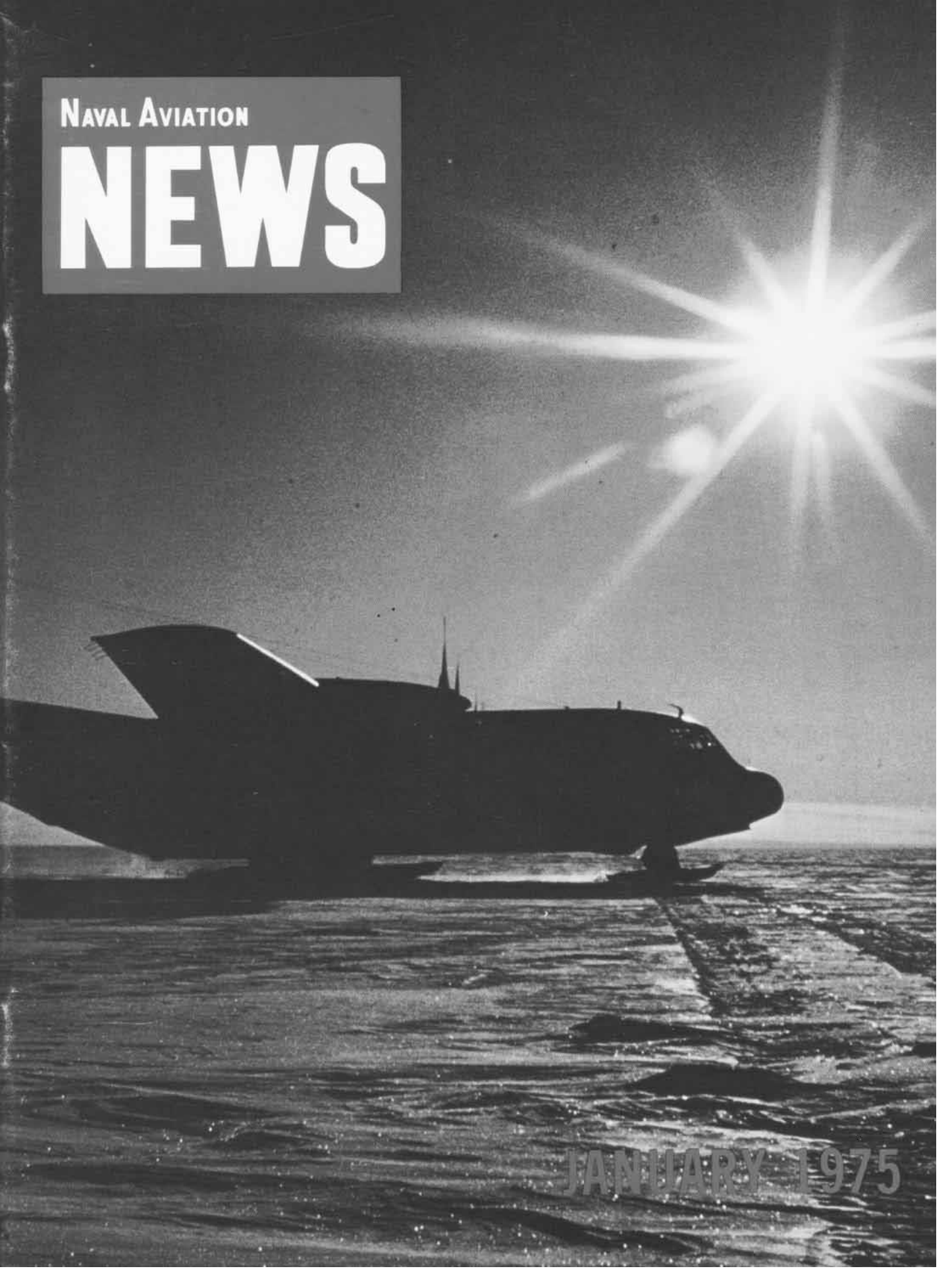
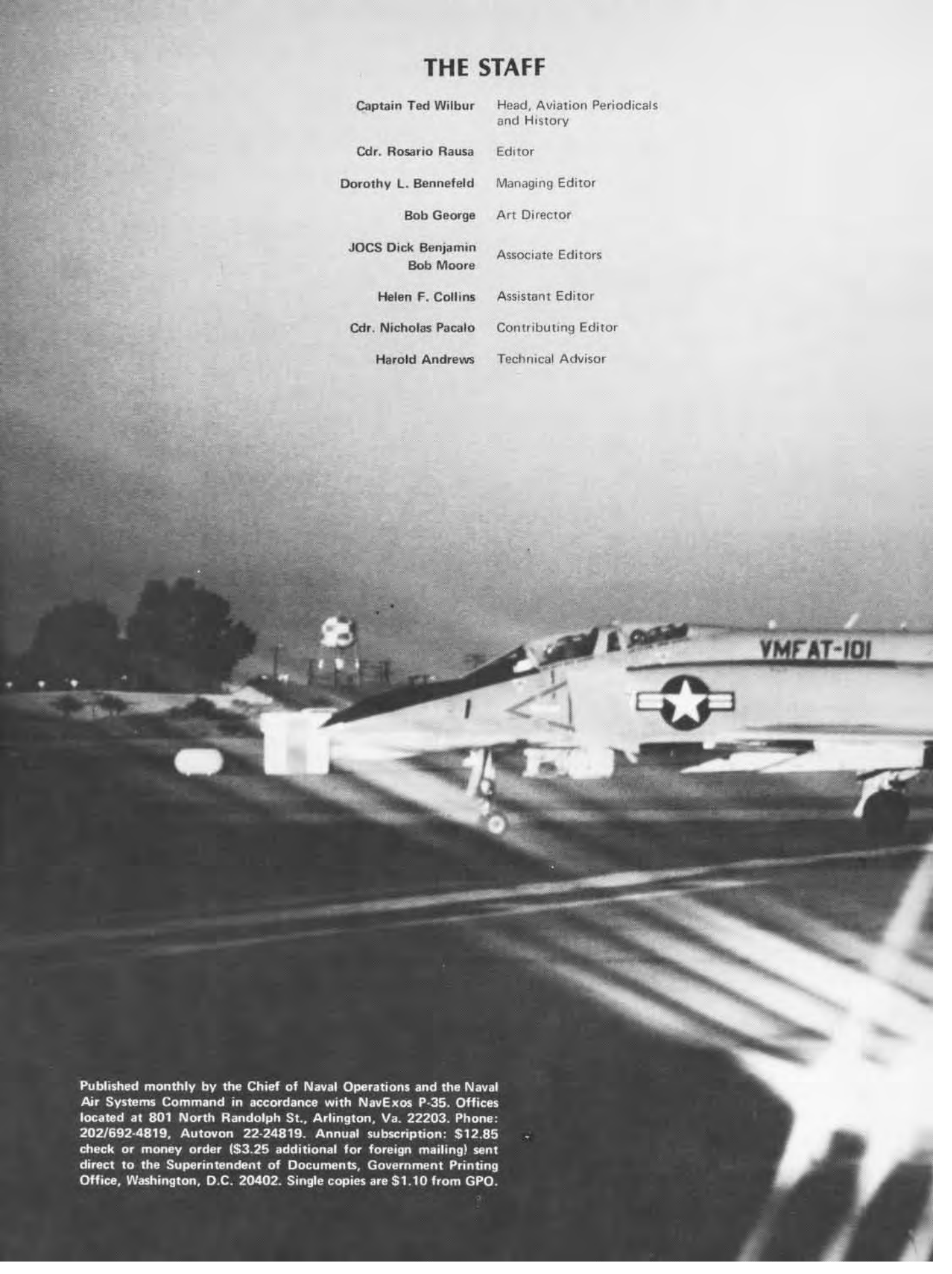
NAVAL AVIATION NEWS



JANUARY 1975

THE STAFF



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NAVAL AVIATION NEWS

FIFTY-SEVENTH YEAR OF PUBLICATION

Covers — *PHC B. L. Mason took front cover photo of the LC-130 at Byrd Station. Back cover photo of Amundsen-Scott South Pole Station was shot by Cdr. Sid Wegert. Center spread, clockwise from upper left: member of pararescue team drifts to ground near Williams Field, PH1 R. L. Ziesler; snow and ice collect on a Navy man, PH1 B. Moore; penguins climb ice front near Argentine Station, PH2(DV) W. R. Curtsinger; an LC-130 uses JATO during takeoff, PH3 D. Lavoie; UH-1D lifts off after refueling, PHC W. C. Hamilton; Hercules on runway at Williams Field, PH2 R. L. Turner. Marine Phantom II on these pages was taken by Harry Gann.*

Letters

Anniversary Cachet

The National Air and Space Museum has produced a commemorative cachet cover in its Milestones of Flight series. It hails the 45th anniversary of the first flight over the South Pole by Rear Admiral Richard E. Byrd in his Ford Tri-Motor, *Floyd Bennett*, on November 29, 1929. RAdm. Byrd, of course, was a strong advocate of the airplane's role in antarctic research.

These envelope-type covers, cancelled on the anniversary date, were flown to Antarctica by VXE-6 aircraft. A cancelled cachet may be obtained for $1.00, check or money order, from: Milestones of Flight, National Air and Space Museum, Smithsonian Institution, Washington, D.C. 20560. There is a limit of five per customer.

SMITHSONIAN INSTITUTION
NATIONAL AIR AND SPACE MUSEUM

Milestones of Flight Commemorative Series

Number 21

45th ANNIVERSARY
First Flight Over the South Pole
Adm. Byrd, November 29, 1929

1 + 9 = One

Yesterday I received my *Naval Aviation News* for November. I am very interested in Naval Aviation insignia and have quite a collection in the form of jacket patches. I am sure that your "1 + 9 = One" article with illustrations has made many collectors of these items happy. From experience, I know what must be done to gather the data for such an article and hope this format will continue. It would be a shame to have it only one time. Also, should anyone be interested, I have some trading material on hand and would be pleased to hear from interested persons. Again, kudos for a very fine article.

Roscoe B. Yorgey
307 Arch St.
Carlisle, Pa. 17013

Collector

I am a member of the Italian American Association in Genoa and interested in everything concerning the U.S. Navy and U.S. Naval Aviation. Every time a ship comes to Genoa, I do my best to visit it.

I am collecting photos and jacket patches of U.S. ships and naval squadrons. I now have 400 jacket patches and 1,500 photos.

I would like to contact commands, naval air stations, Navy and any other personnel so that I can enlarge my collection. I will pay the mailing expense of any jacket patch or photo sent to me.

Rag. Guiseppe Podesta
Via SanNazaro 7/12
16145 Genova, Italy

Official Opening

NAVAL AVIATION MUSEUM

NAS Pensacola, Fla.

13 April 1975

Reunion

The Third National Reunion of former members of the crew, squadrons and Marines who served on *Wasp* (CV-7) from precommissioning to September 15, 1942, when she was sunk in the Coral Sea, will be held July 25-27, 1975, in San Diego, Calif. Contact T. J. Wilkes, 1313 Aswan, Corpus Christi, Texas 78412.

PBY

I enjoy your magazine very much and it is included in our reading list at the 834th Tactical Composite Wing office of safety. However, in your article on Quonset Point in the October 1974 issue, I noted an error in which the PBY was identified as a PBY-1. As I recall, the PBY-1 was a seaplane and not an amphib; also it did not have blisters nor the type radar indicated by the antennas shown.

Keep up the good work as we Air Force types enjoy Navy stories too. I have many fond memories of the 90-knot wonder (which could on occasion get up to 110 knots). If I am not mistaken, the picture is a PBY-5A.

Lt. Col. William O. Schism, Jr., USAF
Chief of Safety
HQ 834th Tactical Composite Wing (TAC)
Hurlburt Field, Fla. 32544

Deep Freeze Film

A film, "Flight to the South Pole," is available through the Naval Photographic Center for those interested. Made during *Deep Freeze 68*, MN10489 gives an account of VXE-6's participation in USARP, the United States Antarctic Research Program.

The film contains excellent footage on VXE-6 activities. Cdr. Sid Wegert, incidentally, subject of the *Editor's Corner* interview, flew the chase plane carrying the photographic team which filmed many of the airborne sequences.

Highlights of the movie include views of Rear Admiral Richard E. Byrd's Ford Tri-Motor on his historic flight over the South Pole, a VXE-6 *Hercules* flying through near zero-zero weather, and C-47s – yes, C-47s – launching from the aircraft carrier USS *Philippine Sea* with the help of JATO during Operation *High Jump* in the mid-1940s.

Record?

On September 3, 1974, Captain Roger A. Massey recorded his 1,000th carrier arrested landing when he landed an A-7E *Corsair II* aboard USS *Ranger* (CVA-61) in the South China Sea.

He is thought to be the tenth Naval Aviator to make 1,000 carrier arrested landings, although documentation does not appear to be available. Reader replies are invited.

did you know?

SecDef Visits Indy

In a whirlwind, eight-hour visit on November 6, Secretary of Defense James R. Schlesinger toured the aircraft carrier *Independence*, while she steamed in the Med, for a firsthand look at the readiness of the Sixth Fleet. He was accompanied by Vice Admiral Frederick C. Turner, Sixth Fleet Commander. In addition to being briefed on fleet operations, the Secretary was interviewed on television by Captain William B. Warwick, the carrier's commanding officer. *Indy* has been on deployment in the Mediterranean since last summer.

Neptune to Museum

An SP-2H *Neptune* from Naval Air Reserve Patrol Squadron 65 will occupy a niche of its own in the Naval Aviation Museum in Pensacola. The aircraft, BuNo 141234, was flown from its home base at Point Mugu, Calif., to NAS Pensacola, Fla., on October 30, 1974, by the squadron's outgoing commanding officer, Commander S. Jon Gudmunds.

The flight was a "last" in several ways: the last P-2 flight for VP-65 which is transitioning to P-3 *Orions;* the last operational Navy flight for Cdr. Gudmunds; and the last flight for 141234, ending a 17-year career. It is not the last P-2 flying with the Navy but it will serve well in representing all the others of its breed and the men who have flown them.

1,500th Rescue

On the morning of November 3, Det 2 from HC-1, the oldest helicopter squadron in the Navy, successfully accomplished its 1,500th rescue. The occasion was the rescue of a downed Marine Aviator off the coast of the Philippine Islands by a Det 2 crew, Lieutenants J. S. Davis and D. C. Barby, AEAN M. V. Street and AMSAA McKenny.

Commissioned as Helicopter Utility Squadron One on April 1, 1948, the unit was redesignated Helicopter Combat Support Squadron One on July 1, 1965. HU-1 proved the usefulness of the helicopter not only as a logistical aircraft but as an effective means of saving lives, a tradition of accomplishment which it has continued to the present.

did you know?

All-Weather Air Station

All-weather capability became a reality at NAS Fallon with the commissioning of its ground control approach system on October 12, 1974. *Blue Angel 7* piloted by Lt. John Patton of the Navy's Flight Demonstration Team and Ens Kathy Stout from Fallon's public affairs office, made the commissioning run. The controller for this first was a veteran of approximately 20,000 GCAs, AC1 Glen Moffatt.

The ground control approach unit consists of three systems: airport surveillance with radar coverage over a 40-mile radius; precision radar, which has a ten-mile range and is used as a talk-down system for the actual landing; and secondary radar with a range of 200 miles.

The unit at Fallon is the first of its kind commissioned by the Navy. The secondary radar, TPX-42, provides 4096 code capability. By pressing the button the controller can determine the code and altitude of aircraft within the area of coverage. The GCA commissioning represents two years of intensive work.

Trucking by Helo

A New River, N.C., CH-53 *Sea Stallion* from HMM-362 returned home from Cherry Point, N.C., towing an A-4A *Skyhawk*. The plane, which had been used by the Marine air weapons training unit for mock ordnance loading and other training purposes, will be used by H&MS-26 to practice picking up downed planes.

From Small Beginnings

Although Helicopter Antisubmarine Squadron Light 34 had only one operational SH-2D when it was commissioned on September 27, it was not discouraged. Commanding Officer Commander Bruce Borgquist considered it just a step in the launching of a new squadron which will soon have a full complement of helicopters and men. HSL-34's LAMPS helicopters, like those of its sister squadrons, HSL-30 and HSL-32, will deploy individually as separate detachments aboard designated ships of the Atlantic Fleet Naval Surface Force.

SecNav F-14 Flight

Launched by catapult from the deck of *Enterprise* during flight operations in the South China Sea, Secretary of the Navy J. William Middendorf rode in the RIO position in a VF-1 *Tomcat*. Commander John Thaubald, VF-1 skipper was the pilot. The F-14 was landed after a 30-minute flight which included a touch and go and inflight refueling. Secretary Middendorf operated the AWG-9/*Phoenix* weapons system from his RIO position.

VFs 1 and 2 are embarked in *Enterprise* with CVW-14.

Vice Admiral W. D. Houser, DCNO(Air Warfare), who accompanied the Secretary on his early-November visit to the Pacific, flew as RIO in another *Tomcat*. During his Pacific Fleet tour, Secretary Middendorf visited 45 ships, including three of the South Vietnamese Navy.

JOCS Byron Whitehead

SDLM

The Naval Air Rework Facility at North Island has developed a new aircraft rework concept which is scheduled for implementation at other NARFs. Known as standard depot level maintenance (SDLM), this concept replaces previous systems including progressive aircraft rework and periodical depot level maintenance. Under this new system, squadrons will perform the aircraft maintenance that is within their individual capabilities. When aircraft are inducted into a NARF, only depot work required for safe operation of the aircraft for one full service period will be performed. They will be examined for defects, disassembled as required to correct discrepancies and install technical directives, reworked as necessary, reassembled, painted for corrosion protection and test flown. This new concept should result in significant money savings.

GRAMPAW PETTIBONE

Tightrope Act

A young lieutenant junior grade replacement pilot (RP) and his lieutenant instructor pilot (IP) were scheduled for a two-plane navigation training hop in A-7 *Corsair IIs*. As is customary, the instructor pilot would fly in the chase position. The weather was predicted to be generally good in the area. The flight was to include both high and low-altitude navigation training.

The brief, preflight, start and subsequent departure were uneventful. The radars had ground-checked OK, but during the high-level portion of the flight the RP reported having difficulty with the radar display. The flight continued in hopes that the display would return on the low-level portion. During the low-level route, the RP entered a narrow valley with 1,500-foot hills to the right of track and 1,000-foot hills to the left.

He noticed a rise ahead and commenced a slight climb. At this time the RP noticed some power cables go underneath the aircraft, followed by a loud bang.

His *Corsair* had hit the static cable of a power line crossing the route of flight. Immediately following impact, he climbed and was joined by the IP. The IP informed the student that the outer wing panel had been damaged. The instructor directed him to continue the climb and head south.

Then the IP detected additional damage on both sides of the intake area, a potential for foreign object damage to the engine. The IP didn't inform the pilot of this in order not to unduly alarm him.

The instructor asked the RP several times if his engine indications were normal. The RP did not experience any control difficulties or notice any unstable engine indications. The instructor then elected to return 300 miles to home field instead of diverting to the nearest suitable airfield. A precautionary straight-in landing was executed upon return to home field.

The investigation revealed that the power lines were, in fact, listed on the navigation charts. The estimated height of the power lines was approximately 300 feet!

Grampaw Pettibone says:

Holy Hannah! I wonder what happens to a "driver" who fails to avoid *obstructions* which are *listed* when he is in an actual situation which contains many *uncharted obstructions*!?!

Kinda funny that some people think we should raise the minimums for low-altitude work. Bull Hockey. The corrective action is to keep the eyeballs looking around, before and during the flight.

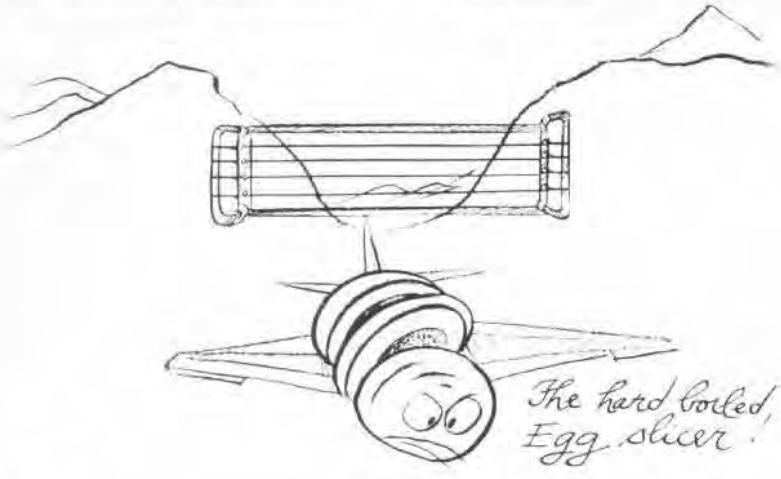
I take a dim view of the instructor in this case because he didn't have the damaged bird land at the *nearest* suitable field. All in all, we were darn lucky on this one.

Items for Disaster

This was to be the instructor's second hop of the day, a radio instrument training flight. Following a proper brief, he and his student departed the ready room for their assigned T-28 *Trojan*.

The preflight, taxi and run-up were uneventful and the *Trojan* was cleared number four for takeoff. As is customary on these flights, the instructor was in the front and the student in the rear seat.

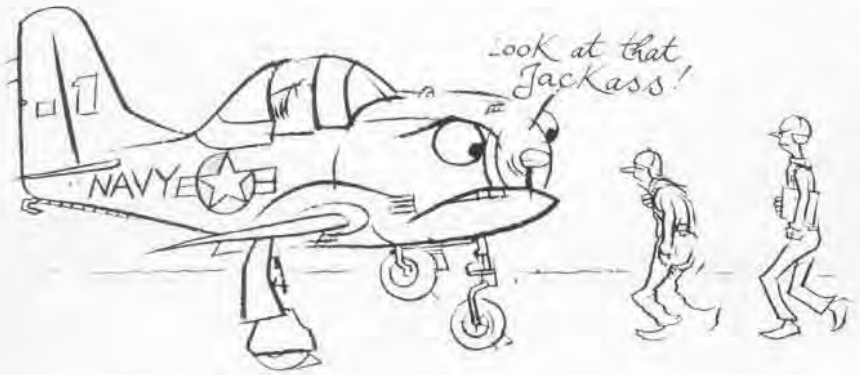
As the aircraft ahead of him began



ILLUSTRATED BY Oplom

its takeoff roll, the instructor added 30 inches of manifold pressure and held brakes according to standard procedures. He noted an aircraft at the 180-degree position at this time. When the aircraft ahead had lifted, the instructor released the brakes and added power for takeoff.

The tower cleared the aircraft in the approach for landing. The instructor began rushing himself in order to expedite his takeoff. (Later the instructor did not recall scanning airspeed, map or engine rpm, but feels sure that he utilized 48 inches map and full rpm for takeoff. The student stated that 48 inches and 2,700 rpm were utilized, but he did not note airspeed.)



During the takeoff sequence, the instructor judged that the aircraft had become airborne since he did not feel any of the "bumps" which he associated with gear contacting the runway. He also felt he was "moving at a pretty good rate." He began raising the gear handle. As soon as the gear handle began coming up, he realized that it was too soon for this transition and immediately placed the gear handle down. He did not have to overcome pressure while raising or lowering the gear handle.

Almost immediately the main gear re-extended fully but the forward stick pressure, induced by the instructor, trapped the nose wheel between the aircraft and the runway and thus prevented full extension. The prop began striking the runway. As the prop continued to strike the runway, the prop, prop dome and reduction gears were torn away at the forward engine casing and became wedged under the aircraft against the nose gear strut.

The instructor did not use braking because he thought the aircraft would flip on its back. He used rudder to maintain runway alignment as the aircraft slid to a stop. Final resting point was approximately 100 feet right of centerline and 1,300 feet from the initial point of prop contact with the runway. The instructor blew the canopy open as the aircraft came to a stop. Both pilots unstrapped and egressed uninjured.

Grampaw Pettibone says:

Oh my achin' ulcer! This instructor had a very consistent day—he did everything wrong!

To begin with he was "self medicating" himself in spite of the fact that this item was mentioned recently at the "all pilots" meetings. He had had a "couple of sandwiches" to eat all day (no breakfast). He *was* "rushing" himself. As he later mentioned, he was over-confident about the flight. And he was distracted by landing traffic. The final result was raising the gear handle early—that simple.

It becomes clear that all of these adverse items lead to disaster. Any time you feel "rushed" or "distracted," slow down and take stock of things lest you wind up like this fella.

Nostalgia

The crotchety old *Beechcraft* keeps provin' to pilots who have enough experience to know better that you can't take the *Bug Smasher* for granted. In spite of its advanced age, the *Beech* is still an aircraft that has to be flown skillfully with full knowledge of its systems and quirks of character. Here's a pretty good example:

Two Marine Aviators took off in an RC-45J (SNB-5P) intent on some GCA practice at a nearby naval air station. While en route they checked all systems thoroughly, including the autopilot, which is not standard equipment on most *Beeches*. After ten minutes or so, the autopilot push-pull switch located on the panel directly behind the prop controls was disengaged, although the autopilot amplifier switch was left "on."

The initial GCA approach was normal in all respects and carried through to a touchdown. The pilot let it roll out about 500 feet on the runway, then added takeoff power. Almost immediately the *Beech* commenced to nose down in an extremely tail high attitude. The pilot heard the props hit the runway as he exerted all the back pressure he could muster on the yoke. The plane became airborne and reached an altitude of 50 to 60 feet, but with such severe engine vibration present that the pilot re-landed it immediately.

The flight controls were apparently locked and only freed after the engines were secured. As the props stopped, eight inches of each tip could be seen, bent back 90 degrees. No wonder they vibrated!

Grampaw Pettibone says:

When he checked the props full forward on the roll-out, this pilot engaged the autopilot by bumping the "off-on" switch with his knuckles. If he'd shut off the power amplifier switch, this never would have happened. Another "I didn't know it was loaded" story. This was a kind of a pre-loaded booby trap though—this item is *nowhere* on the pilots' check-off lists. (April 1963)

There is a vast, cold land. Mysterious and strange, it lies at the bottom of the world. It is desolate, forbidding, virtually unknown. It has been locked in ice for 100 million years. Locked in ice a thousand feet thick and hidden behind almost impenetrable barriers.

Violent seas encircle the entire continent. This is the meeting place of the Atlantic, Pacific and Indian Oceans.

A protective shroud of pack ice girdles the white continent, extending out for hundreds of miles. This ocean of ice cubes can freeze overnight. It can catch and hold a ship tightly in its grip. With a whim, it can grind a steel hull into fragments.

Close in to this land of mystery are ice shelves – perpendicular cliffs that rise without a break for a hundred feet or more. They are fed by billions of tons of glacier ice poured down from the ice cap.

These staunch ramparts stand guard over a silent, frozen land – the Antarctic.

20 YEARS ON THE ICE

By JOC Willie Stephen

VXE-6 Marks Two Decades of Antarctic Operations

For the 20th consecutive year, Antarctic Development Squadron Six has flown to the bottom of the world to serve as the air arm of Operation *Deep Freeze*.

While in the Antarctic this season, VXE-6 is flying thousands of miles to deliver military support and civilian research personnel and millions of pounds of equipment and stores. Aircrews are navigating over uncharted terrain to place scientists in various isolated locations.

LC-130 *Hercules* are being used to help open a new scientific geodesic dome at the South Pole. The older station has been closed because of drifting snow that weakened the supports of the original polar station.

Huey helicopters are helping scientists explore one of two active volcanoes in Antarctica. Scientific teams are investigating a lava lake discovered inside the 13,500-foot-high Mount Erebus near McMurdo.

Antarctica is a continent separated from other land masses by the Pacific, Atlantic and Indian Oceans. It is 800 miles from the tip of South America and over 2,000 miles from New Zealand. This separation is a main reason why the Antarctic was not discovered until the late 1700s by adventurers and whalers.

For more than 100 years, expeditions slowly made their way about the continent on foot or with dog sleds. In 1928 the airplane finally opened the Antarctic to greater discovery and exploration. The first flight above the continent was made November 26 by the Wilkins-Hearst Antarctic Expedition led by Australian Sir Hubert Wilkins. A year later, Rear Admiral Richard E. Byrd made the first flight over the South Pole.

Still, Antarctica remained largely an unexplored, mysterious continent before Air Development Squadron Six (VX-6) was formed January 17, 1955, at NAS Patuxent River, Md. Before then, no American or aircraft of any nation had physically touched the South Pole, and scientists relied heavily on more laborious means of transportation.

Since *Deep Freeze* activities began in 1955, the squadron has been the mainstay of U.S. transport on the continent.

But the going was not easy.

Fifteen aircraft were assigned to VX-6 during *Deep Freeze I*: two R5D-3 *Skymasters*, two P2V-2N *Neptunes*, two R4D *Skytrains*, two triphibian UF-1 *Albatrosses*, four UC-1 *Otters* and three HO4S-3 helicopters.

The R4Ds and UF-1s were the only aircraft that did not reach Antarctica. They were forced to remain in New Zealand when they could not make the flight to the frozen continent. The *Otters* were new to the Navy. One had just been delivered from the DeHavilland factory in Canada, and the others were borrowed (and later purchased) from the Royal Canadian Air Force.

Earlier expeditions had determined that ski-equipped aircraft could land on and take off from the snow and ice. However, *Deep Freeze* officials had reservations about the *Skymasters'* ability to operate on skis on the ice continent, and they were the only VX-6 aircraft not equipped with them.

The *Otters* and helicopters were transported to Antarctica by ship and reassembled on the ice. The larger aircraft were flown from the United States to the squadron's staging area in Christchurch, N.Z.

Reconnaissance reports from *Deep Freeze* ships that had arrived in Antarctica earlier said that the ice was thick enough in certain sections to handle the wheeled and ski-equipped planes. This signaled the departure of a caravan of ships and aircraft from New Zealand.

Several of the ships assumed radio relay station positions while others waited in the ice packs to perform search and rescue services if needed.

On December 20, 1955, eight squadron aircraft took off from Dunedin and Christchurch, N.Z., for the historical flight into Antarctica.

"We had to have favorable winds and maintain a certain speed or the R4Ds and UF-1s wouldn't make it," wrote the *Deep Freeze* commander in his report. The R5Ds and P2Vs averaged 155 knots but strong headwinds caused the other aircraft to turn back.

Fourteen hours later, the first VXE-6 planes landed in Antarctica. For the first time, large cargo aircraft had taken off from a distant landmass and set down on the antarctic continent. While there, these planes made a series of exploratory flights covering almost two million square miles – half of which had never been seen before.

The plane crews had been trained to expect harsh and unusual conditions and the antarctic environment did not disappoint them. While some of the aviators erected survival shelters, others huddled in the planes to wait for the arrival of the ships.

Two days later, a serious incident occurred.

An *Otter* that had been used for several days to search for a suitable base site in the McMurdo Sound area crashed on takeoff December 22, injuring six passengers. A P2V, low on fuel after the flight from New Zealand, took off for the crash site.

When the rescue craft arrived, several of the survivors were badly injured and getting them aboard the plane was a problem. The P2V crew had to remove various pieces of equipment from the tail section of the aircraft and were then able to lift the injured men through the newly created entrance.

Another problem also hampered the rescue effort. The nearest medical facility was aboard the icebreaker *Edisto* which was escorting ships through the ice packs 300 miles to the north of the crash site.

Attempts to call New Zealand failed because of atmospheric conditions which garbled radio transmission. The communications problem was solved when a *Skymaster* took off from McMurdo with less than 90 minutes of fuel on board. After reach-

ing 10,000 feet, the R5D functioned as a portable transmission facility and relayed the message to *Edisto*. A few hours later the injured men were being treated aboard the icebreaker.

Refueling aircraft in Antarctica meant unexpected problems for squadron aircrews during *Deep Freeze I*. A fuel farm was not available at McMurdo, so aircraft were refueled from the tankers that brought in the avgas.

A *Neptune* hit a section of rough ice while landing to refuel and tore the polyethylene coating from its skis. Another plane took so much time refueling from 100 yards astern of the tanker that the squadron commanding officer ordered a review of the refueling procedures.

R5D pilots soon discovered that taking off from the ice required special skills and unorthodox methods.

The wheel-equipped *Skymasters* needed 1,100 feet to take off. Lacking the usual runway markers, the pilots had to walk off 1,500 feet and mark the way as they went – keeping a close watch for seal and penguin holes in the ice.

Jet-assisted takeoff (JATO) was vital to those early pilots. The special bottles, which provided the thrust power of additional engines, helped the aircraft get airborne.

January 3, 1956, marked the beginning of the squadron's major exploration of Antarctica. Before the season ended, nine long-range exploratory flights were made. These flights were plagued by sudden storms, mountain peaks that hid their presence in the clouds and whiteouts (see Editor's Corner). But they exposed to the world many areas of Antarctica never before seen by man.

In March 1956, VX-6 had completed its first deployment to the bottom of the world. A few months later the squadron's home base was transferred from Patuxent River to NAS Quonset Point, R.I.

Experiences during that first season on the ice gave VX-6 valuable information for later deployments. Larger fuel tanks were installed in the R5Ds. Two more P2Vs were ordered (but did not arrive in time for *Deep Freeze II*).

During its second season on the ice, VX-6 would make the first ground controlled approach in the Antarctic, land the first aircraft at the South Pole, and join with the U.S. Air Force in testing the versatile C-124 *Globemaster* on the continent.

The first American arrival at the South Pole, October 31, 1956, was filled with excitement. For 49 minutes the party of seven, led by Rear Admiral George J. Dufek, celebrated their achievement. Then they found that leaving the South Pole would be almost as hard as getting there.

When LCdr. Conrad S. Shinn landed the R4D on the polar plateau, the temperature was 58 degrees below zero. As the group tried to leave, they found that the plane's skis had frozen to the ice surface. Shinn applied full power and fired four JATO bottles, but the aircraft would not move. He fired four more bottles of JATO. As the plane moved sluggishly over the ice, Shinn fired his last three bottles. The plane then lifted lazily off the ice surface at 60 knots.

"I thought we were going to stay at the Pole for good," one of the crewmen remarked later.

After the South Pole landing, VX-6 spent its time trying to get scientific teams and dog sleds into research areas. During increased photomapping missions, squadron aircraft scanned over 211,000 square miles of the continent.

Freezing temperatures often created unusual problems.

"We arrived at the runway for a flight and found the wings frosted," said Lt. Robert G. Anderson as he described one of the problems the aircrews faced. "While maintenance men scraped the wings, we used Herman Nelson heaters to preheat the engines. We figured that after several hours the engines would be warm enough to start. As often as not, they didn't."

Operations in Antarctica became more complex for VX-6 during *Deep Freeze III*. The squadron supplied more traverse parties than ever before, and the polar environment continued

VXE-6 is one element of Operation *Deep Freeze*, the code name for U.S. Naval Support Force, Antarctica (NSFA). NSFA is an integral part of the United States Antarctic Research Program (USARP) which is funded by, and operates under the auspices of, the National Science Foundation. Navy units belong to Task Force 199, formerly Task Force 43. The Coast Guard, Marines, Army and Air Force are also represented in antarctic research.

Operation *Deep Freeze* began 20 years ago in preparation for the International Geophysical Year, 1957-1958. The IGY brought together 12 nations in peaceful pursuit of scientific knowledge in Antarctica. Now, international cooperation continues in that peaceful pursuit and Navy participation remains essential to the goals of the program.

As in the past, this year's endeavors by hundreds of scientists and military personnel will be combined as they seek an understanding of the continent at the bottom of the world, hoping to unlock mysteries which cause variations in the earth's climate.

NSFA is headquartered at the Seabee Center, Port Hueneme, California.

to be a dangerous, unpredictable adversary.

During the first flight of the year to the South Pole, a P2V crew was stranded when the *Neptune's* oil became contaminated. Maintenance crews were forced to change an engine on the P2V in subzero weather. An R4D on its way to the Pole with spare parts for the downed *Neptune* was also forced down when an engine quit 300 miles from the polar station. Both aircraft and crews were later rescued.

Despite these and other minor incidents, squadron maintenance crews kept most of the aircraft operational.

Evacuation of personnel in *Deep Freeze* operations has been another function of the squadron. Two flights have been made into Antarctica during the dangerous polar six-month night to rescue people needing help.

During *Deep Freeze III*, a daring flight by LCdr. James E. Waldron and Lt. Harvey E. Gardner in an *Otter* saved a scientist who had fallen 60 feet into a crevasse.

The rescue crew was warned that the injured man lay in a crevasse-creased field and that it would be dangerous to try to land their aircraft on the hole-dotted ice. When Waldron and Gardner reached the accident scene, visibility was so poor that only the outlines of the men and crevasses could be seen below.

The pilot told the scientific party leader to have the men form a straight line beside their equipment. Using the men as markers, the Naval Aviators landed the UC-1, picked up the injured man and rushed him to Little America for treatment.

In *Deep Freeze III*, aircrews combined to fly 3,379 hours while transporting more than 3,000 passengers over a 13,500,000-square-mile area. The unit also photographed 638,000 square miles of the continent.

When the International Geophysical Year (IGY) program in Antarctica was first conceived, *Deep Freeze IV* was to mark the termination of the program. Bases were to be closed and scientific and support personnel returned to the United States. Instead, the research program was continued indefinitely, although with reduced facilities. Aviation support was again provided by VX-6.

When the antarctic program changed to one of continuing research and logistics the designation of the annual expedition was changed from Roman to Arabic numerals to reflect the current fiscal year. The mission for *Deep Freeze 60* was primarily one of resupply, with VX-6 flying 21 aircraft of seven types.

At the beginning of this season, the wintering-over party had worked around the clock trying to get two 5,000-foot runways ready for the incoming planes. After a week of removing snow and leveling a runway, a storm driven by 80-mile-an-hour winds covered the landing strips with fresh snow.

The maintenance crews repeated the effort to clear the runways. Another storm struck, blowing away some of the huts. This time, however, the runways escaped the storm's fury

A downed UC-1 Otter sits on bay ice in the Ross Sea during Deep Freeze I, left. A biologist from Duke University watches as two members of the joint United States and New Zealand scientific station at Hallett enjoy a view of Mourbray Bay in 1960, above. At right is Hut Point on Ross Island in 1956. In the background is Crater Hill.

and were not covered up again.

For the next several months, VX-6 aircraft photomapped the Horlick and Sentinel Mountains. Thousands of miles were flown during numerous reconnaissance flights without a mishap.

Squadron aircrews have flown what many of them describe as "weird missions" in Antarctica. An operation during *Deep Freeze 60* had many of the aviators scratching their heads.

Most of the aircrews became involved in towing nets in the Ross Island area of McMurdo. They assumed they were helping record wind directions for scientists.

Unknown to the aviators, the scientists were testing a theory that at least two types of insects existed on the continent. The scientists hoped to find a rare, gnat-like, wingless fly and snow fleas called spring tails. The nets were necessary to catch the insects which were believed to be distributed about the continent by antarctic winds.

After finding out what the flights were all about, the aircrews promptly dubbed them "bug runs."

The bug runs continued the following year as *Deep Freeze 61* began. This season, however, the squadron got a look at something that was not an elusive insect.

Four giant, versatile, ski-equipped LC-130 *Hercules*, designed specifically for polar operations, joined the now aging R4Ds and other aircraft used by VX-6. The new Lockheed aircraft proved their worth within a few months and added to RAdm. Richard E. Byrd's theory that "aircraft alone could triumph in Antarctica."

From October to February, the *Hercules* airlifted over 1,700 pounds of cargo and made the longest flights in antarctic history to remote scientific stations. The *Hercules* was also able to fly later in the antarctic season than other squadron aircraft.

Although the LC-130 assumed the major logistical role for VX-6, the squadron's other aircraft continued to be an integral part of the support effort. P2Vs mapped 100,000 square miles of the continent and the helicopters delivered 15,000 passengers on 320 flights. The helos also enabled weather and communications facilities to be installed before the season ended.

After arriving in Antarctica in September 1961 to begin *Deep Freeze 62*, squadron maintenance and flight crews worked around the clock to complete increased logistical requirements on schedule.

Pilots flew 187 round-trip flights to Byrd Station during the season, and the LC-130s and helicopters hauled a record number of supplies and scientists to various antarctic stations. The *Hercules* also logged one of the longest flights over the continent when they traveled 2,730 miles round trip from McMurdo to Ellsworth without refueling.

The year 1962 was hardly hours old when a tale unfolded of a village that appeared 500 miles from Byrd Station and disappeared five days later. But

An HUS-1A flies over Williams Field at McMurdo Station in 1962, far left, top. An R4D uses JATO to get off the ground at Byrd Station the same year, far left, bottom. An aviation machinist's mate melts the ice on a P2V before an aerial mapping mission, opposite. Main street at McMurdo in 1966, left. An LC-130L lands at South Pole Station in 1965, bottom left.

the village held little mystery for VX-6.

After being forced down in the mountainous area, the crew of a squadron LC-130 hastily erected a survival village. The high blocks of cut ice with tent roofs resembled a small community.

Water was found in the aircraft's fuel and the engine strainers were clogged. After the problem was corrected, Maj. Leslie Darbyshire, USMC, and his crew took off for home.

The area was named Darbyville and later served as an emergency landing site for other squadron aircrews.

The summer season of *Deep Freeze 63* was marked by the establishment of Eights Station at the base of the Antarctic Peninsula, almost 1,400 miles from McMurdo. As research expanded deeper into the continent and farther from McMurdo Station, the task force found that it was harder to provide support with the resources available. An emphatic request was made to the Chief of Naval Operations for more LC-130s.

The longest flight in antarctic history was made by a *Hercules* during this season. The flight began at McMurdo and went to the South Pole, down to the Greenwich Meridian and on to Eights Station where the peaks of Princess Martha Coast were visible.

The *Hercules* hauled over 4,000 tons of cargo on 382 missions during this season. While the aircraft performed above expectations, they created numerous problems for the maintenance crews. Heavy ski operations on the ice surfaces made landing gear brackets fail and several of the planes had to be ferried back to a Lockheed plant in Georgia for repairs.

But the *Hercules* was not alone in providing logistics support for antarctic scientists. The LC-47 (R4D-5L), LP-2J (P2V) and LC-117 (R4D-8L) proved valuable in photomapping, supply, search and rescue, and other duties.

The C-54Q (R5D) flew 12,000 miles in ten flights over the Ross Sea area. The flights enabled scientists to get aerial photographs of the ice cover to study the reflection of solar energy and the absorption of solar radiation by the ice surrounding Antarctica's sea coast. The C-54Q logged over 340 hours and hauled 73 tons of cargo during this season.

Helicopters were also kept busy during *Deep Freeze 63*. Four LH-34Ds flew over 800 hours carrying 2,000 passengers and 145 tons of cargo. Fitted with JATO, the UH-1Bs were able to perform many short-range missions which freed the LH-34Ds and LC-47s for other flights. The UH-1B logged over 100 support flights for seal, penguin and magnetometer studies, photographic missions and training hops for the pararescue team.

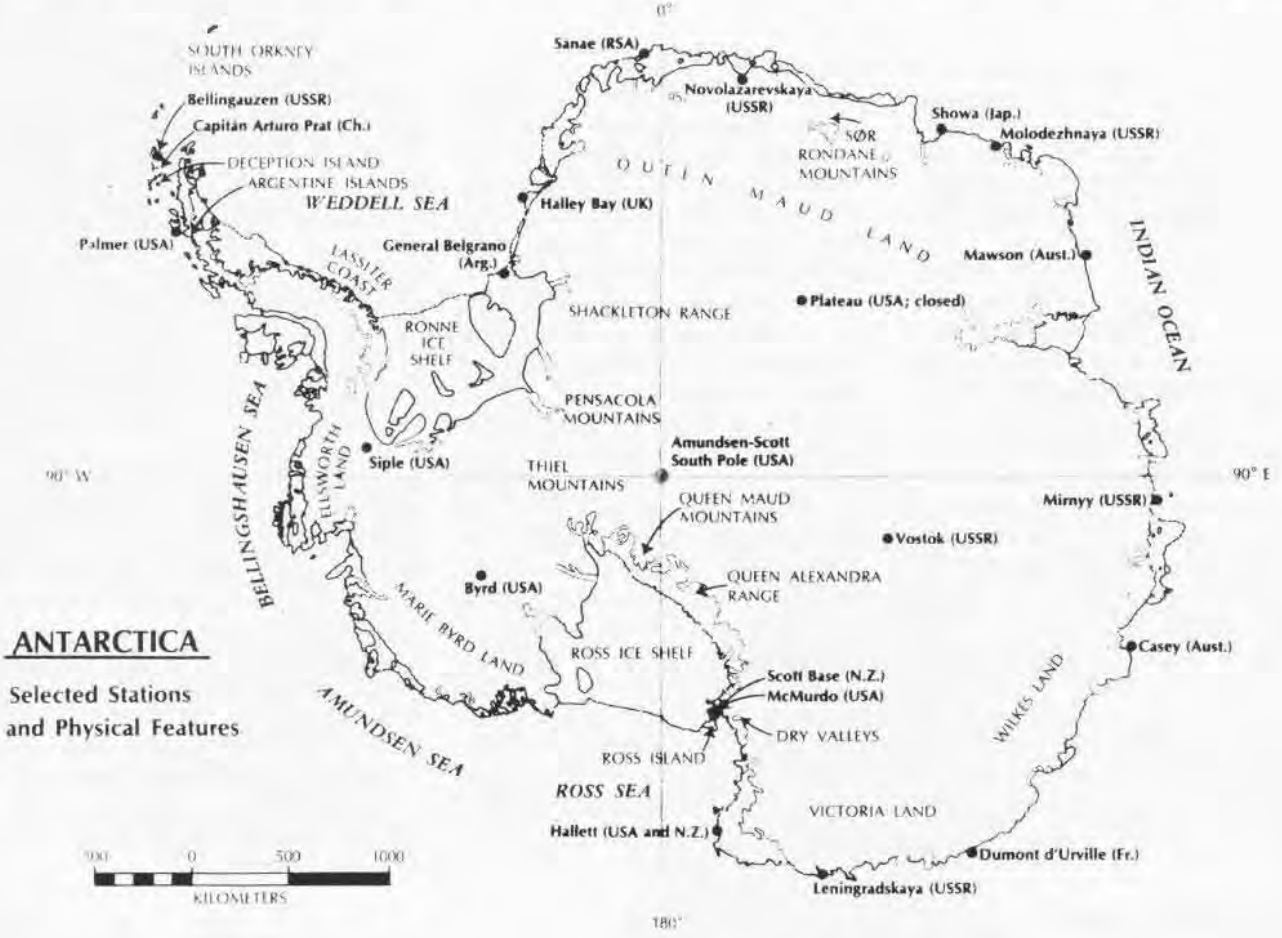
"As antarctic operations expand, it becomes increasingly apparent that turboprop aircraft are mandatory to complete assigned missions," said Cdr. G. R. Kelly, VX-6 commanding officer during *Deep Freeze 64*. The C-121Js, LC-47s, LC-117s and LH-34Ds were getting old and he was concerned about the increased requirements being placed on these aircraft.

His concern became more justified as scientists moved farther into the Antarctic trying to find many of the mysteries believed hidden in the continent.

In spite of any problems the squadron had, it still placed scientists in locations never before explored and hauled a record number of men and supplies before the season ended.

One of the most unusual missions for the squadron since the bug runs came during *Deep Freeze 65*. A *Hercules* transported a special load of penguins and seals to zoos in the United States.

"We can deliver anything, any-



ANTARCTICA

Selected Stations and Physical Features

An LC-130L makes a final pass over Pole Station in 1967 before landing with its load of fuel and fresh provisions, opposite. A squadron Hercules evacuates an injured member of the wintering-over party in June 1966, above. Fuel drums were lighted to mark the skiway for the rescue aircraft, right.

where, anytime," said a squadron aviator after the flight.

Whether the claim was made in jest or seriousness, it was tested during *Deep Freeze 66* when the squadron was tasked with establishing a scientific outpost high on the polar plateau. It was one of the most difficult but ambitious projects tried by the United States in Antarctica.

One of the squadron's more experienced aircrews made exploratory flights trying to find an ideal spot for the science station on a barren stretch of ice and snow. After locating an acceptable area 600 miles from the South Pole, Commander M. E. Morris landed his LC-130 on icy land that had never been touched by humans.

The soft snow and extreme cold at the station created several anxious moments for the aircrews who later delivered supplies for the scientists at Plateau Station. One squadron pilot tried to take off 12 times before finally getting airborne. However, most of his aircraft's fuel was burned up on the ground. The pilot said later that the plane reached South Pole Station on E – and that doesn't mean "enough."

The new station was operational by January 30, 1966, after VX-6 aircraft delivered vans to house the scientists and 66,000 gallons of fuel.

The next few years on the continent were to be a repeat of past performances for the squadron. New aircraft would arrive while others were stricken from the inventory. Logistic support records would be set and mercy missions would continue.

Resupply goals in *Deep Freeze 67* were exceeded, more high quality aerial photography of the Antarctic was obtained than in any other season, the placement and retrieval of field parties very closely matched the planned timetables and there were no serious injuries or aircraft accidents.

An LC-130 and a C-121J photographed over 350,000 square miles of the continent during 3,200 flight hours, and LH-34s operated within a 200-mile radius of McMurdo Station on a daily basis in support of scientific teams.

AE2 Henry B. Thomann, Jr., made the first parachute jump at the South Pole during this season.

Deep Freeze 68 was another accident-free year for the squadron. This also marked the last season on the ice for the LC-117. The two remaining *Skytrains* were delivered to Davis-Monthan AFB the following summer for storage in the desert. The LC-130, C-121, LC-47 and LH-34 were used to complete the increased logistical and scientific aid missions.

The squadron's third consecutive accident-free year came during *Deep Freeze 69*.

January 1, 1969, Air Development Squadron Six (VX-6) was redesignated Antarctic Development Squadron Six (VXE-6) but its mission remained the same.

Three Army UH-1D helicopters were transferred to VXE-6 during the season, and the squadron's last LC-47 was retired. The *Skytrain* was donated to the Ferrymead Museum of Science and Technology in Christchurch where it is now on permanent display.

PR1 Dick Spaulding made a parachute jump over the continent from 12,500 feet on January 11. His altitude record stood for only a short time. Another member of the squadron's pararescue team, PR1 Harry Gorick, later jumped from 20,500 feet. Gorick's record stands today.

Resupply and station maintenance were the main logistics functions dur-

The first aircraft used by VX-6 during the 1955-56 expedition to the Antarctic were readied by the O&R department at NAS Jacksonville, Fla.

Two R4D *Skytrains* and three HO4S helicopters had to be equipped for sustained operations under antarctic conditions. The limited number of aircraft assigned to the expedition, and the wide variety of tasks they had to perform, made many many special installations and innovations essential.

Extra fuel tanks were added to the R4Ds to double their normal capacity, and skis were attached for takeoffs from and landings on the snow and ice. Oil cooler inlets were relocated to eliminate damage by ice and snow thrown up by the skis. Remote oil pressure indicating systems were installed to preclude loss of readings which might result from engine oil congealing in the lines at extremely low temperatures. The aircraft were also given a new look with high visibility exterior paint.

Polar compasses were installed to provide navigation in areas where the earth's magnetic field is unreliable. JATO units were added for extra lift on takeoff. Antiprecipitation static antennas reduced heavy radio interference in the polar area, and an elaborate intercommunication setup was installed for crew members as well as wire recorders to permit them to note observations verbally.

Trimetrogon photographic installations, which consist of wide-angle cameras situated side by side, were made for aerial mapping. Extra-large side-cabin windows for general picture-taking made the photographer's job easier. Adding to the comfort of the men and ensuring proper performance of their equipment were high-capacity, gasoline-fired cabin heating systems. Covers for the wings, elevators and engines prevented snow and ice accumulation while the planes were parked.

Similar changes were made on the helos which were to be used to transport men and equipment.

ing *Deep Freeze 70*. A new summer station, Siple, was established at Wellsworth Land, and new fuel storage tanks were built at McMurdo. The squadron provided aviation support with 15 aircraft. Its role had expanded after it took over the Army UH-1Ds the previous year.

VXE-6 and Task Force 43 continued to provide logistic support to the U.S. Antarctic Research Program during *Deep Freeze 71*. A major construction effort began for a new station at the South Pole. In October 1970, the President reaffirmed U.S. national interest in Antarctica. He directed the National Science Foundation to assume management and budgetary responsibilities for the scientific and support efforts on the continent.

The squadron lost a C-121 and an LC-130 during the season, but there were no deaths or serious injuries.

Deep Freeze 72 marked the entry of the UH-1N *Huey* into the unit's support operations. With the retirement of the LH-34s and UH-1Ds, VXE 6's efforts in Antarctica utilized the durability and capabilities of the LC-130 and UH-1N.

The squadron delivered over 4,000 tons of cargo and 4,500 passengers while accumulating 4,000 hours in the air during this period.

Task Force 43 was reorganized prior to *Deep Freeze 73*. The task force headquarters in Washington, D.C., was eliminated and many of the positions were integrated with Antarctic Support Activities which then became the U.S. Naval Support Force, Antarctica. Otherwise, Task Force 43 continued its support role on the continent with aviation support provided by VXE-6.

A Jamesway hut is built at Lassiter Coast on Wetmore Glacier in 1969, top left. A helicopter crew changes a rotor blade on an LH-34D at McMurdo Station, left. A squadron member admires an Emperor Penguin chick, above. Oil drums and a new engine for a UH-1D are hauled across ice and snow at McGregor Camp in 1970, top right. McMurdo Station in 1971, right.

After arriving in October 1972, the first obstacle the squadron faced was the annual uncovering of their main living quarters.

Antarctic snowstorms hampered VXE-6's flight operations for the first two months on the ice. Minus-40-degree temperatures froze the hands of aircraft mechanics and made the footing slippery for personnel loading the aircraft. Still, the squadron delivered over two million pounds of supplies and 850 scientists and military personnel to their destinations during the two months. Working 12-hour shifts, seven days a week, squadron personnel flew over 1,300 hours in less than seven weeks.

In December, the squadron's three *Hercules* logged 989 hours in the air while hauling almost three million pounds of supplies.

Helicopter crews flew over 600 hours in November and December, and delivered hundreds of people and thousands of pounds of cargo and fuel to various antarctic locations. One *Huey* crew also rescued a team of scientists who had been stranded on an ice floe for five days. The men survived the ordeal by eating raw penguin and emergency rations taken from their disabled boat.

VXE-6 returned to the United States March 1, ending another season of antarctic operations.

Four months later the squadron received word that its home port would be changed from Quonset Point to NAS Point Mugu, Calif. The official change was made October 1, 1973, ending an 18-year stay at the Rhode Island base. The squadron immediately began preparing for another tour and deployed October 29.

South Pole construction activities accounted for a majority of the LC-130 flight hours during *Deep Freeze 74.* Fifty vans, tons of supplies and thousands of liters of fuel were airlifted from Williams Field to the building site.

A combination of good weather, efficient cargo handling and few mechanical problems with the aircraft cleared the way for most of the major projects to be completed at the new South Pole Station. Flight crews often completed two round trips a day between McMurdo and South Pole Station and, by season's end, 1,210 flight hours had been logged on the construction project.

Scientific projects in the Dry Valleys were supported by the squadron's *Hueys.* The helicopters moved 376 metric tons of equipment and supplies and transported over 2,700 passengers

Continued on page 22

during the season in a record 1,006 flight hours.

The squadron's pararescue team stood ready throughout the season to answer calls for assistance in Antarctica. Over 90 parachute jumps were made to maintain proficiency and to qualify new members. The team also tested several items of clothing and equipment during its jumps.

Deep Freeze 74 operations ended for VXE-6 in February when the squadron returned to Point Mugu. All assigned aircraft returned home safely to mark another accident-free year on the ice.

In many ways, the men of VXE-6 are like pioneers whose contributions have made a direct and positive impact on antarctic research. But as in other pioneering efforts through the ages, the price of success has been high, in men and machines. Since 1955, more than 35 flying, ground-based and scientific personnel have lost their lives in accidents. In addition, over 40 aircraft were lost in the Antarctic.

The late eminent historian of the Antarctic, Dr. Henry M. Dater, wrote in December 1973, "It seems to me that considering the large number of persons involved, the hazardous conditions and, in the early days, the lack of experienced personnel, the record is a good one."

The 350-man squadron is now at the bottom of the world for the 20th consecutive year. It continues to be the air arm of Operation *Deep Freeze*.

During the 20 years that Antarctic Development Squadron Six has provided air support for Operation Deep Freeze, 138 areas of Antarctica have been named for squadron flight and support personnel. In addition, the squadron has been honored six times: Aeronaut Glacier, Airdevronsix Icefalls, Jato Nunatak (for JATO bottles used for extra thrust on takeoff), Neptune Range (for the P-2s flown by the squadron), Patuxent Range (original home of VX-6), Mount Takahe (name of a squadron R4D Skytrain) and Mount VX-6. The names for the 144 areas were approved by the U.S. Board on Geographic Names and made official by signature of the Secretary of Interior. Rates and ranks listed are those held by the individuals at the time of their nomination.

Ltjg. F. M. Allen	Mount Allen	78°43'S,	84°56'W
Cdr. D. Balish	Balish Glacier	79°25'S,	84°30'W
LCdr. R. E. Berger	Mount Berger	75°04'S,	71°57'W
Lt. R. A. Binder	Binder Rocks	74°14'S,	114°51'W
AD2 H. E. Blount	Blount Nunatak	83°16'S,	51°19'W
Lt. R. L. Bolt	Mount Bolt	71°06'S,	165°42'E
Lt. J. L. Bolton	Mount Bolton	85°56'S,	129°43'W
LCdr. A. Borcik	Mount Borcik	86°12'S,	153°38'W
Lt. J. M. Bowers	Bowers Peak	71°45'S,	163°20'E
AD1 H. J. Bracken	Bracken Peak	77°51'S,	85°24'W
LCdr. J. F. Brandau	Brandau Glacier	86°54'S,	173°45'E
LCdr. J. Capley	Mount Capley	79°33'S,	83°12'W
Lt. D. W. Carey*	Carey Glacier	78°53'S,	83°55'W
Lt. G. W. Carter	Carter Island	73°58'S,	114°43'W
AM1 W. W. Chastain*	Chastain Peak	85°10'S,	94°35'W
ADJ1 C. C. Christy	Christy Glacier	86°06'S,	161°30'W
AD2 N. R. Cole*	Mount Cole	84°41'S,	176°57'W
Cdr. V. J. Coley	Mount Coley	81°15'S,	158°13'E
Ltjg. R. P. Compton*	Compton Valley	85°01'S,	91°20'W
Capt. D. Cordiner	Cordiner Peaks	82°48'S,	53°30'W
Lt. J. W. Cornwell	Mount Cornwell	77°40'S,	86°09'W
LCdr. W. D. Counts*	Counts Icefall	85°13'S,	90°48'W
ADJ2 A. N. Cox	Mount Cox	71°47'S,	160°36'E
LCdr. A. T. Craven	Mount Craven	71°08'S,	165°15'E
LCdr. R. E. Curtis	Curtis Peaks	84°53'S,	169°08'W
Maj. L. L. Darbyshire, USMC	Mount Darbyshire	78°28'S,	158°05'E
ADR2 R. Denauro	Mount Denauro	86°27'S,	151°30'W
LCdr. R. Dickerson	Mount Dickerson	84°20'S,	167°09'E
Lt. D. L. Dietz	Mount Dietz	86°16'S,	153°10'W
Lt. O. L. Dockery	Mount Dockery	71°12'S,	164°39'E
Cdr. E. W. Donnally	Donnally Glacier	81°37'S,	159°18'E
Cdr. J. M. Driscoll	Driscoll Glacier	79°42'S,	83°00'W
LCdr. E. D. Dryfoose	Mount Dryfoose	84°50'S,	170°20'W
Cdr. G. K. Ebbe	Ebbe Glacier	71°03'S,	164°45'E
ADRC J. C. Eblen	Eblen Hills	85°51'S,	133°28'W
Lt. J. R. Edixon	Mount Edixon	71°48'S,	163°20'E
PH2 R. Eley	Eley Peak	79°39'S,	84°20'W
LCdr. J. W. Entrikin	Entrikin Glacier	80°49'S,	160°00'E
SKCS C. Epler	Epler Glacier	86°15'S,	161°00'W
Lt. R. M. Epperly	Mount Epperly	78°26'S,	85°53'W
Cdr. W. H. Everett	Everett Range	71°20'S,	165°40'E
PR2 J. B. H. Farnell	Farnell Valley	77°53'S,	60°39'E
Ltjg. L. J. Farrell*	Mount Farrell	78°21'S,	85°03'W
LCdr. J. Fendorf	Fendorf Glacier	79°30'S,	84°53'W
ADC F. J. Ferrara	Mount Ferrara	82°15'S,	41°25'W
Lt. W. D. Fordell	Mount Fordell	80°19'S,	82°09'W
LCdr. W. J. Franke	Mount Franke	84°37'S,	176°58'W
AE1 T. A. Fusco	Fusco Nunatak	80°02'S,	80°09'W
Cdr. F. S. Gallup	Gallup Glacier	85°09'S,	177°50'W
Lt. H. E. Gardner*	Mount Gardner	78°23'S,	86°02'W
ATC F. Gorecki	Mount Gorecki	83°20'S,	57°35'W
AD2 J. L. Gray*	Gray Spur	85°10'S,	90°29'W
Cdr. M. D. Greenwell	Greenwell Glacier	71°20'S,	165°00'E
Lt. P. Gurnon	Gurnon Peninsula	74°23'S,	110°30'W
LCdr. R. E. Hall	Mount Hall	84°56'S,	170°23'W
Ltjg. J. B. Hansen	Hansen Glacier	78°21'S,	84°33'W
HMC H. D. Harris	Harris Point	81°35'S,	161°30'E
Capt. W. M. Hawkes	Mount Hawkes	83°55'S,	56°05'W
Ltjg. H. S. Hemphill	Mount Hemphill	71°01'S,	165°06'E
Lt. J. A. M. Hickey	Cape Hickey	76°05'S,	162°38'E
PHC J. O. Hill	Hill Nunatak	84°00'S,	54°45'W
Capt. R. A. Hudman, USMC*	Hudman Glacier	78°54'S,	84°12'W

ATC G. Hunt	Hunt Spur	85°59'S,	146°50'W
Lt. G. J. Janulis	Janulis Spur	85°07'S,	90°27'W
LCdr. M. Jarina	Jarina Nunatak	76°23'S,	160°10'E
LCdr. S. W. Jones	Jones Bluffs	74°47'S,	110°20'W
LCdr. H. P. Jorda	Jorda Glacier	81°18'S,	159°49'E
PHC F. Kazukaitis	Mount Kazukaitis	72°01'S,	100°09'W
PH1 M. B. Keim	Keim Peak	70°44'S,	159°52'E
ADJ3 C. C. Kelley*	Kelley Peak	80°10'S,	82°50'W
Cdr. G. R. Kelly	Kelly Plateau	81°24'S,	159°30'E
1st Lt. L. S. Kenney, USMC	Mount Kenney	84°43'S,	175°28'W
LCdr. B. Koloc, Jr.	Koloc Point	74°11'S,	111°24'W
Lt. Col. H. R. Kolp, USMC	Mount Kolp	81°39'S,	161°42'E
YN2 K. Koopman	Koopman Peak	85°29'S,	125°35'W
Cdr. M. Krebs	Mount Krebs	84°53'S,	170°45'W
SSgt. A. L. Kring, USMC	Mount Kring	75°00'S,	157°56'E
PH1 F. P. Lee	Lee Peak	86°25'S,	151°35'W
AD2 L. H. Liptak	Mount Liptak	78°45'S,	84°54'W
AT1 A. L. Lishness	Lishness Peak	78°53'S,	84°45'W
Lt. O. B. Lovejoy	Lovejoy Glacier	70°48'S,	160°10'E
AT1 D. V. Malone	Mount Malone	77°52'S,	85°36'W
Cdr. R. Marvel	Mount Marvel	78°45'S,	159°22'E
AD1 M. O. Marze*	Marze Peak	78°52'S,	84°32'W
Lt. R. V. Mayer	Mayer Crags	84°53'S,	168°45'W
LCdr. C. J. McCarthy	McCarthy Inlet	78°45'S,	46°20'W
AT2 C. S. Miller*	Miller Peak	78°49'S,	84°14'W
Lt. R. H. Miller	Miller Valley	83°39'S,	55°04'W
AD2 P. G. Milton	Mount Milton	78°48'S,	84°49'W
Lt. D. M. Moody	Mount Moody	71°32'S,	162°49'E
Lt. D. M. Moody	Moody Nunatak	83°07'S,	159°30'E
AB1 J. L. Moody	Moody Peak	78°22'S,	158°34'E
LCdr. C. C. Moran	Moran Buttress	85°31'S,	125°38'W
Lt. H. M. Morris*	Morris Cliff	80°20'S,	81°49'W
Cdr. M. E. Morris	Morris Glacier	84°46'S,	169°30'W
Lt. I. J. Morrison	Morrison Hills	84°12'S,	168°55'E
LCdr. J. A. Morton	Morton Glacier	83°12'S,	168°00'E
Capt. W. H. Munson	Mount Munson	84°49'S,	174°40'W
Cdr. L. E. Newcomer	Newcomer Glacier	77°47'S,	85°27'W
GySgt. W. C. Noxon, USMC	Mount Noxon	72°08'S,	100°06'W
PH2 M. J. Perez	Mount Perez	70°00'S,	159°33'E
Ltjg. R. Perez	Perez Glacier	84°06'S,	117°00'E
PNC F. Price	Price Peak	85°43'S,	142°24'W
ADR2 J. Prince	Mount Prince	74°56'S,	134°10'W
ADR2 C. E. Ratcliff	Mount Ratcliff	85°42'S,	137°00'W
LCdr. D. L. Reckling	Reckling Peak	76°16'S,	159°15'E
PHC D. D. Reimer	Mount Reimer	77°48'S,	86°12'W
Lt. D. W. Roe, Jr.	Mount Roe	85°08'S,	169°36'W
LCdr. R. Rosenthal*	Mount Rosenthal	80°03'S,	83°15'W
AT1 G. M. Sample	Sample Nunataks	70°53'S,	159°50'E
LCdr. T. L. Schanz	Schanz Glacier	79°45'S,	83°40'W
AE1 W. J. Schobert	Schobert Nunatak	85°31'S,	162°14'W
CSC C. W. Segers	Mount Segers	78°25'S,	85°22'W
ADR3 M. Shattuck	Mount Shattuck	80°26'S,	81°30'W
JO2 J. Sheets	Sheets Peak	85°28'S,	125°52'W
SSgt. J. K. Shields, USMC	Mount Shields	70°11'S,	159°56'E
LCdr. C. S. Shinn	Mount Shinn	78°27'S,	85°46'W
CWO2 D. F. Siglin	Siglin Rocks	74°10'S,	114°54'W
AT1 S. Simmons*	Mount Simmons	80°22'S,	81°48'W
Lt. B. Simpson	Mount Simpson	72°06'S,	100°45'W
TSgt. T. E. Southwick, USMC	Mount Southwick	78°46'S,	84°55'W
SSgt. R. Spann, USMC	Mount Spann	82°03'S,	41°21'W
Lt. H. G. Speed	Mount Speed	84°32'S,	177°05'W
PH2 M. J. Springer	Springer Peak	79°24'S,	84°53'W
SSgt. F. Streitenberger, USMC	Streitenberger Cliff	85°03'S,	92°07'W
MSgt. H. Strybing, USMC	Mount Strybing	78°42'S,	85°04'W
Cdr. R. C. Thompson	Thompson Escarpment	79°27'S,	83°30'W
Lt. P. Tidd	Mount Tidd	81°17'S,	85°13'W
LCdr. J. H. Torbert	Torbert Escarpment	83°29'S,	54°08'W
LCdr. J. E. Waldron	Waldron Spurs	84°34'S,	175°40'W
Lt. J. E. Waldron	Mount Waldron	78°27'S,	84°54'W
Capt. J. G. Walker, USMC	Walker Spur	85°01'S,	91°12'W
MSgt. C. O. Warren, USMC	Mount Warren	77°43'S,	85°57'W
LCdr. F. Wasko	Mount Wasko	84°34'S,	177°02'W
PH2 H. N. Williams	Williams Bluff	70°43'S,	160°14'E
AT1 J. H. Wilson	Wilson Peak	78°52'S,	84°47'W
Lt. W. W. Works	Mount Works	71°14'S,	164°56'E
LCdr. C. H. Zilch	Zilch Cliffs	74°57'S,	135°00'W

*Deceased

VXE-6 is not without its lighter side. The squadron has an official insignia, of course, but "Puckered Pete" is also a part of the unit's history. He is considered a charter member of the *Puckered Penguins*, appearing during *Deep Freeze I.*

He carries a beer in one hand and a bottle of Old Mo (spirits) in the other. His feathers are torn, tattered and frazzled.

Footprints on his tux reflect that he's been soundly trod upon. His beak is covered with lipstick from too many trips to Chee Chee (Christchurch).

Pete's eyes are bloodshot from all those whiteout landings and he smokes too many cigarettes trying to calm his nerves for another "rickety rack to the Pole and back" flight.

He allegedly represents the typical veteran antarctic flyer.

A MAN FOR THE SEASONS

"What strikes you the most," says Commander Sid Wegert, "is stepping off the plane at McMurdo and feeling the thirty-degrees-below-zero cold. It's absolutely another world. It takes your breath away."

That bitter cold is but one of many negative environmental factors which VXE-6 aircrews have endured on Operation *Deep Freeze* tours in the past 20 years.

What possible appeal could that desolate continent, devoid of liberty ports, hold for anyone? Why do Navy men venture forth to that white, frigid desert?

The many who have gone to that distant frontier have a variety of reasons for enjoying the duty. For some, infatuation with the continent at the bottom of the earth is not unlike the lure others have known for emerald islands in the Pacific.

"It comes on you in the autumn," says Wegert, who was a lieutenant commander in VXE-6 and an LC-130 aircraft commander. "The feeling manifests itself in the fall because that's when we'd be preparing to leave our stateside base for Christchurch, New Zealand, and, ultimately, for the season in the Antarctic."

For the pilots and aircrews, the test of antarctic flying is unlike any other that Navy flyers face. Hazards inherent in routine aviation are compounded by the cold and the insidious nature of snow and wind storms which may erupt spontaneously. The Antarctic

has also been described as the windiest place on earth, with currents sometimes averaging 100 knots.

Perhaps the most feared phenomenon is the "whiteout." Light rays penetrate clouds and are reflected off the white ground surface. The diffused light causes the horizon to blend with the surface and the viewer finds himself totally disoriented, experiencing a sort of super-vertigo trip. Drivers may topple from their rigs, pilots may fly aircraft into the ground.

Cdr. Wegert is a veteran pilot who has logged more than 5,500 accident-free hours in jets and props. He's flown a variety of multi-engine planes, including the *Hercules* in VXE-6, as well as A-1s, A-4s and A-7s on carrier duty. He's amassed more than 500 CV arrested landings.

He served with the *Puckered Penguins* for two years, from 1966 to 1968, and on the ice averaged 100 flying hours a month, as did other crews. The squadron's working year was split nearly in half with five months spent deployed to the Antarctic and the remainder stateside for other logistic operations. Until 1973, VXE-6 was based at Quonset Point, R.I. It is now headquartered at Point Mugu, Calif.

"In the Antarctic," Wegert relates, "we were divided into A and B crews flying the same aircraft—on 12 to 14 hours, then off for the same length of time. On each duty period we'd usually fly a double-shuttle. For example, we called the McMurdo-to-Pole run 'rickety rack to Pole and back,' an 800-mile trip one way. We'd fly it twice in that time frame.

"We kept all engines running at the Pole, of course, and were usually on deck for about 15 to 20 minutes offloading supplies."

Airorews also made regular runs to Byrd, Plateau and Hallett Stations, U.S.-operated units. On occasion, flights were made to non-U.S. stations like Vostock, which is operated by the U.S.S.R.

The LC-130 *Hercules* have proved to be well-suited for *Deep Freeze* conditions and have successfully operated in a climate where the mean temperature is 30 degrees below zero. In fact, flights were continued in temperatures up to minus 65 degrees. Below that, however, hydraulic and oil seals become brittle and fail. Fuel, oil and hydraulic fluids begin to solidify and consequently aircraft systems work sluggishly and may fail to function altogether.

"Actual instrument conditions occur about 20 percent of the time," says Wegert, "and about one of every three approaches is made in IFR-type weather which may feature low-flying scud clouds or blowing snow."

Opposite page, Cdr. Wegert with 319, the Penguin Express, at Roosevelt Island, Ross Ice Shelf. Left, view from Wegert's cockpit en route to South Pole. Some of these mountain peaks reach 14,800 feet. Above, before Wegert's tour, this C-130 made a flight to Byrd Station in 1961 to evacuate a sick Soviet exchange scientist. Here, crew preflights plane at McMurdo using moon and man-made light.

Wegert himself has made about a dozen landings in whiteout conditions. This may not sound like an impressive number. Despite the excellent navaids available, however, a whiteout landing is a singularly demanding task.

GCA, Tacan and UHF/ADF homers were available at McMurdo Station's Williams Field, the South Pole and Byrd Stations. Williams also had a non-directional low frequency radio beacon. Making an approach totally on the gauges and landing on the ice requires the maximum aerial skill of the pilot.

If zero-zero conditions existed at Williams, for example, the aircraft would be vectored to a pre-surveyed whiteout landing zone where there were no obstacles to flight within 20 miles of the flight path. Then, following pre-established whiteout procedures, the pilot would commence a 100 to 200 fpm rate of descent with landing skis and flaps down. The minimum rate of descent was critical and pilots were not to exceed the 200 fpm limit.

"We'd fly a seaplane-type approach," says Wegert. "At about 50 to 100 feet above the terrain, ground effect would occur and cause the aircraft to level off. You had to resist the temptation to nose over and, instead, squeak off some power and re-establish a rate of descent. This required some finesse."

"On touchdown," he relates, "we'd experience a slight bounce, then settle down on the second contact, reverse engines and maintain heading—just like you would on an ITO (instrument takeoff). We'd also cross-check the airspeed until it read zero. We would then taxi back to the field using Tacan and on-board radar. There have been times when I actually didn't see the ground until we were completely stopped."

In addition to the unusual flying conditions, life on the ice required other adjustments. From late October to early February the Antarctic has perennial daylight. Billeted on "the hill" at McMurdo, a working outpost adjacent to Williams Field, or at the field itself, some personnel had difficulty regulating their sleeping time. They were experiencing what, in antarctic jargon, is called the "Big Eye."

"I was lucky," says Wegert, "and had little trouble sleeping despite the continuous daylight."

How was the food? "Outstanding," says the Commander. "The cooks were great. Occasionally we might have powdered milk but, for the most part, the cuisine was super. There was always home-baked bread, for one thing. In the morning we'd have eggs any way we wanted them, along with ham, bacon, hot or cold cereal. Lunches were full-course meals and at dinner we'd have steaks several times a week."

There is a reason for eating well in the Antarctic. Says Wegert, "Those who worked outdoors in the cold had to consume 5,000 calories a day to ensure they maintained their strength. The frigid environment sapped much of their energy. I would add that although we ate like kings there was little obesity down there."

"We were strictly flyers during *Deep Freeze*," he continues. "There wasn't much time for administrative matters. Time went by very fast. Also, one of the most enjoyable things about the duty was the rapport which developed between the enlisted men and the officers. I haven't seen anything like it in any other Navy assignment. It was very satisfying."

Normally an LC-130 crew consisted of pilot, copilot, flight engineer, navigator, aviation electrician's mate, plus a loadmaster. Crews remained together for "the season" which substantially enhanced the teamwork philosophy so necessary in any flying endeavor.

Generally, VXE-6's *Hercules* would fly at 300 knots true air speed at between 30 and 35,000 feet altitude on their logistic runs. The flyers give great credit to the LC-130 which is considered a complex but extremely reliable machine.

"The *Hercules* adapted well to its winterized role," says Wegert who flew number 319, the *Penguin Express*. "We had to be careful landing with the skis because the nose ski, in particular, was vulnerable to damage if stress on it was excessive. So, in both taking off and landing we kept it raised for as long as possible."

"Landing with the skis in deep snow," he adds, "was a most unusual experience. You felt like you were touching down in a thick bed of feathers. On the other hand, landing on glacier ice was much like touching down on hard rocks.

"Sometimes, after a heavy snowfall, we'd have to make our own skiway. We'd taxi back and forth across a five or six-thousand-foot strip until the skis had smoothed a path about 75 feet wide. We also used JATO for an assist in getting in the air."

Cdr. Wegert relates that he's flown to the Pole and back to McMurdo entirely on instruments both ways. But after a time it becomes a "no sweat operation although you can't let your guard down."

Cargo carried across the wide stretches of Antarctica consisted of personnel, mail, provisions, scientists and their equipment, toboggans, snow cats and gas for operating vehicles and other gear.

Routine maintenance was performed at Williams Field where the turbine-powered engines could be shut down. Major aircraft work was conducted by VXE-6 elements left behind at Christchurch.

Cdr. Wegert is currently on exchange duty with the U.S. Air Force at Air Training Command Headquarters, Randolph AFB, Texas. When asked if he still feels the season coming on, he replies without hesitation.

"Absolutely," he admits. "When the leaves turn I want to pack up and head toward the bottom of the world. I suppose part of the motivation stems from the explorer instinct in all of us. It's an intriguing sensation flying over places which only a handful of people, if any, have seen before.

"I have a great respect for that continent. It can be as unforgiving as it is remote and beautiful. It's sort of like the last terrestrial frontier. It's always amazed me to be able to fly from McMurdo to the Pole in three hours—a journey which took Captain Robert Scott of the Royal Navy 78 days in 1911.

"You had to be flexible because of the limited weather information available. Quite often clear weather which had been forecast would disintegrate to zero-zero in minutes.

"Those days were exciting, gratifying and uplifting. I know I'll probably never get the opportunity to return to the ice but I'm very happy to have had the chance to experience the wonders of flying the Antarctic."

Above, LC-130F is preflighted by VXE-6 crewmen in the white desolation of the Antarctic. Left, Wegert at the controls. Crews often made double-shuttle flights to the Pole from McMurdo in their 12-14-hour work periods.

A VXE-6 pararescue team member lands on the snow after the first jump of Deep Freeze 71's summer season, above. Another team member is silhouetted against the lip of a crevasse as he pauses in his foot-a-minute climb, opposite.

Photos by PHC Bill Hamilton

Skills o

In Antarctica the violence and fury of nature drive men to seek a haven from blistering winds and snow.

For almost 20 years, a small band of men has waited for the call that would pit man's skills against nature's forces. Yet the men pray the call will never come. They respect the Antarctic, but they are not afraid of it. They know if they are called upon, somebody is in serious trouble.

The men make up VXE-6's pararescue team. The team was formed in 1956 after the Navy realized that no one in Antarctica was qualified to jump and help downed aircrews or injured scientists.

That realization came during *Deep Freeze I* when a UC-1 *Otter* crashed into a mountain 125 miles from Little America Station. The single-engined plane was evacuating members of a traverse party from Marie Byrd Land when it went down. After sending an SOS, the group set out on foot toward Little America V about 70 miles away. The downed plane all but stopped *Deep Freeze* operations while all VX-6 efforts were aimed at finding and rescuing the survivors.

The lone parachutist attached to VX-6, Capt. Rayburn Hudman, USMC, had returned to the United States earlier. The P2V carrying him back to Antarctica crashed in the jungles of Venezuela. Everyone aboard the *Neptune* escaped without serious injury, but their mercy mission had to be cancelled.

A week after the UC-1 crashed, the hikers making their way to Little America V were rescued by helicopter about 40 miles from the downed *Otter* and flown the rest of the way to their destination.

Later that year, Capt. Hudman formed a 13-member pararescue team. He never saw it in operation. Hudman was killed when the plane in which he

Man vs Forces of Nature

was flying crashed October 17, 1956, during the first GCA landing attempt in Antarctica.

Each season since its inception, the pararescue team has trained for its mission. And each season, new members arrive to replace those who have finished their two-year tour. Hopefully, all new members will complete the requirements needed to put them on the first team next year.

Men selected for the pararescue team vary in size and occupation, but each receives the same intensive training needed to safely complete a rescue mission in the dangerous Antarctic.

Training begins slowly at home base with specialized instruction in packing parachutes and giving first aid. Then it rapidly becomes rugged. Prospective members must complete antarctic survival training and make ten static-line jumps from 3,600 feet before they become a part of VXE-6's lifesaving team.

The team's new volunteers have no previous experience in the dangers of the world's coldest landscape. Nor are they yet parachutists. It is with understandable apprehension that they head south.

Most neophytes agree that they start their seasoning with some doubts and much fear. But their emotions change as training progresses and skill replaces awkwardness. They are learning from professionals. As they complete their requirements, they replace men who have already served on the

Chipping footsteps in the icy antarctic slope, AEC A.C. McKenna works at qualifying for the squadron pararescue team, top. Jumpmaster PR1 Harry Gorick takes trainees to 2,500 feet where they will static-line jump, above. A New Zealand instructor shows CS1 Nicholas Diorio how much tension to use with the piton and rope, right.

frozen, snow-covered mainland.

Soon after reporting to the ice, the newcomers go through a two-day survival school taught by five New Zealand alpinists on the wind-swept mountain slopes and ice-covered bay near McMurdo Station. In the short time allotted, the expert mountaineers take the trainees from their awkward, penguin-like beginning and guide them through stages until they become sure-footed ice climbers looking forward to another slope.

Moving injured people can be a problem in the land where crevasses are routine and small valleys hide in the mountain areas where helicopters or fixed-wing aircraft cannot hover or land. Each man in the pararescue team must know how to crevasse walk and ice trail.

The men prepare for emergencies in such areas and learn to use tools designed to help them.

Rescuers operate in teams. If one man falls into a crevasse while transporting an injured person, the second immediately falls forward and digs his axe into the ice at a 45-degree angle. A strong rope attached to the axe breaks the falling man's descent.

A second line is tossed to the man in the crevasse. He forms two loops for his feet and slips the rope around his waist. Using his new skills, he then digs his spiked shoes into the ice and walks out of the crevasse.

The frigid temperatures and unpredictable weather conditions found in this virgin wilderness sometimes make it necessary to find shelter in a hurry. Antarctic storms hit quickly and bring absolute whiteness that may last for days. This means the team members must have yet another skill—using an ice saw to build a snow trench for shelter.

Cold weather survival is only the

Digging an ice trench, PN2 Gary Beal plans to spend the night in his handiwork during an antarctic whiteout, above. New Zealand instructors teach VXE-6 sailors how to crowd into an icehouse, left.

The Nodwell is a cleated vehicle used to travel in Antarctica where there are few roads, below. Team members learn how to keep their trunk lines properly placed, right. Members of the pararescue team wear crampons attached to their cold-weather survival boots to get around icy slopes on the continent, below right.

beginning. But it must be completed before anyone moves on to the next part of the team's mission – jumping.

Jumpmasters in the squadron give on-the-ground training to the newcomers. When they feel an individual is ready for an aerial test, they take the trainee aloft in a squadron aircraft. At 3,600 feet, the command to jump is given.

After ten of these jumps, the new parachutist learns techniques in pinpoint landing. It is a difficult art, but vital to the parachutist who must maneuver around obstacles and into areas inaccessible by other means.

"Jumping here is easier than in the States because the cold weather produces a slower descent," says PR1 Harry Gorick who was the team's jumpmaster in 1969 and 1970. "And the landings are softer on the snow than on hard ground. The only major problem is lack of depth perception when clouds hide the sun and eliminate the jumper's ground shadow which serves as a distance gauge."

The pararescue team spends the October-to-February season training for rescue missions.

"In the event of a real emergency," says another team member, "we would drop parachutes containing survival gear and follow them down to the crash site or where an injured person might be. Once on the ground, we administer first aid and immediately move an injured person to a pickup point, if possible."

In the 19 years since the pararescue team was formed, it has not had to use its special training. But should the day come, the members are anxious to prove they are ready to challenge nature's forces in Antarctica.

A New Zealand instructor discusses antarctic survival techniques with VXE-6 sailors in a two-day school, above, before they advance to their parachute-jumping course, left.

EXPERIENCE, the True Teacher

Antarctic flying. It's an unparalleled experience for pilots on duty at the bottom of the world with VXE-6. It means conditions they have never encountered before – and probably never will again.

During the antarctic summer, a squadron pilot is sure to be called on to airlift scientific parties or supplies to the snowfields, mountains and glaciers of various offshore islands and within the continent. Whether he finds himself at Bellingshausen Sea, Balleny Islands, Hallett Station or the South Pole, the pilot is confronted with different flight conditions.

The temperature of the water over which these men fly is about 28 degrees Fahrenheit. It is a chilly place to ditch. Life expectancy is all too short, even with exposure suits.

Further inland, flight conditions change. The pilot leaves the open sea and pack ice far behind and finds himself operating over the solid ice and snowfields of Antarctica. He then faces the dangers of whiteouts and severe, unpredictable turbulence.

Words are inadequate to describe a whiteout to a person who has never seen one. Yet it could be disconcerting to an aircrew when an unsuspecting pilot, flying in good VFR conditions one moment, suddenly finds he has no visual reference points.

A whiteout occurs when light rays penetrate cloud cover and reflect off snow or ice. The diffused light bounces back and forth until horizon blends with surface and sky. There is no horizon, no shadows, no surface definition. The body's sensory systems become confused and the ability to judge height and distance is lost. People stumble and fall, drivers topple off their equipment and pilots inadvertently fly their aircraft into the ground, sometimes with disastrous consequences.

At other times, a pilot will be flying in perfect VFR conditions only to have visibility reduced to zero in a matter of minutes. Sixty-knot winds can spring up from nowhere, picking up loose snow and causing a whiteout of a different kind.

A pilot's problems are complicated by other factors. A radio altimeter can be off as much as 50 feet over loosely packed snow, and it's difficult at best to judge altitude over a snowfield on a bright day. Mistakes involving hundreds of feet can easily be made.

Glaring rays of the sun, reflected from undisturbed snow and ice, can be blinding. Due caution must be taken lest a flight end up as a number of its predecessors – a crumpled monument to Naval Aviation on the antarctic ice.

To the inexperienced pilot, landing may look deceptively simple. Time will soon prove his first impression anything but correct. The glaciers and valleys of Antarctica often act much the same as a venturi tube, for here the velocity of the winds is greatly increased and turbulence can be severe.

The direction of the wind often has little correlation with the surrounding conditions. A smoke flare is the only safe means of determining wind over the land area. The pilot must always be prepared for an erratic shift, for the Antarctic is the home of wild winds.

Wind is not the only problem pilots face when landing in the desolation of Antarctica.

During the final phase of a helicopter approach over the light powdery snow, the strong blast from the rotor blades can easily whip the snow into such a frenzy that visibility is next to nothing. The pilot loses all visual reference just when it is critical. His only solution is to maintain attitude, fly the gauges and smoothly settle to the ground.

Even with the helicopter on the ground, the situation may be anything but safe. What may have looked like a solid snowfield from the air can conceal a number of dangerous crevasses.

Just when the pilot thinks that the landing is complete and all is well, a gear may suddenly crash through the frozen crust into a 1,000-foot void. The aircraft is then in danger of rolling over and beating itself to death.

Pilots of fixed-wing aircraft must contend with holes, cracks, snowdrifts, seals, penguins and other taxi hazards on icy runways. Rough ice encountered on landing or takeoff can rip the polyethylene coating from an aircraft's skis and a heavy storm can cover a parked aircraft in short order.

Certainly these are not daily occurrences, but they are everyday possibilities.

Lack of experience is the basic problem a pilot new to Antarctica faces. Experience is the only true teacher and sometimes the tuition fee is high.

It is quickly apparent that a pilot must do more than fly his aircraft. He must know the ice. He must be familiar with ice terminology and be able to recognize the many forms of ice and understand their potential danger.

The unexpected is the great danger in antarctic flying. To ensure safe operations, the pilot must plan his flying carefully in advance. He must be prepared for any hazard and all eventualities. He must use all the knowledge and skill at his command.

Even this will not make for a safe and successful cruise. He must have a maintenance crew second to none. The Antarctic is a place where AOCP (aircraft out of commission for parts) may mean a downed aircraft for the remainder of the cruise, and a simple mistake means possible disaster. The working conditions the maintenance crews face rate as some of the worst anywhere on earth.

The key to successful flight operations remains the same—a wealth of skill and knowledge forged in the fires of experience. Yet experience in antarctic operations is all too difficult to obtain. Thousands of miles of sea and ice force men to become self-reliant.

In this isolated area of the world, the aircrews face a compromise between safety and achievement. If they are overly cautious, the mission will suffer. If they fail to show due caution, all can easily be lost.

Somewhere between these two extremes lies the road a pilot must follow – a road marked only by the signposts of experience. In following this road, aircrews are tested by a most demanding and unforgiving environment. They are flying in the Antarctic.

A pilot landing in Antarctica might face any of a number of obstacles, such as a glacier, opposite. An LH-34D pilot finds it isn't easy to land in a snowstorm, above. The safest place to land is on an airfield made by a mobile construction battalion, top right. A P2V-7L en route to the South Pole flies past Beardmore Glacier, right

SUNNYSIDE UP?

The work was miserably cold, but only routinely miserably cold.

What made it intolerable for ADRC Howard E. Humphrey were the frozen raw eggs which had to be shelled like the hardboiled kind and mashed in a frying pan with a fork. He tried to solve the problem of sunnysides by thawing an egg in his armpit.

It nearly worked.

As the egg reached that tender stage, somebody called him. He turned suddenly and had the instant, sticky knowledge that the egg was no longer good, even to scramble.

This was just one of the irritating incidents that happened when a downed helo, perched on Ferrar Glacier 60 miles from McMurdo Station, had to have its engine changed.

It all began when a VXE-6 pilot flew into the Royal Society Range, Antarctica, to pick up a two-man New Zealand trail party. As the flyer was preparing to depart with his passengers, he noticed that the sump warning light had come on. He shut down and radioed McMurdo. Many hours later, another helo arrived to evacuate the group.

A maintenance team, which included Humphrey, was flown in the next day to inspect the downed helo. An engine change was necessary. The crevasses forbade the landing of fixed-wing planes, even those equipped with skis. A helicopter was needed to bring in the new engine and

The A-frames on hand at McMurdo were too bulky for the helo, so a 400-pound rig was designed and built.

The original plan called for two three-man crews in 12-hour shifts.

There were delays.

A torque wrench, tossed to the party from a U-1B *Otter* hovering at an altitude of 100 feet, was immediately lost in the surface snow and never found. Another had to be flown in.

The equipment proved too heavy for three men and the two-shift system had to be abandoned.

The sled holding the defective engine froze to the surface. Preheaters were used to loosen it, but this created a new hazard. The preheaters caused snow and ice under the downed helo to melt. A good-sized hole formed under the forward wheels. The 15,000-pound-plus helicopter had to be moved by the men.

The four days of actual work on the engine change passed quickly. But not quickly enough for the gourmets on the team. Said the group of their sometimes duty cook, an ADJ2, "He even burned the frozen stuff."

A second VXE-6 helicopter airlifts the equipment needed to change an engine on another helo that went down on Ferrar Glacier, above. A squadron maintenance crew works on the disabled HUS-1, below.

These Trying Times

Aircraft maintenance in the cold of Antarctica can be very trying. One never knows what conditions he will be working under or where that maintenance might be needed. Work might include repairing a horizontal stabilizer in clear weather or piping heat to aircraft engines in subzero temperatures. At the beginning of the summer season, aircraft have to be dug from their winter resting places, and changing engines in bitter cold is common. A maintenance man attached to VXE-6 might even find himself pulling along a downed helicopter.

USS *Lexington* recorded its 150,000th launch and 335,000th arrested landing the second week in September while she was conducting carrier qualifications in the Gulf of Mexico. Ens. J. P. Mueller, VA-127, counted the first record in a TA-4. Lt. Douglas Harrington, VA-42, made the second in an A-6.

Fighter Squadron 103 claims a record of sorts: serving aboard two carriers on one deployment. After participating in NATO Exercise Northern Merger, *the* Sluggers *left USS* America *in Portsmouth, England, and went aboard USS* Saratoga *at Rota, Spain.*

At NAS Saufley Field a prospective successor to the T-34B, the T-34 Charlie, has been tested by flight instructors to determine its suitability for primary training. The newest *Mentor* develops 700 horsepower (downgraded to 400 hp for primary training), has a ceiling of 30,000 feet and a cruise speed of 275 mph. Bravo develops 225 hp, has a ceiling of 10,000 feet and a cruise speed of 150 mph. Charlie's features include air conditioning, new instrumentation, and communications and navigation equipment.

Patrol Squadron Ten's insignia was 44 years old this summer. Despite two squadron name changes, a decommissioning, WW II, eight major aircraft types and deployments to every continent except Antarctica, the emblem has remained the same since the original VP-10's first C.O., Commander E. W. Tod, executed it in 1930. When the present VP-10 was commissioned in 1951, personnel reached for the original VP-10 insignia which is still emblematic of the squadron mission. The design contains radio waves above a bomb and the Dipper and Polaris over a compass rose.

Cdr. Tod's original sketch of the insignia has been presented to the Naval Aviation Museum by the squadron's present commanding officer, Commander R. J. Lanning.

Rear Admiral James B. Stockdale, Commander, Antisubmarine Warfare Wing, Pacific Fleet, recently presented commendations to three members of Helicopter Combat Support Squadron Three, NAS North Island, for their actions during a WestPac rescue.

ADJ2 Gary Breeden and AT3 Thomas Ashley were crewmen aboard a CH-46D that ditched at sea last July off the coast of Japan.

Seconds after contacting the water, the helo began flooding and rolled over in rough seas. The two crewmen began opening escape windows and putting out life rafts for the four passengers and two pilots. Assisted by the crewmen, everyone left the aircraft before it sank. Shortly afterward the rescue helo with AMS2 Edward Huang arrived. Huang's problems in directing the pilot into position for pickup were compounded when the rescue hoist jammed after the first lift

started. He quickly repaired the hoist and resumed the rescue operation. Everyone was rescued without injury.

After twenty-four years of naval service, AT2 Donald R. Filby has been selected as the Outstanding Enlisted Naval Reservist for 1974 and has been meritoriously promoted to AT1. In 1971 he developed a new training concept for the AT, AX, AW, AQ and TD ratings. Last year he developed a programmed career counseling interview system which was adopted by the Navy after it resulted in a 68 percent retention rate. Earlier, Filby was awarded the Navy Achievement Medal for superior career counseling.

Attack Carrier Air Wing Eight, led by Commander Everett W. Foote, returned to NAS Oceana in October after a five-week deployment in the North Atlantic aboard USS *America*. On the cruise, the wing participated in Exercise *Northern Merger*.

Safety Records. Captain William S. Thompson, C.O. of NAS Norfolk, and LCdr. J. J. Parks, aviation safety officer, shared the honors as they logged the station's 100,000th accident-free flight hour — a station record. There have been no accidents involving station aircraft since November 1966.

Patrol Squadron 56, commanded by Commander Charles S. Cornett, recently received an Atlantic Fleet citation for accident-free operations from July 1964 to July 1974. Halfway through the ten-year period, the squadron transitioned from the P-2 Neptune *to become the first squadron equipped with the P-3C* Orion. *During the record period, the squadron was homeported at Norfolk, Patuxent River and Jacksonville, its present home. Besides detachments to Lajes, Azores, and Souda Bay, Crete, deployment sites included Rota, Spain; Guantanamo, Cuba; Keflavik, Iceland; and Sigonella, Sicily.*

In November 1974, Fighter Squadron 101 marked 12 months of accident-free flying. The F-4J Phantom *unit flies out of NAS Oceana and NAS Key West.*

When HS-6 received the ComNavAirPac Annual Aviation Safety Award in September, it also marked six years and 34,000 hours of accident-free flying. In FY 1974, squadron personnel logged 3,049 hours.

Also in September, Air Antisubmarine Squadron 33 recorded its 14th year of accident-free flying. The record includes 77,500 hours and 19,940 carrier landings.

Commander Lee Berns is a dentist and Naval Air Reservist who spends one weekend a month at the former Olathe naval air station. On duty, he provides dental care for the three officers and 16 enlisted men still assigned to the deactivated base. If they or their families need more extensive work he provides free dental work at his Kansas City office. Dr. Berns, a former Naval Aviator, says he is merely repaying the Navy for helping put him through dental school after he finished his tour of duty in 1948.

A pair of Northrop F-5E *Tiger II* fighters have been added to the inventory of the Naval Fighter Weapons School at NAS Miramar. They are used to simulate fight characteristics of enemy fighters, flying mock aerial combat against the F-14 *Tomcat* and other fighters at the Air Combat Maneuvering Range at Yuma, Ariz. Two more *Tiger IIs* are scheduled for delivery to the Navy early this year.

The first female aircrewman qualified to fly search and rescue missions at NAS Lemoore is HM Jamey Odell who received her wings on her last duty day at Lemoore. Miss Odell has reported to Class C School at Naval Hospital Oakland for further training as an operating room technician. "As far as we know, she is the first Medical Corps Wave to get crewman's wings for search and rescue aircraft," says Captain E. H. Prescott, Jr., C. O. of Naval Hospital Lemoore.

Birthdays. The Navy's newest tactical electronic warfare squadron, VAQ-137, celebrated its first birthday on December 14. Home-ported at NAS Whidbey Island, the EA-6B outfit is now aboard USS Enterprise *with CVW-14. A large gregarious bird of the crow family, the rook depicted on the squadron insignia is known for its cunning ingenuity and deception.*

"Twenty years ago today . . . ." is how Captain Thomas S. Rogers, Jr., C.O. of USS Coral Sea *(CVA-43), began a ceremony commemorating* Coral Sea's *birthday, October 1.*

During the celebration of its annual festival in August, Texas' capital, Austin, held an unusual ceremony in which it promoted the commanding officer of its namesake, USS *Austin*. The city thought it only fitting that its namesake should be commanded by an admiral rather than a captain, and Captain J. Richard Powell was so commissioned – an admiral in the **Texas Navy**. The ceremony took place in the Texas Supreme Court chambers.

Individual Milestones. Commander J. B. McKamey, C. O. of VT-9, counted his when he surpassed 2,000 accident-free flight hours in the T-2 *Buckeye*. Cdr. McKamey, a former Vietnam POW, flew his first hop in the T-2 with VT-7 in August 1961.

At NAS Barbers Point, Hawaii, Commander Glen E. Simerly, C.O. of Fleet Composite Squadron One, logged his 5,000th accident-free hour. In 19 years, Cdr. Simerly has amassed 3,300 flights in 13 types of aircraft.

LCdr. Dave Newton completed his firs tour by logging 355 arrested landings. Th former Merchant Marine officer is an A- pilot with VA-115 aboard USS *Midway*.

When Commander Robert W. Hepwort made his 713th touchdown on USS *Lexing ton*, he counted 601 arrested landings an 112 touch and go's – all on *Lexington*, personal and perhaps a Navy record fo landings on one carrier.

Cdr. Hepworth broke 1,000 on Christma Day 1968 while assigned to USS *Ranger* o the coast of North Vietnam. At the time h was one of six Navy pilots to claim such feat. He has 1,316 carrier touchdowns.

The *Clansmen* of VA-46 walked awa with the annual A-7B/A-4 CLAW-1 Bombin Derby. VA-46 finished with a score of 91 followed by VA-87 with 80 points. Th winning team consisted of Commander Ro Boyle, LCdr. Fred Lentz and Lieutenant Rich Hensch and Dave Wagner.

Top individual awards went to LCd Lentz, followed by Lt. Mike Akin, VA-72

Changes of Command. Commande Everett W. Foote, recently detached fron the Operational Test and Evaluation Force Norfolk, relieved Commander Robert W Jewell, Jr., as Commander, Attack Carrie Air Wing Eight in a ceremony at NA Oceana, Va. Cdr. Jewell reported to the staf of Commander Fighter Wing One, Oceana Rear Admiral John S. Christiansen, Assistan Deputy Chief of Naval Operations (Ai Warfare) was guest speaker.

At NAS Jacksonville, Commander Benja min T. Hacker relieved Commander Danie H. Demand as C.O. of Patrol Squadron 24

Commander Lucio Diloreto relieved Com mander James O. Harmon as skipper o Tactical Electronic Warfare Squadron 129 The RAG EA-6B squadron is home-ported a NAS Whidbey Island.

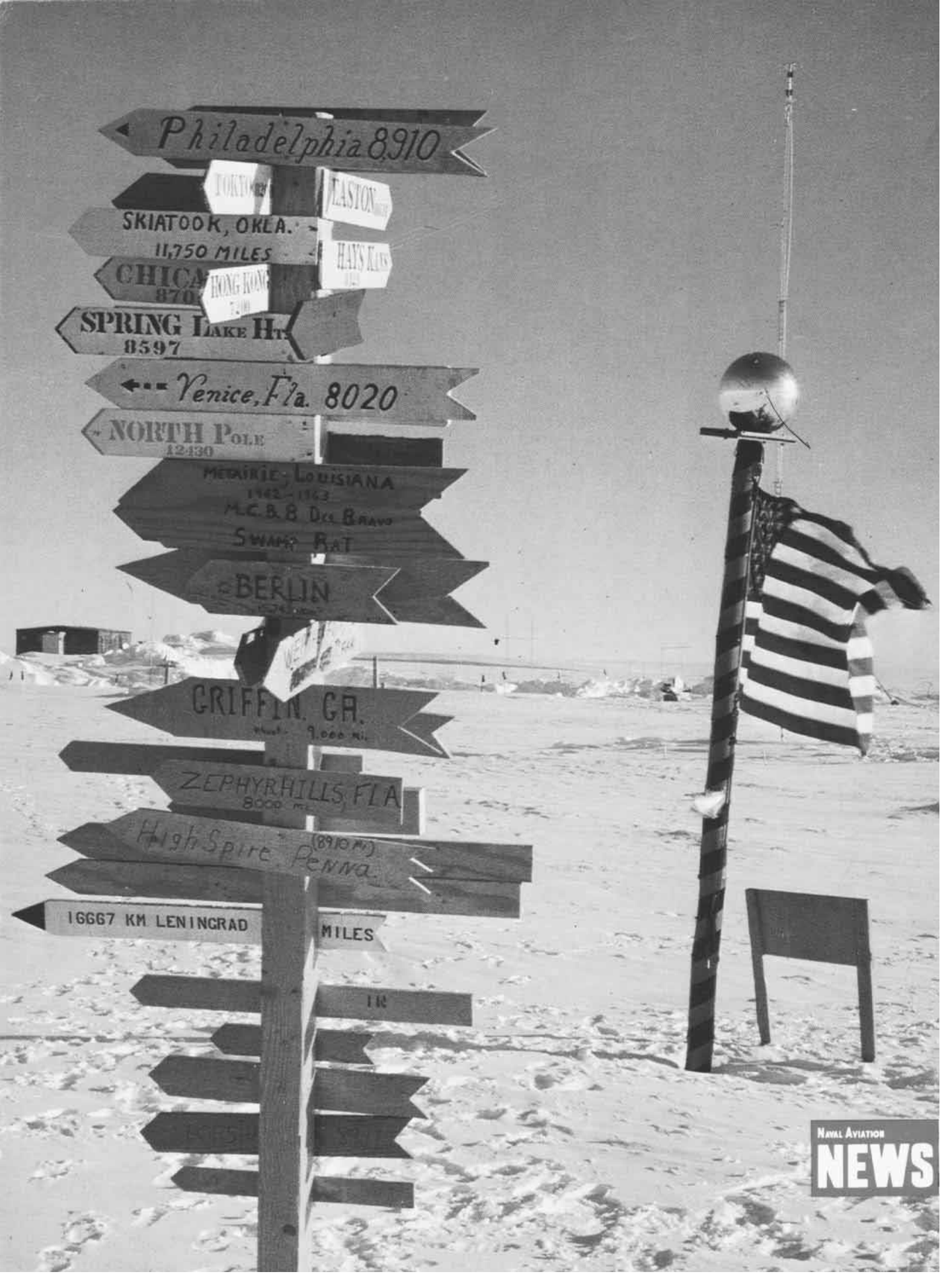
Fleet Air Reconnaissance Squadron On witnessed its latest change of command a NAS Agana when Captain Timothy W Connolly relieved Captain Joseph W. Akins Capt. Akins has assumed duties as Directo of Plans and Programs in the Naval Elec tronic Systems Command, Washington, D.C

Colonel Paul S. Frappollo assumed com mand of MCAS Yuma, relieving Lieutenan Colonel Kenneth W. Smith.

Captain Russell L. Moffitt is the new C.O of the NAS Patuxent River-based Air Tes and Evaluation Squadron One.

SQUADRON INSIGNIA

Fleet Air Reconnaissance Squadron Two flies the EA-3B, P-3A and TA-3B out of Rota, while Naples-based Fleet Tactical Support Squadron 24 operates the C-1A, C-2A and CT-39G. Attack Squadron 95 is based at Whidbey Island and flies the A-6A/B and KA-6D. Jacksonville's Helicopter Antisubmarine Squadron 15 flies SH-3Hs.


Philadelphia 8,910
EASTON
SKIATOOK, OKLA.
11,750 MILES
HAYS KANS
HONG KONG
SPRING LAKE HT
8597
Venice, Fla. 8020
NORTH POLE
12430
METAIRIE, LOUISIANA
1942-1963
M.C.B.8 DET BRAVO
SWAMP RAT
BERLIN
GRIFFIN, GA.
9,000 MI.
ZEPHYRHILLS, FLA
8000 MI.
High Spire, Penna.
(8910 MI)
16667 KM LENINGRAD
MILES
NAVAL AVIATION
NEWS