

# The Antarctic Sun



Published during the austral summer at McMurdo Station, Antarctica, for the United States Antarctic Program

## NASA goes 'bird' watching

By Jeff Inglis  
*The Antarctic Sun*

In a small office in Crary Lab, talking to satellites is more common than talking on the phone.

From the outside, it looks like any other office—except for the NASA sign. Inside, the people call it the McMurdo Ground Station.

"We're the only ones down here that can actually see satellites from this part of the world," said Chuck Seman, a member of the team sent down by NASA to provide satellite communications service.

They work with U.S., Canadian and European satellites in coordination with a network of ground stations in Alaska, Norway and Virginia. The network monitors satellites on what are called polar orbits—the track circling the earth from pole to pole.

Most of what the McMurdo station does involves making sure the satellites, or "birds," are still working properly. Data is usually transferred earthward from the satellites in the Northern Hemisphere, because of better access to high-speed communication links.

The technicians at the ground station are a vital link in the satellite support process. For

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Jaime Gallo, a technician with NASA's ground station at McMurdo, helps track satellites in polar orbits. Photo by Jeff Inglis.



## All Tuckered out

Geologist Mike Gerasimoff lowers the custom boom on a Tucker Sno Cat as mechanic Pete Hokenstad fastens a ground radar device. "Ellie May" is headed for the West Antarctic Ice Sheet, where it will be the lead vehicle in this season's ITASE traverse. A team of scientists will travel more than 600 miles, taking 200-year-old ice samples along the way. The radar will measure ice layers and detect hidden crevasses. Photo by Josh Landis.

## Emperors of the deep

By Josh Landis  
*The Antarctic Sun*

Huddled on the snow on a windswept stretch of sea ice, 12 emperor penguins stand near a hole leading to 1,600 feet of water. They preen, shake their heads and congregate on the trampled snow. Bellies full, the birds have just returned from a dive into the icy depths below—and they're being watched.

Standing inside a wooden hut and behind a window, six researchers are keeping a close eye on the birds at the Penguin Ranch. Electronic instruments on the penguins' backs transmit to the hut precise information on the animals and their dives.

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weather / Page 7**

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Antarctica/ Page 9**

**Go south, young  
man/ Page 10**

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some satellites, the process at McMurdo begins even before launch.

In those cases, they track rockets from the launch pad through the point where they release the satellite to fly on its own.

In most cases, though, the office gets a list of satellite contacts to make. Most links last between three and 15 minutes.

The connections involve incredible feats of behind-the-scenes electrical engineering. It takes a lot to track a satellite more than 400 miles high, moving so fast it circles the Earth every 90 minutes. On the ground at McMurdo, computers and engineers are moving a dish antenna 10 meters wide in a huge arc to follow the satellite. At the same time, they’re receiving data at rates up to 105 megabits per second—about 3,000 times as fast as the average home computer modem.

One of the tasks that keeps McMurdo Ground Station busy is an upcoming rescue mission for a satellite that has its solar panels pointing the wrong way. Its owners are hoping that the sunlight bouncing off the ice cap will power the satellite enough to move it into proper position.

The station will attempt to contact the satellite and then be a bridge between it and the satellite’s controllers back in the U.S. It’s not a regular task, but neither is it unheard-of.

“We tried that before ... it failed,” Seman said.

There are two other major projects on the calendar at the moment.


The first is a new 13-meter dish, which will be arriving on the resupply vessel this summer. It will help the U.S. government get 24-hour weather coverage worldwide. It is unclear at the moment

how that will affect the six-hour satellite blackout Mac Weather has each day, Seman said.

The second project is another Antarctic mapping project like the one which just finished, in collaboration with Canada’s RADARSAT satellite, gathering high-resolution images of the Antarctic continent even through cloud cover.

“We’re the only project down here year-round,” said technician Jaime Gallo.

A lot of what goes on in the office is monitoring and preparing equipment to do the work. This can involve repairing equipment, manufacturing new parts from old machinery in storage, or just making small changes to the process to weed out potential problems.

“We’re not beakers, we’re like tweekers,” Gallo said, laughing. 

# Weather this Week

## What’s that looming on the horizon?

By George Howard  
Special to the Sun

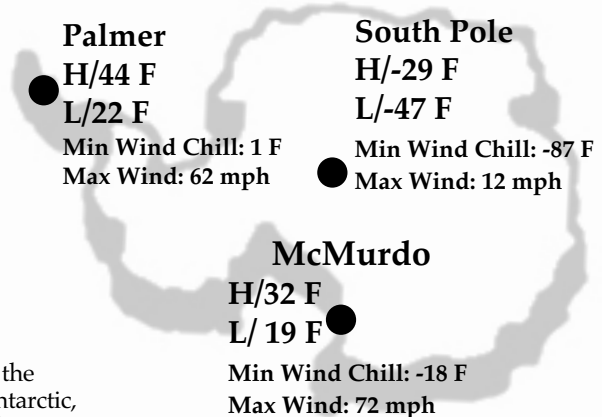
When someone mentions the word “mirage,” most of us conjure up images of thirsty desert travelers, crawling on hands and knees toward shimmering pools of water that aren’t really there. In our personal experiences, many of us have driven over highways of sizzling asphalt and seen “water” on the road ahead that never seems to get any closer.

Both phenomena are the result of a layer of hot air sandwiched between the surface and a cooler layer of air. The dramatic temperature difference

causes light passing through the layers to bend (refract) toward the warmer air. In both of these mirages, the “water” is actually an image of the sky near the horizon that now appears to lie on the surface. Since the image of the sky appears below where it normally would, this type of mirage is called inferior.


Mirages aren’t restricted to areas where the surface can really heat up. They can occur anywhere there are large vertical temperature differences. This holds true

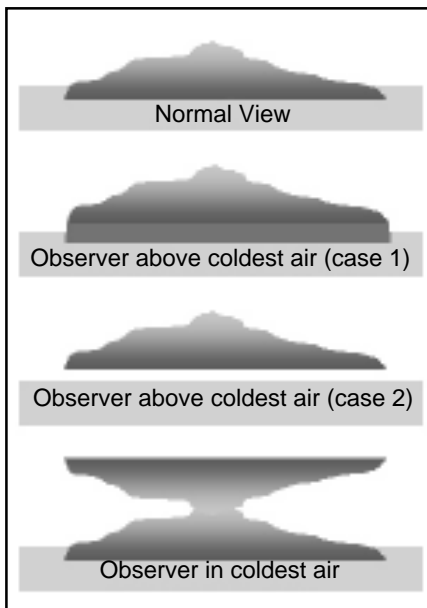
Weather records for this past week:



in the Antarctic, where we have mirages of our own. They typically occur when winds are nearly calm over a broad area and very cold air pools at the surface. Mirages in this situation are referred to as superior mirages because, with warmer air above the cold surface layer, we see objects above their actual position. This appearance of elevated images is commonly called looming.

The figures shown here depict a few of the different ways looming can manifest itself. The first represents a normal view of an island surrounded by sea ice. The second and third figures show what you’d see if you were above the coldest layer of air (most frequently the case in MacTown). The lowest portion of the island may be stretched vertically or you may see the entire image of the island elevated above the ice. The last figure depicts what you’d see if you found yourself in the coldest layer of air (more common at the Ice Runway). Not only can the image be elevated—it can also appear inverted!

While looming doesn’t occur with great regularity, it’s most frequently observed under widespread calm conditions while watching the area where sea ice and land meet on the far side of McMurdo Sound. 

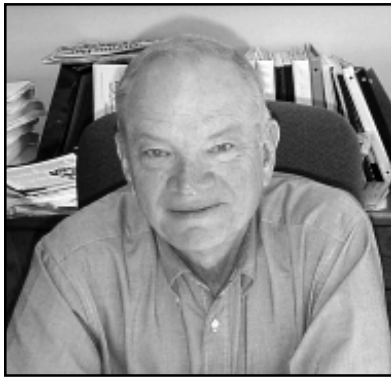


# Letters to the editors

## ASA head comments on contract, protest

This is my first statement since the announcement two weeks ago that ASA would not have the opportunity to continue as the USAP support contractor. I have never felt such disappointment over any lost opportunity in my adult life.

Over the past nine-plus-years ASA has had many successes. Significant among these were the waste cleanup of McMurdo and Palmer stations; bringing the Crary Lab and the two research vessels on line to support science, waste management and environmental stewardship; the Navy transition of support functions at McMurdo and Christchurch; an integrated single-point logistics system; and of course, the South Pole modernization.



Ron Koger, Antarctic Support Associates project director.

While growing in size and scope each year, we continuously improved our management capabilities. This past summer we achieved ISO-9001 Quality Management Certification and began implementing multiple project management methodologies. I am proud of the ASA team of full-time and contract employees and all we have achieved together.

ASA is responsible for continued support to USAP through 31 March, 2000. Our employees are our greatest resource and we need them to stay with us. A few days ago several of ASA's senior staff met for

the first time with several members of the Raytheon team to begin transition planning. While this first meeting was awkward for both ASA and Raytheon, I pledged that ASA would work with them in a professional manner.

From what I learned at this meeting it is my understanding that Raytheon intends to retain 100 percent of the winter-over ASA employees at their current compensation, and to consider every qualified, ASA full-time employee for continued employment.

ASA has protested the contract award to Raytheon to the United States General Accounting Office. I cannot comment on the reasons for the protest. Until the protest is resolved in some manner, ASA considers the competition for the new contract to be open.

ASA appreciates the contributions that ASA employees have made to ASA and the USAP. I know there are questions and concerns about the impacts of the protest and how long it will take to resolve. As information becomes available I will keep ASA employees informed.

—Ron Koger

## Following the money trail

Many McMurdo residents have asked what happens to the revenues generated by the Store and Recreation, and why prices seem to be higher than in previous years. Last season, a Station Services Committee was established at McMurdo to address issues regarding station services, quality of life and community morale. The committee is chaired by the NSF, and is made up of representatives from ASA housing, food services, recreation, retail sales, the chapel, CODF, ATS and PHI.

Regarding the increased prices at the Store: When the Navy ran Recreation and the Store, they were able to procure alcohol and merchandise through the military system, which obtains goods at a much lower cost than commercial prices. ASA has had to go out on the open market and solicit commercial bids.

NSF provides funds for the purchase of recreational equipment and store inventory. However, the additional revenue generated allows Recreation and the Store to enhance the NSF-supplied budget. Part-time personnel, such as bartenders, bowling alley pinsetters and ceramics lab attendants, are paid with recreation revenue. A small percentage of the revenue is also used to supplement recreational equipment for South Pole and Palmer stations.

This year the recreation budget for McMurdo was used to purchase a new karaoke machine, an air hockey table, skate skis and boots, two new sewing machines, books, and videos—most of which will be coming in on this year's vessel. Store shoppers will also note an increase in available souvenirs, toiletries and food items.

The Recreation Department and the Store are in the process of conducting a pricing analysis of alcohol and other merchandise. The goal is to have prices comparable to retail prices seen in the States for similar items.

If you have questions, comments or suggestions for the committee please contact your Station Services Committee representative.

—Kim Givens

NSF Station Services Representative

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**Contributions are welcome.** Contact the Sun at [sun\\_news@mcmurdo.gov](mailto:sun_news@mcmurdo.gov). In McMurdo, visit our office in Building 155 or dial 2407.

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

The Store  
is now open  
11am-5pm  
SUNDAYS  
Check out the new "Air Polarogrammes"

# Speaking of Science...

## Spying Space from the South Pole

By Dr. Stephen Mende  
Special to the Sun

The near-space environment of the Earth, called the magnetosphere, is a tangled web of magnetic and electric fields that drives charged particles. The source of the main magnetic field is Earth's internal magnetic core. But as we travel further away from the surface, fields that are produced by electric currents carried by charged particles become dominant.

At certain boundaries in the magnetosphere large currents are carried. Where the currents touch the atmosphere we see auroras.

Auroras, therefore, are a display produced by current-carrying particles as they collide with the atmosphere. The interaction of the particles with the gas produces the auroral light we can see. Thus, auroras are manifestations of magnetospheric processes and they can be studied to understand the workings of the magnetosphere. By recording the shape of the aurora we can observe the position of the magnetospheric boundaries.

The South Pole is located optimally to observe certain magnetospheric boundaries, and the 24-hour nighttime of the Antarctic winter season enables us to observe the aurora and record these boundaries continuously. Different types or speeds of particles create different colors of light in the aurora. Therefore, by recording the aurora in several color filters, we can also document the properties of the particles causing the aurora.

Our camera at the South Pole takes two images simultaneously through two filters, one a red-light filter for oxygen-produced light and the other a violet-light filter for nitrogen-produced light, representing slower and faster electrons, respectively.

In order to view the large-scale boundaries of the magnetosphere we have been putting out many cameras at remote locations using the Automatic Geophysical Observatories. These unmanned observatories are powered by propane, and will take images during the entire dark season between visits by ground personnel. When we get the data back we can combine the images from several stations and examine the boundaries of the

magnetosphere from a really large scale.

An alternative way of getting such images is by putting cameras on space satellites. The POLAR is currently viewing the northern polar regions with a similar objective of studying the magnetosphere. We have been performing joint studies with them trying to find out to what degree auroras are similar in the northern and southern hemispheres. Our studies show that the magnetospheric boundaries are symmetrical between north and south, and so are the auroras in the two polar regions.

It has been known for some time that the magnetosphere is greatly affected by the behavior of the sun. The sun emits the solar wind—a wind of charged particles that travels past the Earth.

Irregularities—puffs and eddies in the solar wind—affect the magnetosphere. Since the South Pole is under the region where the solar wind hits the magnetosphere, various hiccups in the aurora at Pole are often interpreted as changes in the solar wind.

Since the auroral currents also cause magnetic fields, we often study the auroras in combination with magnetic field measurements to understand the currents and reveal whether the magnetosphere acts as a direct response to solar wind effects or whether it acts spontaneously. One of the spontaneous activities of the magnetosphere is the so-

called magnetospheric substorm.

These "substorms" are mostly seen at night when the observer is closer to the tail region of the magnetosphere. During the substorm the aurora is seen to "explode" and rush towards the magnetic pole.

As new and different satellites become available we have new opportunities to use our simultaneous ground-based data for studying the magnetosphere. In this way we intend to continue keeping an eye on space from Antarctica. ●

*Dr. Stephen Mende works for the Space Sciences Laboratory at the University of California, Berkeley.*





*"Penguins"—from Page 1*

To the birds, diving is a simple, natural act. To scientists, it's a feat of stamina and endurance that has yet to be fully explained. How are emperor penguins able to swim deeper than 1,600 feet, hunt for food, and stay underwater for up to 12 minutes—all with a single breath of air? Paul Ponganis and his team of researchers have come to the frozen McMurdo Sound for answers.

"We're looking at their diving behavior and physiology to see how it fits into the overall ecology of emperors," said Ponganis.

The Penguin Ranch, about 15 miles northwest of McMurdo Station, consists of two holes in the ice surrounded by a 100-foot-long corral. Ponganis' team brought the emperors from the ice edge to the ranch. They're free to dive and swim whenever they want, but the distance from the ranch to the ice edge ensures they'll always surface inside the corral—and return the expensive gear on their backs.

Ponganis' high-tech tally is aimed at examining three aspects of penguin diving.

The first: Do emperors lower their body temperature during deep dives? If they do, it could help slow their metabolism and oxygen consumption.

Ponganis is a cardiac anesthesiologist in California when he's not researching penguins. He says lowering a person's body temperature is a tactic used during some surgical procedures to keep cells from dying.

"But I don't think (the penguins') temperature drops," he said. Some



*An emperor penguin surfaces after a swim in the icy waters of McMurdo Sound. The birds can dive deeper than a quarter-mile—a feat scientists are still working to fully understand. Photo by Josh Landis.*

earlier studies did show a variation in emperors, but Ponganis said this year's system for measuring core temperature is more precise.

The second and most scientifically intriguing aspect of the research focuses on a protein in the birds' muscles called myoglobin. Myoglobin is similar to hemoglobin, in that it delivers oxygen to cells. But myoglobin stays in the muscles all the time—essentially giving the penguins a reservoir of oxygen in addition to what's already circulating in their bloodstream.

"Most animals have myoglobin," said Ponganis. "But it's in higher concentration among deep-diving creatures like seals, whales and emperor penguins."

Timothy Welch, a post-graduate molecular biologist, is trying to figure out the mechanism that controls the myoglobin-producing gene in penguins. He's planning to use the latest tools in his search, including cloning.

"I think it's probably the first cloning of penguin RNA ever," said Welch. He's already begun genetic analysis at Cray Lab, and he plans to clone the myoglobin gene when he gets back to the states.

Finally, the team at the Penguin Ranch will attempt to mount the first-ever "penguin-cam" onto an emperor. The National Geographic Society is supplying the camera. It's a system similar in design to the "seal-cam" developed by Randy Davis at McMurdo's Weddell World, "but much simpler," said Ponganis.


Still, he said, it will be more difficult to attach.

"It's a lot harder than putting a camera on a seal," he said. "(Penguins) can reach anywhere on their body and start picking away anywhere they want."

Ponganis hopes video will help researchers learn more about how emperors feed, and reveal other secrets of their underwater world.

"Are they schooling fish, hunting at random or doing other things we haven't seen?" Ponganis asked.

It's only been about ten years since researchers discovered how deep emperors dive, and there are still a lot of questions to be answered. With the work being done at Penguin Ranch this season, more of the mystery of these deep divers will be revealed.

"Everything's going really well," Ponganis said. 



*Researchers at the Penguin Ranch prepare to cover diving holes during a recent bout of foul weather. Observations cease during low visibility conditions, when penguins are less likely to dive. Photo by Josh Landis.*

# In Brief

## Lead levels hit all-time low

Lead levels in McMurdo Station's water supply are lower than they've ever been, according to a recent round of water quality tests.

For the first time since routine water monitoring began in 1995 the station-wide lead content is below the EPA-specified level at which the water system managers have to address the problem.

"We've reached our goal as set by the EPA," said McMurdo environmental engineer Cassandra Graber.

Overall lead levels have dropped from a historical average of 36 parts-per-billion in 1996 to six ppb this year.

As recently as last year 15 buildings required health alerts. Now only two buildings have high enough lead levels to warrant notices. They are Building 159 and the second floor of Building 155. Health alerts will be posted early next week.

After flushing the taps for 90 seconds, lead levels in both places dropped to very low levels, Graber said.

The improvement in lead levels is due to three main factors, Graber said. One was changing the water chemistry to inhibit corrosion of pipes (some of which may include lead or lead solder). The second factor was the replacement of old plumbing around the station. The third was increasing the contact time of water with lime-

stone during the treatment process.

Graber was grateful to McMurdo residents for respecting the signs on sinks, which were taped off as part of the sampling process.

"Their patience is really appreciated," she said.

Future plans include ongoing water sampling for some time—at least a year—as well as continuing to fine-tune the water chemistry.

"We very aggressively treat the water to meet our health-based goals," Graber said. She's hoping to be able to maintain the low lead levels and improve general water quality by modifying the treatment process.

## Skier 95 dozer drivers thanked

The New York Air National Guard and Operation Deep Freeze recognized two ASA employees Friday for their assistance with the safe recovery of Skier 95 last season.

Skier 95 was the LC-130 which became stuck in a soft snow bridge over a crevasse on the West Antarctic Ice Sheet, necessitating an innovative and unusual retrieval.

Terry Schild and Scott Konu were given certificates of recognition for their outstanding contribution to the mission.

"They displayed the energy, enthusiasm, and dedication equal to the people who owned the airplane," said Col. Rich Saburro, commander of Operation Deep Freeze.

Chief Master Sgt. Charlie Lucia said that the two men played a key role in the

process by operating a snow-moving bulldozer on a continuous basis for almost three days (taking turns on 12-hour shifts). They moved an estimated 11,000 cubic yards of snow.

Schild and Konu filled in the crevasse with snow they removed from around the plane—lowering the surrounding area until it was even with the lowest ski.

When the plane was ready to be moved, the two towed it to safety.


Lucia and Saburro praised the efforts of everyone involved in the mission.

"It was definitely a group recovery effort," Lucia said.

## Operation Chillout Commences

After a two-week weather delay, two men have set off on a trans-Antarctic sledge-haul from Berkner Island in the Weddell Sea to Ross Island. Australian Peter Treseder and Briton Tim Jarvis began their journey on October 31. They're trying to cross the continent via the South Geographic Pole without any assistance along the way.

Treseder and Jarvis arranged their transport to the Ice with Adventure Network International, and plan to meet up with the tourist ship Kapitan Khlebnikov on January 21. If they miss the ship, ANI will fly them out.

Their progress has been slower than expected, in part because Treseder hurt his leg. One news report said the two lightened their load by reducing their food supply to 90 days. 

## Faces on

### What do you miss most about home?



"My wife and two girls."  
**Bruce Sherman**,  
broadcast engineer



"My mom ... decent TV and livestock."  
**Eric Sturm**, TV  
production assistant



"Not the food, that's for sure."  
**Joe Yarkin**, solar energy  
specialist



"Speight's beer."  
**Paul Sutherland**, Kiwi  
cargo handler

# Mac Weather: Antarctica's eyes on the sky

By Aaron Spitzer  
The Antarctic Sun

Displayed prominently on the front desk of the McMurdo Station weather office is a six-inch steel bolt, with a nut threaded on the end. Whoever occupies the desk is the "boltholder," responsible for issuing the day's official forecast.

According to Art Cayette, McMurdo's head forecaster, holding the bolt can be an unenviable task.

The bolt is the legacy of a weatherman who years ago found that spinning the nut eased his nervousness. And in Antarctica, where the precision of a forecast can be the difference between life and death, anxiety is inherent to meteorology.

By all accounts, Mac Weather has an impressive accuracy rate, topping 90 percent over the last several years. "The group has done fantastically, percentage-wise," Cayette said. But as he's quick to point out, any error poses a danger on the Ice.

As an arm of Aviation Technical Services—which also provides air-traffic control for the U.S. Antarctic Program—Mac Weather's main task is to issue forecasts for aviation.

Each morning, the forecasting staff gathers in their upstairs offices in Building 165 to develop the day's predictions. According to Cayette, in any group of meteorologists there are always differences of opinion. Individual forecasters assess the same data slightly differently, and argue for the logic of their own interpretations. "We have very lively discussions back and forth," he said.

Trying to predict the weather on the world's harshest and most isolated continent presents unique challenges for the Mac Weather staff.

In most cases, meteorological records in Antarctica stretch back only a few decades. Data is scarce, with only a handful of weather stations scattered over a region larger than the United States. "There's very little information for a vast area," Cayette said.

The weather around McMurdo Station is particularly complicated. Ross Island sits at the confluence of three different weather-makers—the high, dry plateau of Wilkes Land to the east, the humid air over the Ross Sea to the north, and the low-lying, cold Ross Ice Shelf embracing the island from the south.

At different times, weather from any of the three areas can dominate McMurdo's skies. Moreover, the shifts between systems may take place in minutes. Thus, weather around Ross Island often turns on a dime.

In an effort to avoid surprises as much as possible, meteorologists in McMurdo rely on a variety of sources to collect information about current and approaching weather conditions.

See "Weather"—Page 8



## Taking a long, cold look

A telescope at Crary Lab points across the ice runway at Mt. Discovery, nearly 45 miles across the McMurdo Ice Shelf. Photo by Josh Landis.

## COLD HARD QUOTES

Compiled by Aaron Spitzer

*Robert Scott was the leader of the second expedition to reach the South Pole. He died with his party on the way back to Ross Island, but not before recording the struggles and hardships he and his men endured.*

*The following are excerpts from his last journal entries in 1912.*

January 17— "The Pole. Yes, but under very different circumstances from those expected. ... Great God! this is an awful place and terrible enough for us to have laboured to it without the reward of priority."

January 21— "Awoke to a stiff blizzard."

January 22— "I think about the most tiring march we have had."

February 6— "We've had a horrid day and not covered good mileage."

February 7— "A wretched day."

February 8— "Had a beastly morning."

February 11— "The worst day we have had during the trip."

February 12— "In a very critical situation."

February 14— "We are not pulling strong."

February 16— "A rather trying position."

February 17— "A very terrible day."

March 2— "Misfortunes rarely come singly."

March 4— "Things looking very black indeed."

March 5— "Regret to say going from bad to worse."

March 7— "A little worse, I fear."

March 8— "Worse and worse in the morning."

March 10— "Things steadily downhill."

March 11— "Titus Oates is very near the end, one feels."

March 14— "Everything going wrong for us."

March 16— "Tragedy all along the line."

March 18— "Ill fortune presses."

March 21— "Today forlorn hope."

March 22 & 23— "Blizzard bad as ever."

March 29— "It seems a pity, but I do not think I can write more."

## Our Antarctic Week

### Monday

Michael Baclawski's Trans-Mongolian Adventure—8:30 p.m., Galley

### Tuesday

Ping-pong tournament—7 p.m., Coffee House  
Shuffleboard tournament—7:30 p.m.  
contact David Kroth

### Wednesday

"Dark Side of the Rainbow," The Wizard of Oz meets Pink Floyd—8:30 p.m., Southern Exposure

### Thursday

Christmas choir begins—7 p.m., Chapel  
Latin Night: salsa and meringue lessons—8 p.m., Gallagher's

### Friday

Department Family Feud—8:30 p.m., Gallagher's

### Saturday

Contra dance—8 p.m., 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.

## "Weather"—from Page 7

Perhaps most critical are the images broadcast from four polar-orbiting satellites, which swing over Antarctica each day and provide visual and infrared pictures of the continent from space.

The pictures—displaying swirling clouds over vast swaths of the continent—are received and overlaid by a computer system called TeraScan, which Mac Weather meteorologists can use to produce moving images of weather systems and zoom in on specific areas of the Ice.

The images have a glaring weakness, though. Because the satellites mainly provide coverage of the continental United States, pictures of Antarctica are unavailable for a large part of each day. "Some of our daylight hours are literally in the dark," Cayette said.

In addition to satellites, meteorologists turn to measurements taken from weather balloons. Twice a day, balloons are released from McMurdo, buoying packages of sensors up through the atmosphere. The balloons transmit data on temperature, humidity, air pressure, wind direction and wind speed, and often rise up to 80,000 feet in altitude.


Data from Mac Weather's balloons—and from hundreds of other balloons worldwide—are input into massive global programming models, which can be used to forecast the motion of weather systems.

But as Cayette points out, most programming models are designed for the more-populated mid-latitudes, and tend to be less accurate near the poles.

Also important to Mac Weather's forecasters is data from nearly 50 automatic weather stations scattered around the continent, taking measurements of surface wind, pressure, temperature and humidity.

Staffs of various research camps also call in live observations by radio.

According to Cayette, with improvements in technology and the increase of background data, weather forecasting on the Ice gets more accurate with each passing year. But the skies over Antarctica offer constant surprises.

"Every year we see something new," he said. 

## Ross Island Chronicles

by Richard Perales **HURRAY! WE MADE IT!**  
We're on the most beautiful, unspoiled place in the world!



**HEY LOOK! Here come some penguins. They're probably excited to see us.**



**I wonder what the penguins really think of human presence in Antarctica?**





# Perspectives

## La dolce vita in MacTown

By Marco Taviani  
Special to the Sun

When I was asked whether I wanted to contribute an article to the Antarctic Sun, I said yes at once, for two reasons. First, having enjoyed the hospitality of MacTown five times now since my first visit in 1994, I thought I finally had the opportunity to express my gratitude to the many people I met over the years who always made my stay here a great one. The second reason I forgot.

Anyhow, after a few seasons of Happy Camping and PUSHing, Gallagher's dancing and volleyball, I now boast a number of you guys in the list of my pals. Landing on the ice of McMurdo International Airport is a kind of homecoming for me. So, thank you for that.

On a more general note, you may have spotted a few Italians like myself around these days. Yes, we are in town and our numbers will probably stabilize around a dozen during the peak season. Sooner or later you will learn the secret: We are all Italian beakers! This may come as a shock for those among you who saw us hanging around the galley and adjacent facilities, including Gallagher's, the Coffee House and, to a lesser extent, Southern Exposure.

We have been deported here in the other hemisphere (the right one) from our hometowns to contribute specifically to one big (beakery speaking) project: Cape Roberts. We are all geologists. Sonia, Franco, Mauro and Massimo are crazy about stones. Michele, Fulvia and Massimo #2 are delighted by "sediments" (aged dirt); Fabio and Alfredo are paleomagicians (please ask them what it means) and, from my side, I am a paleontologist.

A paleontologist is a person who studies the animals and plants which failed in life and eventually became extinct, like the dinosaurs. But I also pretend to be, after dark, a freelance journalist. I am, on occasion, writing about Antarctic adventures for an Italian newspaper. So, dear fellow MacTownners, be aware that

you make the news 15,000 kilometers from here.

If you are by now impressed by the number of southern Europeans camped in town this season, you should have seen the last austral summer. Between Cape Roberts people, travelers to

Terra Nova Bay, Willy Field astrophysics beakers and stranded air force servicemen, one day we numbered 35 Italians! According to my calculations, this made Italians to be the largest minority that October day in McMurdo, significantly outnumbering Kiwis, seals, and skuas.

Since I am Italian, you may be tempted to ask the thousand dollar question. What about food? I know that.

Well... Not bad, not bad at all. But, I have one concern about this issue dating back to Halloween last year. I have trouble sleeping since. The evening

menu had, among other delicacies, one Italian dish: the sign on the "sneeze shield" quietly explained the content: Italian veggy. I glanced into the pot and saw plain steamed carrots. I swear that this is not a typical Italian dish, as claimed. Actually I have seen the same in France, Spain, England, the U.S., and even Texas. Being an honest journalist, last year I had to report this incident to my Italian newspaper. People in my country are still discussing this unexpected revelation.

We all try to do our best to mix with the local resident population, which is very kind to accept aliens like us. But I want to bring to your attention the existence of a tiny language barrier. You see, we all studied English at school in Italy, and—please don't take it personally—but you have a very strange accent, indeed. Ciao. ●

*Marco Taviani is a paleontologist working with the Cape Roberts project.*



*A group of Italian explorers caught in the wild. From left, Sonia Sandroni, Alfredo Sorice, Marco Taviani and Massimo Sarti. Photo courtesy of Marco Taviani.*



# PROFILE

## PRESENT AT THE CREATION

### Geologist Peter Webb got in on the ground floor of Antarctic research

By Jeff Inglis  
The Antarctic Sun

When Peter Webb left Antarctica in 1959, he thought he'd never be back. Not only was he wrong, but he's now in the middle of his 20th season on the Ice.

A geology student at Victoria University in Wellington, New Zealand, Webb cajoled his way down to the Ice in 1957 on a U.S. ship as a cargo handler.

With a friend, Barrie McKelvey, accompanying him, Webb was quickly snapped up by New Zealand and U.S. field parties for the International Geophysical Year (IGY). Both countries' expeditions were long on geophysicists but short on geologists. Webb spent the rest of that summer season in the field.

The following summer he returned to continue research associated with the IGY, and became one of the first people ever to explore the Dry Valleys.

Webb himself corresponded with and ended up meeting some of the geologists from Scott's and Shackleton's expeditions, who were still alive in the late 1950s.

"We headed inland to all the places they could never go," he remembered.

Webb said he feels like he falls between eras. His first year in Antarctica was only 40 years after the age of the early explorers. His four decades since have centered on the scientific exploration of the continent.

"I often feel caught between those early expeditions and the present day," he said.

The first part of that gap he bridged in U.S. helicopters over the Dry Valleys. The best maps they had were from early expeditions, which were closely tied to the coast and their supply ships.

"It was a very strange sensation to be holding a 1910-11 map on your knees in a helicopter in 1957," Webb said. The maps weren't all that complete. To find their way back to McMurdo, the pilots climbed in circles until they saw Erebus and headed that way. They had no other way of knowing where they were.

The Dry Valleys were so remote then that the only time Webb saw a helicopter was when it dropped him off and when it picked him up.

Between those times, Webb and three others spent their time walking. They set up two base camps, at Lake Vida and Lake Vanda, and "radiated out from there," Webb said.

They would carry supplies to outlying camps and then take day trips from those sites. They would climb high points and take photographic panoramas, which could later be patched together into maps.

"We were doing reconnaissance, mapping, and geology," Webb said.



Peter Webb, left, and his friend Barrie McKelvey on Ross Island in 1958. Photo courtesy of Peter Webb.

Once a week they would make radio contact via Morse code, relaying only the most basic information.

"We could have been dead six days and no one would have known," Webb said.

They ate surplus Korean War military rations and pemmican, and had a hard time heating water. "It was all very primitive," Webb said.

They collected rock samples, too, and all of those had to be carried by hand. The researchers would spend time collecting rocks from various places and then take a few days to hike them all back to the nearest base camp—making several trips per day if necessary.

"One season we calculated we walked 1500 miles," Webb remembered.

His feet aren't worn out yet, and over 40 years later, he's still coming to Antarctica. Now he's the science leader for the Cape Roberts Project.

He comes for the learning, he said. "This is very good training for students."

One of Webb's former students now has a graduate student of his own; all three are members of the Cape Roberts team.

With such diverse minds focused on specific questions, Webb said, "it's been a great problem-solving environment."

The exposure to new possibilities has just appeared again, with the discovery of fossilized wood in the Cape Roberts core.

"This is a serendipitous environment," Webb said. When planning research here, he allots 20 percent of the time for things he doesn't yet know about.

He's also impressed by the people who are here now. "Back in 1957 the people who were here didn't have a lot of interest in the place," he said.

There was a time when Antarctica was something most people didn't know anything about.

Disinterest in the early days was such that students in his classes who had spent time in the Navy would see his slide shows, recognize places they'd been, but not even know they'd seen Antarctica.

"People would come up after class and say, 'I think I've been to Antarctica,'" Webb said.

Now, though, the people here know a lot about Antarctica. "The level of education amongst the total current population is pretty good," he said.

He is interested in seeing what happens to McMurdo as a community over the long term. "It's unusual to take a group of people who don't know each other and put them in this remote environment," he said.

As for his own future, he's not sure of specifics, but he's confident. "Something always shows up." ●