AWS captains list

See page 3

AWS mailing addresses for Operation Desert Shield

See page 11

AWS OBSERVER:
Telling you about Air Weather Service and the Air Weather Service about you!

AWS OBSERVER

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AWS steps into Total Quality Management

By Lt. Col. Kenneth E. Eis
Headquarters Air Weather Service

This is the first in a series of Total Quality Management (TQM) articles designed to help you understand the new way of doing business called TQM.

These articles are no substitute for the training which you should each be receiving in the next few months. However, they will help you understand the key elements of TQM—like customer orientation, measurement, and process analysis. Additionally, these articles will build a common vocabulary, so when you PCS from Ramstein to Altus, you'll understand the TQM-oriented discussions at your new job.

As the topic for this first article, let's look at a few questions that arise frequently when people are exposed to TQM. First of all, what is TQM? Although this is too broad a question to answer in detail, it's very frequently asked. TQM is not a program. Unlike the suggestion program that can be given to someone as an additional duty, TQM is a philosophy and a new way of doing all your work. It's a scientific approach to management and decision making. The processes you use to perform your work are measured, changed, and measured again. The work (called a process in TQM terms) is always viewed from a customer's perspective—not the worker's.

Lt. Gen. Armstrong, the AFSC/CV in 1988, stated "TQM is like a religion. You may not know everything about it, but when you're not practicing it, you should feel guilty." You'll only have a full appreciation TQM after you've practiced it.

You're probably wondering isn't TQM just like Management by Objective (MBO) or the old Zero Defects (ZD) program?

The answer is no. MBO is a contract to gain results (objectives) between a boss

Continued on Page 4

Operation Desert Shield

MSgt. Charles D. Viola, 31st Weather Squadron, Semback AB, Germany, and 1st Lt. John C. Bertha, Rhein Main AB, take time out for a photo in front of their weather station on location in Saudia Arabia. More photos on page 12. (U.S. Air Force photo)

HISTORY

At the Air Force Global Weather Central (AFGWC), we trace our origin to two organizations, the USAF Weather Central (AFWC) and the Global Weather Central (GWC). The AFWC was formed at the Weather Research Central at Bolling Field, Va. in September 1941. It moved to the Pentagon in 1943 and to Andrews AFB, Md. in 1949. The GWC was created on March 15, 1949 at Offutt AFB, Neb. to support the Strategic Air Command (SAC). In the early 1950s, AFWC moved from Maryland to Offutt AFB, and on Nov. 11, 1957, AFWC and GWC merged to form Det. 1, 3rd Weather Wing (3WW). Det. 1 supported HQ SAC from the SAC underground and was known simply as GWC.

In 1965, the DOD installed the Automated Weather Network (AWN), the first worldwide high speed data collection network. Space was located in Building D, the old Martin Bomber Plant, as the Offutt terminal of the AWN. On July 8, 1967, Det. 1, 3WW became the Second Weather Squadron (2WS), known informally as the Air Force Global Weather Central (AFGWC). In 1969, the construction of the main building and the installation of four computers were completed. On July 8, 1962, the 2WS was deactivated and redesignated as AFGWC, a named organization directly under Headquarters, Air Weather Service (HQ AWS).

The decade of the 1970s brought innovations, changes, and consolidations. Weather support was centralized as AFGWC absorbed the Military Weather Warning Center, the Military Airlift Command (MAC) Computer Flight Plan Unit, the Latin American Forecast Center, and the European and Asian Forecast Units.

In a move to centralize the technical components of AWS under one wing, AFGWC became a part of the Sixth Weather Wing (6WW) at Andrews AFB on July 1, 1972. In the same year, the medium range forecast mission was moved from Suitland, Md., to AFGWC. Forecast responsibility for the AWS Space Environmental Support System (SESS) was transferred from the Twelfth Weather Squadron/Aerospace Environmental Support Unit at Colorado Springs, Colo. On August 1, 1975, the 6 WW was disbanded, and the wing headquarters moved to Offutt AFB. The new wing level organization was redesignated AFGWC and assumed responsibility for 16 subordinate units throughout the CONUS. Those units supporting Air Force Systems Command (AFSC) became the 2WS with headquarters at Andrews AFB on Jan. 1, 1981, the 2WS was realigned directly under HQ AWS.

In 1984, AFGWC acquired the Triton-X-Radar Image Looping System and began writing software for the Satellite Data Handling System (SDHS). In 1986 a Cray supercomputer brought the Advanced Weather Analysis and Prediction System (AWAPS) to full operational status. During the late 1980s, AFGWC supported the launch of two Defense Meteorological Satellite Program (DMSP) satellites, and as 1991 approaches, we anticipate the lift-off of two more. By 1990, all forecast operations had transitioned to SDHS.

Looking back at our history, we see the only constant is change. As we enter the last decade of the century, we look forward to the opportunities and challenges before us.

WINGS TAKE A BOW

A Salute To AFGWC

Automated Weather Network

Part of our mission at Air Force Global Weather Central is to manage the collection of weather data from all over the world. Because of the enormity of the task, AFGWC has a sophisticated, high speed weather transmission system, the Automated Weather Network (AWN), and three strategically located detachments: Det. 7 (CONUS region) at Carswell AFB, Texas; Det. 11 (Pacific region) at Hickam AFB, Hawaii; and, Det. 40 (European region), at RAF Croughton, England. The detachments gather weather data from their regions and forward data over the AWN to the AFGWC headquarters. In addition, they oversee regional data collection and distribution. Finally they disseminate forecast products returning to the field from AFGWC.

"Part of the AFGWC mission is to manage the collection of weather data from all over the world."

The AFGWC data bases must be as complete in space and time as possible. We receive CONUS data in real time through an agreement with the National Weather Service (NWS); outside the CONUS, our efforts often are much different. For example, a few countries such as the USSR and the Peoples Republic of China are so vast that they use High Frequency (HF) radio broadcasts to collect their own weather data. We intercept their live transmissions rather than wait for data to be available through the World Meteorological Organization (WMO). When the Global Weather Intercept Program (GWIP) was estab-

Continued on page 5

Command Line

Brig. Gen. John J. Kelly Jr.
AWS Commander

Commander's Holiday Message

During this holiday season, each of us should pause and reflect on the true meaning of Christmas.

As recent events clearly show, we live in changing and difficult times, but in our celebrations of this year's holiday season, these ancient words of encouragement: "Be not afraid; for behold I bring you good news of great joy which will come to all the people . . . and . . . on earth, peace, good will among men . . . ," should cause us to be hopeful.

The angelic announcement of the Christmas event reflects the same joyful encouragement as that found in the Jewish community's seasonal celebration of Hanukkah as the candles of the Menorah are lit and one of the festival's blessings is shared: "Praised be Thou, O Lord, our God, King of the Universe, who hast permitted us to be present at this happy time."

These words and the observance of the holiday season rekindle anew each year the Christmas hope which is shared by all mankind. The hope for peace--a peace so pervasive that it fulfills the words of the Prophet Isaiah, spoken 700 years before the first Christmas: "Nation shall not lift up sword against nation. . . ."

It is you and your family's dedication and unselfish service to our country and the larger community of nations which help to fulfill this prophesy and preserve the peace. I am proud to lead as well as be a part of the Air Weather Service family and to recognize your contribution to the fulfillment of the dream of nations. In this spirit and with this hope in our hearts, Brenda and I wish you and your loved ones today and in the new year: PEACE.

Chief's corner

It's in our own interest

Recently, a retiring senior NCO expressed two concerns in an end-of-tour letter. One was that the Air Weather Service (AWS) staff filters the information that reaches General Kelly and the other was that honest messengers, with less than good news, were a career-ending role when addressing the headquarters AWS command section. I believe many of us have had these same concerns, at one time or another.

Providing information to the commander is a staff function. The staff must boil large amounts of information down to a consumable size, without changing its meaning or intent. However, as those who've served as staff NCOs know, this is not always 100 percent possible. We all visualize things differently, and, in compiling information from mutiple sources, they sometimes get inadvertently filtered.

Yes, staffs summarize and filter information, but it's a part of their job. This doesn't change our job, and what this article is about, which is — to clearly communicate to the command the information that we have — good or bad! And, this leads me to that second and more important concern about the messenger.

Being an honest messenger, at any level of command, is not a career-ending role, it's just the opposite, in fact. Forthright and candid information from the "troops" is a requirement of command; it is the basis of quality leadership and it is appreciated.

"Communication — effective two-way communication between commanders, supervisors, and their people — cannot be emphasized strongly enough, especially in this time of change," stated General Dugan, former Air Force Chief of Staff, in a policy letter for commanders. "Commanders must listen carefully to their people," he stated, "and act on their concerns and suggestions." He also noted that information must move swiftly and be delivered face-to-face, where possible.

What better face-to-face opportunity is there than during a command visit. I'm not advocating that you bypass your chain of command, here. Your immediate supervisor and commander know you best and are often in the best position to take needed action. However, General Kelly and our wing and squadron commanders spent considerable time and effort by visiting your units and hearing from you directly. Let me assure you they want to know what you think. They do listen carefully and they do act on what you have to say. And, let me add, in my twenty-seven years of service, I've been the bad news messenger often, and I've still got a place to put my hat. Take the opportunity and tell it like you see it.

Stay informed, and keep in touch: DSN 576-4002.

CMSgt. Danny W. Milner
Senior Enlisted Advisor

Brig. Gen. John J. Kelly Jr.
AWS Commander
AWS Editorial Staff
MSgt. David L. Black
Editor

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AWA cites Desert Shield Memorial Fund

A memorial fund has been established by the Air Weather Association to aid the children of the three noncommissioned officers who were Desert Shield casualties aboard the C-5 en route to Saudi Arabia.

The fund is intended to assist the widows of those airmen in continuing to provide for their childrens' educational expenses.

The Air Weather Association will set aside one-fourth of all monies received in new memberships from AWS active duty, Reserve, and ANG individuals, and deposit it in a Desert Shield Memorial Fund.

In addition, contributions to that fund will be accepted from all members of the Association and solicited in its next newsletter.

The Association has mailed to all AWS units its membership invitation and application form. By now you have received that letter. Please alert all within your unit to consider the advantages and humanitarian aspect of becoming a member of the Air Weather Association.

This Desert Shield Memorial Fund is but one of the ways our own association supports those who are a part of this AWS family. Membership in the Association is strictly voluntary, but now-more than ever before, a good reason for all of us to join.

Operation Desert Shield Emblem

Shown here is the proposed emblem for the 1690th Weather Group (Provisional) for Operation Desert Shield. The central tri-color disk is symbolic of AWS support to the three USCENTCOM Components: Yellow for the Desert Sand of ARCENT; blue for the skies of CENTAF; black for the special operations of SOCCENT. The three-cup anemometer is the traditional symbol of the kingdom of Saudi Arabia. The palm itself symbolizes health, well being and sustenanance; the color green, lushness. The crossed scimitars symbolize the justice of the kingom. The red letters and outer band are symbolic of the courage of the weather personnel deployed to support U.S. objectives in Desert Shield. The white background of the letters symboloizes the united of effort of the joint support, as white is the union of all colors. The three white stars in the blue background commemorate our three comrades who perished in the C-5 accident at Ramstein AB.

AF selects 80 AWS members for captain

During the 1990 central captain board the Air Force selected 5,766 first lieutenants, 80 of those from the Air Weather Service, for promotion to captain.

Among those selected for promotion from Air Force-wide were 4,781 line officers, four chaplains, 27 judge advocates, 654 nurses, 62 medical service officers, and 133 biomedical sciences officers.

The 4,781 line officers were selected out of 4,822 eligibles in the promotion zone, for a 99.1 percent selection rate. There were 126 line officers eligible above the promotion zone, and 101 were selected for an 80.2 percent select rate.

The board considered first lieutenants in and above the promotion zone with a date of rank of Dec. 31, 1989 or earlier. The board considered line officers with an extended active duty date of March 17, 1990 or earlier, and nonline officers with an extended active duty date of Sept. 17, 1990, or earlier. Officers with a scheduled date of separation earlier than Dec. 16, 1990, were not considered.

Those AWS members selected for captain were:

ARMITSTEAD, John N., AFGWC
BARRETT, Patrick E., Det. 11, 2WS
BENNETT, Judy L., USAFETAC
BERTHA, John C., Det. 25, 31WS
BORECKY, Cynthia A., Det. 5 3WS
CADE, William B. III, 4WW, Peterson
CALLAHAN, William J., 15WS
CHAI, Walter S.D., Det. 15, 30WS
CLEMENT, Peter C., Det. 3, 5WS
CONANT, Robert W. Jr., 26WS
CONNER, Mark D., Det. 3, 9WS
CRUISE, Lester D., Det. 13, 7WS
CRUPI, Kevin M., Det. 10, 2WS
DEVECCHIO, Michael D., 7WW
DREHER, John P., Det. 4, 26WS
DWYER, Michael J., Det. 23, 9WS
EASLEY, David B., Det. 15, 28WS
ENGELMANN, Peter A., Det. 13, 2WW
FAUCETTE, Mark L., 11WS
FLEISHAUER, Robert P., Det. 9, 17WS
FORMAN, Keith K., 5WW
FORREST, Eric S., AFGWC
FRYE, Jeffrey L., 1WW
GLASS, Marvin J. Jr., AFGWC
GONZALEZ, Norman, Det.12, 31WS
GUIMOND, Philip W., Det. 8, 25WS
HALL, Stephen R., AFGWC
HANSEN, Traci J., 4WW
HANSER, Joseph A., Det. 1, 1WW
HELMICK, Brent A., OL-A, 9WS
HENRY, Mark E., AFGWC
HEVERLY, Dore Jean, Det. 28, 26WS
HINSON, Franklin J. Jr., Det. 3, 3WS
HOFFMAN, Terry L., 2WW
HOLMES, Kenneth C., AFGWC
HUDSON, Robert G., Det. 1, 1WW
JENSEN, Lance B., OL-A, 5WS
KAMPMEYER, Phylis L., 26WS
KOHN, David J., Det. 1, 31WS
LACY, Elizabeth A., 26WS
LAMBERT, Bruce A., Det. 6, 26WS
LAYESKI, Eugene D., AFGWC
LOMBARDI, Douglas P., Det. 10, 5WS
LOOMANS, Susan M., 1WW
LUCA, Robert, 5WW
MCELHANEY, Larry D., AFGWC
MCKINNEY, Kris F., 6WS
MELTON, Edward C., III
MICHELS, Arnold B., 30WS
MODLIN, Norman R., Det. 8, 25WS
MONINSKI, Anthony D., Det. 9, 7WS
MONK, Kristina B., AFGWC
MOORE, Erika K., 2WW
MORELY, Fawn R., Det. 1, 9WS
NICOL, James B. Jr., USAFETAC
PAAL, David M., AFGWC
PEDERSON, Sandra B., AFGWC
ROBERTS, Lester N., Det. 1, 4WW
ROUSSEAU, Marguerite USAFETAC
RUGG, Steven A., Det. 2, 30WS
SIMCOX, Scott P., Det. 9, 3WS
SLATER, Deeann M., AFIT
SMITH, Tina M., Det. 7, 17WS
SMITH, William C., Det. 13, 20WS
SOUZA, Craig A., OL-F, 7WS
STECKLER, Benjamin T., Det. 7, 3WS
STEVENSON, Christine, Det. 12, 26WS
STONE, Kevin L., Det. 15, 30WS
STOSS, Lausa A., Det. 17, 26WS
THOMPSON, Christopher E., AFGWC
VALONE, Scott C., Det. 25, 5WW
VANASSE, Harold A., Det. 10, 15WS
VOJTESAK, Michael M., USAFETAC
WELLER, Michael M., AFGWC
WESTMARK, Carolyn S., Det. 1, 2WS
WHITING, Judy L., 1WW
WILEY, Mark J., Det. 25, 5WW
WILLIAMS, Mark David, Det. 7, 24WS
WILLIAMS, Paul E., AFGWC
WOOD, David R., Det. 14, 5WS

hot off the wire ...

Retired But Not Forgotten—One of Headquarters Air Weather Service command section's staunch supporters for more than 17 years, Priscilla Grala, retired Nov. 30, 1990, after 39 years of faithful service to the U.S. Air Force. Mrs. Grala, known to everyone as "Priscy" began her career in 1951 serving for nearly 22 years as the Chief of Administration, Ramey AFB, Puerto Rico. Her following assignment was at the Headquarters Air Weather Service where she became a familiar face to a large number of people in the command. During Mrs. Grala's career, she served as assistant CSE under Mr. Charles W. Tiemann, and Mr. Olen Drain, and as executive for a short time thereafter. Until her retirement, she served as management assistant and the publications forms manager, privacy act officer, freedom of information manager, suggestion manager, SII monitor, and TDY orders authenticating official. Godspeed and good luck to Mrs. Grala on her retirement.


Priscilla Grala

Stop Loss—Operation Desert Shield has affected various Air Force retraining programs, and some people with Stop Loss specialties have had their retraining delayed. Individuals with retraining class start dates between now and the end of December are affected. People in stop loss specialities who have approved retraining and who have already started or completed class will continue on to their retraining assignments. First-term airmen eligible to retrain but affected by Stop Loss who still want to apply for retraining can submit a request through their commander to their consolidated base personnel office.

Baggage Delay—Service members and Defense Department civilians moving between the United States and Europe are experiencing delays in receiving their household goods and unaccompanied baggage. The Military Traffic Management Command began receiving complaints from local transportation offices in late October and has taken action to correct the problem; however, delays of up to three weeks can be expected. American Eagle Van Service Inc., a large carrier of personal property, household goods and unaccompanied baggage for DOD, failed to complete shipment of goods as they were required to. As a result, MTMC placed the company in a worldwide nonuse status. No more shipments will be placed with this company pending resolution of their problem meeting the terms of agreement. People experiencing delays should contact their local traffic management office for assistance or more information.

It's Story Time—Well another year has passed and by February the Wings Take A Bow special features will be completed. That means, once again, there will be more room for those important unit articles that had been possibly delayed due to our special features. The AWS Observer wants to hear your story on missions, units, people, weather phenomena, scientific or meteorological accomplishments. If you've got a tale, let your fellow weather members know by sending it to AWS/PA, Attn. MSgt. Dave Black, Scott AFB, Ill. 62225-5008. The Observer deadline is the first week of the month for the next month's issue. Please double space your copy and be sure to add some photos or relevant art. For more information, contact Sergeant Black at DSN 576-2065.

1st Weather Wing supports Operation Deep Freeze

View of McMurdo Station, Anartica from Observation Hill.

Lieutenant Susan Loomans takes time out for a photo on her arrival in Anartica.

A forecaster from the 1st Weather Wing (1WW) Weather Support Unit, Hickam AFB, Hawaii, was recently involved in Operation Deep Freeze, in which Military Airlift Command aircraft support the United States Antarctic Program.

Designated as a 1WW representative, 1st Lt. Sue Loomans set out to evaluate the program's weather operations. During the Deep Freeze season, which runs from Oct. 20 through Nov. 8, C-141 and C-5 aircraft fly 21 missions from Christchurch, New Zealand, to McMurdo Station, Antarctica.

This is hardly a routine mission. A lack of alternate airstrips south of New Zeal- and fuel limitations dictate computation of a Point of Safe Return (PSR).

For most flights, PSR is about one hour short of McMurdo. Once past PSR, they are commited to land-no matter what the weather conditions.

Antarctica is known as the coldest, windiest place on Earth—so both forecasters and pilots have a difficult time. Traveling with the crew of a C-5, Lieutenant Loomans had the goal of reaching Antarctica. The five hour flight to McMurdo passed over iceburgs, snowy peaks, and massive glaciers. Visibilities of over 100 miles yielded a fantastic panoramic view. At PSR, McMurdo Weather relayed the forecast, and the aircraft commander made the decision "GO."

The runway at McMurdo is located on the Ross Sea annual ice shelf—six feet thick with 1,500 feet of icy water below. Anxieties among the passengers were high, but on this crystal-clear day, we made a perfect landing.

Bundled against the biting cold, Lieutenant Loomans was greeted by Lt. Cdr. Stewart, commander of NSFA Weather. Her Antarctic adventure began with a tour of the facility.

"Despite the harsh living conditions, the weather team at McMurdo seemed dedicated and motivated," she said. Relying on NOAA satellite imagery, widely scattered observations and upper air soundings, and an extensive knowledge of Antarctic meteorology, NSFA forecasters provide impressive support. In fact, they are some of the most important people in town, since the survival of McMurdo relies on the food, supplies, and personnel that MAC aircraft deliver.

Aside from forecasting, Deep Freeze weather personnel have the unique opportunity to research Antarctic meteorology firsthand and undisturbed, Antarctic is a perfect place to see basic atmospheric principles and dynamics in action. At times, katabatic winds exceed hurricane force.

Fata Morgana (an optical illusion makes small banks appear as towering cliffs) and white-outs are commonplace.

These inclement conditions often trouble Deep Freeze operations, as the lieutenant discovered after being stranded for three nights. "Time spent there was well worth it, I received a first-class tour of McMurdo Station and New Zealand's Scott Base," she explained.

Lieutenant Loomans said, "Compared to Hawaii, Antarctica is another world—a fascinating place filled with interesting people and activities. I feel very fortunate to have been a part of Deep Freeze and a guest on Earth's last great frontier."

TQM...

Continued from page 1

and a subordinate. TQM looks at the processes used to achieve objectives, not just the results.

TQM teaches that results are often achieved by accident and are not repeatable. On the other hand, ZD was basically a publicity program with buttons, balloons, and bosses exhorting workers to do better. TQM includes education and real changes in your everyday work environment.

But it sounds like another do-more-with-less program. Yes, there is an element of more-with-less that prompted TQM's acceptance in the DOD. Don't confuse the causes—DOD's shrinking budget and manpower—with the fixes. TQM is a way for any organization to become more efficient and to quickly recognize non-value-added work that should be eliminated. Without TQM, the more-with-less possibilities woud be much worse.

So what's in it for me? TQM asks managers to review failure from a process perspective. The pattern of thought will be changed from, "What's wrong with you?" to, "What's wrong with the process?" On a more positive note, performance reports—both EPRs and OPRs—need to contain objective customer impacts. TQM's customer orientation and requirement to measure each process, both before and after a change, will provide just the kind of facts needed to write performance reports with impact. Next month we'll discuss customers and processes.

WX students place 4th in cross-country race

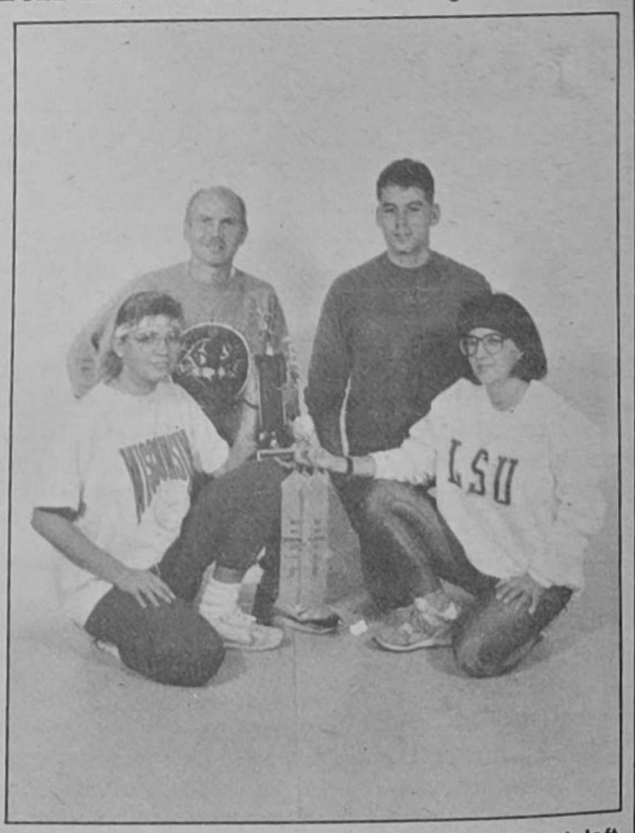
Four students from the weather forecasting course came in fourth as a coed team in the annual Wild Wild Wilderness Run sponsored by the Kennebuk Road Runners of Danville, Ill. recently.

More than 500 runners took part in the 7.6 mile run through Kickapoo State Park. The runners from the Weather Technician and Aerographer's Mate Class C1 course are: A1C Sean Morris with a time of 1:17:14; AG1 Jennie Delk with a time of 1:16:15; SSgt. Scott McMillian with a time of 00:58:13; and SrA Jodi Zimmerman with a time of 1:16:00.

"It was a great day to relieve stress," said Aerographer's Mate First Class Jennie Delk. "I never felt the miles go by."

"I ran for the fun of it," said SrA. Jodi Zimmerman from the 126th Weather Flight (Wisconsin Air National Guard). "I usually run one to two miles every other day."

The foursome plan to enter the Siberian Express race in January of 1991 at Kickapoo State Park.



SrA.Jodi Zimmerman and A1C Jennie Delk (Front, left to right) SSgt. Scott McMillian and A1C Sean Morris show off trophies won recently in the Wild Wilderness Run. (U.S. Air Force photo)

AFGWC

A Word From the Commander

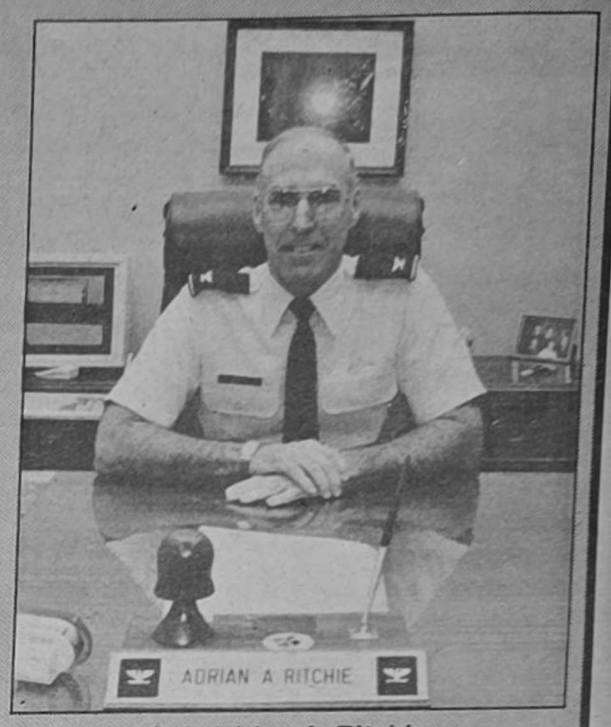
During our careers in the Air Weather Service, technological advancements have changed the face of our science. More data flow in a few seconds than an analyst used to see in a lifetime. Thanks to computers and interactive graphics, acetates and grease pencils are memories from a bygone era, and today we prepare analytical products with once unimaginable speed, precision, and detail. Weather satellites gather data over otherwise inaccessible parts of the world.

The Air Force Global Weather Central has been in the forefront of these changes. We've taken the latest, most advanced technology and made it work on a grand scale. Often we've broken new ground.

In the next few pages, we'll take you on a tour of AFGWC. You'll meet some of the men and women who make Global work, experience the diversity of our mission, and share in the pride of our accomplishments. We begin with our far-flung detachments, travel to the headquarters, move on to our one-of-a-kind climatological facility, stop in on our highly specialized operating locations. We'll show you the challenges, opportunities, and mission involvement our wing offers.

We're grateful to the AWS for the opportunity to "take a bow." While we're on stage, we'll try to do justice to our people, our mission, our products, and those we serve. We can't succeed fully, because there are photos we don't have room for, names we have to leave out, and jobs we must omit. But as you read, we hope you'll let your imagination take over and catch our excitement and feel our sense of purpose.

On behalf of the men and women of the Air Force Global Weather Central, welcome!



Col. Adrian A. Ritchie

AFGWC . . .

Continued from page 1

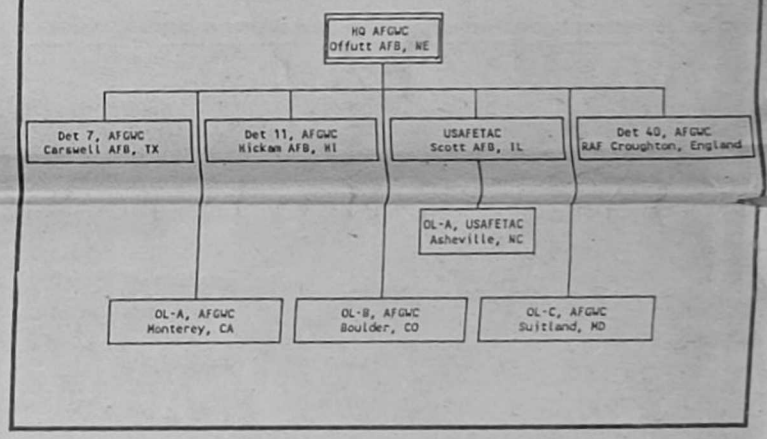
lished in 1955, it monitored eight stations. Now 10 sites around the world, under the direction of the three AWN detachments, *continuously intercept assigned targets* to keep the AFGWC databases complete. Approximately 20 percent of AFGWC's databases is received through the GWIP worldwide and up to 80 percent from some areas in the USSR.

When data reach HQ AFGWC, we decode, and integrate them into the largest environmental database of its kind. From there the data are processed and used in forecast models, sent to other agencies, and archived. In a short time, most of the data are transformed and flow back through the AWN to AWS units as finished weather analyses, forecasts, or support products thereby completing the circuit.

The AWN is as dynamic as the data it transmits. As recently as June 1990, Detachments 11 and 40 were realigned under the AFGWC wing to make management of the AWN more efficient.

We'll follow the data as we take a tour of our three detachments beginning with the hub of the AWN, Det. 7.

AFGWC Organizational Chart



Det. 7, AFGWC

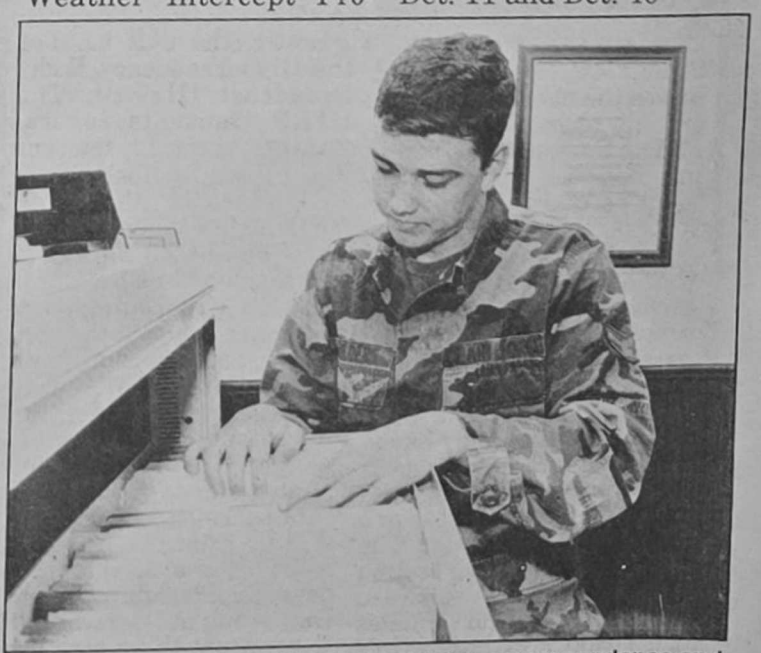
Det. 7, AFGWC is tucked away among the B-52 and KC-135 support facilities at Carswell AFB, Texas. Det. 7 is staffed by 39 dedicated military and civilian professionals, all with weather or administrative backgrounds. Serving as the focal point for directing the acquisition and distribution of weather data over the AWN, Det. 7 earns the nickname—the Hub of the AWN.

Two distinct software systems, the Automatic Digital Weather Editing Program (ADWEP) and the Applications System work together to acquire and distribute AFGWC's database. The ADWEP system programmers maintain almost 140,000 lines of computer software used to acquire, identify, and correct data throughout the AWN. The Application System provides in-house capability for Data Acquisition, Requirements, and Control personnel to perform their respective tasks.

Data Acquisition monitors daily GWIP receipt performance from 10 communication sites world-wide and directs the assignment of HF radio broadcasts to lessen interruptionof unique weather data flow. They also maintain the AWS Master Station Catalog with over 14,000 station entries constantly reviewed and updated every two weeks to ensure their accuracy. Data Acquisition provides to over 30 agencies including the National Center for Atmospheric Research and the Lawrence Livermore National Laboratory.

Data Requirements provides a real-time interface to over 680 Air Force, Air National Guard, Navy, and other Department of Defense customers within the CONUS as well as specialized contingency and exercise support. Over 370 prepositioned contingency packages are maintained, providing customers with custom tailored data in a timely and efficient manner.

Manned 24 hours a day, the **Data Control Section** maximizes weather data receipt. They identify and correct garbled or incorrectly formatted weather observations and bulletins and reenter them in the AWN—an effort that requires an extensive knowledge of numerous codes used by the WMO. Data Acquisition monitors data receipt by the Global Weather Intercept Program by monitoring over 80 worldwide circuits—many channeled through Det. 11 and Det. 40



Finding the paperless office to be elusive, correspondence and forms just won't go away. A1C John Childers, administrative specialist, maintains detachment files and provides support to the command section. (U.S. Air Force photo)

Det. 11, AFGWC

Det. 11 operates the Pacific Automatic Digital Weather Switch (Pacific ADWS) at Hickam AFB Hawaii. This ADWS is the Pacific hub of the worldwide Automated Weather Network.

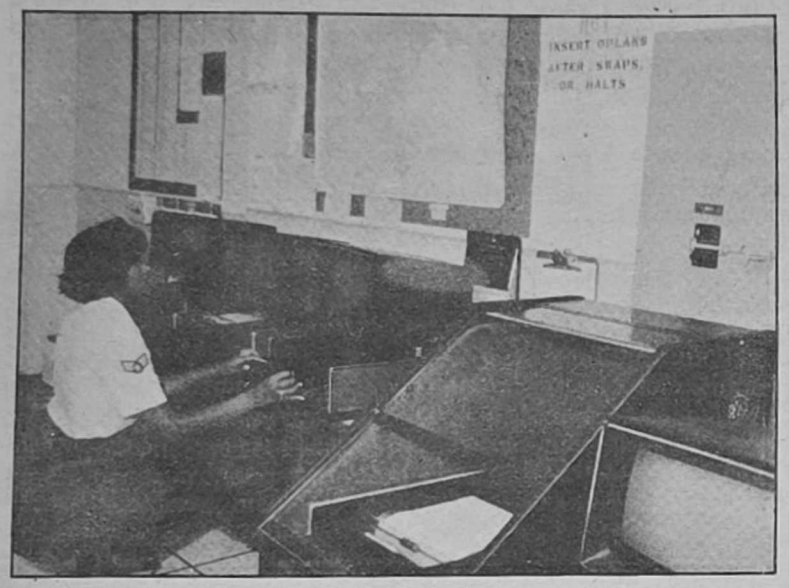
The primary mission of Det. 11 is to ensure timely delivery of Asian and African broadcast weather data through Det. 7, AFGWC to HQ AFGWC. The Pacific ADWS processes weather broadcast data intercepted from target cities in locations spanning more than thirds of the earth's surface.

Approximately 70,000 coded weather reports of various types are received by Pacific ADWS daily and are quality controlled by weather data controllers. Adding the human touch, they correct garbled or misformatted data which might otherwise be rejected by the computer. Last year alone they corrected over 1.5 million reports.

Det. 11's secondary mission is to ensure Air Force, Navy, and Marine weather units in the Pacific and Indian Ocean receive weather data they need to support the readiness of our air, ground, and sea-based forces. They provide vital support to major annual joint exercises, such as Team Spirit and Cobra Gold. Recently, Det. 11 supplied weather data to Desert Shield forces via Navy fleet broadcasts originating from Guam, the Air Force high frequency regional broadcast from Clark AB, and weather circuits to Diego Garcia in the Indian Ocean. And, in support of PACEX 89/Frequent Storm, a major biannual joint exercise involving five Navy battlegroups, Det. 11 developed and implemented a new weather data management system for fleet weather broadcasts. The commander of NAVWESTOCEANCEN praised the system as the "... best (weather) broadcast support achieved in a Pacific theater exercise of this magnitude."

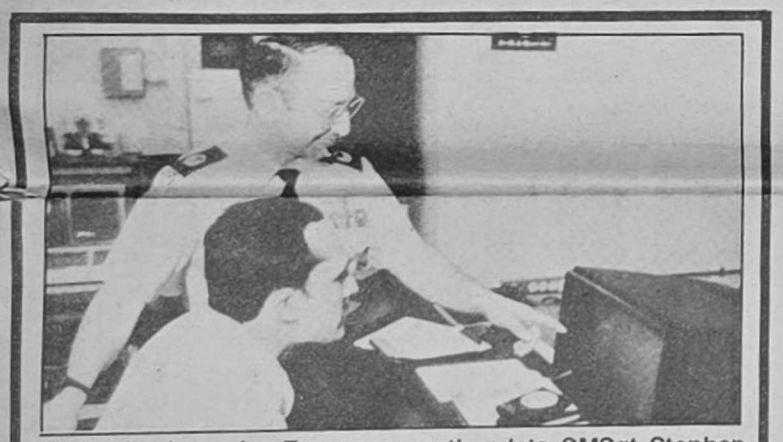
Our people at Det. 11 stay busy. They obtained a new circuit to support Hawaiian customers, initiated the effort to upgrade the Japanese Meteorological Agency circuit and brought on line new customers such as the PACAF Command Center's CINCPACAF C2 system, 5th AF Weather Support Unit, Pacific Centralized NOTAM (Notice to Airmen) Facility, and a relocated HQ Republic of Korea Air FOrce weather central. With self-help funds, mostly from the MAC Sharp Eagle program, Det. 11 built a new work area for their weather data controllers and followed with a complete renovation of their offices which are housed in a building that survived the Pearl Harbor attack.

Next, we turn our attention to the other side of the world, in England, where many of the duties and responsibilities of Det. 11 are mirrored by the men and women of Det. 40, AFGWC, RAF Croughton.



Monitoring incoming data from Global Weather Intercept sites in the Pacific is a 24 hour a day job. Sgt. Jennifer Qualls quality controls data before they reach the AWN.

Pounding nails for Sharp Eagle the easy way, MSgt. Todd McIntosh fires a Ramset to set a wall support base. Working with self-help labor, det. members built a new area for weather data controllers and saved the Government nearly $20,000 by doing the work themselves. (U.S. Air Force photo)



Monitoring incoming European weather data, SMSgt. Stephen Glauberg trains Sgt. Bradley Schalk. Det. 40 is responsible for analyzing and correcting weather reports from all over Europe and the Middle East prior to their transmission on the AWN.

Det. 40, AFGWC

Det. 40 is located at RAF Croughton, England and serves the needs of customers all over Europe, the Middle East, and surrounding regions. The detachment is divided into four sections.

If data flow is like river traffic, then controllers are the harbormasters. They process incoming weather data and send it back out to the customers. They troubleshoot problems a base weather station may have.

Data Requirements puts together weather packages that meet each customer's specified requirements. The Data Programming section deals with the software which decodes and validates the weather data. They work with the programming of Notices to Airmen (NOTAMs) and automated weather database inquiries (ARQs).

Lastly, the unit handles the High Frequency Radio Broadcast (HFRB). The HFRB transmits tactical weather data in teletype and facsimile form from RAF Barford, St. John, England, and Incirlik, Turkey. The Det. 40 Data Control Section changes transmission frequencies as needed, manages the facsimile transmission, and implements HFRB data packages. The Data Requirements section manages circuit loading and creates and controls HFRB data packages.

Thus, data enter the AWN at one of the three detachments, flow to the Det. 7 hub at Carswell (if they're not there already), and are transmitted to the headquarters for further processing.

Headquarters, AFGWC

Once data from the AWN reach the headquarters, they enter the mainframe computer complex via a dedicated communications computer and are merged with data arriving from other sources. They are diverted to the appropriate databases, but then their path becomes complicated very quickly. Rather than miss the other things we do, let's leave the data and tour the headquarters. We'll meet up with the data again shortly.

People

As a central, our manpower distribution is unlike any other weather wing. Of our 912 authorizations, more than three-fourths are in the headquarters. And there is diversity. Among the 15 AFSCs represented, there are 40 military weather forecasters, specialists, and advanced weather officers; 205 computer operators and programmers; 34 other authorizations including navigators, supply technicians, finance technicians, space operations and administrative specialists; 87 civilians; and, even a physicist. Our folks have no lack of challenges and opportunities.

Operations Division

We'll make the first stop in the Operations Division (DO). The division's responsibilities are broad in time and scope. They manage the day-to-day internal and external affairs of the wing while planning for the future On a daily basis, DO is the primary interface with higher headquarters and subordinate units, other weather wings and government agencies, supported customers, base agencies, and most contractors. They act as coordinators of operational support, represent me on each duty shift, and handle immediate operational problems.

"Among the 15 AFSCs represented, there are 400 military weather forecasters, specialists, and advance weather officers; 205 computer operators and programmers; 34 other authorizations including navigators, supply technicians, finance technicians, space operation and administrative specialists; 87 civilians; and, even a physicist."

When AFGWC was created, the first use of computers was limited becauser the systems were expensive and people were plentiful. Today the reverse is true: our computers are powerful, but we have limited manpower. We've automated functions let machines do the work, and we check the results. Our operations people look to the future for computer systems requirements, plan acquisitions of additional computer and communication systems, and integrate these systems into Global's evolving computer systems.

No small job, the division manages the wing's communications, mobility, and formal training programs.

Forecasting Service Division

The Forecasting Services Division (WF) is our largest headquarters division. Its mission is to produce weather forecasts and forecast products in support of Air Force, Army, and joint service operations. Three production teams share 24 hour-a-day forecasting and analysis responsibilities. They assemble data from AWS, meteorological satellites, and World Meteorological Organization sources and produce a wide range of surface and upper-air analyses, prognosis bulletins, and charts.

What once was known affectionately as the 'map factory floor" was replaced by the Satellite Data Handling System (SDHS). SDHS began as an ideas in the 1970s, and we started with nothing

Continued on Page 7

Headquarters, AFGWC

Continued from Page 6

but a concept of operations. We worked with our contractor, designed our databases, and wrote our own software. Our dream became reality when SDHS became fully operational in 1990. Grease pencils and acetate overlays gave way to interactive computer graphics, and light tables turned into four-screen computer consoles.

Today, forecast teams provide products such as point analyses in the USSR and the People Republic of China; weather for shuttle launches, landing, and ferry operations; conditions for MAC and SAC operational readiness inspections; weather outlooks for presidential and congressional travel; volcano eruption trajectories; fallout patterns after the Chernobyl disaster; and, weather for on-site inspections in support of the INF treaty to name a few. Our contingency branch forecast for Just Cause, El Dorado Canyon, Urgent Fury, to name a few operations, and they're forecasting for Desert Shield now. Other WF branches predict flight hazards, severe, tropical weather, provide tropical storm fixes, and we're bringing on new procedures such as a novel method for forecasting turbulence. We average, 11,600 computer-generated flight plans every month.

Just because we replaced old methods with new, we haven't forgotten one of the keys to forecasting: The analyst must interact with data and must be immersed in the job of knowing the weather. When we swapped light tables for SDHS consoles, we gave our analysts the ability to draw from and overlay any of a vast array of meteorological databases. They have access to much more information than once was possible, and if anything, their immersion is deeper. And with our advances we've maintained the quality of forecasts for which AFGWC is known. After the last presidential election, we were right on the mark with an Inauguration Day forecast 12 days in advance. Yes, and teamwork extends to the programmmers in the software development division as well.

Software Development Division

The Software Development Division (SD) is responsible for the software that runs on AFGWC computers. They do more than write software: they manage it. In the software world, managing means developing, maintaining, modifying, testing, and implementing. To meet increasing demands with fewer resources, SD instituted software engineering, the insistence of clear requirements definition, and extensive training.

SD also has responsibility for designing and maintaining AFGWC's vast environmental databases. Numbering over 50 specialized subject areas, our databases are among the most comprehensive in the world. Remember the volcano eruption trajectories WF produces? SD has a database with information on every active volcano in the world. Recently, we added modernizing to the list of database activities when we required a dedicated database computer. To support tactical decision aids and the battlefield weather observing and forecasting system, we've added substantial capability for tactical customers.

The division developed and maintains a wide variety of models. Our ionospheric propagation model forecasts radio transmission conditions; several cloud models describe worldwide cloud cover and vertical extent; and agriculture models provide tools for other agencies, such as the Department of Agriculture and the State Department, to estimate worldwide crop yield.

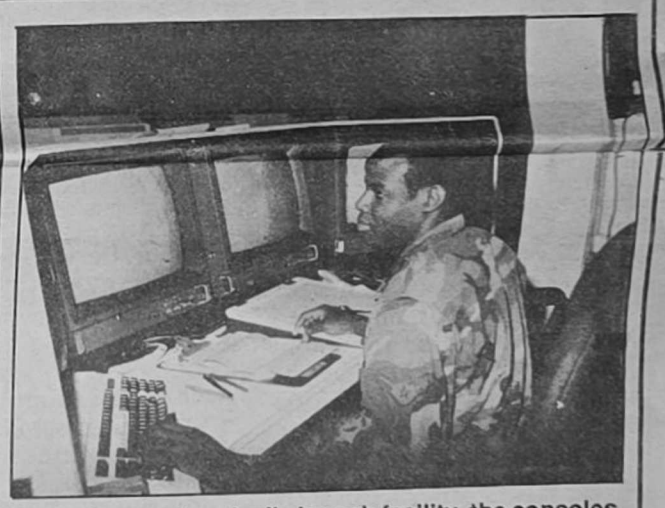
Computer Systems Division

The Computer Systems Division (CM) operates the Headquarters mainframe computer systems, satellite imagery processing complex, and manages the computer system security program. The division provides our greatest employment opportunity for first-termers in the 49xxx career field. After training, we put operators at the consoles of multimillion-dollar mainframe computers and watch them succeed. Their responsibilities are great; the division receives, processes, and stores over 140,000 weather observations daily, and maintains the most complex meteorological databases in the world. Every month, CM operators create nearly 4,000

Continued on page 8

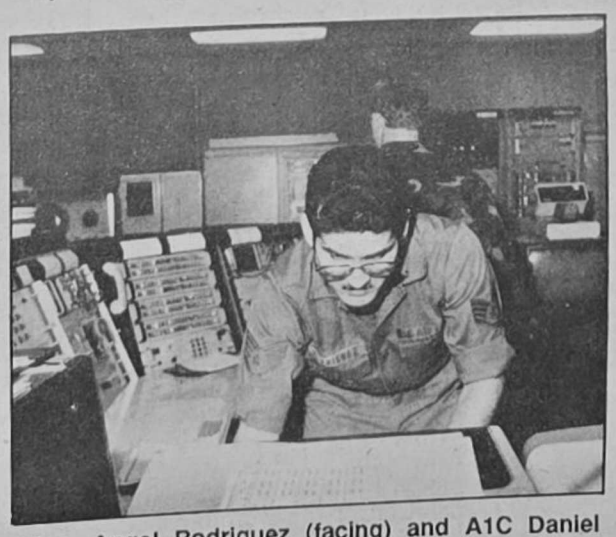
Forecasting solar-terrestrial interactions during 1989-1990 has been challenging since these years have seen some of the most intense solar activity in record history. TSgt. Leslie North prepares a forecast bulletin.

Analyzing the latest output from the Relocatable Window Model, members of the Numerical Models Section discuss improvements. The model provides mesoscale forecast capability in a movable window over most of the globe. Left to right: Mr. Robert Posey, Capt. Dave Mucia, and 1st Lt. Tina Monk.



Reminiscent of a missile launch facility, the consoles of the Satellite Data Handling System provide forecasters with the ability to access and manipulate weather data fields. A1C Michael McKay inputs pilot reports to provide a more complete database.

Repairing a balky disk drive, TSgt. Richard Kucham services one of AFGWC's many desktop computers.



SSgt. Angel Rodriguez (facing) and A1C Daniel Adelsberger process DMSP satellite data sent to the headquarters from a remote read-out site.

Saving many hours of frustration for hunt and peck typists, the word processing center tames the paper tiger in the headquarters. Sifting through forms representing a day's work is Ms. Penny Sheaffer.

Headquarters, AFGWC

Continued from Page 7

routine specialized products. CM operates Site III-a link in the Defense Meteorological Satellite Program (DMSP) data network and one of the non-AWN data sources. Site III serves as the source of all satellite data used in AFGWC and supervises routing of DMSP data to the Satellite Global Database (SGDB), to the transmission difficulties in one of the DMSP satellites. Recently, CM supervised the upgrade of our main production and development mainframe computers.

Special Support Division

The Special Support Division (WS) provides tailored meteorological and space environmental support to a wide variety of classified customers. Operating 24 hours a day, analysts supply AF Precedence 1-1 customers with one-of-a-kind forecast products. WS maintains DOD's only space environmental forecast facility in support of Space Command, Strategic Air Command, North American Air Defense Command, classified AF Precedence 1-1 missions, NASA Shuttle flights, and other Government agencies.

Monitoring solar-terrestrial interactions, the division publishes real-time notification and forecasts of solar events, geomagnetic and ionospheric disturbances, and high frequency radio propogation bulletins. For example, the Space Environment Support Branch sends automatic solar event warning notices to Over-the-Horizon-Backscatter radar sites. As part of the Strategic Defense Initiative program, the branch provides weekly summaries of solar and geomagnetic indices. Most opportunities in the Special Support Division require TS-SCI security access.

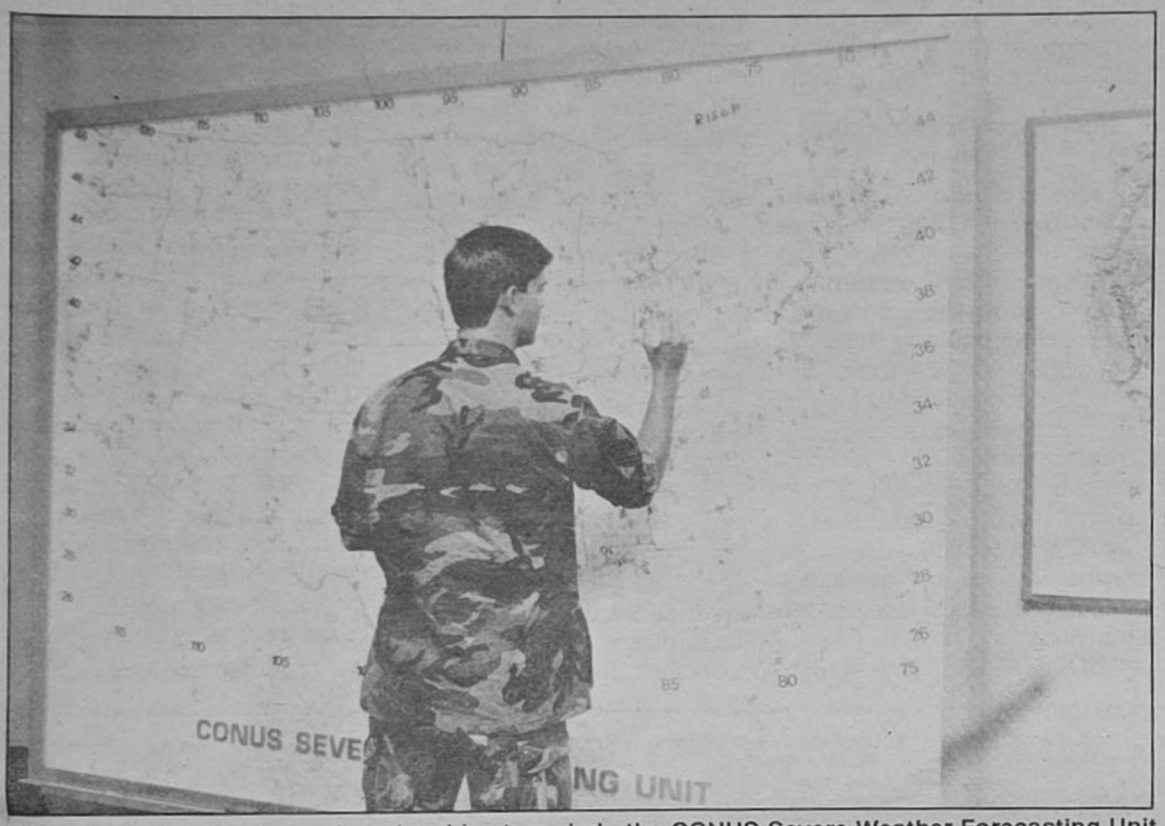
Resource Management Division

The Resource Management Division (RM) advises wing headquarters and subordinate units on matters of budget, personnel, manpower and organization, hardware and software configuration management, computer performance, product evaluation, supply and equipment, and civilian personnel. Enjoying a measure of diversity, the division employs military and civilians from a variety of career fields.

RM is the OPR for mainframe and desktop computer configuration management regulations. These results strongly control changes to computer hardware configuration and software. They guarantee software written in the present will be understandable and maintainable in the future.

Information Management Division

The Information Management Division (IM) manages administrative programs and provides administrative guidance to divisions, staff agencies, and subordinate units. The division monitors and distributes forms and publications for the headquarters. IM authenticates and performs quality control of HQ AFGWC orders, provides documentation management, and assures compliance with the Freedom of Information and Privacy Acts. The word processing center processes an average of 700 documents per month for the Headquarters.



Always a gathering place when the skies turn dark, the CONUS Severe Weather Forecasting Unit status board is updated constantly. TSgt. Gary Mercer adds a severe weather box.

OL-A, USAFETAC

Decades of solar and terrestrial environmental data collected at sites throughout the world are stored at the facilities of OL-A, USAFETAC in Asheville, N. C. Responsive to short notice and sometimes unusual requests, analysts in Asheville and their data combine to provide one of the most comprehensive climatological archives services in the world. Mission specific data can be recovered, interpreted, and shipped to customers within hours in support of Air Weather Service and other government operations.

OL-A consultation and tailored climatic studies on global, regional, and local scales. Their standard products include Surface Observation Climatic Summaries (SOCS), Wind Stratified Conditional Climatologies (WSCC), and Climatic Briefs to name only a few. OL-A produces custom reports as well.

As we follow the data, the last stop is the USAFETAC at Scott AFB, Ill.

Each tape storing the equivalent of over 40,000 pages of information, the tape library houses the largest repository of solar and terrestrial climate data in the world. Karen Kelly, a computer operator, retrieves a tape for processsng.

USAFETAC, AFGWC

The United States Environmental Technical Applications Center (USAFETAC) has a unique mission: to study the atmosphere from a historical perspective and to provide advice on the effects of environment on operations and equipment. USAFETAC supports Air Force and Army units, government contractors, and other government agencies such as the National Aeronautics and Space Administration (NASA). There is nothing typical about the support provided by USAFETAC analysts: Their challenges range from helping to design the air conditioning system for a new base at Crotone, Italy, to determining lightning constraints for a launch of a space shuttle.

A thorough knowledge of the efforts of the environment are crucial during the design and system testing phases of a project. The Strategic Defense Initiative Office used USAFETAC's Cloud Free Line Of Site (CFLOS) model to determine the best positioning for ground based laser systems. Designers of the Advanced Tactical Fighter requested a study of cloud droplet and ice particle distributions to help in system design. Chemical dispersion models, including those to be used in the battlefield, also require climatic summaries.

Air Force and Army planners rely on USAFETAC support to determine the best time and place to test new equipment. Descriptive and statistical climatologies give planners a mission success rate based on weather limitation of their equipment. For example, USAFETAC can describe conditions favorable to triggered lightning strikes. Wargaming planners use USAFETAC ceiling visibility models to determine how best to employ weapons systems. SAC planners use descriptive climatologies to select ideal low-level training routes. Army units determine optimum employment tactics for their weapon systems using USAFETAC's weather inputs Intelligence

Continued on page 9

Generating climatic summaries and analyses respected all over the world, meteorologists and climatologists rely on OL-A, USAFETAC reports. Here, Jon Whiteside and Joe Boyte, supervisors of the Climatic Data Base Branch and the Climatic Applications Branch respectively, review the latest climatology report series with Lt. Col. Wayne Faas, OIC of OL-A.

USAFETAC, AFGWC

Continued from Page 8

Preparation of the Battlefield systems.

USAFETAC has a strong commitment to operations. In support of classified AF Precedence 1-1 customers, they describe atmospheric conditions above and around a given geographic point.

Point analyses were provided after the Challenger and Chernobyl accidents. A study of the Persian Gulf that includes a narrative climatology and an electro-optical climatology was deployed with our weather units in support of Desert Shield.

Learning to forecast in a new location is almost always difficult, but USAFETAC products help every base weather station with Conditional Climatology tables and Surface Observation Climatic Summaries. In addition, USAFETAC does specialized studies for difficult local forecasting problems.

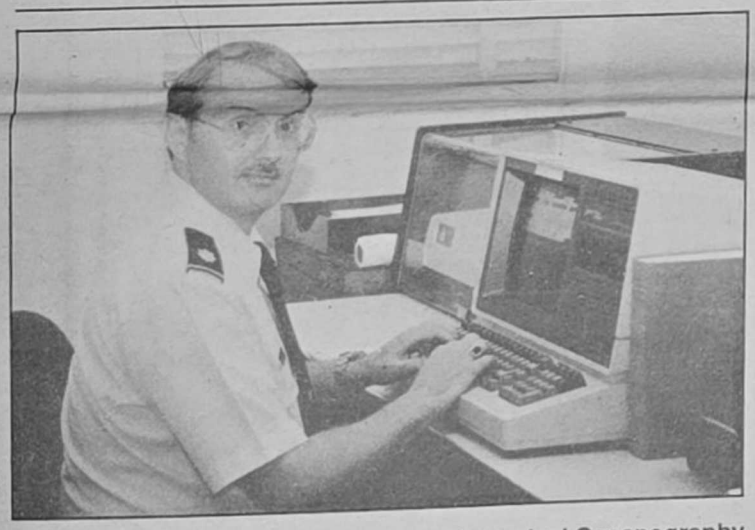
Data, data, and more data. Susan Keller and Lynn Teetor of the AWS Technical Library organize thousands of airfield summaries on microfiche. The Library contains one of the largest and most complete collections of environmental source material in the world.

Although forecasting at a new base can be difficult, deploying to a remote site without climatic information can be dangerous. USAFETAC products are used to determine what clothing should be in our member's mobility bags and what supplies our personnel will need. And USAFETAC routinely provides historical weather data for cause determination investigations to assess whether certain disasters were caused by weather or other factors.

As the future unfolds, USAFETAC is creating products for microcomputers that put the power of climatology in the base weather station or at deployed locations. These products provide graphics and tables in a menu-driven format that can be customized by the user. USAFETAC is developing on-line mission success indicator climatologies for quick access by staff meteorologists.

Despite the vast scope of AFGWC, our mission has limitations. No one agency or organization can provide all-encompassing geophysical support to the government. Our sister service, the Navy, and the civilian sector have unique missions and corresponding operational needs and have established their own environmental services. Seeking to gain from mutual cooperation and to eliminate redundancy where possible, three AFGWC operating locations, OL-A, OL-B, and OL-C, work hand-in-hand with the Navy, the National Oceanographic and Atmospheric Administration's Space Environmental Services Center, and the National Environmental Satellite, Data, and Information Service, respectively. Our OLs don't participate in data transfer on the AWN; nevertheless, they are an important part of the wing's daily operation. We'll conclude our tour by visiting our three operating locations.

Surrounded by a mountain of computer tapes, A1C Vanessa Leonard (left) and SSgt. Cheri Johnson are responsible for cleaning more than 26,000 tapes on hand at the USAFETAC tape library.



Working closely with the Navy's Fleet Numerical Oceanography Center, Maj. Bartlett Hamilton supports Navy aerial search and detection mission and the Joint Staff Anti-Drug Network.

OL-A, AFGWC

Nestled against the Monterey, California, coastline OL-A, AFGWC, provides liaison services between AFGWC and the Navy's Fleet Numerical Oceanography Center (FLENUMOCEANCEN). OL-A keeps AFGWC informed of innovative approaches to numerical modeling and data handling and monitors both activities for technical breakthroughs that could be incorporated in Air Force applications.

The liaison officer typically is concerned with receipt and quality control of Defense Meteorological Satellite Program (DMSP) data, shared meteorological satellite data, standardization of data transmission formats between meteorological processing centers, and integration of Air Force and Navy systems to provide combined products for joint staff support. When Operation Desert Shield began, OL-A helped the Navy acquire supplementary weather data. Air Force Mark III Tactical Decision Aids and forecaster memos for the Southwest Asia area were crossfed to Navy forecasters. As part of a Navy project, OL-A investigated transport and diffusion models that predict plume flow and concentration for chemical weapons. In addition, OL-A provides support to Army and other government agencies.

In recent years, the Air Weather Service mission has reached into the final frontier—space. While the Space Forecaster Center at Falcon AFB, Colo. is under development, solar and solar/terrestrial forecasts have come from a special support branch in HQ AFGWC. Many of the branch's data come from OL-B, AFGWC.

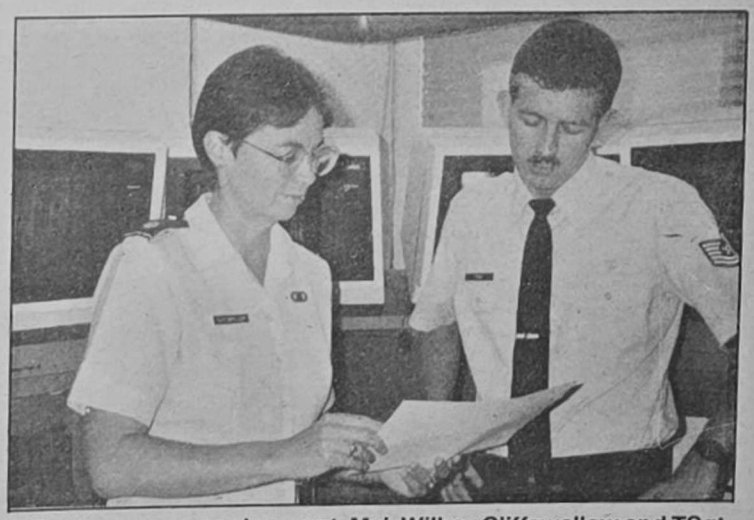
OL-B, AFGWC

OL-B, AFGWC, located in Boulder, Colo., is a part of a joint USAF-National Oceanographic and Atmospheric Administration (NOAA) operation known as the Space Environmental Services Center (SESC). SESC was designated in 1965 as the national center for monitoring, forecasting, alerting, and real-time data exchange concerning the solar-terrestrial environment. Federal customers include NASA and the Departments of Defense, Interior, Commerce, Agriculture, Transportation, and Energy. SESC provides basic solar-geophysical analyses and forecasters needed by AFGWC for tailored military use and serves as a contingency backup center for HQ AFGWC outages. SESC also serves as both the world and the US Regional Warning Center and conducts real-time data exchange with other regional warning centers in Moscow, Darmstadt, Paris, Tokyo, Sydney, New Delhi, and elsewhere.

SESC works hand-in-hand with HQ AFGWC's Space Environmental Support Branch, exchanging data to produce a variety of joint products. Data and information are shared via a dedicated high-speed data link and voice hotline as well as through COMEDS. The data are a result of joint NOAA/DOD ventures in solar telescopes, ground-based magnetometers, ionospheric sounding instruments, and satellites.

Some of SESC's non-routine products include alert and warning bulletins for significant solar and geophysical activity. These bulletins are extremely important since strong variations in the near-Earth environment can affect radar, communications, navigation, surveillance, and satellite systems adversely. Another exciting job of SESC is direct environmental support to the space shuttle.

Due to its close tie with space operations, OL-B will transfer to the 4th Weather Wing effective Jan. 1, 1991.



Following a strong solar event, Maj. Willow Cliffswallow and TSgt. Dave Rose discuss the solar activity summary. The years 1989-1990 have seen some of the most intense solar storms and flares on record.

AWS Salutes

Medals

Meritorious Service Medal:

BECKER, Maj. Larry J., HQ AFGWC
BUSS, Maj. Norman E., Det. 11, 2WS
CHOBOT, MSgt. Ludwik M., Det. 3, 9WS
DEATLEY, MSgt. Russell D., Det. 13, 25WS
EIS, Lt. Col. Kenneth E., HQ AWS
ERICKSON, Capt. Steven D., Det. 10, 30WS
GERBERT, Maj. Darrel D., Det. 10, 30WS
HAROLDSON, SMSgt. Howard E., 9WS, (2 OLC)
HARMS, Capt. Dewey, AFIT, NCSU
HERREN, MSgt. Donald M., Det. 19, 30 WS
HUDSON, SMSgt. Richard A., Det. 19, 30 WS
LAWSON, MSgt. Frank, Det. Det. 5, 11 WS
NASH, Lt. Col. Kenneth A., HQ AFGWC
RUST, Maj. David W., Det. 30, 2 WS

Air Force Communication Medal

ANDRUS, SSgt. William E., Det. 15, 30WS
BESS, TSgt. Jerry M., Det. 11, 5WS
BUCKLER, Capt. Charles E., 3WS
BUTLER, MSgt. Bradford D., Det. 4, 5WS
COX, TSgt. Richard T., Det. 21, 2WS
DAVENPORT, Capt. Michael L., Det. 9, 3WS
DRZAL, Lt. Col., William J., 146WF
FENTON, MSgt. William J., Det. 1, 5WS
FLUEGGE, MSgt. Jeffrey L., Det. 15, 30WS
GODSEY, SSgt. Joshua L., MQ AFGWC
HARDY, TSgt. Douglas R., Det. 9, 3WS
HOSKINS, SSgt. James R., Det. 15, 30WS
LARAIA, Capt. Kevin M., 30WS
LUNDBERG, Sgt. Curtis A., Det. 29, 17WS
MARTYN-DOW, SSgt. Jacqueline S., HQ AFGWC
MIKISKA, SSgt. Stephen J., Det. 13, 5WS
MINARD, TSgt. Mark E., Det. 9, 3WS
ROY, TSgt. James P. III., Det. 7
SHACKLADY, William T., Det. 9, 4WW
STANLEY, SSgt. William H., HQ AFGWC
STECHER, TSgt. Carl W., Det. 9, 4WW
STEEVES, SSgt. Alicia M., Det. 24, 26WS
SOLI, Capt. Robert A., 30WS
WOODS, Capt. Jon B., HQ AFGWC

Air Force Achievement Medal

BEAN, Sgt. Christopher, Det. 8, 25WS
BEITLER, 1st Lt., Brian A., Det. 12, 26WS
BUXTON, SrA. Gail, Det. 4, 20WS
CASTO, Sgt. Mona K., HQ AFGWC
CROSS, A1C Thomas R., Det. 7, 5WS
FLUEGGE, MSgt. Jeffrey L., Det. 15, 30WS
GREENLEAF, SSgt. Richard, Det. 2, 4WW
HONADLE, SrA. Robert L., Det. 30
LUCAS, Capt. Kathryn O., HQ AFGWC
NOE, MSgt. Mark A., HQ AFGWC
PENN, SSgt. Stephen W., Det. 19, 30WS
SHAW, SrA. Gary N., Det. 17, 20WS
SLOAN, A1C Timothy A., Det. 7, 5WS
VANAARTSEN, 1st Lt., Bruce, Det. 3, 11WS

Army Achievement Medal

NICHOLLS, TSgt. Michael, Det. 21, 15WS
ROY, TSgt. James P. III, Det. 7, 5WS

Air Force Good Conduct Medal

BLAY, TSgt. James E., HQ AFGWC
CHAMBERS, TSgt. Curtis, Det. 6, 5WS
CHRISTIANSON, SrA. Carl C., Det. 14, 5WS
COMENTE, Sgt. Christopher A., Det. 2, 3WS
COLEMAN, SrA. Fernando A., Det. 8, 26WS
CORBITT, TSgt. Patrick E., HQ AFGWC
CORNELL, SrA. Mark, Det. 40, AFGWC
FRENCH, SSgt. Mitchell S., Det. 4, 26 WS (2 OLC)
GEORGE, TSgt. John E., Det. 7, 24 WS (5OLC)
GREHAN, SSgt. Michael S., HQ AFGWC
HOLGUIN, A1C Thomas R., Det. 3, 11WS
JACKSON, TSgt. John W., Det. 2, 3WS
JOHNNY, SrA. Jospeh, HQ AFGWC
JOHNSON, SSgt. James N., Det. 13, 25WS
KLINE, SrA. Joseph, HQ AFGWC
KLINNER, SSgt. Kenneth D., Det. 1, 17WS
LEE, MSgt. Jacob R. Jr., Det. 8, 26WS (4 OLC)
LONG, Sgt. Marc D., Det. 58, 5WS
MARTYN-DOW, SSgt. Jacqueline S., HQ AFGWC
MATHIE, TSgt. Walter W., HQ AFGWC
MCCONNELL, SSgt. Stephen, HQ AFGWC
MCCLUSKEY, SrA. James D., Det. 8, 26WS
MORELLO, Sgt. James A., Det. 30, 2WS
MURDERS, TSgt. Robert W., Det. 12, 24WS(4OLC)
NIEMAN, SSgt. Richard W., Det. 11, 17WS (3OLC)
PAYNE, TSgt. Earl W., Det. 31, 5WS
PERRY, TSgt. Clinton R., Det. 4 26WS (5OLC)
PETERSON, SrA. Jeffrey J., Det.6, 5WS
POWLTER, SSgt. Timothy D., Det.14, 5WS
PURVIS, TSgt. David E., HQ AFGWC
RICH, TSgt. Terrence, Det. 40, AFGWC
RITCHIE, MSgt. Roger D., Det. 20, 17WS (4OLC)
RIVERA, SrA. Jane, Det. 40, AFGWC
ROBB, TSgt. Alan W., Det. 1, 7WW (4OLC)
ROMERO, SrA. Alejo, Det. 14, 5WS
SCHMIDT, TSgt. Jeffrey A., Det. 6, 5WS
SHAW, SrA. Gary N., Det. 17, 20WS
SMITH, SSgt. Kayne G., Det. 58, 5WS
STEELE, SSgt. Alan J.S., Det. 12, 25WS
VENVLEET, MSgt. Kim L., Det. 7, 24WS (4OLC)
WEINREBER, SrA. Shannon M., 26WS
WEYER, SSgt. Warren W., Det. 4, 17WS
WHITE, SrA. Jane, Det. 40, AFGWC
WIEMERS, SrA. Amy M., Det. 17, 20WS

Promotions

To Lieutenant Colonel

FREDERICK, Robert A., 4WW

To Major:

GERBERT, Darrel D., Det. 15, 30WS
MILLER, Walter F., USAFETAC
O'CONNER, Lauraleen, AFIT, NCSU
PANTLEY, Kim C., Det. 19, 26WS
SNYDER, Bruce A., Det. 32, 5 WS

To First Lieutenant:

DENNIS, Michael R., Det. 16, 9WS
DESJARDINS, Jay B., Det. 2, 17WS
HEMBROFF, David W., Det. 3, 9WS
KAISER, Gregory D., Det. 15, 15WS
LUTERMAN, Richard H., Det. 8, 26WS
RITZ, Richard L., Det. 20, 30WS
SLINEY, John F., Det. 9, 3WS
ULMAN, James C., Det. 31, 5WS
WYZYWANY, Julie A., Det. 8, 26WS

To Senior Master Sergeant:

ULRICH, Matthew R., Det. 17, 26WS

To Master Sergeant:

BRADSHAW, Wayne J., Det. 16, 25WS
TEGNELL, Kenneth L., Det. 17, 26WS
WILBURN, Fred A., Det. 20, 26WS

To Technical Sergeant:

BRIGGS, Robert J., Det. 4, 20WS
ELLISON, Richard L., Det. 2, 5WW
FIGULY, Robert R., Det. 11, 24WS
GOODWIN, Douglas K., Det. 9, 3WS
HELTON, Gary L., HQ AFGWC
HEAD, Garland, K., Det. 15, 25WS
MURPHY, Dennis W., USAFETAC
PITSENBARGER, Larry A., Det. 21, 15WS
REID, Howard P., Det. 19, 26WS

To Staff Sergeant:

LIGHT, Jeffery P., Det. 12, 26WS
LIND, Clark W., Det. 1, 17WS
PATERSON, Robert D., Det. 6, 5WS

Appointed to Sergeant:

DAVIS, Anthony L., Det. 5, 11WS
DAVIS, Bryan C., HQ AFGWC
DEVALDIVIESLO, Sgt. Yolanda M., Det. 1, 9WS
FISHER, Oliver N., Det. 20, 30WS
JONES, Jessica N., Det. 15, 25WS
WALKER, Steven M., Det. 17, 20WS

To Senior Airman:

AUCK, Jonathon G., Det. 19, 30WS
CAMPBELL, Yulanda M., 26WS
CARNEY, Carl G., Det. 12, 25WS (BTZ)
CORNELL, Mark, Det. 40, AFGWC
ENGEN, Michael D., Det. 25, 5WW
BASKINS, William M., Det. 10, 30WS
HANCOCK, Curtis Det. 13, 25WS (BTZ)
JENKINS, David B., Det. 19, 30WS
JORDAN, David P., Det. 20, 30WS
MYCUE, Stacey D., Det. 1, 24WS
NORTH, Charles D., Det. 4, 17WS
RIVERA, Jane, Det. 40, AFGWC
ROBERTS, Kenneth, Det. 21, 5WS
SHAW, Gary N., Det. 17, 20WS
SLACK, Dirk E., Det. 19, 30WS
WIEMERS, Amy M., Det. 17, 20WS
WHITE, Jane, Det. 40, AFGWC

To Airman First Class:

CROWELL, Phillip G., Det. 20, 26WS
ERHART, Thomas J., Det. 9, 5WS
FRENCH, David C., Det. 2, 17WS
HANCK, David S., Det. 16, 25WS
JACOBI, Brian W., Det. 3, 5WS
KUBIS, John A., Det. 22, 26WS
MENDONCA, Howard J., Det. 20, 17WS
SIMON, William K., Det. 9, 5WS
STOLL, James M., Det. 17, 26 WS
SUMRALL, Michael S., Det. 9, 5WS
VANDORN, Alicia C., Det. 8, 26WS
VASQUEZ, TIMOTHY A., Det. 8, 25WS

To Airman:

CHAPPELL, Christopher D., Det. 17, 24WS
CORTEZ, Jose A., Det. 15, 25WS
DREYFUB, Alfredo Jr., Det. 17, 24WS
HALTOM, James W. III., Det. 1, 15WS
PARKER, Melinda G., Det. 24, 26WS
SLEAR, James N., Det. 11, 17WS
SULLIVAN, Theresa M., Det. 14, 5WS
WAACK, Laura K., Det. 30, 2WS
WASSON, Traci K., Det. 6, 5WS

Unit Honors

IMA Officer of the Year:

17WS-Nilsen, Maj. Thor O., Det. 6, 17WS

Company Grade Officer of the Year:

7WW-CALLAHAN, 1st Lt. William J., 15WS

Company Grade Officer of the Quarter:

1WW-HUDSON, 1Lt. Robert G., Det. 1
4WW-HIGLEY, Capt. Steven J., Det. 7
AFGWC-MILLER, 1Lt. David A.
11WS-CAHANIN, 2Lt. Steve, Det. 1
20WS-MELTON, 1Lt. Edward C., Det. 8
25WS-PAIGE, 2 Lt. Linda, Det. 10
30WS-RUGG, 1Lt. Steven A., Det. 2

Senior NCO of the Quarter:

1WW-LARSEN, SMSgt. Richard A., 30WS
4WW-KINNEY, MSgt. Thomas O. Jr., Det. 4
AFGWC-CARRICK, MSgt. Gail D.
11WS-ANDERSON, SMSgt. William, AFU
20WS-KISELA, MSgt. Joseph G., Det. 8
25WS-LEE, Charles, Det. 11

NCO of the Quarter:

1WW-CLAYCOMB, TSgt. Gerald C., Det. 7, 20WS
4WW-BOGART, SSgt. Linda M., Det. 7
AFGWC-MYERS, Sgt. Gregory, Det. 40
AFGWC-PHILLIPS, TSgt. Daniel E
11WS-ANGELO, Sgt. Timothy, Det. 1
25WS-HARRIS, SSgt. Glenn, Det. 16, 25WS
30WS-Dorsey, SSgt. Duwanda E.

Airman of the Quarter:

1WW-ROGERS, A1C Vicki M., Det. 10, 30WS
4WW-BRADLEY, SrA. Scott J., Det. 11, 2WS
AFGWC-CORNELL, SrA. Mark, Det. 40
AFGWC-PEBUES, A1C Robert J.
USAFETAC-SANDLIN, SrA. Les P.
11WS-BLOODWORTH, SrA. Charles, Det. 3
20WS-DEUTSCHLANDER, SrA. Gregory S., Det. 7
25WS-HANCOCK, A1C Curtis, Det. 15, 25WS

Civilian of the Quarter:

AFGWC-KIESS, Raymond B.
AFGWC-CARR, Nora
25WS-ESCOBEDO, Lisa, Det. 15, 25WS

Education

Squadron Officer's School:

DUNIC, Capt. Ronald L., HQ AFGWC
HENNEMAN, Capt. Linda V., HQ AFGWC
LUNN, Capt. Kevin J., HQ AFGWC
STONEHOCKER, Capt. Sydney, Det. 14, 5WS

NCO Academy:

GILBERT, TSgt. Michael P., Det. 3, 5WS (DG)
PEEPLES, TSgt. Adrian M., Det. 1, 24WS

NCO Leadership School:

LAPPIE, SSgt. David, Det. 16, 9WS
LEVESQUE, Sgt. Bradley J., Det. 24, 26WS
FLIEG, SSgt. Patrick J., Det. 23, 3WS (Levitow)
MICHAEL, SSgt. John R., Det. 18, 30WS
MIKISKA, SSgt. Stephen J., Det. 13, 5WS
VIEIRA, SSgt. Antionio C., Det. 14, 26WS

NCO Preparatory Course:

BUXTON, SrA. Gail, Det. 4, 20WS
CORNELL, SrA. Mark, Det. 40, AFGWC
FUGERE, SrA. Ann M., HQ AFGWC
GRAFF, SrA. Owen M., HQ AFGWC
ROGERS, A1C Vicki M., Det. 10, 30WS
SCARIGELLA, SrA. Joseph S., HQ AFGWC
SHAW, SrA. Gary N., Det. 17, 20WS
TRORNE, SrA. Sean C., HQ AFGWC
TROYER, SrA. James A., Det. 6, 5WS

Officer Training School

Masters Degree to:

FRIEND, Capt. Ivan A. K., 24WS
O'KINNEY, MSgt. Thomas O., 4WW

Associate Degree from CCAF to:

BARNARD, TSgt. Brenda S., USAFETAC
BEST, TSgt. Leslie C., HQ AFGWC
COLE, TSgt. Dewey W., Det. 12, 24WS
DORSEY, Sgt. Hildery, HQ AFGWC
MCCRADY, Sgt. Carol L., Det. 1, 24WS
ORMANDY, TSgt. Peter S., HQ AFGWC
REID, SSgt. John H., Det. 3, 5WS
ROMERO, SMSgt. Louis, USAFETAC
WEST, Sgt. Chester R. II., HQ AFGWC

Reenlistments:

BOUSMAN, SSgt. Keith R., Det. 31, 5WS
CHANCEY, TSgt. Diane E., HQ AFGWC
CORBITT, TSgt. Patrick E., HQ AFGWC
CRAFT, SSgt. David K., Det. 7, 5WS
CREEDON, Sgt. Scott A., Det. 7, 24WS
DAVIS, SrA. Sue A., Det. 5, 5WS
JACKSON, Sgt. Durita, Det. 10, 5WS
LONG, TSgt. Steve K., OL-B, Det. 2, 5WS
MORELLO, Sgt. James A., 4WW
MYERS, Sgt. Gregory, Det. 40, AFGWC
OUELLETTE, Sgt. William J., Det. 8, 26WS
SCHALK, Sgt. Bradley, Det. 40, AFGWC
TEGNELL, MSgt. Kenneth L., Det. 17, 25WS
THRETT, Sgt. Mmon, Det. 40, AFGWC
WILBURN, MSgt. Fred A., Det. 20, 26WS

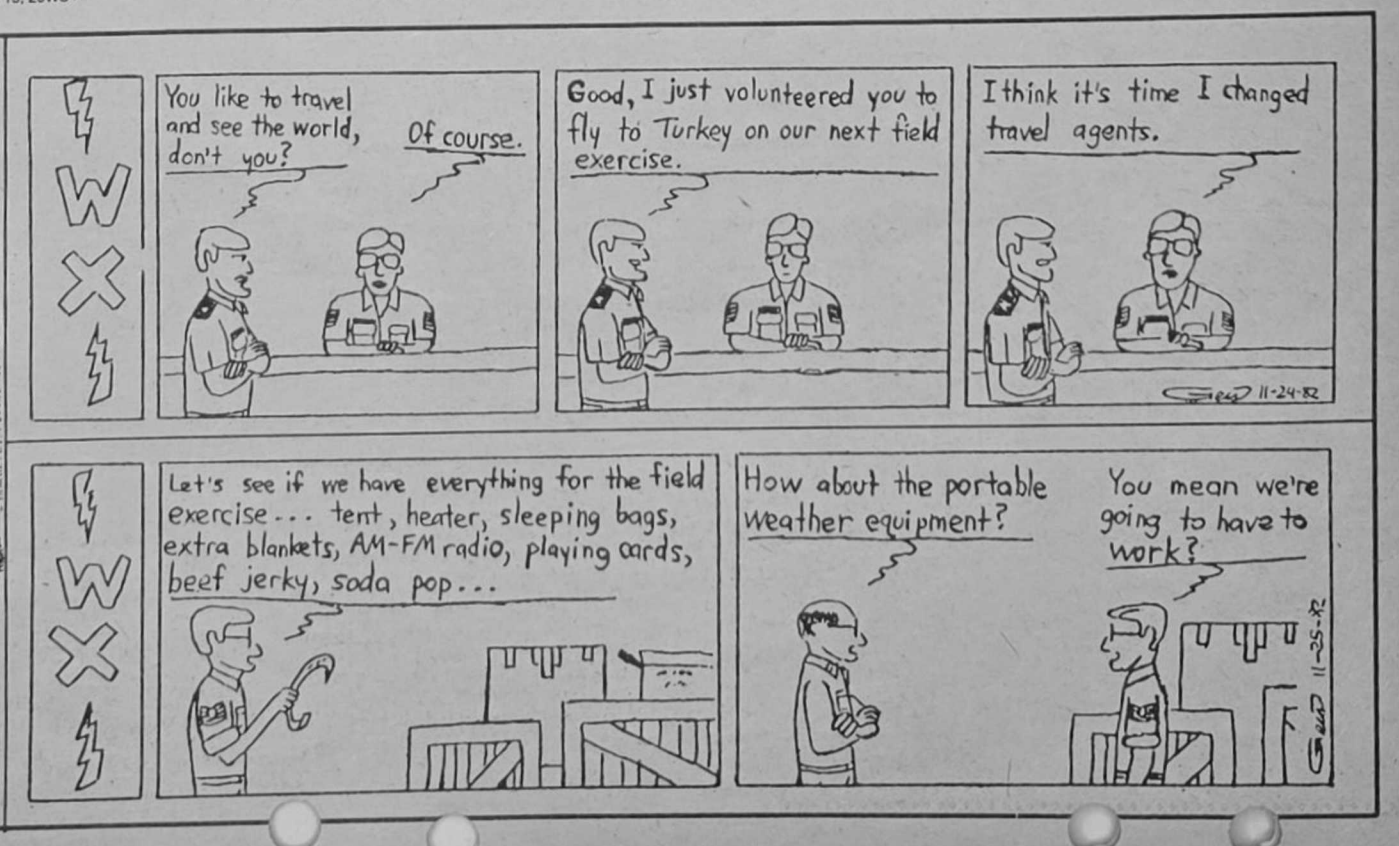
Retirements:

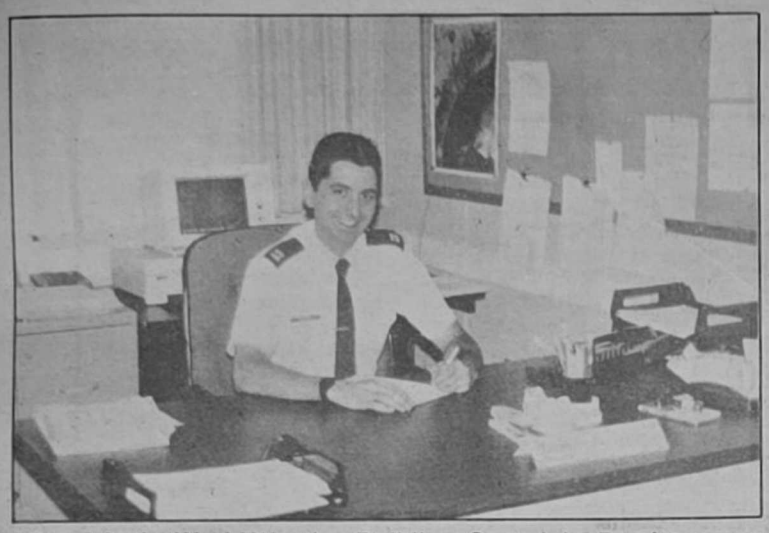
CANTER, SMSgt. Phillip L., Det. 6, 26WS
COLLINS, Capt. William, Det. 2, 5WS
DOWNEY, MSgt. Michael E., Det. 15, 26WS
JOHNSON, SMSgt. Erik, Det. 14, 5WS

Submissions to Salutes

OLs, detachments and squadrons submitting inputs to this Salutes column must do so through their chain of command for information and consolidation purposes. Wing public affairs representatives will consolidate these inputs by alphabet and in the format presented in this column. Wing/PA's then forward their consolidated Salute submissions by the first week of each month to HQ AWS/PA. For more information contact, MSgt. Dave Black at HQ AWS/PA, at DSN 576-2065.

"Bet you thought we'd forgotten all about you!"





At work in the World Weather Building, Capt. John Pereira serves as liaison between AFGWC, the National Meteorological Center and the National Environmental Satellite, Data, and Information Service.

OL-C, AFGWC

The mission of OL-C, AFGWC, is to provide a technical interface between AFGWC, the National Environmental Satellite, Data, and Information Service (NESDIS), in the Suitland Federal Center, Suitland, Md., and the National Meteorological Center (NMC), in the World Weather Building, Camp Springs, Md. OL-C arranges for the transfer of NESDIS-acquired data to DOD activities, documents new applications and operational techniques using satellite data, assists in the transfer of high technology numerical weather prediction programs from NMC and AFGWC, and represents AFGWC on several committees of the Office of the Federal Coordinator for Meteorology (OFCM).

OL-C is responsible for keeping AFGWC informed of new NMC and NESDIS programs which may affect AWS's ability to support its operational customers and makes certain Air Force requirements are considered when NESDIS and NMC develop new systems. NESDIS programs currently under development include the next generation of geostationary and polar satellites, GOES I-M and NOAA K-N.

OL-C stays abreast of the newest environmental satellites launched by foreign countries and ensures that the Air Force has full access to their data. For example, a Chinese experimental polar-orbiting satellite, FY-1B, launch on Sept. 3, 1990, provides visible (HRPT) and (APT) imagery to the worldwide community. OL-C obtained available information for AWS DMSP wans to access the imagery. Other environmental satellite lauches by the European Space Agency (ESA), the Soviet Union, India, and China, all planned for the 1990's, may provide the Air Force with additional valuable satellite data. OL-C works closely with NESDIS to ensure the US continues to intercept valuable satellite data.

In this era of budgetary constraints for both the civilian and military weather organizations, a program of increased cooperation has promoted new ways of sharing satellite data between NESDIS, the Air Force, and the Navy. In its fourth year, the Shared Processing Network (SPN) has been the primary means of sharing these data, and the OL-C liaison has ensured the SPN works efficiently. In February 1990, data receipt increased from 50 to 92 percent after the OL-C liaison officer devised an effective quality control program for NESDIS operators.

As the commander, I'm pleased to have conducted this tour. My hat's off to the men and women of AFGWC working throughout the world to provide the best weather support possible to our nation. I'm awed by their dedication, sacrifice, and resourcefulness. I'm impressed by their talent, education, and common sense. And I'm always proud of their accomplishments.

If we've gotten you excited about the work we do throughout AFGWC, good—that was one of our intentions. If we've convinced you we have the best men and women in Air Weather Service, good—we do, and we wanted to showcase them. If we've shown you a small measure of the intensity, pride, and professionalism with which we do our jobs, good—that, too, was one of our goals.

AFGWC—take a bow!

Col. Adrian A. Ritchie

Proper Mail Use Supports Operation Desert Shield

Getting mail to service members overseas has always been important. DOD officials say Desert Shield postal operations have taken on even greater significance because of host-nations' political, cultural and religious concerns.

The commander of U.S. forces in the Middle East, Army Gen. H. Norman Schwarzkopf, has asked people to use good judgment and to respect the local culture when they send mail to the region.

Saudi mail restrictions, for instance, ban sexually suggestive photographs or magazines that contain nudes or scantily clad men or women or promote "exotic" lingerie. Military Postal Service Agency and the U.S. Postal Service representatives suggest pictures of women and girls should reflect "American standards of good taste."

Small quantities of religious materials for the personal use of a U.S. service member are OK—a single Bible or prayer book, for example, said a military postal service representative. On the other hand, bulk shipments of religious materials could be interpreted as an effort to convert the Saudi public.

Adhering to DOD mail guidelines ensures parcels will reach their Persian Gulf destinations and will help dispel the "ugly American" image that adversaries are trying to promote, said a DOD spokeswoman.

Military postal agency authorities also indicated mailing procedures may be simplified by avoiding unnecessary errors. Navy Lt. Cmdr. Bernita Dodd, agency chief of operations, said people writing to Desert Shield service members have two options for reaching addressees.

Senders who want to reach a specific individual must provide the person's name, unit and the proper APO or FPO number. "If they don't have the proper APO/FPO number for the Saudi operation, then they should use the address of the unit before it deployed. The mail will be forwarded," she said, adding forwarded mail will reach service members faster than incorrectly addressed mail.

She repeated that the previously publicized "Any Servicemember" APO and FPO addresses are strictly for generic letters not intended for specific service members. Such mail for Army, Air Force and Marine Corps ground unit personnel service members. Such mail for Army, Air Force and Marine Corps ground unit personnel should be addressed to:

Any Servicemember
APO NY 09848-0006

Generic mail to Navy and Marine Corps personnel onboard ships should read:

Any Servicemember
FPO NY 09866-0006

Also, some people try to send mail to personnel using just the person's name and service number and expect postal authorities to locate the individual. "That adds to the time it takes to get mail to its destination, because it has to be routed through the service's personnel locater," Dodd said.

She added that transposed or otherwise incorrect APO numbers are another frequent problem; for example, writing 09039 instead of 09309.

"If no such APO or FPO exists, it takes us a great deal of time to figure out what to do with the parcel and where to send it. We are obligated to try to locate that person," Dodd said.

Military Postal Service Agency, Dodd said, ensures Operation Desert Shield participants and all other military postal customers receive proper mail service and that their mail problems and complaints are resolved. She invites questions and comments at 1-703-325-8796/8869, or DSN 221-8796/8869.

The following are mailing addresses for those AWS units deployed under Operation Desert Shield. For each address add the rank and members name like the following example: **Sgt. John Doe, 48 TFW Deployed/Weather, APO, NY 09017.**

48TFW Deployed/Weather
APO, N.Y. 09017
366TFW Deployed/Weather
APO, N.Y. 09017
1704PBRS Deployed/Weather
APO, N.Y. 09017
17RW Deployed/Weather
APO,N.Y. 09017
94PTAW Deployed/Weather
APO, N.Y. 09603
35TFW Deployed/Weather
APO,N.Y. 09604
58TFW Deployed/Weather
APO,N.Y. 09608
4TFW Deployed/Weather
APO, N.Y. 09608
4ITAS WOC Deployed/Weather
APO, N.Y. 09608
1TFW Deployed/Weather
APO, N.Y. 09616
317TAW Deployed/Weather
APO, N.Y. 09617
435 Macalce Deployed/Weather
APO, N.Y. 09656
37TFW Deployed/Weather
APO, N.Y. 09671
314TAW Deployed/Weather
APO, N.Y. 09686
1701PAREFW Deployed/Weather
APO, N.Y. 09687
33TFW Deployed/Weather
APO, N.Y. 09691
USCINCCENT Weather
APO, N.Y. 09852
ARCENT MAIN/82-SWD
APO, N.Y. 09852
CENTAF Weather
APO, N.Y. 09852
COMALF FWD/Weather
APO. N.Y. 09852

STRATTOR FWD Weather
APO, N.Y. 09852
1703PAREFW Deployed/Weather
APO, N.Y. 09852
1700OSW Deployed/Weather
APO, N.Y. 09852
552 AWACH Deployed/Weather
APO, N.Y. 09852
7ACCS Deployed/Weather
APO, N.Y. 09852
363TFW Deployed/Weather
APO, N.Y. 09853
106TRS Deployed/Weather
APO, N.Y. 09853
1702PAREFW Deployed/Weather
APO,N.Y. 09854
SOCCENT Deployed/J3-SWD
APO, N.Y. 09855
AFSOC SOCCENT Deployed Weather
APO, N.Y. 09855
180W Deployed/Weather
APO, N.Y. 09855

CDRSTHSFBA SOCCENT
Deployed/Weather
APO, N.Y. 09855
23TFW Deployed Weather
APO, N.Y. 09855
364TFW Deployed/Weather
APO, N.Y. 09855
377AB Deployed/Weather
APO, N.Y. 09856
130PTAS Ddeployed/Weather
APO, N.Y. 09856
401TFW Deployed/Weather
APO, N.Y. 09859
388TFW Deployed/Weather
APO, N.Y. 09871
1706PAREFW/Weather
APO, N.Y. 09893
4300PBW Deployed/Weather
APO, N.Y. 96685

ARMY UNITS

CDRISTCAUDIV
FWD/ /G2-SWO/ /
APO, N.Y.09306
CDR3RDACR
FWD/ /S2-SWO/ /
APO, N.Y.09209
CDR12THAVNBDE
FWD/ /S2-SWO/ /
APO, N.Y. 09849
CDR18THAVDBDE
FWD/ /S2-SWO/ /
APO, N.Y.09616
CDRXVIIIABNCORPS
FWD/ /SWO/ /
APO, N.Y. 09657
CDR24THINF DIV MECH
FWD/ /G-2-SWO/ /
APO, N.Y. 09315
CDR82NDABNDIV
FWD/ /G2-SWO/ /
APO, N.Y. 09656
CDR101STABN DIVAASLT
FWD/ /G2-SWO/ /
APO, N.Y.09309
AFSOC SOCCENT
Deployed/ Weather/ /
AAPO, N.Y. 09855
CDR5THSFGA SOCCENT
Deployed/ /Weather/ /
APO, N.Y. 09855
CDR5THSFGA SOCCENT
Deployed/ /Weather/ /
APO, N.Y. 09309

Air Force Pay — Effective Jan. 1, 1991

Monthly basic pay table

Pay grade	Years of service: < 2	2	3	4	6	8	10	12	14	16	18	20	22	26
Commissioned officers														
O-10	6159.00	6375.60	6375.60	6375.60	6375.60	6620.10	6620.10	6987.00	6987.00	7486.80	7486.80	7988.10	7988.10	8485.80
O-9	5458.50	5601.30	5720.70	5720.70	5720.70	5866.20	5866.20	6110.40	6110.40	6620.10	6620.10	6987.00	6987.00	7486.80
O-8	4944.00	5092.20	5212.80	5212.80	5212.80	5601.30	5601.30	5866.20	5866.20	6110.40	6375.60	6620.10	6783.30	6783.30
O-7	4107.90	4387.20	4387.20	4387.20	4584.00	4584.00	4849.80	4849.80	5092.20	5601.30	5986.80	5986.80	5986.80	5986.80
O-6	3045.00	3345.30	3564.60	3564.60	3564.60	3564.60	3564.60	3564.60	3685.50	4268.10	4486.20	4584.00	4849.80	5259.90
O-5	2435.10	2859.30	3057.00	3057.00	3057.00	3057.00	3149.40	3318.90	3541.50	3806.70	4024.80	4146.60	4291.50	4291.50
O-4	2052.60	2499.60	2666.40	2666.40	2715.90	2835.60	3029.10	3199.20	3345.30	3492.00	3568.60	3588.60	3588.60	3588.60
O-3	1907.40	2132.70	2280.00	2522.70	2643.30	2738.10	2886.30	3029.10	3103.50	3103.50	3103.50	3103.50	3103.50	3103.50
O-2	1653.20	1816.50	2182.50	2255.70	2302.80	2302.80	2302.80	2302.80	2302.80	2302.80	2302.80	2302.80	2302.80	2302.80
O-1	1444.20	1503.30	1816.50	1816.50	1816.50	1816.50	1816.50	1816.50	1816.50	1816.50	1816.50	1816.50	1816.50	1816.50
Commissioned officers with over 4 years active duty as an enlisted member or warrant officer														
O-3 E	0.00	0.00	0.00	2522.70	2643.30	2738.10	2886.30	3029.10	3149.40	3149.40	3149.40	3149.40	3149.40	3149.40
O-2 E	0.00	0.00	0.00	2255.70	2302.80	2375.70	2499.60	2595.30	2666.40	2666.40	2666.40	2666.40	2666.40	2666.40
O-1 E	0.00	0.00	0.00	1816.50	1940.70	2012.10	2085.00	2157.60	2255.70	2255.70	2255.70	2255.70	2255.70	2255.70
Enlisted members														
E-9	0.00	0.00	0.00	0.00	0.00	0.00	2260.80	2311.50	2364.00	2418.00	2472.30	2520.30	2652.60	2910.60
E-8	0.00	0.00	0.00	0.00	0.00	1896.00	1950.00	2001.60	2053.50	2107.80	2156.10	2209.20	2338.80	2599.20
E-7	1323.60	1428.90	1482.00	1533.60	1585.80	1636.50	1689.00	1741.50	1820.40	1872.00	1924.20	1949.10	2079.90	2338.60
E-6	1139.10	1241.10	1293.00	1347.90	1398.30	1446.70	1502.10	1579.50	1629.00	1681.80	1707.30	1707.30	1707.30	1707.30
E-5	999.30	1087.80	1140.60	1190.10	1268.40	1320.00	1372.50	1422.90	1448.70	1448.70	1448.70	1448.70	1448.70	1448.70
E-4	932.10	984.30	1042.20	1122.90	1167.30	1167.30	1167.30	1167.30	1167.30	1167.30	1167.30	1167.30	1167.30	1167.30
E-3	878.10	926.40	963.30	1001.40	1001.40	1001.40	1001.40	1001.40	1001.40	1001.40	1001.40	1001.40	1001.40	1001.40
E-2	845.10	845.10	845.10	845.10	845.10	845.10	845.10	845.10	845.10	845.10	845.10	845.10	845.10	845.10
E-1>4	753.90	753.90	753.90	753.90	753.90	753.90	753.90	753.90	753.90	753.90	753.90	753.90	753.90	753.90
E-1<4	697.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Chief of Staff – 9363.30 Chief Master Sergeant of the Air Force – 3537.90 Note: Basic pay is limited to 8,441.60 by level V of the Executive Schedule OASD (FM&P) FY91 REFLECTS 4.1%(1.041) PAY RAISE

Civilian Pay — Effective Jan. 1, 1991

Annual pay table for General Schedule Civilians

Grade	Within Grade Step: 1	2	3	4	5	6	7	8	9	10
GS-1	11,015	11,383	11,749	12,114	12,482	12,697	13,058	13,422	13,439	13,776
2	12,385	12,679	13,090	13,439	13,590	13,990	14,390	14,790	15,190	15,590
3	13,515	13,966	14,417	14,868	15,319	15,770	16,221	16,672	17,123	17,574
4	15,171	15,677	16,183	16,689	17,195	17,701	18,207	18,713	19,219	19,725
5	16,973	17,539	18,105	18,671	19,237	19,803	20,369	20,935	21,501	22,067
6	18,919	19,550	20,181	20,812	21,443	22,074	22,705	23,336	23,967	24,598
7	21,023	21,724	22,425	23,126	23,827	24,528	25,229	25,930	26,631	27,332
8	23,284	24,060	24,836	25,612	26,388	27,164	27,940	28,716	29,492	30,268
9	25,717	26,574	27,431	28,288	29,145	30,002	30,859	31,716	32,573	33,430
10	28,322	29,266	30,210	31,154	32,098	33,042	33,986	34,930	35,874	36,818
11	31,116	32,153	33,190	34,227	35,264	36,301	37,338	38,375	39,412	40,449
12	37,294	38,537	39,780	41,023	42,266	43,509	44,752	45,995	47,238	48,481
13	44,348	45,826	47,304	48,782	50,260	51,738	53,216	54,694	56,172	57,650
14	52,406	54,153	55,900	57,647	59,394	61,141	62,888	64,635	66,382	68,129
15	61,643	63,698	65,753	67,808	69,863	71,918	73,973	76,028	78,083	80,138
16	72,298	74,708	77,118	79,528	81,396	82,697	85,060	87,424	89,787	
17	83,032	85,800	88,568	91,336	94,104					
18	97,317									

Includes 4.1% increase. Source: OASD/FM&P

A1C Brian Jacobi of Det. 3, 5th Weather Squadron, SSgt. Michael Sincore and SSgt. Thomas Keenan both of Det. 4, 5th Weather Squadron, show off the modern conveniences of a tactical weather station.

Air Weather Service Senior Enlisted Advisor, CMSgt. Danny Milner (right) visits weather members supporting Operation Desert Shield. From the left are: Maj. John R. Conley, TSgt. Michael Gilbert, MSgt. Steven Lord and Sgt. Vince Bowman.

The cool comforts of home.

MSgt. Steven Lord and SSgt. Raymond Secession show off their vacation home in the land of sun and sand. (U.S. Air Force photos)

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