

# Antarctica Sun Times - *ONLINE*

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## Navy Transition Well Underway

by JOC(AW) Jacqueline Kiel

The transition of United States Antarctic Program (USAP) support roles and responsibilities from the Navy to the New York Air National Guard (NYANG) and civilian contractors is underway.

In March 1998, the U.S. Air Force will replace the Navy as the executive agent for the Department of Defense's (DoD) logistical support role to USAP. Both U.S. Naval Support Force, Antarctica (NSFA) and the Naval Antarctic Support Unit in Christchurch, New Zealand will decommission at that time.

The Navy will complete its transition by April 1999, when Antarctic Development Squadron SIX (VXE-6) departs the continent for the final time and decommissions. In the meantime, the Navy will continue to transition its Antarctic operations.

Next season, NSFA will consist of approximately 25 Sailors who will provide the final phase of NSFA's withdrawal.

VXE-6 will continue turning flying operations over to the NYANG during the next two years. The Guard will increase their presence next season, completing almost half of the flying missions. For their final season, VXE-6 will only augment the Guard, much the same as the Guard is augmenting VXE-6 this season. VXE-6 will then decommission April 1, 1999.

The transition is not expected to have any negative impact on the program and will cover a three-year period, allowing an overlap in operations. This will ensure safety of operations and a complete transfer of knowledge of Antarctic operations, according to Capt. Hugh Smith, Commander, U.S. Naval Support Force, Antarctica.

"Going from military to a civilian organization, we want to ensure that we're doing it in a way that is safe, that maintains proficiency, that training is there and that the professional manner the Navy conducted business continues," Smith said.

The civilian contractor for the National Science Foundation (NSF), Antarctic Support Associates (ASA), will assume responsibility for several functions now performed by NSFA.

According to Stan Wisneski, the McMurdo Area Manager, ASA took over disbursing; Morale, Welfare and

Recreation; and the store on Feb. 1.

Other functions that will be assumed by ASA are medical, MacRelay communication operations and the chapel. ASA will take over these functions as of Oct. 1, 1997.

Radio and television services will continue to be provided by the Armed Forces Radio and Television Service via Navy Broadcasting Detachment McMurdo. However, the detachment will be operated by an ASA employee, according to JOCS Brady Bautch, Officer In Charge, Navy Broadcasting Detachment McMurdo.

Air traffic control, weather and ground electronics maintenance will be taken over by Naval Command, Control and Ocean Surveillance Center In-Service Engineering, East Coast Division (NISE East). Twelve people from NISE East are at McMurdo Station covering the transition and becoming qualified on equipment and in techniques in all areas, according to Craig Chambers, NISE East site manager.

NISE East will actually assume responsibilities on Oct. 1. Approximately 50 people will deploy next season, which includes a small detachment that will work in the weather office in Christchurch.

Though the Navy is pulling out, several military operations will remain in place. "It's not so much that the military's not going to be here, but the Navy's presence, except for NISE East, will be gone," Smith said.

"Air Mobility Command C-141 and C-5 support will continue. The Coast Guard will continue to provide icebreaking services and the Military Sealift Command will continue to provide the tanker services," he added.

The Navy's departure is a result of DOD's decision to consolidate cold-weather operations in both the Arctic and Antarctic under the same command. As the NYANG already operates in the Arctic they were both the logical and economical choice.

Additionally, the transfer is expected to provide a cost- savings to NSF.

"Typically we provide a service with constant turnover," Smith explained. "When civilian personnel come in, they don't have the kind of turnover the Navy has, and they are not constantly training people, so they can afford to do the same with less people. The idea is to increase efficiency."

ASA Area Manager Stan Wisneski echoed this sentiment. "The idea is to hire people who are experienced and to keep them for as long as possible to keep continuity," he said.

Even though the New York Air National Guard will still have the rotating system, they will only be financed by NSF while they are directly supporting the program, according to Simon Stephenson, NSF Representative, Antarctica.

Reflecting on the turn-over, Stephenson said, "It means dealing with a different set of players in executing the program, and with that comes different capabilities. It will afford us the opportunity to look at the structure of the program and perhaps have a fresh start in certain areas."

NSF intends to carefully and methodically look at different areas currently performed by the Navy to make sure those areas are covered, according to Stephenson.

This transfer will mark the end of U.S. Navy support on the continent that began in 1928 when Admiral Richard E. Byrd first established a base at the Bay of Whales and made the first flight over the South Pole.

"I think there's a lot of emotional ties with years of the Navy's participation in the U.S. Antarctic Program," Smith said. "There's a proud history and tradition. It becomes a very emotional issue, especially because of a number of Navy people who lost their lives here.

"We will leave with our heads high knowing that we've done a good job," Smith added.

## Dear Antarctic Program Members:

Publicly-funded activities have the never-ending job of telling taxpayers what they do. The United States Antarctic Program, because of its geographic remoteness, has a particular challenge in explaining its role. As you know well, the National Science Foundation brings special visitors to the Antarctic each year to see for themselves--and to report back to their constituencies--the program's achievement of the tasks it has been asked to do on behalf of the Nation.

This austral summer season we have had more of these visits than usual, and they have been particularly important. For example, the leader of Australia's Senate participated in dedication of the joint U.S.-Australian Automated Astrophysical Site Testing Observatory at South Pole Station. From our own country we have had visits from senior representatives from the Congress with oversight responsibility for NSF's Antarctic program and from top officials of agencies with Antarctic roles.

Of particular importance this season has been a visit by 10 members of the United States Antarctic Program External Panel. This panel, which I established in response to a recommendation by the President's National Science & Technology Council, is examining a full-range of infrastructure, management, and scientific options for continuing America's Antarctic presence in a way that is appropriate to both the program's scientific and geopolitical importance and the restraints imposed by Federal budget limits.

I want to extend my personal thanks to the community for its excellent support to this group and for the contributions that many of you have made in offering your ideas for improvements.

I expect to receive the panel's report and recommendations in the first half of 1997. The report will be posted on the Foundation's World Wide Web page. If you will not have ready access to a computer then, you may request a paper copy of the report by calling Mr. David Friscic on 703-306-1033 or e-mail your postal address to [dfriscic@nsf.gov](mailto:dfriscic@nsf.gov). Please use this subject heading on your e-mail: "Antarctic panel final report."

Sincerely, *Neal Lane*, Director, National Science Foundation

## AROUND USAP

*by JOC(AW) Jacqueline Kiel*

**McMurdo Station** - Station personnel are preparing for arrival of the M/V Greenwave tomorrow. Navy cargo handling personnel are on board to assist with ship's off-load, and materials to be retrograded have already been pre-staged.

In air operations, Antarctic Development Squadron SIX (VXE-6) and the New York Air National Guard delivered 66,000 gallons of fuel to South Pole. VXE-6 delivered the Russian Winter-over team to Vostok, as well as bulk fuel, cargo and food. The squadron also completed Siple Dome operations early Tuesday morning.

**South Pole** - The station hosted a visit by Sir Edmund Hillary last week. He traveled with a documentary film crew, recounting his experiences at the Pole 40 years ago.

The transfer of experiments from the Clean Air Facility to the Atmospheric Research Observatory is running smoothly and on schedule. Some of the experiments included some light radar gear and equipment for UV monitoring.

The station also hosted three non-government agency visits during the week, including a tourist flight, a French female skier and six Korean skiers.

**R/V Nathaniel B. Palmer** - The ship is continuing operations in the Ross Sea in an area that is affected by seasonal ice.

By studying water samples taken from this area researchers expected to see a decline in algae blooms during this cruise, but this has not been seen uniformly. They may see a decline in algae bloom when backtrck across the same course.

**R/V Polar Duke** - The ship spent the week in Arthur Harbor and Palmer Basin gathering data for Adelie penguin population studies in the Palmer Station area.

The ship arrived at Palmer Station on Jan. 22 to prepare for "Live From Antarctica" (LFA), a live broadcast that connects students in the U.S with researchers in Antarctica via television and the internet.

The LFA crew has spent time at various stations including McMurdo Station, the South Pole, and on board R/V Polar Duke filming operations to support the broadcast.

After the broadcast, the ship departed, and researchers continued gathering data and samples in support of the Long-Term Ecological Research project. Researchers are looking at how the annual advance and retreat of ice determine changes in the Antarctic marine ecosystem.

## **Bipolar And Proud Of It**

*by JOC(AW) Jacqueline Kiel*

To be bipolar means, amongst other things, to be associated with both polar regions - a feat very few people have achieved.

Bipolar is a term that can now describe Coast Guard LCDR Stephen Wheeler, who achieved this distinction since his South Pole visit on Wednesday, Jan. 16.

Wheeler, a 21-year veteran of the Coast Guard is the Ship Operations Officer for Naval Support Force, Antarctica. In this capacity, he deploys to Antarctica and will remain until ice breaking operations are completed.

Starting his career as an enlistee, Wheeler entered the Coast Guard when he was 21. After eight years, in which time he worked his way up to petty officer first class, he went to Officer Candidate School and received his commission in January 1983.

Wheeler was stationed onboard the USCGC Polar Star from 1990 to 1993. He was to go to the North Pole, but never made the trip due to the ship's mechanical failure. He was then assigned to the Ice Operations Division at Coast Guard Headquarters.

Wheeler's opportunity came with the Arctic Ocean Section, an international science mission in 1994. The mission included the USCGC Polar Sea, Canadian Coast Guard Ship Louis S. St-Laurent and 65 biologists, geologists and oceanographers.

Since those in command had little experience dealing with conditions in the Arctic, Wheeler joined the crew as an "ice pilot" to train personnel and assist the commanding officer.

"I was essentially a glorified deck watch officer," Wheeler said. "I spent a lot of time training junior personnel to drive the ship and I assisted the captain in making routing decisions."

The North Pole was not the specific goal of the ships, it just happened to be one of the science stops. They arrived at the North Pole on Aug. 22, 1994, making history along the way.

"We sailed from the Pacific side," Wheeler said. "We were supposed to return via the Pacific, but we lost a propeller blade up near the pole. We returned to the Atlantic side, because there's a lot less ice there.

"We made the first Pacific to Atlantic crossing of the Arctic Ocean via the North Pole, and the Polar Sea was the

first North American surface ship ever to make it to the North Pole," he added. "Submarines have been getting there since 1957."

Wheeler said ice conditions in the north are quite different from those in Antarctica. Because of the configuration of the land, ice is not washed away, but nutrients are leached out of it.

"As the sea ice gets older, it gets fresher (less salt)," Wheeler said. "Fresh water ice is actually much harder than salt water ice. Plus the fact that it's up there so long, it tends to get thick."

Here, the continent gets washed by the southern ocean "This tends to essentially change the ice out every year," Wheeler said. "You get very little multi-year ice down here.

According to Wheeler, the ice in the Arctic gets older and harder, and has no where to go.

"I've seen ridges that were 125 feet thick," he said of the Arctic.

Of his trip to the South Pole, Wheeler is quite happy. "It's nice," he said. "It's a good feeling and it's a real reward.

"Having been to those places, the historical significance, it's a real quite big deal," he reflected. "I was really happy to be able to do it."

## **SCIENCE PROJECT UPDATE**

*by JOC(AW) Jacqueline Kiel*

### **High-Latitude Neutral Mesospheric And Thermospheric Dynamics (S-110)**

This research investigates the dynamic behavior of the upper atmosphere, at heights greater than 70 kilometers. Ground-based optical measurements are taken of the motions and temperatures of the atmosphere.

Because of the larger separation between the rotational pole and the geomagnetic pole in the south than those in the north, there are different atmospheric responses in the two hemispheres to solar ultraviolet radiation, magnetospheric convection and solar-wind particles.

This season, Dr. Gonzalo Hernandez and his field team will perform routine maintenance on their equipment. They will also provide training for the technician who will continue to operate the equipment in the absence of the field team. Data will be sent back to the United States.

### **Study Of Polar Stratospheric Clouds By LIDAR And Balloon-Borne Backscatter Sondes (S-107)**

Italian scientists are conducting this project in cooperation with the U.S. Antarctic Program and in collaboration with the University of Wyoming (Project S-131).

Researchers will make laboratory-based light radar (LIDAR) observations and in situ measurement of polar stratospheric clouds.

The LIDAR equipment, located in Crary Lab, has been in operation for the last couple of years. The LIDAR sends a coherent beam of light into the clouds where it is scattered by cloud particles. Some of the light is reflected back to earth and measured. This provides information on the number of particles and their distribution in the clouds.

This data will add to information on the role of these clouds in the depletion of ozone.

## **Pondering Penguin Population**

by JOC(AW) Jacqueline Kiel

It's not easy to weigh a penguin, and when you're talking about 5,000 pairs at the smallest colony, that's a lot of work.

New technology, however, has made research involving weighing penguins quite easy, according to Dr. David Ainley, principle investigator for S-031.

This project, which started at the beginning of December and will continue through January, will focus on factors regulating Adelie penguin population size and colony distribution in the Ross Sea area.

"We're specifically looking at the factors that effect the geographic distribution of their colonies, Ainley said, "and we're trying to determine why their colony size has been increasing over the past 15 years and why the smaller colonies have been increasing much more rapidly than the large colonies.

One hypothesis as to why this is occurring deals with the amount of pack ice.

"We think it has to do with a lessening in the amount of the pack-ice cover in the Ross Sea, which in a sense makes it easier for Adelie penguins to forage and bring food back to their chicks," Ainley said. "Their chicks grow much faster and reach heavier weights, and by being heavier they have a better chance of survival once the parents cut them loose."

Conditions on the continent are perfect for this research. "We have a natural experiment here where, apparently, the pack ice is becoming less and less because of the rising air temperature and it's causing this dramatic change in populations," Ainley said. "We can assess the relative difference in processes in a little colony verses a big colony."

Three colonies of varying sizes are being studied. The colony at Cape Royds is the smallest, with 5,000 pairs of Adelies. Cape Bird has 80,000 pairs, while there are 280,000 at Cape Crozier. Additionally, the hope is that ice conditions over the five-year period will vary from light to heavy.

"We're just trying to understand the dynamics and the process by which these large colonies relate to the little colonies," Ainley said.

New technology is being used for the project. Field-team members Mike Beigel, an electrical engineer, and Nat Polish, a software engineer put together an automatic system which is designed to weigh penguins, without disturbance.

Each penguin gets a little radio frequency ID tag. When a penguin walks through a magnetic field set up by the research team, it is identified and weighed, and the information is stored in a computer. This way, when the bird arrives from sea full of food, it weights itself, feeds its chick and then goes back to sea, again weighing itself. The computer will subtract the weights.

"Then we know how much food is being delivered to the chick," Ainley said. "If you had to do this by hand, it would be an insurmountable task, and it would be a problem to the penguins. So this is going to allow us to quantify the foraging effort of these birds.

Additionally, team member Christine Ribic, who specializes in radio tracking will determine where birds from different colonies are feeding. This information is important to understanding why some colonies may be growing faster than others.

Ainley has a sense of satisfaction in his work because of the continual challenge.

"You can interview people to find out what's going on," he said, but, in nature you have to design some clever way of trying to get nature to tell you what's really going on."

Ainley is affiliated with HT Harvey and Associates which is an ecological consulting firm in Mountain View, Calif. This is his 17th trip to Antarctica. He began studying Adelies at Cape Crozier in 1968 as a graduate student from Johns Hopkins University.

## USAP PERSON OF THE WEEK

*by Samantha Tisdal*

Joel Christiansen is the sort of guy who has no affinity for mundane occupations. Having spent a good chunk of his post-college career working at National Parks in Montana and Alaska, he figured employment in Antarctica would be another great adventure.

And he was right. As a food warehouse worker, this 32-year-old Minnesota native might not have the most glamorous or exciting job around, but he's certainly made the best of what he's got.

"Sure, there are times when I think, 'I came all the way down here to Antarctica just to drive a forklift in a warehouse,'" Christiansen admitted, "but the food storage freezer is actually an amazing place."

A quick tour of the warehouse reveals a maze of frozen foods, stacked four to five crates deep. "At the beginning of the season, we had to use a map to learn where stuff was kept," Christiansen recalled. "But now, we pretty much know it all by heart. We need to access food quickly when the galley gives us their orders for the day."

Being a warehouse worker requires a lot of climbing, digging, precarious balancing, and other impressive forms of gymnastics. "My climbing skills have improved considerably since I've been down here," Christiansen laughed.

To prove his point, he easily scales a wall of crates and lowers down a box containing one of the freezer's senior residents -- a suckling pig. Then up he goes again, re-shelving the pig for a more dire day.

Those who have not had the privilege of witnessing the warehouse-wonder's climbing skills may have enjoyed his equally impressive mouth-harp skills at the Ice Stock music festival earlier this month.

Christiansen's post-Ice plans include travels in New Zealand and Australia, followed by the big unknown. "I don't think I'll come back here again," he said. "You never know for sure, but I feel like it's been a one-shot deal."

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