System History (NSF 97-161, 15 January), Major Research Instruments (NSF 98-16, 30 January), and Possible Antarctic Geological Repository (NSF 97-156, letter of intent by 1 February). The deadline for discipline-focused Antarctic proposals (NSF 96-93) remains 1 June. Missed this year? Programs can change, but some deadlines come annually. NSF's Guide to Programs (e-mail pubs@nsf.gov for a printed copy or see www.nsf.gov) has the whole list. ✹

photo by Alexander Colhoun

More than twenty Adelie penguins made their way to McMudo last week, deciding to break for the night on the ice just below the helicopter pad. The sea birds arrival drew crowds of McMurdo residents to watch these playful animals sleep and rest.



-- EDITORIALS --

With just seven issues under our belt, the new Antarctic Sun is a baby of a publication. We realize there are many areas we can improve upon. Your input is greatly appreciated and we hope many more of you will take the time to respond to our survey. Some survey results are listed below. You can contact us at: Sun_News.asa@asa.org

Please let me say that I look forward to seeing the Sun as soon as it is available. This is the main tool between our family and friends at McMurdo for a lot of us here in the States. I live in a small suburb just south of Minneapolis, Minnesota and my friend Pat, who is in McMurdo, is from South Dakota. I send the Sun to his family who lives in the heart of South Dakota. They surly appreciate getting the Sun also! The Sun sure has been there for us since Pat is there. Yes, the Sun is sure a nice paper to get. Thank You so Much!

Denise Bednar, Webster, Minnesota.

Whatever happened to printing all newsworthy events? All I see in the Antarctic Sun are glamorization's of "life in Antarctica." I can simply pick up a book about Antarctica in a bookstore to find the same information. The Antarctic Sun portrays life in Antarctica as if everything is happy-go-lucky. It's almost as if all the negative aspects of being in Antarctica might make persons behind this paper "look bad," and thus, remain undiscussed.

Anonymous

I don't think [the NSF] want any mainstream media attention or negative aspects of [the] USAP [published]. But the community who lives it needs a more balanced perspective for the publication to acquire credibility as a newspaper.

Anonymous

[My mother] uses an older computer (with Windows 3.1) that doesn't have much power and is very slow. Even with Adobe Acrobat, she cannot download this year's paper (Windows 3.1 gives the message "unable to create the font" and produces garbage symbols for much of the page). We feel that there should be a text-only version available for old, obsolete computers for the folks back home.

Jim Ekins, galley slave

The writing is compelling; never lost in scientific jargon and always presented in an attractive "easy-to-read" style; and, when appropriate, completely mindful of the human spirit as typified in your sympathetic reporting of the "Skydivers Fatal Jump" in the December 13, 1997 issue.

John H. Hatcher, Sr.

Antarctic Gourmet

Cooking With Hermie

story by Tod Sebens

Put ins, take-outs, or just plain existing in the remote Antarctic field camps can be a joy to the palate regardless of negative 80 degree wind chills, drifting snow and 60 knot winds. These easy-to-follow recipes provide helpful hints for the camp host with minimum cooking equipment.

All you really need to satisfy your put-in crew is a functioning Herman Nelson with its hose, a full tank of fuel and a healthy appetite.

These crude but reliable machines are the mules of all machinery in the Antarctic. One Herman Nelson can generate upwards of 350 degrees of heat that gets blown out a hose by a fan. Typically these machines are used to warm engines on extremely cold days. Despite their prolific heating power, however, these beasts remain unrecognized by the rest of the culinary world.

Deep in the wilds of Antarctica, I have experienced the pleasure of warming my toes and drying my socks whilst buttered Halibut baked deep within the hose of a Hermie. Try that at home and you'll soon see why the Hermie is the best and most practical, no-nonsense cooking machine in the field.

All of these recipes can be cooked while you are thawing your D-8 engine, your Tucker batteries, or melting that deep hole for your new outhouse. Have fun and Bon Appetite! ✹

photo by Alexander Colhoun

McMurdo baker Jake Schas puts a local Herman Nelson to the test as he prepares apple turnovers. "Well, they turned-over," said Schas. "But that was because of the hot air blowing them out of the tube." Schas explained that with time and refinement he felt he could make good use of a 'Hermie' in the field.

Tuna 'Hermie' Noodle Casserole — **Recipe**

Ritz Crackers or Fritos or Nachos
12 ozs. egg noodles
1 can tuna or chicken (optional)
Instant milk (one cup liquid)
1/2 can shrooms (optional)
2 small chunks butter or margarine
2 Tbls/ flour

Cook noodles for approx. 3 mins in 2 qts. boiling water. Cook milk, butter, flour and shrooms in separate pan to make the sauce. Combine noodles and sauce mix in pot. Sprinkle liberally with crumbles Ritz, Fritos or Nachos (or a combo of the three). Cover with foil and check the oil. Preheat Hermie to #4 1/2. Cook for 45 mins.

Prep time: 15 mins, Serves: 4

Down 'B' Delicious Quick Carefree Hermie Quiche — **Recipe**

3 pie pans (from pumpkin pies you ate earlier)
3 tortillas (flour or corn)
1 1/2 cup shredded or crumbled cheese
14 eggs
Instant milk (one cup)
2 tomatoes

This recipe is a little more difficult for the put-in camp. Mix eggs and milk in a bowl. Add veggies, meat, left-overs, pocket snacks or whatever you desire into the egg/milk mixture. Lightly butter the pie pans and form the tortillas in the pans. Fill with egg/milk mixture. Cover pies with Aluminum foil. Check Engine oil. Preheat Hermie to setting #3 1/2 for 2 mins. Install a piece of wood into Hermie hose and set pies on top of wood. Cook for 35-40 minutes. Remove and add cheese and tomatoes. Rotate pies, re-cover and place back in hose for approx.20 mins. or until a screwdriver comes out dry.

Prep time: 20 mins., Serves: 7

Siple Dome *...cont. from 2*

The Antarctican Society. Mrs. Siple was the Honored Guest at the dedication of the "new" U.S. Amundsen-Scott South Pole Station in January of 1975.

The Advisory Committee on Antarctic Names is the official government body charged with conducting research on Antarctic names. The committee, which is advisory to the U.S. Board on Geographic Names, meets quarterly and recommends names for Board approval. Decisions on Antarctic names are based on priority of application, appropriateness, and the extent to which usage has become established.

The policy covering the naming of Antarctic geographic features and the requisite forms that must be filled out to make a proposal for a new Antarctic name (or to formally recognize a name which is already in use but is not officially recognized) can be found in the book titled *Geographic Names of the Antarctic; 2nd Edition.*

Because Antarctica has no history of permanent settlement, and because most of what has been learned about the continent has come about through the efforts of explorers, scientists, and others, the Board has found it practical to apply the names of such persons to Antarctic natural features. This does not preclude, however, the use of other than personal names for geographic features. The names of Antarctic buildings, facilities, stations, and other installations, not being natural features, do not fall within the purview of the Board.

So, you say, what does this have to do with Siple Dome and Siple Station? First of all, to be an officially recognized Antarctic Geographic Name, someone has to propose Siple Dome as the name for the elongated dome between ice streams C and D. This is already being done by the Science Coordination Office (SCO) for the Siple Dome ice core drilling program. Secondly, the station at that site should be called Siple Dome and not Siple since, as described above, Siple is the name used for Siple Station, which was deactivated in 1989. So, Siple Dome and Siple Station are two very different places that just happen to have very similar names. ✹

A Lens On McMurdo

by James H. Barker


photo by Alexander Colhoun

Brenda Gelsleichter admires some of James H. Barker's photographs that are hanging on the walls of the McMurdo galley.

Thirteen years in Bethel, Alaska, a town that serves as a hub community to 52 villages of Yup'ik Eskimos on the Bering Sea coast led to my interest in making photographs in Antarctica. My wife Robin and I traveled extensively in the villages and eventually we published a book *Always Getting Ready,* published by the University of Washington Press.

My intent in working on the ice is similar to the Yup'ik documentation. I just like to learn how people do things in the high latitude. I like the kind of problem solving required to accomplish things under inclement conditions.

When I first walked into the McMurdo Galley and noted everyone in Carhartts, my first thought was that this is the most concentrated group of rural Alaskans I'd ever seen. Multi-talented and replete with wonderful life stories, the people of McMurdo continually reminded me of my Alaskan friends, especially my Yup'ik Eskimo friends.

Seeing the extensive use of GPS units in Antarctica, I asked one of my Yup'ik friends about them when I returned to Alaska. He told me that most hunters traveling by boats and skidoos now carry GPS units and that they are an important safety device. He added, with a chuckle, "We call them little shaman." Yup'iks are very quick to adapt the most modern devices.

When I first arrived at McMurdo, I was initially taken aback by the size and extent of everything. In the three and a half months I was there, I felt I was just chipping away at a very large block. I feel like I got some of it –a good beginning. By the time I left on January 20th, 1997, I was visually worn out, but I wanted to return.

When I photograph I try to be a participant observer, to follow along and do what I can to learn how things are done and help out when I can. Every so often people will do something, or assume a particular position, that conveys something intensely about them.

I try to work quickly to catch those moments with a camera. When the opportunity allows I try to take notes, or if time allows, to record interviews on tape because I like the way others describe what they are doing.

Through photographs, descriptions and quotes, I try as best I can to make people come alive on a page. The group of photos that are now on the walls of the galley are just an initial selection from about 9,000 photographs, selected for the purpose of reapplying to come down again next season. I will be returning at Winfly so I can spend some time with those who wintered and document more of the operation.

Should any of you like to contact me, my email address is: rbarker@polarnet.com ✹

All of Barker's work is shot in black and white, like this image of Emperor penguins made last season.

Those who cannot change their minds cannot change anything.

- George Bernhard Shaw

Ballooning

...cont. from page 1

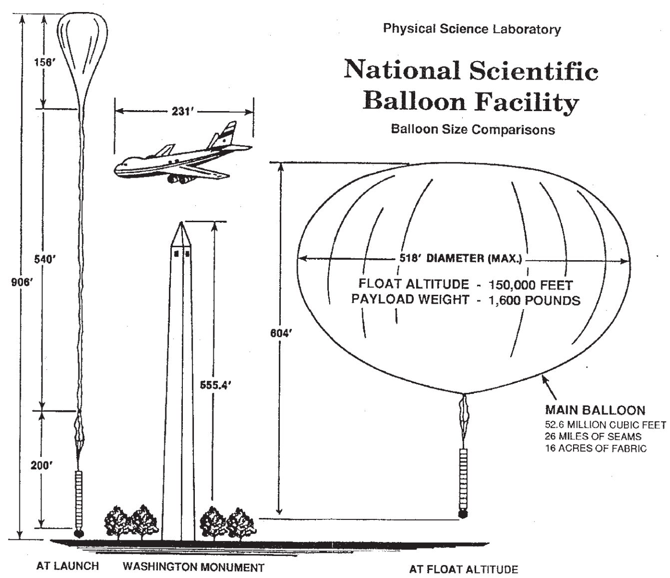
balloon. Chief among them is time. A balloon-carried research project can expect between 15 and 20 days of constant data collection. A Space Shuttle mission might provide several hours of observations.

There are sacrifices. The stratosphere is shy of true space, allowing for interference in the upper reaches of the atmosphere that are not present in space. "But if scientists can accept marginal interference, balloons are the way to go," said Peterzen.

A contractor of the National Scientific Balloon Facility (a division of the National Aeronautics and Space Administration), Peterzen should know. Working with the balloon facility, Peterzen has launched balloons from remote sites around the world including Brazil, Canada and Australia. But it is Antarctica that captures his imagination and the interest of scientists like Dr. Mike Pelling and Dr. Peter Von Ballmoos.

Pelling and Von Ballmoos are researchers working on the High Resolution Gamma Ray Spectrometer (HIREGS) project that began its tour above Antarctica on Wednesday. The Antarctic upper atmosphere provides an ideal balloon environment. Twenty-four hours of sunlight power solar panels and maintain a constant balloon temperature; in addition, this lack of diurnal (day to night) fluctuation allows the balloon to maintain a constant altitude.

The HIREGS instrument, weighing nearly 4,000 pounds, replete with mosquito wing solar panels and encased in a gondola cage, has the classic lines of a satellite. Covered in electronics equipment, it is a technological wonder, operating with just 350 watts of electricity — half as much as a toaster.

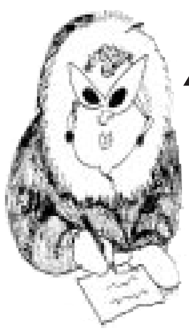


While its name sounds like something out of a Star Trek library, the goal of HIREGS is really quite simple: to view and record the gamma ray and x-ray portions of the electromagnetic spectrum in the galaxy.

"[This region] is violent and unpredictable," said Von Ballmoos, a Swiss native with a French accent. "Gamma ray bursts are so powerful, they release the same energy emitted by 100 billion stars in one year, in just one burst. These bursts have never been recorded by such a precise instrument."

Eight thousand color pixels to be exact. Von Ballmoos explained that the language of the stars is in colors. The spectral information gained in the form of colors is the language and the physical context that can be used to understand what is happening millions of light

...cont. on page 13



Ask Aunt Arctica

...advice for staying healthy on the Ice

Aunt Arctica is written by a clinical

Question: I am looking for some guidance. My adventure to the ice was bittersweet. I was excited to come down here but was leaving my partner behind. We agreed to stay a couple through the months that I am down here and reunite in February. I have become lonely and have grown quite attracted to someone on the ice. I know this will probably only last the time I am here. Should I stay true to my love in the States? Or as the Crosby, Stills, and Nash song goes: "Love the one you're with"?

Signed - Between the Ice and the States

Contemplating having an affair, not simply falling into bed with someone in the heat of the moment, usually suggests that on some deeper level of feeling there is a lack of satisfaction for you with the primary relationship you are in.

In a sense, the problems that couples have are always the same: Something has been made more important than the relationship. In the case of an affair, the "something" would appear to be a competing love. It is not real love, but one partner, at least, doesn't know this.

Affairs are not motivated by real love; they are motivated by any number of complex ego patterns. An act of love doesn't cause lives to be torn apart and people to be thrown into pain.

Being here on the ice with so much distance from your partner creates the perfect catalyst to examine your life back at home. Part of this is an opportunity to explore your commitment to your partner.

It's important for both of you to discuss what the investment in this relationship is based on and where you want it to go in the future. Keep in mind as you do this that any movement toward a new relationship on the ice, even if time-limited, is movement away from your partner at home.

One method of getting clearer about what you want to have happen is to address the fantasies you have been entertaining for this new person. Close your eyes, visualize some scenarios and ask yourself these questions: what do you (focusing on the part of you that feels excitement) think could happen; what do you (the part of you that feels anticipation) think will happen; what do you (the part that feels anxiety) fear will happen?

If you did these exercises thoroughly, you should now be aware that you are conflicted about what you want and expecting outcomes from this new relationship that are not connected to the actual relationship. Obviously there is no certainty about the future, no perfect answer to be found. You can come to know what you believe is best, but not what is best.

Taking time to discover your deepest belief of what will be best for you and those your life touches places your decision on a firm basis of awareness and compassion. In the course of your life, the quiet answers of your heart will gradually lead you toward peace –but they will not magically solve anything.

MILITARY NEWS:

Purple Heart

story and photo by Chief Jacqueline Kiel

Twenty-nine years after stepping on a landmine in the demilitarized zone in Korea and losing his right leg below the knee, John W. Shields received the Purple Heart medal.

In a brief ceremony last week Shields was presented the medal by Cdr. John W. Stotz, commanding officer of Naval Antarctic Support Unit, Christchurch, New Zealand.

Shields is the supervisory contracts specialist for NASU and a contracting officer for Operation Deep Feeze, which is part of the National Science Foundation's U.S. Antarctic Program, a position he has held for eight years.

It was January 18, 1969, while on patrol in the DMZ, when Army Corporal Shields stepped on the mine. His unit, a reconnaissance platoon with the Headquarters Company, 2nd Battalion, 38th Infantry, had also been ordered to cut down some trees to use for heating to conserve kerosene. Shields had just finished cutting a tree when he picked up his rifle, turned away and then unwittingly stepped on the mine.

Shields spent the following year in various hospitals. He was released from active duty on February 16, 1970. At the time of the incident, Shields understood he did not qualify for the Purple Heart because there was no war at the time.

Cdr. John W. Stotz pins the Purple Heart medal on John W. Shields twenty-nine years after Shields lost a leg to a landmine in Korea.

After his release from the hospital, Shields put the incident behind him. He has never let the disability get in his way. "I have led a very, very normal life," Shields said. "Most people wouldn't know it, unless I told them." Shields proves this every time he partakes in one of his favorite pastimes. "Skiing has been one of the great things in my life," he explains.

The subject of the Purple Heart did not come up again until 1997 when Shields had a casual conversation with Stotz, who was surprised to find Shields did not have the medal. They had been lifting weights at the time and discussing past experiences. Stotz's looked into the situation because it didn't sound right to him.

"I felt compelled to write a letter to the Army," Stotz said. "As a military officer I know that being wounded sets certain things in motion. I was astonished that it didn't happen with John."

Shields credits Stotz with pushing the issue. "He astonished me that he pushed for this," Shields said. "He deserves the credit."

In a speech after the pinning, Shields said, "My father received the Purple Heart for action in Germany during World War II. I remember how proud he was to have served his country. I certainly share those sentiments."

Patriotism is a vital part of Shields' life and serving one's country is an important issue in his eyes. "I believe it really is an honor and a duty to serve one's country," he exclaimed. "I'm a bit of a cornball patriot." ✹

Your Turn–

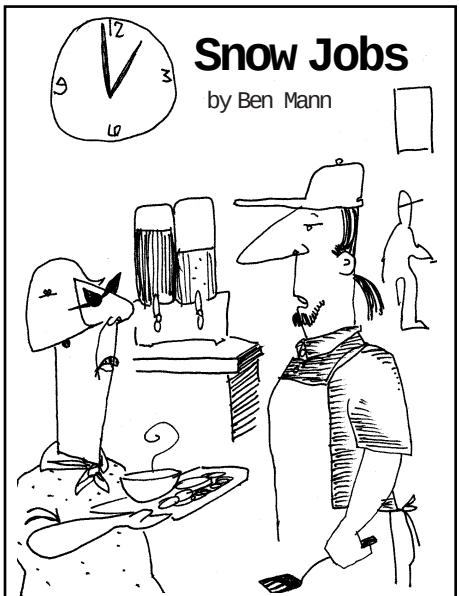
Your questions and comments are welcome here. We'll publish responses in each issue. Contact us at Sun_News.asa@asa.org.

How are the priorities determined for redeployment? Who makes the lists and decides who travels when? I'm trying to make travel plans and need some answers!

This is the time of the year when folks are anxious to get off the ice and can be easily frustrated. Each participant should speak with their supervisor to understand the process and ensure that all the required redeployment procedures are followed. In most cases, supervisors, the ASA Area Manager, Commanders, and/or the NSF Representative will assign and approve individual departure dates according to work requirements and other circumstances. Each USAP agency prioritizes their own people and these names are then combined onto one manifest. Manifests can change at any time due to a variety of factors including weather, priority cargo, and mechanical difficulties.

Because the McMurdo population drops by approximately 80% in just a couple of weeks, many people will be "bumped" from flights during redeployment. Rest assured that in most instances people who have already been delayed are assigned a relatively higher priority for the next flight North. Please keep in mind that these last few weeks are stressful for everyone. Remain calm and be as flexible as possible with your travel plans.

thanks to Stan Wisneski, McMurdo Area Manager



I think a tour of Discovery Hut will quickly renew your appreciation of the cuisine in McMurdo.

WEATHER

by George Howard, MAC Weather
McMurdo Station, Antarctica

How Dry Am I?

It's the height of summer in Antarctica, when temperatures can swing from the teens to more than 40 degrees above zero. We're also constantly reminded of how dry the southern continent is by our experiences with dry skin and chapped lips. But much of the dry air we encounter stems from a surprising source.

One common way to gauge the dryness of air is to consider its relative humidity. Relative humidity is the ratio of the *actual* amount of water vapor (water in its gaseous state) in the air to the *maximum* amount of water vapor the air can hold. Looking at values of relative humidity under a few different circumstances can help us find out where we lose the most moisture.

Consider a snowy day with the temperature near 30 degrees. By taking a few measurements and doing the math, we would arrive at a relative humidity topping 80 percent. That's not dry at all.

Take a look at a cold, clear day. With a temperature near 10 degrees, and normal snow and ice cover, the relative humidity would still hover between 40 and 45 percent. That's still moderately moist.

To find the real moisture-robbing culprit, we have to move indoors. On the same snowy day first described, let's warm up the outside air to heat our offices and dorm rooms. Since the warmer air can hold more moisture, but the actual amount of moisture in the air remains constant, the *proportion* of moisture falls. If we heat that outside air to 70 degrees, we reduce the relative humidity from 80 percent to 18 percent. On a clear day, the situation becomes even worse. By heating the air, we reduce the relative humidity from about 45 percent to only four percent.

So, while outdoor conditions can vary from dry to moist, living and working in spaces as dry as a Saharan afternoon contribute considerably to our daily desiccation.

photo by Alexander Colhoun

Summer, at long last, found its way to McMurdo in the last few weeks, melting most of the snow around town and exposing chunks of earth that rarely see the light of day. Seen from above, McMurdo looks far different than it did just a few weeks ago.

Spill

...cont. from page 4

"What you see now is a contamination of soil underneath the snow. The fuel drops through four to six inches," said Tom Vinson, ASA's Hazardous Waste Supervisor. "Most of the product is now in the permafrost, and when it melts, the fuel comes out."

Fuel spills are a harsh reality in Antarctica. In McMurdo alone, there are miles of pipeline, three 250,000 gallon storage tanks, eleven 500,000 gallon storage tanks, and one 2.2 million gallon tank; in addition there are scores of smaller storage tanks, one for each building. On any day of flight operations, 50,000 gallons of fuel (sometimes less, sometimes more) moves between tanks and planes not to mention the six-mile journey the fuel makes across the permanent ice shelf just to reach Williams Field.

There can be no mincing of words: fuel is the life link to work in Antarctica. Without fuel nothing happens: no plane flights, no heated rooms, and no electricity. These demands do not legitimize spills; they do however, force observers to face the music: spills are an undeniable biproduct of our presence on the ice.

The aftermath of the August fuel spill offers perhaps the most poignant reminder of how delicate the Antarctic environment really is. Walking down the road past the spill on a warm, forty degree day in January (five months later), the scent of JP-8 wafts obliquely into the nostrils. At first difficult to pinpoint, a careful nose follows the smell to a ditch that runs out to McMurdo Sound. Amidst absorbent pillows a glistening sheen of oil covers the water.

"We're not trying to hide anything from anybody," said Vinson, "Things down here [in Antarctica] break down a lot more. The expansion and contraction, the freezing and thawing all take a toll on the equipment."

The US Antarctic Program is taking on these problems, welding valve joints and removing gaskets and flanges that could break down. These changes are just a few of the precautionary steps being taken. This season ASA has double-walled fuel tanks and the large tanks are being bermed and lined with an impermeable liner –per EPA regulations.

The lesson learned in August was a harsh but very real reminder of Antarctica's menacing grip on life here. Acknowledging the desire to pursue science on this continent is to accept the risks that come with it. From this vantage point, the next logical step is prevention, a concept Eric Juergens, ASA's Safety, Environment and Health director builds on every day.

"The fuels crew has been aggressive this year with frequent inspections and the FMC is actively replacing gasket joints with welded joints," said Juergens. "Overall, ASA is pretty focused on eliminating this chronic problem." ✹

Balloons

...cont. from page 10

years away. More precisely, researchers can make an analogy between the energy of individual photons they view and the colors they represent in the visible spectrum.

For now though, Von Ballmoos and Peterzen are concerned with logistics. The launch, made beside an Antarctic runway, began a journey that may last up to 20 days as the balloon circumnavigates the Antarctic continent on anti-cyclone winds.

"It was a flawless launch," said Peterzen. "We were receiving data before [the balloon] left the pin and have been collecting more as it rises through to the stratosphere."

While in flight, the balloon will transmit data to an LC-130 Hercules sent out to fly below it. This way, if the balloon has a failure of some kind, at least some portion of the data has been saved.

As the balloon comes full circle, closing back in on the Ross Sea vicinity, Peterzen begins to think about the recovery process. It isn't always a smooth process.

In 1994 a mechanical failure sent a balloon and its payload to a splash-down in Wohlschlag Bay off Cape Royds. None of the machinery was seen again despite trawling and SONAR searching.

"It's really tricky to bring these balloons down," said Peterzen. "[The balloon] is flying at 125,000 feet for 20 days over live volcanoes and open water –that's a tough spot."

When the time does come to bring the balloon down, Peterzen will access weather reports: wind directions and speed to calculate the probable direction of descent. Then, while airborne in an LC-130, he will send a radio signal to the balloon, opening valves at its peak. Later, he will send another signal that triggers explosives that destroy the balloon and send it into a parachute guided free fall.

Amazingly, despite a free fall speed of 3,000 feet per second, much of the gondola and instrumentation will be used again –assuming it doesn't fall into the ocean.

If all goes well, the balloon launched earlier in the week will remain airborne ten days or more, collecting data all the while. Until then, Peterzen and his colleagues may spend a few sleepless nights wondering where Mother Nature will guide their science balloon. ✹

Icestock 1998

caption by Alexander Colhoun
photos by Alexander Colhoun and Bob Zook

A 20 degree nip in the air was no deterrent for McMurdo residents eager to twist, hop, and swing to the Icestock festival beat last Thursday. Fourteen separate acts took the stage in the outdoor music event of the season.

"It was most excellent," said Kendra Milanette, Recreation Coordinator. "We had a lot of help from the bands and the community. People were willing to pitch in and help which made our job easier."

In classic McMurdo fashion, cobbling together material from across the station, an impressive set was built using an old military parachute and half of a Jamesway structure as backdrops.

"It takes me back to the days of the Talkeetna Bluegrass Festival," said Kelly Montgomery, an ASA employee. "It was how I imagine Woodstock might have been, except we had our clothes on."

Starting at noon, the event drew increasing numbers of people throughout the day and by four in the afternoon the volcanic rock tarmac was filled with dancers. "There was a festival atmosphere," said Suzanne Tegen. "It was really a dance-a-thon."

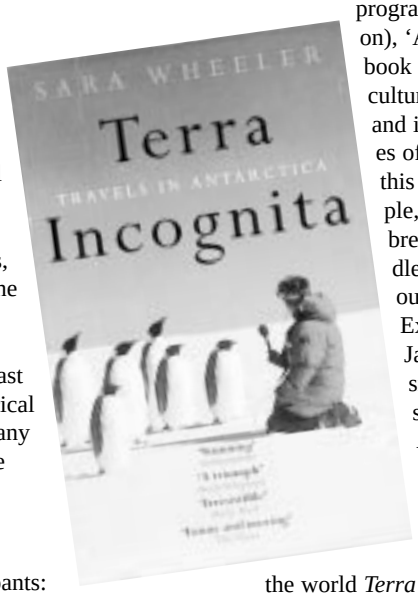
Highlighted by acts ranging from the steely bluegrass melodies of Dave Harris to the crowd-pleasing rendition of "What I Got" by Fuzzy Logic's Joel Frank, there was no lack of talent.

With no concern for the setting sun, bands played and dancers danced well into the evening as they celebrated the start of a new year in true Antarctic form. ✹

New Book

compiled by Antarctic Sun staff

Traveler, journalist, and broadcaster Sara Wheeler worked out of McMurdo in the 1994-1995 austral summer and during Winfly 1995. British critics call her book "stunning," "a triumph," "irresistible," and "funny and moving." A New Zealand reviewer says, "Wheeler is able to probe beneath the surface to reach the heartbeat of the antarctic sciences and scientists she encounters." The book melds the past and the present by comparing historical anecdotes and modern activities. Many of the places and people in it will be familiar to members of the U.S. Antarctic Program.

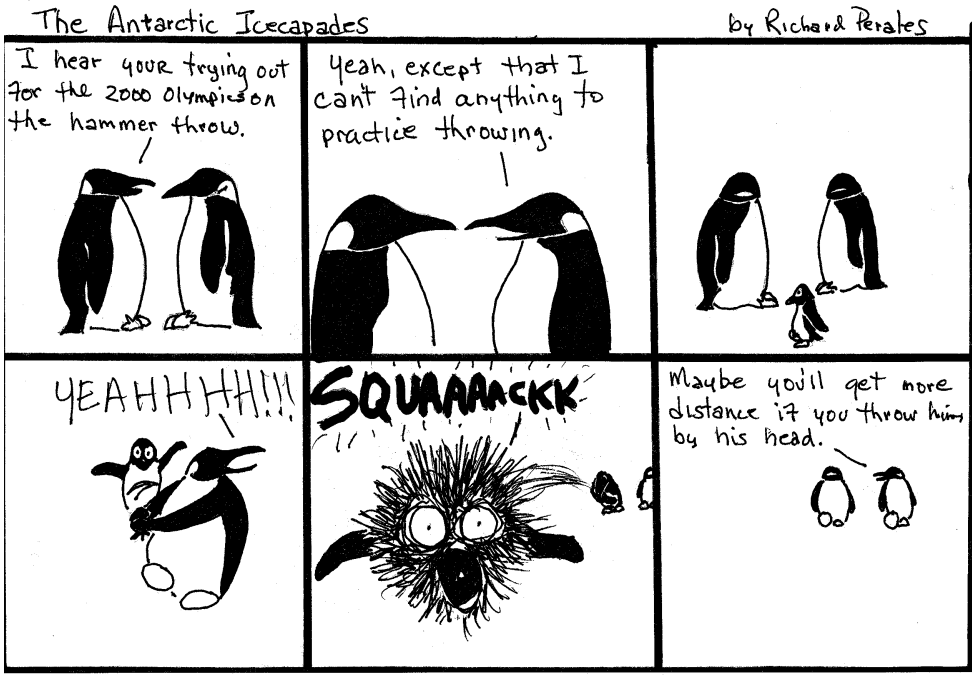


From the author to program participants:

In March 1998, Random House will publish *Terra Incognita*, the book I wrote as a result of seven months in Antarctica on the NSF Antarctic Artists and Writers Program and as a guest of the British Antarctic Survey, the Italian Antarctic Program and one or two others. The book appeared in hardcover in the UK in September 1996, and a month later a special large-format paperback came out in Australia and New Zealand. The text of these first two editions was identical, but my US publisher, Random House, decided it wants to make the book more user-friendly for Americans.

Besides changing the spelling (programme to program, colour to color, and so on), 'Americanising' a British book involves removing all culturally specific references and ironing out potential causes of linguistic confusion. In this latter category, for example, I had written of 'fag-breaks' enjoyed by the huddles of smokers who gather outside the Southern Exposure or camp Jamesways to enjoy a smoke. In England, you see, a fag is a cigarette. In America, explained my patient editor at Random House, a fag means something altogether different... Elsewhere in the world *Terra Incognita* relies exclusively on the skills of its translators. It is being turned into Russian and German.

In any event, the book was a bestseller here in the UK, and I hope as many people enjoy it elsewhere. As for me, I have written a similar kind of book for children. It is called *Dear Daniel: Letters from Antarctica* (Macdonald Young Books, UK), and it came out in Europe last Fall. Oh yes, and I've had a baby...



Sun Dogs

by Dr. R. Walter Tape

In Antarctica, when you happen to notice ice crystals sparkling in the air around you, be sure to look up at the sky. More often than not you will be rewarded with the sight of circles, arcs, or spots of colored or white light.

These "halos" are formed when the ice crystals act as tiny prisms, breaking sunlight into its spectral colors and concentrating the light in a few special directions. The circular halo is common, as are the sun dogs or "parhelia" that appear on either side of the sun just outside the circular halo.

Visitors to South Pole or Vostok may be treated to a lovely large and colorful arc at the top of the circular halo –this is the upper tangent arc. At this time of year at South Pole part of the lower tangent arc is just visible as a conspicuous bright spot on the horizon below the sun.

Many more arcs are possible, appearing almost anywhere in the sky, and the sky above the polar plateau seems to be the best place in the world to see them.

In project S-208, Dr. Robert Greenler, Dr. Gunther Konnen, and myself are studying Antarctic halos and the ice crystals that make them. We photograph the halos, both with time-lapse video cameras and with normal cameras. At the same time, we collect and photograph the responsible ice crystals, in hopes of figuring out which types of crystals make which types of halos.

We are also trying to understand why the Antarctic halos seem often to be so much better than halos elsewhere; the halos are evidently trying to tell us that atmospheric conditions here are somehow special. But we also think that these halos deserve study for their own sake, as beautiful and characteristic features of the Antarctic environment. ✹

Perspectives

Sun Dogs and Ice Snakes:

Down Home at Siple Dome

by Tom Rebold

photo by Robert Greenler

Sun dogs or simply "halos" of light, as seen around this silhouetted figure, are formed when ice crystals act as tiny prisms, breaking sunlight into its spectral colors and concentrating the light in a few special directions.

It's quitting time at Siple Dome, time to leave off working on the satellite terminal and trudge across the snow to the galley. Hovering overhead, three arcs of light gleam through the blowing snow, trying to form a circle around the sun. Something new here, something unworldly. I watch for a moment trying to figure out the why of it: why arcs? why the wavy crest across the zenith? Meanwhile, a parade of ice snakes –wind-driven swaths of crystals– carve S's across the snow, flickering like neon signs beneath the sun.

"Nice sun dogs, eh?" says a man concealed in a red down parka, but in naming them he only adds to the mystique. Sun dogs: an optical phenomenon (similar to a rainbow) formed when thin clouds of ice crystals veil the sun, so named because the resulting streaks of light seem to pursue the sun in its course. One thinks of Greek legends and mythological beings, the same kinds of creatures the ancients imagined swarming across the night sky. But this is Antarctica in the summertime, and we haven't seen the stars in months.

Outside the galley, also known as 'Cafe de Bubba', two plywood cut-out pigs prance across the patio in carefree abandon. Inside people eat at folding tables. I clomp clomp clomp across the sagging, hollow floor to the back, filling my plate with food. As usual, dinner rocks: chicken vegetable curry, bread filled with olives, cheese and spinach, and a birthday cake for someone special. How do they do it? On the canvas ceiling someone wrote: "If you have to ask, you'll never know." At Siple Dome, all questions catch in the throat. All answers loom up from within. What I would like to ask the sun dogs is this: can you please smile for a photograph?

The galley boasts a clientele of PhD's, a girl scout, a writer, and a slew of PICO (Polar Ice Core Office) driller roughnecks. Carpenters cluster around one table, geophysicists at another. But everyone tends toward the wild side. Alan tells me that before he left Texas he piled all his belongings in a heap, doused them with gasoline, and lit them on fire: clothes, books, unopened boxes. "I figure if I haven't opened a box in five years, hey, I don't need it." He's an antenna rigger. For some people, freedom comes easy. On the other hand, try chaining a sun dog.

People are civilized and friendly here. But as everyone knows, three hundred miles from McMurdo Station, deep in the Antarctic wild, the only laws that really matter are hidden in the patterns scrawled by the wind across an endless flat ice sheet. Each night the sun yo-yos around the sky, filtering blue into my mountain tent. Huddled in a sleeping bag, I can hear the Tucker flattening snowdrifts on the skiway, growling like a morose bear, while the wind scratches at tent flaps like a restless cat that never sleeps.

Outside again with my camera. To capture a sun dog you must think like a sun dog. First I figure out a way to blot out the sun. The American flag on top of the radio tower works well for this. So does the tail fin of a Twin Otter. The idea is to avoid shooting the sun, but still allow the fainter sun dogs room to glow.

Standing in the shadows, I point the camera toward the quarry. The picture should be taken quickly, before they know what's happening. Otherwise, there is liable to be a protracted struggle. In my own experience, fifteen minutes of wandering around camp in a blizzard is more than sufficient. I turn back, wet-faced, cold, and happy; theoretically at least, there's a sun dog in my camera.

And not a moment too soon. A ski-doo pulls up dragging a sled with five passengers on board. "Coming to the drill site?" asks Beth. An innocent proposal for a rowdy occasion of hot tubs, ice-core margaritas, and beer-filled plastic flamingos. The Little Alaska Bar and Drill beckons. I hop on and soon we're careening at high speed over a drifted track, snow spray funneling into our parkas. I have never been more awake and yet more convinced that I am dreaming. Slowly the sky clears, and when I look again the sun dogs, those elusive spirits of refracted light, are gone. ✹

Profile

Romance on the Sea

story by Susie Brown

photo by Alexander Colhoun

Antarctic adventures fit the world-roaming lifestyle of Rhonda Rodriquez and Otis Tavlin. The couple spends most of their time traveling across the globe on their hand-built sailboat, *Kathi II*, but are taking a break from their floating home to experience the southern most continent.

They met on a sailboat race to Catalina Island and have made sailing their way of life ever since. Since September Otis Tavlin has been working on the research vessel *Nathaniel B. Palmer* as a Marine Technician and his wife, Rhonda Rodriguez, has been working in McMurdo, keeping the pair apart.

"It's definitely a water-based marriage...very fluid," says Rhonda, of their first time in five years not living on a sailboat. "It's taking new shapes and forms daily....why are you looking at me like that?" she asks Otis. "Because I'm in love," he says.

Rhonda and Otis were in the Coffee House, playing Rummy 5000 over glasses of red wine when I asked them how they met. It was Harry met Sally all over again –each finishing the other's sentence, neither one remembering the exact timeline when their romance first blossomed. Rhonda was crewing for Otis's competitor and mutual friend in the boat race. "She was the cutest girl on the boat," says Otis. "I was the only girl on the boat!" says Rhonda. "That doesn't take away from my compliment," says Otis.

Rhonda was on her way to San Francisco, burned out from her job and looking for a change of pace when she took up crewing for a couple days. "After two dates she went to Mexico for the weekend with me," Otis says.

"No offense, but I went to Ensenada for the boat race. You were just a bonus excuse to go to Mexico," Rhonda corrects him.

The California natives endured a long-distance relationship for a year and a half after Rhonda settled in San Francisco. When she moved to Long Beach to marry Otis, living on a sailboat made perfect sense –it gave them access to their playground. Rhonda's passion is scuba-diving, and Otis has been sailing and surfing for more than 30 years.

Otis owned three retail tool stores based out of Newport Beach, CA, and when he decided to give up tools to go cruising, they both worked toward that goal. "We put every penny we earned for the last four years into a 'cruising kitty," says Rhonda, who was then a public relations and marketing manager. "The idea of a night out, dinner and a movie ceased to exist," she says. "No more snow skiing either," Otis pipes in.

"It was a planned commitment to achieve a financial sense of security that would allow us the option of not working for several years," Rhonda finishes.

He closed out his business in December '95, and they headed down the coast of Mexico the following winter.

"Everything I own now could fit into two bags –one of those being scuba gear," says Rhonda. "It's like camping on water."

"We worked hard to achieve this lifestyle," says Otis, "but I wouldn't trade it for the people and places I've seen."

Otis was working as a shoreboat driver on Catalina Island when he met Roger Batey, a McMurdo fireman who told them about Antarctica. After flying to Denver for the ASA job fair and applying to every department, they returned to Mexico where they'd been living. Within a month, Otis was offered a job on a research vessel, and Rhonda an administrative coordinator position at the Chalet.

"The magic of the boat is in the carvings," says Rhonda. "It has dolphins carved in the cockpit, seahorses, cherubs, lions, and other mystical sea creatures."

Being apart for long periods of time is nothing new for them. Otis has a Captain's license and has delivered boats through the Panama Canal to Jamaica, Costa Rica, and Hawaii. "Living aboard means we're together 24 hours a day, 7 days a week, in a space smaller than a dorm room that is constantly moving," says Rhonda. "Having two very different Antarctic adventures has added a bit of mystery to the romance."

Their dream is to operate a dive charter boat and take people on scuba dives to remote locations. Standing in their way is the commitment to live in one place long enough to establish the business. "We like going where the wind blows us," says Rhonda.

"I just want to live in a place where you don't have to wear socks," says Otis.

It will also be difficult to trade their sailboat, the *Kathi II* currently docked in Mexico, for a Catamaran that will give them more passenger space. Their home is an 'Islander 44,' with just two cabins and a head.

"The magic of the boat is in the carvings," says Rhonda. "It has dolphins carved in the cockpit, seahorses, cherubs, lions, and other mystical sea creatures."

"See, it was hand-built by a master shipwright in his backyard," continues Otis. "The teak was hand-picked in Indonesia and each carving represents a mythical quality –the dolphins for luck, the seahorses for the bounty of the sea ...and there's a large bare-breasted mermaid in the largest cabin," he says as Rhonda rolls her eyes.

Rhonda appreciates the sense of self-reliance that living in a boat community has inspired in her. She can repair a diesel engine, do electrical engineering, and repair refrigerators. Otis appreciates the simple life. "Everyone's the same on the water," said Otis. "They all wear T-shirts and drink margaritas whether they're a millionaire or a pauper."

Their Antarctic stint will allow them more cruising time after Otis completes another contract job on the *Nathaniel B. Palmer* that starts this July. In the meantime, Rhonda hopes to complete her Divemaster license before returning to McMurdo next season. "It may sound crazy, but we enjoy having different experiences to share," she says.

"If you want to get philosophical," follows Otis, "we left on a boat because it was a voyage. We found out that on the voyage of life, you can make an adventure out of anything you're doing." ✹

What do *you* think?

This season's ***Antarctic Sun*** has been **an experiment** by NSF and ASA to see if a summertime U.S. Antarctic Program newspaper is worthwhile. We have not decided how it should look next year, or how frequently it should be published, or even if it should be done at all. Your comments will be valuable in helping NSF and ASA plan what to do next season. After all, if the intended readers don't like it, why publish it? We will greatly value your comments on this season's issues. You may make them anonymously or not, as you choose, but please comment NOW.

- Readers 'on the ice' can complete this form, detach it, give it to your manager or drop it by The Sun office (if you're in McMurdo). Your input will be forwarded to ASA in Denver, Colorado.
- Internet readers can send an e-mail (numbering your responses) to **Sun_News.asa@asa.org**.

Your input is most important to us.

Valerie Carroll, publisher, The Antarctic Sun

1. How often do you read the Antarctic Sun?
   A) Always B) Sometimes C) Rarely D) Never

2. How long do you keep the paper?
   A) One Year B) One Month C) One week D) One Hour

3. I send copies of the Antarctic Sun home to family and friends:
   A) Always B) Sometimes C) Rarely D) Never

4. How often do you read the following stories:
   Cover Stories?
   A) Always B) Sometimes C) Rarely D) Never
   Science Stories?
   A) Always B) Sometimes C) Rarely D) Never
   Human Interest Stories?
   A) Always B) Sometimes C) Rarely D) Never
   Safety, Environment and Health Stories?
   A) Always B) Sometimes C) Rarely D) Never
   Did You Know?
   A) Always B) Sometimes C) Rarely D) Never
   Station and Vessel Updates?
   A) Always B) Sometimes C) Rarely D) Never
   Editorials?
   A) Always B) Sometimes C) Rarely D) Never
   Ask Aunt Arctica?
   A) Always B) Sometimes C) Rarely D) Never
   Military News?
   A) Always B) Sometimes C) Rarely D) Never
   Your Turn?
   A) Always B) Sometimes C) Rarely D) Never
   Weather?
   A) Always B) Sometimes C) Rarely D) Never
   Perspectives?
   A) Always B) Sometimes C) Rarely D) Never
   Profiles?
   A) Always B) Sometimes C) Rarely D) Never

5. How often would you like to see the Antarctic Sun published?
   A) Weekly B) Bi-monthly C) Monthly D) Never

6. I think the content of the Antarctic Sun is:
   A) Excellent B) Average C) Below Average D) Poor

7. I think the layout of the Antarctic Sun is:
   A) Excellent B) Average C) Below Average D) Poor

8. I think the photographs in the Antarctic Sun are:
   A) Excellent B) Average C) Below Average D) Poor

9. I think the reproduction quality of the Antarctic Sun is:
   A) Excellent B) Average C) Below Average D) Poor

10. I think the Antarctic Sun is a good reflection of the entire United States Antarctic Program:
    A.) Always B) Sometimes C) Rarely D) Never

11. The Antarctic Sun Gives me the information I want to know:
    A) Always B) Sometimes C) Rarely D) Never

12. I look at the on-line version of the Antarctic Sun:
    A) Always B) Sometimes C) Rarely D) Never, skip to #15

13. I have no difficulties 'opening' the on-line Antarctic Sun:
    A) Always B) Sometimes C) Rarely D) Never

14. I print the on-line version of the Antarctic Sun:
    A) Always B) Sometimes C) Rarely D) Never

15. Please circle the category of reader that best describes you:
    A) Employee of Antarctic Support Associates
    B) Employee of the National Science Foundation
    C) Member of the Navy
    D) Member of the Air National Guard
    E) Member of NASU
    F) Formerly lived and worked in Antarctica
    G) Have family/friend who works in Antarctica
    H) Other. Please explain_____

16. Please circle the age that best describes you:
    A) 10-18 B) 19-25
    C) 26-35 D) 36-45
    E) 46-65 F) 66 and over

17. Your name and contact information (optional, but appreciated):
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Please feel free to make any additional comments about The Antarctic Sun and what you'd like to see in the future.

Thank you