



## South Pole rescue mission a success

By Sun Staff

The temperature at the South Pole was hovering around minus 58 F, the cutoff point for a safe landing. The crew of the ski-equipped Hercules LC-130 pushed south from McMurdo, looking for a chance to land and carry out a rescue mission being watched around the world.

Four months of suspense ended on October 16, when the 109th Airlift Wing of the New York Air National Guard made the earliest landing ever at Pole to bring Dr. Jerri Nielsen off the Ice.



Photo by John Penney

Dr. Jerri Nielsen

"It was a great team effort," said Col. Graham Pritchard, airborne mission commander on the flight.

Nielsen—and the U.S. Antarctic Program—made international headlines when she discovered a lump in her breast during the dead of the polar winter. With weather conditions too cold for a rescue, the National Science Foundation organized a July 11 airdrop.

South Pole workers lit fires in barrels in the Antarctic night to mark out a drop zone for the mercy mission. An Air Force C-141 cargo plane, staged out of Christchurch, overflew the Pole and sent six bundles of supplies and medical equipment parachuting toward the station. Once the bundles were retrieved, Nielsen began her secluded treatment.

See "Pole"—Page 2



## A whiter shade of pail

Feeling their way around the Ross Ice Shelf, students in the Field Safety Training Program practice search-and-rescue in simulated whiteout conditions. Photo by Josh Landis.

## Summer season in full swing

By Josh Landis  
The Antarctic Sun

Antarctica is under invasion. One of the world's largest scientific deployments is descending upon the continent, made up of more than 800 U.S. researchers and the hundreds of others it takes to support their work.

There's a lot in store this summer—out in the field, on the ships, and at the research bases. This year's program includes 150 science projects and the continuing evolution of U.S. stations around Antarctica. Here's a look:

### Talk of MacTown

One of the first things to grab your attention was probably the work on Highway 1 in Building 155. The winter renovation project was extended into summer, but the new offices will be finished by November 1.

See "Summer"—Page 2

In search of tiny giants / Page 4

New jet makes first ice landing / Page 6

Sipping the wine fantastic / Page 7

Byrd's 'unstoppable' flop / Page 9

*“Pole”—continued from Page 1*

She may have been isolated, but Dr. Nielsen was not alone. Forty other people spent the winter at Pole, many of whom made her diagnosis and treatment possible—and may have saved her life.

Lisa Beal, senior computer technician at Amundsen-Scott South Pole Station, said many of the winterers made large personal sacrifices to ensure Dr. Nielsen got the best care possible.

Some of the essential tasks Nielsen’s coworkers performed included taking and staining tissue samples, shooting electronic pictures with a special microscope, administering intravenous lines, managing the teleconferencing system—not to mention providing emotional support for Dr. Nielsen.



*The Amundsen-Scott South Pole Station. NSF file photo.*

When the October rescue mission approached the supporting cast grew larger, involving people at McMurdo who operated the sea ice runway, fueled the planes, forecasted the weather, provided air traffic and prepared for potential search-and-rescue missions.

After arriving back in the United States and receiving medical attention, Dr. Nielsen, a 47-year-old mother of three from Youngstown, Ohio, broke her public silence last week with a statement crediting the countless people involved in her treatment and rescue.

“I am grateful for the many people who have helped make my homecoming possible: the 109th Airlift Wing of the New York Air National Guard, the U.S. Air Force, the National Science Foundation and Antarctic Support Associates—plus all the behind-the-scenes folks whose efforts made it possible for me to treat myself in Antarctica.”

*Editor’s note: In coming weeks the Sun will take a closer look at the saga at the South Pole—how it unfolded, who was involved, and what had to be done.*

*“Summer”—continued from Page 1*

Right around that time construction will start on two new 2 million-gallon fuel tanks on the outskirts of town.

**South Pole progress**

McMurdo may be the hub of most things Antarctic, but South Pole will be hopping.

The reconstruction and modernization of South Pole Station is ahead of schedule and within budget, and crews are preparing to work around the clock.

Air support here at McMurdo will be in high gear, too. More than 270 flights to pole are planned this year. The total weight of cargo, fuel and passengers will amount to 6.6 million pounds—all flown on LC-130s by the 109th Airlift Wing of the New York Air National Guard.

**Eyes on the Ice**

The International Trans-Antarctic Scientific Expedition (ITASE) is a combined effort of researchers around the world who come to the Ice to map the West Antarctic ice sheet. It’s a five-year project aimed at better understanding how the ice sheet behaves, and what factors affect it.

A sudden collapse could cause worldwide disaster, forcing sea levels to rise and inundate coastal areas.

This summer the U.S. team will traverse more than 400 miles of ice, drilling cores that provide a picture of the last 200 years.

**Seal seekers**

The ice that trapped and destroyed Shackleton’s Endurance is prime real estate for seals. More than half the world’s seals live in the pack ice surrounding Antarctica.

This season the research vessel Nathaniel B. Palmer will cruise through parts of the Ross and Amundsen seas, supporting a project to count seals and sample different aspects of their environment.

**Drilling back in time**

The Cape Roberts Project in the southwest Ross Sea is in its third year, and will reach even further back in time. The international project will core deeper into the earth and allow scientists to look back as far as 100 million years—to learn about a time period unknown to Antarctic researchers.

**Life at ground zero**

The ocean off Antarctica may be teeming with life, but most of the continent’s interior is a vast, frozen desert—lifeless at all but the microscopic level.

Researchers at the South Pole and around McMurdo will investigate algae and bacteria in permanent ice and snow and try to figure out how they survive and how they got there.

Among other applications, this work could offer clues to how life might exist on other planets.

**Facing space**

The South Pole is probably the best place on Earth to look at the heavens. There are several super-telescopes there, but one device actually uses the ice at the Pole as a kind of lens.

The Antarctic Muon and Neutrino Detector Array (AMANDA) consists of a series of sensors that detect subatomic particles hurtling through the universe.

AMANDA helps scientists search for supernova explosions in our galaxy and sheds light on “dark-matter” particles—believed to make up most of the matter in the universe.



**The Week In Weather**

**McMurdo**  
 Maximum: 25 F  
 Minimum: -2 F  
 Maximum wind: 40 knots  
 Minimum wind chill: -57 F

**South Pole**  
 Maximum: -27  
 Minimum: -81  
 Maximum wind: 33 knots

# Here comes the Sun

Well, here it is—the season’s first issue of The Antarctic Sun, the world’s highest, driest, coldest, windiest newspaper.

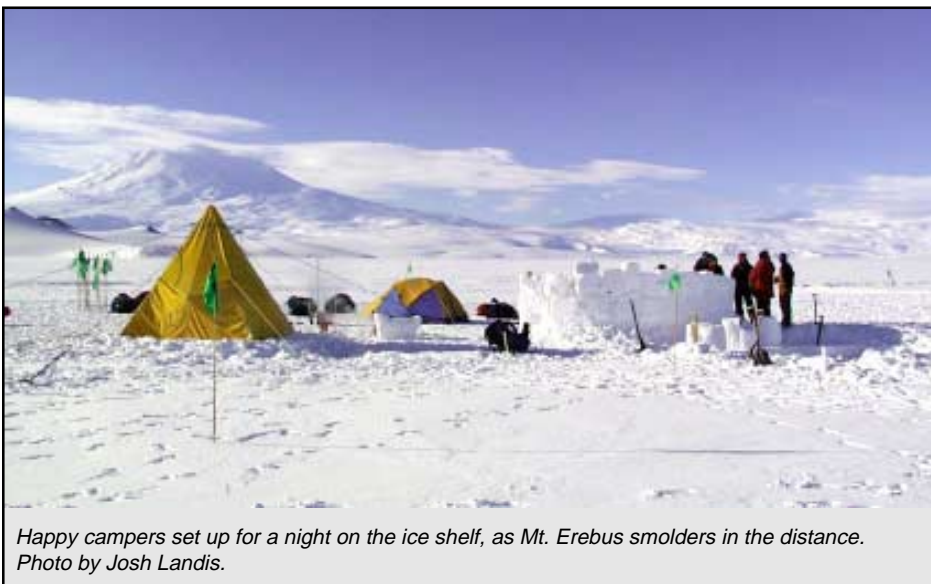
Welcome to another season on the Ice. Behind those fur-rimmed hoods are a lot of new faces this season, including those of your intrepid journalists, Aaron Spitzer, Josh Landis and Jeff Inglis. We’ve introduced ourselves in the sidebar, so say hello when you see us around.

We’re putting out a weekly issue this summer, rather than every other week. We’re also going to the Web in style, with a brand-new site at <www.asa.org>, including both HTML and PDF formats. All the stories are online, as well as the pictures, so check it out electronically if you can. The Web is also a great way to help your friends and family back home stay on top of developments down here, so tell them about it.

The Sun is in its third year this season. The former editors have left big bunny boots to fill, but we feel confident we can cover this continent of 5.4 million square miles—with your help.

Our more frequent publication schedule means there will be even more room for your contributions. If you take photos, write news, essays or humor, or even draw cartoons, please let us know. If you’re at Pole, Palmer, in the field or on the ships, we particularly want your help keeping everyone informed on what’s going on. You can e-mail us at sun\_news@mcmurdo.gov, call us at x2407 here in MacTown or stop by our office just off Highway 1 in Building 155.

Feedback and comments are always welcome, via e-mail, voice or in person, so please share your thoughts with us about the paper and any other issues on the Ice.



Happy campers set up for a night on the ice shelf, as Mt. Erebus smolders in the distance. Photo by Josh Landis.



**Jeff Inglis** lives in Addison County, Vermont. He has worked as a writer, photogra-

pher, and Web designer for several local papers in Vermont, and has just completed his master’s degree in journalism at the University of Missouri-Columbia.



**Aaron Spitzer** resides in Juneau, Alaska. He has worked as a writer, photogra-

pher and editor for weekly papers in Juneau and Bethel, Alaska, as well as in Minnesota and Washington, D.C.



**Josh Landis** comes to the Ice from New York City, where he was an associate producer for The Fox

News Channel. His journalism experience includes working for newspapers and magazines in New Orleans, Montana and New York.

 **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 are encouraged with acknowledgment of source and author.

**Publisher:** Valerie Carroll, Antarctic Support Associates.

**Editors:** Jeff Inglis  
Josh Landis  
Aaron Spitzer

**Contributions are welcome.** Contact the Sun at sun\_news@mcmurdo.gov. In McMurdo, visit our office in Building 155 or dial 2407.

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

## THE STORE IS OPEN FOR BUSINESS!

<b>Sun</b>	<b>11-2</b>
<b>Mon</b>	<b>closed</b>
<b>Tue</b>	<b>7:30-8:30, 11:30-1:00, 5:30-7:30</b>
<b>Wed</b>	<b>11:30-1:00, 5:30-7:30</b>
<b>Thu</b>	<b>7:30-8:30, 11:30-1:00, 5:30-7:30</b>
<b>Fri</b>	<b>11:30-1:00, 5:30-7:30</b>
<b>Sat</b>	<b>7:30-8:30, 11:30-1:00, 5:30-7:30</b>

**JUST OUT: STUFFED TOYS AND NEW ANTARCTIC GREETING CARDS!**

**ALSO ON OFFER:**

**FAXING, PHONECARDS, COLOR PRINTING, AND YEAR 2000 ANTARCTIC CALENDARS FEATURING LOCAL PHOTOGRAPHERS.**



# Speaking of Science...

## Single-cell giants of the deep

By Dr. Samuel Bowser  
Special to the Sun

Antarctica is a uniquely rich hunting ground for giant, single-celled creatures called larger agglutinated foraminifera, or "forams" for short.

These amoeba-like organisms were among the first on Earth to evolve hard shells—a fact that makes them interesting subjects for disciplines ranging from paleontology to cell biology. These types of forams are very abundant at abyssal depths—the Earth's most extensive habitat—making them one of the planet's most numerous creatures.

They're unusually common at Explorer's Cove, a small embayment of New Harbor on the western shore of McMurdo Sound, where deep-sea-like conditions occur at shallow depths accessible to scuba divers.

No one really knows why this area is attractive to the forams. One possibility is that during the last ice age, the advancing ice cap obliterated other shallow-water life, something like a slow-motion asteroid obliterating terrestrial dinosaurs. After the ice cap retreated to reveal virgin undersea territory, forams emerged from the depths and took up residence.

The life habits of giant agglutinated forams, and their roles in marine ecosystems, are poorly understood. Enter a team of research scientists sponsored by the Wadsworth Center, the biomedical and environmental health research institute of the New York State Department of Health.

"Four, three, two, one—fire in the hole!" The calm at New Harbor literally explodes with excitement as Marty Reed completes another sea-ice blast. All hands then scurry to clear the nascent hole of slush.

Afterwards, Dr. Neal Pollock, a dive physiologist from Duke University, leads an exploratory dive to scope out the undersea terrain.

"We're exactly where we want to be!" calls out dive partner Doug Coons through frozen lips after surfacing from the depths. Doug, who stateside is an Aero Medical Evacuation Technician with the New York Air National Guard, has been a member of my dive team since the 1994-95 field season.

It may seem odd that I depend on dynamite, blasters and a team of skilled ice divers for my research, especially when I work for the New York State Department of Health.

My research project employs a wide range of diving techniques, some requiring unconventional strategies in polar regions. These demand extensive planning and support since the operating conditions include 28 F water, air temperatures as low as minus 30 F, and ice barriers as thick as 16 feet over the dive sites.

Why blast dive holes? The multi-year ice at Explorer's Cove is typically too thick and the surface too rough for drilling them.

More troublesome is the fact that conventionally drilled or melted holes are only wide enough for one diver to pass through at a time. In the case of an emergency, both divers are able to surface simultaneously from the holes blasted at the cove.

Led by myself and Bill Stockton, our research team seeks to determine the role of these remarkable cells in the ocean's food webs, and to explore the biomedical potential of the glue that forams make to build their protective shells.

You might ask what possible use there might be for glue from an Antarctic amoeba?

This stuff is an incredibly sticky, chemically resistant protein that binds dissimilar materials in a wet, salty environment. If you think of the human body as a wet, salty thing then you can imagine lots of uses for such a natural product.

I and my colleague Jeff Travis, who off the Ice is an associate

professor at the State University of New York at Albany, have dreamed of developing a human-compatible "superglue" for applications like sutureless surgery, prosthetic devices and sticky suppositories.

Yes, sticky suppositories: Coupled with conventional time-release drug delivery, a sticky suppository would do away with the discomfort of repeated applications.

"That's a billion-dollar benefit to society, and we're just beginning to probe the depth of other possibilities, if you pardon the metaphor," laughs Dr. Travis. ●

*Dr. Samuel Bowser is a research scientist with the New York State Department of Health. He is the principal investigator of science event BO-043-O: Shell Morphogenesis in Giant Agglutinated Foraminifera.*



*Doug Coons prepares to slip into the icy waters of Explorer's Cove in search of giant protozoa. Studies of these creatures could have various medical applications. Photo from S-043 archives.*

# An eye on the ozone

By Aaron Spitzer  
The Antarctic Sun

On a bluff overlooking the sea ice in front of McMurdo Station Thursday, two women in red parkas craned their necks heavenward, their eyes following a gossamer balloon they had just released into the cobalt-blue sky.

Dangling from the balloon's tail was a Styrofoam box, not much larger than a lunch pail, carrying devices critical to the study of the Earth's diminishing ozone layer.

The two women, scientists Chris Kroger and Elizabeth Sinclair, are part of a multi-year ozone-monitoring project sponsored by the University of Wyoming's Department of Atmospheric Science. They have sent one of these 10-foot-tall helium balloons into the stratosphere every three days since late August.

When they leave for home next week, the two researchers will take with them a comprehensive data set which, once analyzed, should provide a picture of local ozone patterns during this year's austral spring—the season when ozone amounts over Antarctica typically plummet.

According to Kroger, the results likely won't be good news. Recent years have shown a progressive thinning in polar ozone, with last spring revealing the lowest levels yet recorded.

On certain days this year, the researchers' measurements have displayed similarly dramatic thinning. "Ozone will be depleted in some regions almost up to 98 percent—almost complete depletion," Kroger said.

After launching Thursday's balloon, Kroger and Sinclair hiked back uphill to their brightly-lit Crary Center laboratory. There, a stream of data was already scrolling across the monitor of their desktop computer.

By then more than a kilometer high, the balloon was radioing back constantly updated measurements of the air through which it rose. Sensors in its instrument box gauged temperature, pressure, humidity, rise rate and, most

critically, the presence of atmospheric ozone.

If all went well over the next two hours, the balloon would sail up 30 or 35 kilometers, toting its package of measuring devices into the upper atmosphere. It would take its key readings between 12 and 23 kilometers, where the ozone layer is normally found.

Eventually, thinning air would cause the outward-pressing helium to burst the balloon, sending the plastic skin and the instrument package drifting back to Earth.

The apparent simplicity of Kroger and Sinclair's research method belies the importance of their work.

Ozone—a naturally occurring gas that girdles the globe in the upper atmosphere—absorbs potentially harmful ultraviolet rays from the sun. The ozone layer helps guard against skin cancer and cataracts in humans, and prevents damage to vegetation.

Over the Antarctic, scientists for the last 15 years have detected reduced

See "Ozone"—Page 8



Researchers Elizabeth Sinclair (left) and Chris Kroger prepare to launch an ozone-monitoring balloon on Thursday. Photo by Aaron Spitzer.

## COLD HARD FACTS

Compiled by Jeff Inglis

**Captain John Davis**, aboard the *Huron* out of New Haven, Connecticut, may have made the first landing on Antarctica at Hughes Bay, on the Antarctic Peninsula, on February 7, 1821, on a sealing trip. The next known landing on the continent was at Cape Adare in Victoria Land on January 18, 1895, 74 years later.

**Jules Dumont d'Urville**, in addition to exploring the coast of Antarctica, discovered the statue *Venus de Milo* and brought it to France.

**The South Magnetic Pole** was east of Ross Island in 1600. It has moved roughly northwest at the rate of 6-9 miles per year, and is now in the Dumont d'Urville Sea.

**The first people** to winter on the ice were in a British-funded team under the leadership of Carsten Egeberg Borchgrevink, a Norwegian. The 10 men (three British, five Norwegian, and two Finns) lived in two huts (called *Camp Ridley*) at the base of Cape Adare from March 1899 to January 1900.

**On March 12, 1842**, the *Erebus* and the *Terror*, James Clark Ross's ships, collided in a storm in a field of icebergs, crippling the *Erebus*. Three days later, both ships were repaired enough to continue the voyage.

**Robert Falcon Scott's** first voyage to the Antarctic, in 1901-1904, began poorly: The expedition's ship, *Discovery*, was found to be leaking on the voyage from Britain to New Zealand.

**The first newspaper** on Antarctica was the *South Polar Times*, published by Scott's expedition each month. Ernest Shackleton was the editor and printer. Submissions were solicited from all members of the group.

Source: *Antarctica: The Extraordinary History of Man's Conquest of the Frozen Continent* (New York: Reader's Digest, 1988).

Do know of an Antarctic fact? Please let us know—we'll need the fact and its source for verification.





The Air Force's newest C-17 sits on the sea ice off McMurdo Station October 15. The plane was the first of its kind to land in Antarctica. Photo by Aaron Spitzer.

## Cutting-edge cargo plane pays visit to McMurdo

By Aaron Spitzer  
The Antarctic Sun

Out of a sky brilliant with iridescent polar clouds, a hulking C-17 Globemaster cargo plane made a historic touchdown on McMurdo Station's ice runway October 15.

The Air Force plane was the first of its kind to land in Antarctica. Staged out of Christchurch, the flight was a test of the ability of C-17s to serve the U.S. Antarctic Program.

By all accounts, the operation was successful. From the cockpit following the landing, pilot Maj. Dave Pollmiller gave a proud but understated assessment of the flight. "It was totally uneventful," he said.

Bill Haals, McMurdo's manager of operations and the overseer of the station's ice runway, was equally upbeat. "Absolutely textbook," he said.

For years the Air Force has operated C-141 Starlifters to ferry both people and cargo between Christchurch and McMurdo Station. But C-141s, which date from the Vietnam War era, are slated to be removed from active Air Force duty by 2003.

The newer C-17s will almost certainly take their place flying to the Ice. The October 15 flight gave officials from both the Air Force and the U.S. Antarctic Program a preview of what the future may hold.

Occurring on a warm and nearly windless day, the flight drew dozens of camera-toting onlookers out to McMurdo's airfield, where they watched the glinting craft angle in from the north, touch down

on the icy airfield and send up a plume of snow.

Minutes later, after taxiing to the apron, the airplane was swarmed with cargo crews, who used front-end loaders and sledges to off-load massive cargo pallets from the gaping aft door.

The plane that arrived in McMurdo was on its first major mission. The \$180 million craft—only the 54th built—is the newest C-17 in the Air Force's fleet, having rolled off the production lines in Long Beach, California, earlier this month. When it left its home at McChord Air Force Base in Washington state, it had only 29 hours of flight time.

According to Maj. Jim Curtis, an Air Force flyer who accompanied the plane to McMurdo, the advantages offered by this new breed of cargo planes are dramatic.

The most notable benefit of C-17 Globemasters is their gargantuan carrying capacity. At 60 tons, it's nearly three times that of the C-141s.

Though the C-141s can move more people—156, compared to 102 in a C-17—the Globemaster can carry four pallets of cargo along with a full load of passengers.

The C-17s' massive payload also allows it to fly farther without refueling. Under normal load conditions, the plane can travel from Christchurch to McMurdo

and back without stopping to gas up—eliminating the need for establishing a "point of safe return."

According to Maj. Curtis, the C-17 also offers manpower efficiencies over the C-141.

They require two fewer crew members to operate, he said. "We got rid of the flight engineers. That's due to automation." A C-17 crew is composed simply of two pilots and one or two loadmasters.

Both planes fly at about the same speed, Curtis said. The trip from Christchurch that day took 6 hours, 45 minutes, fighting a brisk headwind.

Special precautions were taken for the plane's historic visit to the Ice. Curtis, a C-141 pilot with years of experience flying to Antarctica, was sent along to familiarize the crew with conditions unique to polar aviation, such as mirages and extreme cold.

Once at McMurdo, extreme heat was more of a concern. According to Bill Haals, C-17s use deflected exhaust to help boost them into flight upon takeoff. In warm environments they have been known to melt asphalt—and melting the ice runway was simply not an option.

Haals said he worked with the Air Force for the last year to prepare for the plane's inaugural visit, to ensure that neither the craft nor the runway suffered damage.

But because the plane departed McMurdo largely empty, with only a load of lucky winterers headed home, "They



Cargo handlers off-load part of the DASI telescopic array, bound for the south pole. The C-17 can carry triple the cargo of its predecessor, the C-141. Photo by Josh Landis.

didn't have to blast it off," Haals said.

The plane used about 3400 feet of the ice runway to get airborne, melting no ice in the process.

Another C-17 visit is slated for November 11, to test the plane's effect on the sea ice later in the summer season. ☀

# High society, Antarctica style

## Wine tasting draws connoisseurs to Coffee House

By Jeff Inglis  
The Antarctic Sun

Vivaldi was on the stereo. Golden light glowed on the polished wooden walls. The McMurdo Coffee House was warm with cheer and conversation over wine Thursday evening. The recreation department sponsored a wine tasting of six "regional" wines: Australia and New Zealand have excellent wine-producing regions which supplied the evening's beverage samples.

"Six wines to go!" cried one eager taster before walking up to the first of six tables.

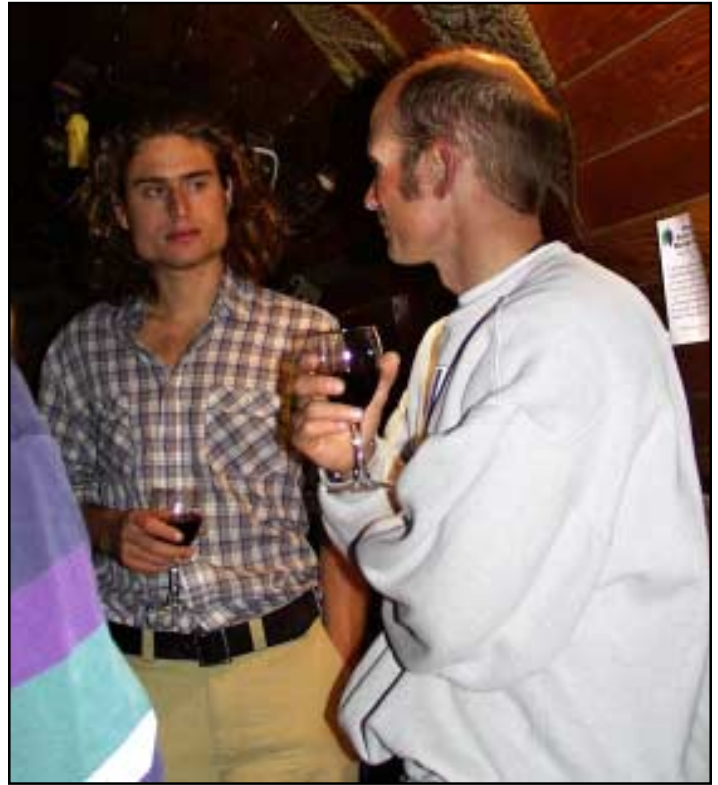
All the wines found fans in the group, who happily held out their plastic wine glasses for more. The wine tasting itself won great fans.

According to an enthusiastic Coloradan who called himself simply Kyu, "You have to have certain things that keep you in touch with the outside world." His favorite was the Church Road Cabernet Merlot, a New Zealand red wine. "I wish they had more wines, so they could do this every week."

The old Quonset hut, the type used during the Korean War, was jammed with people taking advantage of the free wine, as well as the shop-price bottles available only during the tasting.

Even a soon-to-depart McMurdo winterer braved the crowd for some quality wine. Liz Muck, from Steamboat Springs, Colorado, is a Merlot fan whose favorite among the evening's selection was the Villa Maria Cabernet Sauvignon, though she also liked the Delgats Reserve Merlot. She said she was a bit intimidated by the number of people, but was glad she'd come.


"It's a very good idea," said Christine Foreman, a Dry Valleys research grantee from Toledo, Ohio.



Landon Holt, from Georgia, who works in the heavy shop, and Bob Radke from Utah, who works in waste management, enjoy the wine and conversation amid the crowd. Photo by Jeff Inglis.

Another fan agreed: "I think it's a great idea; I love wine," said Kenda Andersen, a construction general assistant from Montana.

"It's fun opportunity for a new person to meet everyone," said Vicky Miles, a recreation finance clerk from Denver. She didn't taste all the wines, but while she was busy serving samples, she overheard lots of comments about the wines, among which there was no clear winner. "There was no consensus among the tasters," she said.

Bill McCormick, from the Field Safety Training Program, liked the Penfolds Bin 389 Cabernet Shiraz. The wine tasting gave him hope for McMurdo's future. Remembering that the wine bar was to be torn down for lack of use a few years ago, he said, "I toast the actual place itself." 

## Faces on



## What did you miss most about the Ice?



**"Free food, no bills."**  
Francine Oliver,  
recreation office staffer,  
Washington, D.C.

**"The amazing people, and the Spanish word-of-the-day."**

Kelly Nevins,  
recreation coordinator,  
West Palm Beach, Florida



**"Lot of good people down here."**

Don Davis,  
electrician,  
North Dakota



**"The people."**  
Scott McGlothlin, carpenter,  
Sand Point, Idaho



**"The views and just being outside."**

Jamie Coyne,  
utilities helper, East Coast

*"Ozone"—continued from Page 5*

stratospheric ozone levels—the infamous "ozone hole."

It is thought that the hole has resulted mainly from the advent of man-made products called chlorofluorocarbons—CFCs—found in modern industrial products ranging from aerosols to air conditioners.

In her laboratory, Kroger flipped through a series of graphs made after each balloon flight. With ozone pressure on one axis and altitude on the other, the diagrams depict how quickly ozone levels over McMurdo have dropped in the last two months. While levels were normal at the beginning of the winter fly-in period, recent readings have plunged.


Because the destruction of ozone by CFCs is precipitated by a combination of cold and sunlight, the ozone hole waxes and wanes seasonally, often reaching its largest stage this time of year.

International agreements, struck in the late 1980s and since, have aimed to reduce the world production of CFCs. But according to Kroger, the situation will get worse before it gets better.

"It takes the CFCs about 40 years, they estimate, to travel down from the equator to the Pole," she said. "If we stop producing CFCs in the year 2000 we might see an improvement in the ozone in the year 2040 or 2045."

Kroger and Sinclair's work is not the only ozone research being conducted in Antarctica. Similar experiments are taking place at the Pole and other stations, Kroger said.

By sharing their data, the various teams will be able to gain a comprehensive picture of ozone levels across the polar south.

Work is also occurring to gauge ozone loss in the more populous northern polar regions. According to Kroger, early next year she will likely accompany University of Wyoming researchers to Kiruna, Sweden, where they will test ozone levels in the European arctic. 

# Continental Calendar

## Our Antarctic Week

### Sunday

David Zimmerman, live guitar and vocals—8 p.m., Coffee House

Science lecture, NSF representative Al Sutherland: "Overview of Season 1999-2000 Antarctic Research"—8:15 p.m., E-side Galley

### Monday

Rec radio show, "The wREcK Room"—1:30-3:30 p.m. weekly, all request / dedication x2459

Ed Anderson, Antarctic Slide Show—8:30 p.m., E-side Galley

### Tuesday

Trip to Cape Evans—6:30 p.m., sign up on the recreation board starting Monday

### Wednesday

Bingo, \$5 for 10 games—8 p.m., Gallagher's

### Thursday

Last day for league signup—volleyball, soccer, bowling  
American Night at Scott Base—shuttles leave from Derelict Junction, 7-11 p.m., every half hour

DJ salsa night—8 p.m., Gallagher's

### Friday

Yvonne Rampage, acoustic guitar, singer / songwriter—8-10 p.m., Coffee House

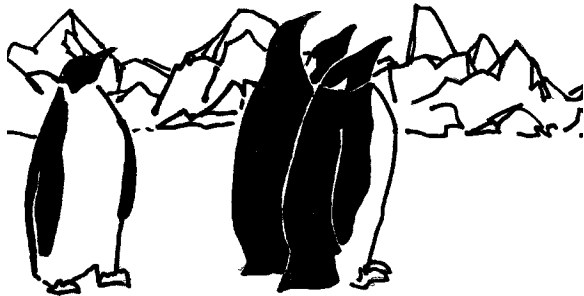
### Saturday

Halloween bash! Costume contest: scariest, funniest, group, overall best, Antarctic theme—8 p.m., the gym

*If you have an item for the weekly calendar, e-mail us at [sun\\_news@mcmurdo.gov](mailto:sun_news@mcmurdo.gov), call 2407, or drop by our office in Building 155.*

## Ross Island Chronicles

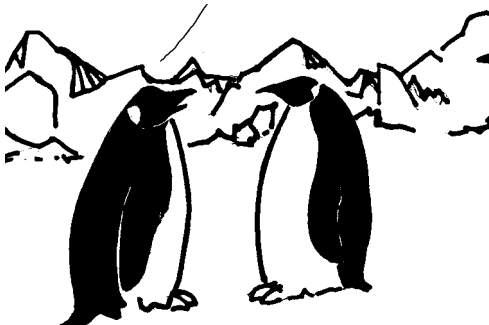
by Richard Perales



I just saw the first plane. It looks like the start of the Antarctic summer season.



Great! Maybe we can barter some things with the Americans.



How many crab legs can we get for this chick?





# Perspectives

## THE ANTARCTIC EDSEL

### The unsolved mystery of Byrd's doomed cruiser

By Bob Hanes  
Special to the Sun

In the fall of 1939 I was only 12 years old, but I vividly remember the "event of all events" that took place near my hometown of Lima, Ohio. One of the greatest explorers of all time, Admiral Richard Byrd, was leaving for Antarctica. Once there, he planned to use a newly-designed and -constructed "snow cruiser." Although Byrd himself wouldn't be in Lima, the snow cruiser would be coming past town, en route from Chicago to Boston, where Byrd's ship was waiting.

Everyone in school was talking about the cruiser. Newspapers contained articles about the "coming spectacular." Life magazine carried details and drawings of the device. Even the newsreels at local theaters were publicizing the vehicle.

The machine's magnificence lay in its size and technology. It carried a crew of seven, measured 55 feet long, 20 feet wide, and 12 feet high. It was powered by twin 150 horsepower engines, and tipped the scales at 37 tons. Each of the four wheels was 10 feet tall, weighed 700 pounds and was perfectly smooth and treadless.

The cruiser was designed to cross crevasses up to 15 feet wide, by sliding its front wheels forward, crossing the gap, then retracting its back wheels. It could carry a ski-equipped biplane on top. It was to be the last word in polar transportation, with a price tag of \$150,000—a lot of money in those days. One inspired writer described it as a "fantastic dream."

I saved all the newspaper articles I could find on the subject, including the six pages from Life magazine. I couldn't wait to see it.

But the cruiser's trip from Chicago to Boston was plagued with problems. In Columbia City, Indiana, a truck sideswiped it. In Ft. Wayne, Indiana, a fuel pump developed trouble. Then, within six miles of our town, the cruiser struck the corner of a bridge and plunged eight feet into a small creek. It was stuck in the creek for three days.

During that period, an estimated 125,000 people went to view the "unstoppable machine." Route 30 was crowded with traffic jams for miles.

For me, the big moment arrived when my parents fought their way through the traffic to the site. There it was! But what a sad sight. Helplessly stuck nose-down in the mud, the magnificent monster was fast becoming a national joke. When they finally got it back on the road, two new electric motors had to be installed. The trip to Boston took a total of 19 days.

Once the cruiser arrived in Antarctica, it was based out of Little America, Byrd's station on the continent. But it was quickly discovered that the vehicle's smooth tires developed very little traction in the Antarctic snow. It took only a small amount of snow in front of each tire to stop the "unstoppable."

Though two spare tires were mounted on the front axles to provide extra traction, nothing seemed to help. That's until someone discovered the vehicle operated better in reverse. The cruiser's longest venture was 92 miles—all driven backwards.

Byrd's expedition extended into 1941, and with World War II pressing, Congress would not approve funding to continue. In May 1941 the group returned to the United States, its experiments terminated.

What happened to the cruiser? It was left behind in Antarctica in an underground ice garage. In the late 1940s another expedition found the vehicle and discovered it needed only air in the tires and some servicing to make it operational. It was again rediscovered in 1962, still perfectly preserved.

Where is Byrd's snow cruiser now? As of 1985 there has been speculation as to its whereabouts. Antarctic ice is in constant motion, and the ice shelf the cruiser was on is constantly moving out to sea. In the mid-1960s, a large chunk of the Ross Ice Shelf broke off and drifted away.

The break occurred right through Little America. On which side of the break was the snow cruiser? No one seemed to know at the time.

The end of this story is still uncertain. Either the vehicle is buried under many, many feet of ice—where it might possibly be discovered by future explorers. Or it could be resting on the bottom of the Southern Ocean.

Whatever its fate, it was still a magnificent machine. But what a flop! ●

*Bob Hanes is an ASA employee working at McMurdo Station. Off the Ice, he lives in Indianapolis, Indiana.*





# PROFILE

## FORREST'S PATH



By Jeff Inglis  
The Antarctic Sun

Those crystal-clear blue eyes. They're the first thing you notice when Forrest McCarthy sits down in front of a group to give his opening lecture at the Field Safety Training Program. One-on-one, they lock on to you and never let go, like a visionary to a dream.

It's been a long journey, through Boy Scouting, on road trips as a Deadhead after high school, on rock climbs in Colorado, treks in Nepal, and beyond. Forrest lives the dream, and made it back to the Ice this season after three years away.

Recently, he helped start a program to prevent drug and alcohol addiction among Inuit youth near Nome, Alaska. "The white guy from Wyoming was taking the Eskimos into the wilderness," Forrest laughed. He even got to make the Eskimos do Eskimo rolls while teaching them to kayak, a traditional Eskimo skill which has been lost over the past couple of generations.

He said they were enthusiastic learners, but they had some wisdom to impart of their own. "My background is 'leave no trace,'" he said, "and these people have been part of the ecosystem for thousands of years." Modern backcountry methods weren't the norm for his students.

"I'd tell them to filter their water, and they'd just look at me. They'd been drinking it all along," he said.

Forrest has been drinking the water of Antarctic lore for years now. "I remember asking my mother if all deserts were hot, and she found an article in the encyclopedia on the Dry Valleys." He was about 5 years old at the time, and ever since, has been interested in Antarctica.

Over the years he learned more, getting a big picture book for Christmas the year he was 10, and, later, meeting clients in the Tetons who had been grantees on the Ice. He even met Buck Tilly, a longtime sea ice safety instructor, who

helped Forrest get an interview for the position at FSTP.

He didn't come back after that first season, choosing instead to finish his college degree in outdoor education with a minor in human ecology. But his return now, older and perhaps a bit wiser, gives him a rare perspective on changes around McMurdo.

The Field Safety program has a bigger role now, he said. "No one goes out in the field, except maybe the National Guard, without going through training."

Also, he finds that people and offices throughout the U.S. program are using the expertise of the Field Safety staff more, for planning routes over sea ice, or scouting potential deep-field landing sites. "We're being used more as a resource," he said.

But Forrest is not just a nice guy who teaches you how to get along in the cold. A member of the search-and-rescue team, he's one of the people who will show up in a tracked Hägglunds vehicle in whiteout conditions, pick you up from your feeble snow shelter, and get you warm and dry and home in bed.

One day a week, Forrest and his colleagues on the SAR team train. They alternate between practicing scenarios with the primary team and helping to prepare the secondary team for the winter, when they become the primary team.

There's more high-tech gear available to them now, and more experience with the equipment, which Forrest said leads to better training. He's very happy with the capabilities of the new SAR vehicle, a Hägglunds outfitted with GPS and radio direction-finding equipment, but warns against feeling overly confident in bad conditions just because there's a great rescue team with good equipment.

"It's an incredibly powerful tool, but it shouldn't be a crutch," he said. It's a lot like your town's first aid squad getting the Jaws of Life: You don't drive faster and more recklessly just because they can get you out of the wreck when it happens. Forrest encourages safety, and he teaches people how to practice it in the outdoors.

He does so by combining the best outdoor-equipment technology with traditional skills, choosing FDX boots, the government-issue boot modeled on the Eskimo mukluk, and building snow-dome huts with lightweight snow shovels. Every so often it goes a bit far: At McMurdo Dome, he said, "We made an igloo once cutting the snow blocks with chainsaws."

His Antarctic experience, while broader than most, is still limited to the official U.S. Antarctic Program. He's never done any commercial expeditions in Antarctica, but has a client who hopes to climb Mount Vinson, the continent's highest peak. Maybe Forrest will get to help with that trip.

Antarctica's a tough environment in which to live and work, but Forrest still said, "I truly believe the world would be a better place if more people got outside." He helps make it possible for that to happen safely, even here. ●