

AFGWC gets new facilities

OFFUTT AFB, NE -- Ribbon cutting ceremonies were conducted March 9 for the opening of expanded facilities for the Air Force Global Weather Central (AFGWC).

Officiating at the ceremony was Col. John W. Collens (Brig. Gen. Sel.), commander, Air Weather Service, and Col. Richard A. Johnston, commander, AFGWC.

Personnel and equipment began the move into the new 9,000 square foot facility March 18. Several million dollars worth of ground equipment for the Defense Meteorological Satellite Program (DMSP) and the U.S. geostationary meteorological satellite system occupies a large portion of the facility. The vast communication network terminals required for world-wide dissemination of AFGWC

products and operated by the 1911th Air Force Communications Squadron will also relocate into the new building.

The building expansion will help alleviate some of the overcrowded conditions which have developed here. AFGWC has undergone rapid expansion in the past two years as overseas weather centrals have been phased down and the workload responsibilities transferred to AFGWC.

A second new structure is a facility for interruptable power system which is scheduled to become operational this month. A bank of 184 batteries will provide the immediate power needed to maintain the operational capability of the five AFGWC computers during any sudden fluctuation or loss of commercial power. This some-

times occurs during winter ice or thunderstorms and can cause computer outages. During those periods of commercial power loss, the batteries will sustain the AFGWC computer operation until backup power generators can take over.

The uninterruptable power system will increase AFGWC's reliability in maintaining important world-wide weather support commitments around the clock.

Other officials who attended the ribbon cutting ceremony were Col. John H. Vincent, Offutt AFB commander; Col. Berry W. Rowe, commander, 3d WW; Col. Ivan P. Kirshman, commander, 4000th Aerospace Applications Group; Col. Harry H. Magazu, 3902d ABW deputy commander, civil engineering.

Two historical studies completed

Two AWS historical studies which were recently completed by the MAC Historical department have been published and are currently being distributed to the field.

The studies, entitled Air Weather Service and Meteorological Satellites, 1950-1960, and the Yom Kippur War, 1973: A Case History of AWS Contingency Support, are designated respectively as AWS Historical Studies Nos. 5 and 6.

The former study, described in its foreword as DMSP's "legacy" and "deepest roots," traces the genesis of AWS' identity with an involvement in weather satellites through 1960 -- the year meteorology

moved into space with the launch of the first two TIROS satellites. Designated as a general reference and orientation tool rather than a technical text, it is intended to be the first curtain on a trilogy of AWS' role in meteorological satellites.

The Yom Kippur study paints a candid and penetrating picture of AWS' involvement in that crisis and the problems it encountered. The October 6, 1973 war provided a unique opportunity for historical coverage because nearly every facet of AWS' spectrum of support was exercised at one time or another, and because numerous primary source documents were available in the form of reports from the field units involved.

Both studies were received enthusiastically by the AWS command section which directed that they be given wide field distribution and exposure.

Despite the fact that the Yom Kippur study is classified Secret, all AWS personnel possessing the proper security clearances are encouraged to read it. Each weather wing historian has copies as do most weather squadrons and USAFETAC and AFGWC. The satellite study was given wide distribution, but requests for additional copies of either study should be sent or called to the studies' author/editor John F. Fuller, the AWS historian, MAC/CSAH, Scott AFB, IL 62225 or telephone extensions 3644 or 5754.

2nd annual Mod. Conf. held here

The Second Annual Air Weather Service Weather Modification Conference was held at Hq. AWS, Scott AFB, IL April 1st thru 3d. Representatives from the three operational cold fog dissipation sites, from the various wings involved with weather modification, and other interested personnel attended.

The purpose of the conference was to identify, discuss, and, if possible, solve the problems of the weather modifiers in the field. Additionally, the conference allowed the headquarters personnel to bring the field representatives up to date on the current state-of-the-art in weather modification.

The conference was an eminent success.



BEST AWARD -- Col. Berry T. Rowe (right), commander, 3d WW, accepts the Best Award from Brig. Gen. (ret.) William H. Best Jr., during an awards ceremony at AWS headquarters. The ceremony was held during the recent AWS commanders conference hosted by Col. (Brig. Gen. Sel.), John W. Collens (left), AWS commander.

Colonel Rowe accepted the award on behalf of Lt. Col. William O. Breedlove who was named to receive the award for "individual excellence in performing environmental service support at staff level." The award is named in honor of General Best, a former commander of AWS. (U. S. Air Force Photo)



Sgt. Kenny



Sgt. Bass

Two Sgts. earn top honors

Two Air Weather Service sergeants earned honors in two different schools recently.

Sgt. Dana L. Bass, Det. 21, 3d WW was honor graduate of the 21st Air Force Leadership School at McGuire AFB, NJ. She was also named Airman of the Year at Det. 21, Minot AFB, ND.

Sgt. Dianne M. Kenny, 1st WW won the 22nd Air Force Non-commissioned Officer Leadership School Speech Award. She also graduated in the top ten of class 74-6 at Norton AFB, CA. Sgt. Kenny is assigned to the 1st WW Support Division at Hickham AFB, Hawaii.

Robert E. Dean named AWS Civilian of the Year

WRIGHT-PATTERSON AFB, OH -- For the second year in succession, Robert E. Dean was named Outstanding Civilian of the Year in the Air Weather Service. Dean is a 6th WW meteorologist supporting the Air Force Systems Command's Aeronautical Systems Division (ASD) here.

This is the eleventh time in his eight years of civil service that Dean has been recognized for his outstanding efforts. This latest award was the result of continued, long-standing superior performance as a staff meteorologist to the Aeronautical Systems Division (ASD).

Dean began his Air Force career in 1942. In 1944, he received his pilot's wings and in 1945 flew 30 combat missions in the Pacific Theater as a B-29 pilot. He became a member of Air Weather Service in 1949, and came to Wright-Patterson Air Force Base in 1964 as chief of a growing ASD Staff

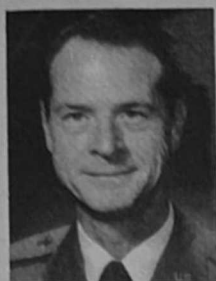
Meteorology Office. Upon his retirement from active commissioned service in 1966, Dean remained at Wright-Patterson as the first civilian staff meteorologist at ASD. In his capacity as a staff meteorologist, he has been tasked with analyzing and defining the effects of the natural environment on conceptual and developing aeronautical systems.

Mr. Dean has provided environmental support to the F-111, radar studies, and numerous other Air Force Systems Command projects and programs. Lately, he is becoming more involved in support to prototype aircraft such as the YF-16 and YF-17. He also serves on the ASD Environmental Protection Committee. However, the major thrust of Mr. Dean's efforts has been for the development of the B-1, the planned successor to the B-52 bomber. Mr. Dean is a member of the Air Weather Service's B-1 System Work Group, and has provided technical studies, consultation services, and meteorological data throughout the development of the B-1 and its precursor the Advanced Manned Strategic Aircraft. He is also a professional member of the American Meteorological Society.

Mr. Dean, his wife -- the former Betty Cooper -- and four of their five children live in Kettering, Ohio. Their oldest son, Robert, lives in Louisville, Kentucky where he is completing eight years of study at the University of Louisville as a doctor of medical dentistry.

Dean is active in local youth programs, serves as a trustee on the Oak Creek Civic Association, and is president of the Blackhawk Junior Musical Corps, which is a tri-state (Kentucky, Indiana, and Ohio) youth organization.

This outstanding individual should be doubly proud as a two-time winner of the Air Weather Service Outstanding Civilian of the Year.



Col. (Brig. Gen. Sel.)
John W. Collens III

Command Line

INSEPARABLE?? You better believe it! If you read last month's Observer, you noticed a full page spread entitled "Discipline and Human Relations" which contained the philosophy of CINCUSAFE endorsed by General P. K. Carlton, Commander MAC. If you haven't read it, I recommend you go back and do so. If that copy isn't around, check your Commander; he has one.

Recently, one of our unit commanders pointed out the inseparability of discipline and human relations, and that he learned it the hard way. The detco was trying to be a nice guy -- wanted everyone to like him (Human Relations). However, this was done at the expense of discipline, not in conjunction with a strong personal feeling for his people. Result -- IG write-up on personal appearance and housekeeping standards; i.e., lack of discipline.

Discipline plus Human relations must start at the top. There can't be a double standard -- one for officers and senior NCOs and one for airmen. However, you first-line supervisors

must carry the ball. You must treat your men as individuals -- not as numbers. In other words, Be People oriented. However, you must also insist on high standards and then follow those standards yourself. Don't expect your commander to be a nice guy -- that's not his job nor is it in the long-term best interest of his people or the mission. He should be sensitive to your problems and needs, fair, with firm discipline for all members in the unit -- that's not being a nice guy, that's being a top-notch manager. You've heard it before -- "Nice guys finish last." Son-of-a-b---- also finish last. So let's not confuse "tough" or "firm" with "mean." Commanders, First Sergeants, or officers and non-coms in general must understand the difference. A team effort -- that's what it takes. Everyone treated fairly, pulling his own weight, adhering to the same standards. That's what will put your unit on top. As the General said: "Either get all the way in or all the way out." Make human relations and discipline inseparable -- they are you know!!

Det. 3, 15th WS says it's unique

CHARLESTON AFB, SC -- Webster says in his dictionary that to be unique one must be: one and only; single; sole; different from others; unusual; extraordinary; rare.

Detachment 3, 15th Weather Squadron here considers itself somewhat unique, at least in four different categories.

First, the airfield at Charleston is a joint-use facility. As a result the National Weather Service (NWS) owns, operates, and maintains all meteorological equipment. Although the NWS is totally responsible for the surface observing program, Det. 3 provides on a full time basis, two observers to aid the NWS in their basic weather watch.

Second, the official terminal forecast (TAF) for Charleston is prepared in Columbia, SC by the NWS forecast center and disseminated locally to BASOPS and Command Post controlling agencies, but is not disseminated longline for other military-civilian use.

Third, Det. 3 has the distinct privilege of operating a leased Alden Weather Radar Fax recorder which is only one of a few currently in use at AWS detachments. The Alden 1100 Weather Radar Fax recorder receives large, sharply detailed 10.5 x 10.5 weather radar recordings of local weather conditions up to 250 miles in diameter. Operating over a direct line with the Charleston NWS, Det. 3 can program the recorder to operate continuously, or receive one to three pictures every 5, 10, 20, 30 or 60 minutes.

Last but not least, Air Weather Service maintain an Aerial Reconnaissance Monitor here; specifically in the base weather station. Supporting the mission of the 53d WRS receives aerial reconnaissance reports, checks and edits them for meteorologi-

cal consistency, and then disseminates them to the customer. Significant weather information is relayed from the South East Coast to the Atlantic, to the Gulf of Mexico and contains significant data regarding hurricanes, tropical storms, tropical depressions, East Coast winter storms and daily reconnaissance tracks.

Even as a limited forecasting facility, Det. 3 cranks out each month an average of 900 flight clearance briefings, 150 PMSV contracts, 30 met watch

advisories, 15 weather warnings relays 800 reconnaissance reports and issues 150 12-hour recover forecasts.

Maj. David F. Torchia, commander, Det. 3 says that, "When you are as unique as Det. 3, a lot of effort is called for to continue service to the customer in a 'do better with less' attitude. It's true, you may never read about Charleston Base Weather, but the Det. 3 people think they rate as one of the most "unique" organizations in AWS."

Swap List

The Observer Airman Assignment Exchange list is designed to serve Air Weather Service personnel. The eligibility rules for exchanging assignments are contained in AFR 39-11. If you meet the criteria and would like to swap, fill in the coupon and send it to AWS/CMS, Scott AFB, Ill. 62225.

Present Wing: (Circle One)
1 WW 2 WW 3 WW 5 WW 6 WW 9 WW

Name: _____ Rank: _____
(Last, First, MI)

CAFSC: _____

Present Base: _____

Mail Address: _____

Want to go: _____
(Base)

Weather Whys??

Weather Whys?? is a regular feature of the Air Weather Observer. The questions come from you and the answers come from the Air Weather Service commander and his staff. If you have a question, send it to Commander, Air Weather Service, Scott AFB, Ill. 62225. Each question will be answered; however, all of the questions and answers may not be published in the Observer because of space limitations.

Question: In the March issue of The Observer, you published the names of 106 NCOs who were selected for promotion during the 74B cycle. However, the list is incomplete as it covers only observers, forecasters, and maintenance NCOs. Why weren't all NCOs promoted in AWS, regardless of field, listed?

Answer: We sincerely regret that it was not possible to list all AWS NCOs promoted during the 74B cycle. However, the reason is very simple -- there was no way we could determine who had been promoted in AWS except in the weather-controlled AFSCs. We are able to query the computer for an individual AFSC and get all the names of the personnel in the AFSC who were promoted; a simple task for the 252, 253, and 302 career fields -- they are controlled by MAC. Asking the computer for the 431, 432, 511, 702, 645, 732, etc., names is a different story; we can get the names but the AFSCs

are not MAC unique and we get the whole AF list. Weather NCOs on the list must then be extracted. Quite a chore. We will rectify this situation by asking the Wings to furnish us a list of nonweather-unique personnel promoted during each cycle (see page 3 of this issue). So, if you were promoted and did not get recognized in the Observer, drop a line to the AWS/CMS.

Question: What is the future of WAF personnel in AWS?

Answer: In one word -- Great! The only limitation being placed on the use of our female airmen is the one imposed by congressional action and this involves the use of women in combat. In the next decade, I expect female airmen to comprise one-third of our total force and this means they will be used the same as their male counterparts. We presently have female airmen serving as flight engineers, weather equipment repairwomen, observers, forecasters, personnel specialists, administrative specialists, computer operators, and supply specialists and, I would like to add, they are serving extremely well.

Question: I have just retrained into the 302 field and I have received an overseas assignment in my secondary AFSC. Can't AWS do anything to keep this from occurring -- especially since my 3- and 7-level training cost so much?

ANSWER: I'm afraid not. The primary reason you were retrained was due to the CONUS-Overseas imbalance in your former AFSC. Since it was in the critically imbalanced category, AFMPC has reassigned you where you are needed most. It is true that much money was spent on your retraining but the AF looks at it as good management when a person can be used for dual functions. In all probability you will again return to the 302 career field upon rotation to the CONUS.

Swap List

The following AWS personnel have indicated a desire to swap assignments with another individual in the same AFSC:

25251 - A1C Richard G. Pyne at Glasgow AFB, MT (Box 2023, GAFB, MT 59231) wants any base in Florida.

70250 - Marc N. Precourt, 6th WS, Tinker AFB, OK wants Pease AFB, NH.

70270 - TSgt. Johnie C. Brooks, 1061 Gettysburg Dr., Randolph AFB, TX wants Ellington AFB, TX.

30250 - Sgt. Michael L. Pultz, Wright-Patterson AFB, OH (P.O. Box 10775) 45433, wants Plattsburgh or Griffis AFB, NY.

30250 - Sgt. Mike C. Connolly at Ft. Stewart, GA (Det 19, 16 WS) wants Dobbins AFB, GA.

AIR WEATHER SERVICE

OBSERVER

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COL. (BRIG. GEN. SEL.) JOHN W. COLLENS III
Commander, Air Weather Service

ALBERT H. SWIHART
Editor

ENLISTED LINE

by CMSgt. Sam Parish

by CMSgt. Sam E. Parish

As the Senior Airman Advisor I am often asked, "What is your job and why are you here?" Simply stated, my job and the job of your Wing Senior Airman Advisor is "people." When I visit your unit, I'm not there because a problem exists, but to gather information that allows me to keep our commanders informed of morale and welfare problems affecting our enlisted personnel. To accomplish this I meet and talk with as many of our enlisted personnel as possible. Your Wing Advisor is charged with essentially the same responsibility and it's important that you know who he is and how he can be contacted. Each Wing Advisor can be contacted using the office symbol "CMS"; that is, AWS/CMS, 1 WW/CMS, etc., or by telephoning the autovon numbers below. Current advisors are:

CMSgt. Carpentiere 449-1779
CMSgt. Mardyla 424-5741
CMSgt. Armitage 271-4818
CMSgt. Horn 432-2004
CMSgt. Fisher 858-4772
MSgt. Roth 633-3550
CMSgt. McCarthy 271-3115
My number at Scott is 638-3802.

During my visits, certain observations and impressions are made. Some units leave an outstanding impression while others leave only a faint one. What's the difference between the two? Many times the answer is very simple -- people and how they feel about their job and Air Weather Service. For example, show me a unit where each individual takes pride in what he's doing -- using words like "we," "us," and "our" -- and I'll show you an AWS Family unit; show me a unit where each individual has a positive, "can do" attitude and I'll show you a unit of proud professionals; show me a unit where each visitor -- regardless of where he's from -- is made to feel that he's a part of the unit and I'll show you a unit that most people would be proud to join. These are just some of the items and attitudes that leave a lasting first impression.

So get involved; treat people and visitors as you expect or want to be treated. Professionalism is contagious and the personal touch can never be eliminated.



The significance of our emblem

Someone is always asking "What is the significance of the AWS emblem?" Our emblem is one of the oldest in the U.S. Air Force. The original round insignia with the Latin phrase, "Choose the Weather for Action," was changed in the early 1960s to conform to the current Air Force policy of a shield design and unit designation.

The blue-and-black field with its vertical division is emblematical of our day-and-night (24 hours) weather watch. The three anemometer cups represent the continual collection of weather data and the fleur-de-lis commemorates the first participation in combat during WW I of the U.S. Army weather service, the original Air Weather Service organization.

We can be very proud of our insignia, our military heritage, and of those who have gone before. Thought you'd like to know.

SMSgt. Conway S. Birrell
16th WS, 5th WW
Ft. Monroe, VA.

AWS officers may take training through AFIT, University of MD

by Capt. Kenneth Y. Nozaki & Capt. Joseph R. Wagenhofer

The Air Weather Service, in conjunction with the Air Force Institute of Technology (AFIT) and the University of Maryland, began a program to train Air Force Weather officers in applied climatology in 1972.

Such training fits well with the needs of the Air Force's Environmental Technical Applications Center (ETAC), as well as those of the Staff Meteorologists assigned to many Air Force Systems Command locations.

The ETAC in the climatological organization of the Air Weather Service. Its mission is to provide advice and quantitative information on natural environmental effects within the aerospace by means of consultation, processing, analysis, and interpretation of recent and past environmental information. Studies conducted by ETAC analysts, through discrete application of a worldwide aerospace environmental data base, solve a wide variety of Department of Defense problems relating to mission operations and planning, engineering, research, design and development.

AFIT, working closely with Professor Helmut E. Landsberg, chairman of the graduate program in meteorology and Dr. John Lewis, assistant professor of geography at the University of Maryland, has designed a comprehensive program to prepare these weather officers for their jobs as environmental analysts. Included in the course offerings are micrometeorology, biochemistry, statistical meteorology, urban climatology, and computer applications in climatology.

The graduate program is meteorology is housed in the Space Sciences building on the College Park campus. Available facilities include continuous

weather facsimile data, a complete solar radiation station, several micrometeorological field stations, and a mobile micrometeorological survey vehicle.

Outstanding library facilities are available for research. A specialized meteorology library exists within the meteorology department. In addition, there is easy access to the vast holdings of the Atmospheric Sciences Library of the National Oceanic and Atmospheric Administration (NOAA) located approximately 20 minutes from the campus in Silver Springs, MD; the Department of Agriculture Library in Beltsville, MD; and the Library of Congress in downtown Washington. ETAC's specialized applied climatology library in Washington is also available for use by AFIT students.

The university Computer Science Center operates a UNIVAC 1108, UNIVAC 1106, and two IBM 1401s. Computer time is made available to faculty and graduate students through grants to the Computer Science Center. In addition, ETAC's computer resources may be used on a time available basis.

Under the AFIT program a graduate student must take a minimum load of 12 credit hours per semester. A student's education plan must indicate completion of degree requirements in a minimum period of time. However, a student cannot remain in school solely to complete his thesis requirements.

The requirements of the meteorology graduate program of the University of Maryland are such that it is possible to obtain a master's degree in the time allotted by AFIT. These requirements include (1) satisfactory completion of a preliminary examination designed to test the student's background in those areas of the mathematical and physical sciences

required for successful graduate work in meteorology, (2) a minimum of 24 semester hours, exclusive of thesis and registration for research, with a minimum average grade of "B" in courses approved for graduate credit, (3) enrollment in a minimum of six credits of research in an approved advanced topic of the major field culminating in a thesis, and (4) a final oral examination.

At the present time two Air Force officers have completed the program. Both have obtained a master of science degree and are now working at ETAC. Two more Air Force officers are currently enrolled and are expected to complete the program in December 1974.

The program is a most worthwhile experience which offers a unique opportunity to perform extremely interesting research and obtain a master's degree at one of the nation's foremost educational institutions. At the same time it provides in-depth preparation for duty as environmental analysts at ETAC or one of the several STAFFMET locations.



HOWARD AFB, CZ -- A1C Gordon W. Breyette, an observer at Det. 25, 5th WW received the USAF Southern Command Outstanding Airman of the Quarter Award for the last quarter 1973. (U. S. Air Force Photo)

More promotions listed

AWS congratulates 52 NCOs

Although not included in the March listing, the following AWSNCOs were promoted to the grades indicated in the 74B cycle. Our heartiest congratulations.

To TSgt

Arce-Torres, Manuel E.	53 WRS
Bailey, Arnold A.	5 WW
Bard, Marvin R.	5 WW
Bartlow, Ronald F.	Det 32, 3 WW
Belden, Nelson E.	53 WRS
Bexley, Dudley N., Jr.	10 WS
Boler, Otis E., Jr.	58 WRS
Brinkley, Jessie I.	Det 31, 15 WS
Brooks, Johnie C.	24 WS
Cline, Willard S.	58 WRS
Collick, Willis J.	Det 20, 2 WW
Crowdis, Donald L.	11 CAMS
Ferrara, David K.	Det 23, 3 WW
Franco, Ventura	55 WRS
George, Robert R.	58 WRS
Germanson, James H.	7 WS
Gomes, James	AFGWC
Gray, Wayne	53 WRS
Holiday, Dannie R.	3 WW
James, Edward A.	AFGWC
Kendall, George R.	53 WRS
Lee, Robert F.	Det 6, 12 WS
Lewis, Doyce G.	11 WS
Lopez, Henry C.	58 WRS

Phillips, Daniel A.	AFGWC
Pongruber, George E.	53 WRS
Rose, Daniel E.	53 WRS
Shelby, Patrick	53 WRS
Sutton, Jerry L.	24 WS
Toponce, Karl W.	58 WRS
Trainor, John H., Jr.	1 WW
Walker, George B.	53 WRS
Wible, Donald W.	11 CAMS
Wilkerson, Raymond M.	Det 14, 15 WS
Wood, John L.	11 CAMS
Wyatt, Edward S.	58 WRS

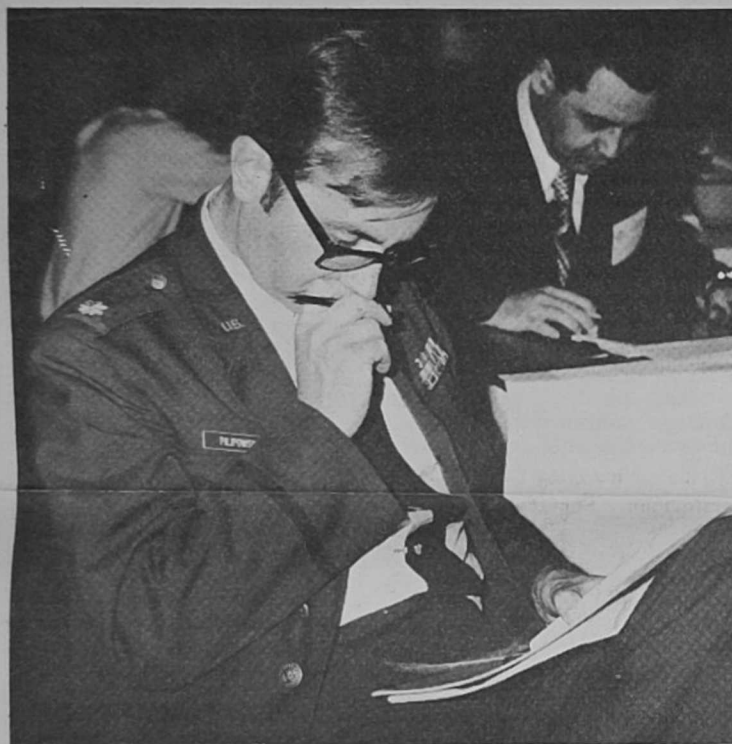
To MSgt

Anderson, Leslie	6 WW
Buck, Jerry E.	53 WRS
Casey, John P.	58 WRS
Hay, Paul H.	5 WW
Holland, Bobby L.	53 WRS
Joseph, Billy R.	53 WRS
Knight, Allen W.	9 WRW
Mattingly, James M.	11 WS
Munoz, Albert	53 WRS
Ondrifzek, Gordon D.	AFGWC
Sharp, Richard E.	53 WRS
Smith, Andrew T.	11 CAMS
Ventura, Franco	55 WRS
Wall, Francis L.	58 WRS
Wondra, Kenneth J.	58 WRS

AWS workshop in action



MAJORS (left to right) Jim Moore, Lee Dickinson, and Ernie Dash of HQ AWS work their photo interpretation exercises during the audience participation workshop on satellite meteorology.



MAJ. SANDY PILIPOWSKYJ of AWS Systems puzzles over an exercise question during the satellite meteorology workshop session.

Hawaii AMS meets

HICKAM AFB, Hawaii -- The 1st Weather Wing provided extensive support to the 54th Annual Meeting of the American Meteorological Society (AMS) held in Honolulu.

Dr. C. S. Ramage, president of the Aloha Chapter and program chairman for the meeting, acknowledged the wing's participation in a recent letter to Col. Morris H. Newhouse, 1st WW commander. Dr. Ramage said, "The 54th Annual Meeting of the American Meteorological Society went smoothly and efficiently.... to a great degree because of the superb projection facilities provided by your command."

The people primarily responsible for the operation of the visual aid equipment during the meeting were TSgt. William H. Arend, Sgt. Ronald C. Antonio and Amn. Steven D. Flummerfelt.

The wing also placed an exhibit on display during the meeting which carried the theme "METSAT Reconnaissance of Tropical Cyclones."

The exhibit which featured

data from the Defense Meteorological Satellite Program (DMSP), included a continuously operating slide presentation of DMSP data showing Typhoon Bess plus Hurricane Celeste and Diane.

Captains Charles P. Arnold, Thomas C. Wann and Paul T. Burnett, all trained DMSP forecaster, were available throughout the meeting to answer questions and to present individual briefings on the use of DMSP data in tropical cyclone reconnaissance.

During the meeting Captains Jerry R. Mills and Thomas C. Wann presented papers to the attendees.

Captain Mills, OIC for the 1st WW DMSP site here, used a number of DMSP satellite photographs to illustrate his paper, "A Summary of the 1973 Tropical Cyclone Season in the Central Pacific."

Captain Wann, a DMSP site analyst now attending the University of Hawaii in the AFIT graduate meteorology program, discussed "Some Causes of Rain in Hawaii."

Story and photos
by

Maj. James F. Shunk

The fifth conference on Weather Forecasting and Analysis of the American Meteorological Society (AMS) was held March 4 thru 7 at the Jefferson Hotel in St. Louis.

The meeting was hosted by the Greater St. Louis Chapter of the AMS and Col. Dale J. Flinders, deputy chief of staff, Aerospace Sciences, AWS and chairman of the local chapter, welcomed the delegates who came from all across the United States and several foreign countries.

Eleven sessions were held on topics ranging from weather systems of the future to mesoscale forecasting and analysis to ceiling and visibility to air pollution and urban effects.

Professor Don Martin, director of meteorology at St. Louis University and former member of the Directorate of Aerospace Sciences at headquarters AWS, was program chairman for the conference.

A highlight of the conference was an audience participation workshop on satellite meteorology that attracted many members of the AWS staff including Col. (Brig. Gen. Sel.) John W. Collens III. The workshop concentrated on demonstrating the capabilities of satellite photography to provide valuable forecasting assistance on problems such as fog and stratus dissipation, thunderstorm formation, and others.

Another highlight was a session on boundary layer phenomena chaired by Col. Tom Potter, vice commander of AWS. To top off the conference, an unusual evening session was held at the local Falstaff Inn where vertical motions were discussed in detail and reviewed over and over with liberal quantities of the "choicest product of the brewers' art."

A complete summary of each session will be published in an upcoming issue of the Aerospace Sciences Review.



LINDSEY AS, Germany--Max Rauer, German national, who has been employed by the U.S. Forces since 1952 and a member of the 2nd WW since June 1961 retired during a ceremony in which he received a certificate of appreciation. Herr Rauer began and finished his 21 1/2-year career at Lindsey. (U.S. Air Force Photo)



MAJ. ED HEATH of AWS Systems completes a grease pencil analysis of potential areas for afternoon thunderstorm formation using an early morning satellite photo.



MAJ. LEE DICKINSON of AWS/DNT being interviewed for KMOX-TV Channel 4 in St. Louis by newswoman Betsey Bruce.

11th WS officers head Anchorage AMS

EIMENFORD AFB, AK -- Two members of the 11th Weather Squadron here hold top positions in the Greater Anchorage Chapter of the American Meteorological Society.

Capt. Gary H. Wallace is president of the chapter and Maj. James L. Wise is vice president.

During its March meeting the

members heard Charles Fahl of the Dames and More Firm, a firm of consultants in applied environmental sciences, Fahl discussed the role of private meteorologists in the preparation of Environmental Impact Statements and other studies on possible effects of proposed commercial projects on the community.

AWS Sgts. get CCAF CEDs

Two AWS sergeants have received their career education certificates (CED) from the Community College of the Air Force (CCAF).

TSgt. Charles P. Milliken, a weather forecaster at Det. 16, 24th WS, Webb AFB, TX received the fourth CED given by the CCAF but the first within the Air Weather Service and the Military Airlift Command.

Milliken completed the requirements for the CED by attending classes at Kansas State College and the University of Georgia.

Col. Robert G. Liotta, commander, 78th Flying Training Wing at Webb AFB presented the certificate to Sergeant Milliken.

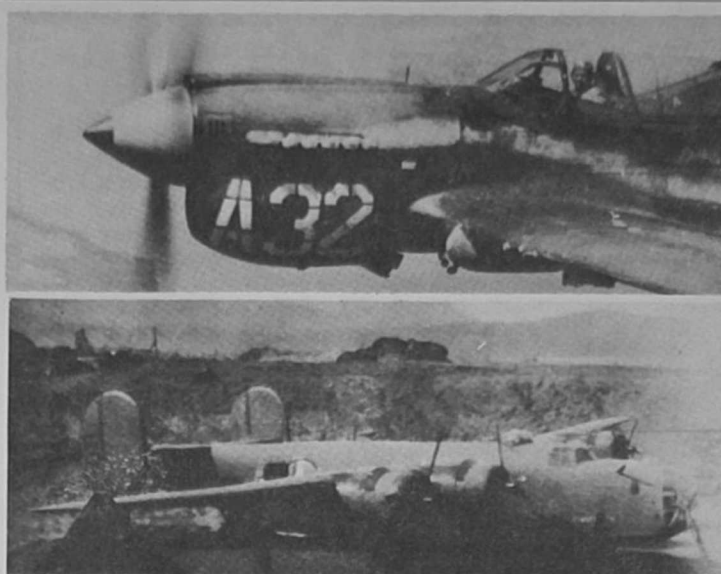
MSgt. Charles E. Lee, assigned at Headquarters AWS, Scott AFB, IL received his CED last month.

Lee is the second person in the AWS to get the CED and the second in the Air Force to complete the Weather Forecaster program through the CCAF.

Col. John W. Collens III, commander AWS, presented the certificate to Sergeant Lee.



AS HE LOOKS TODAY -- CMSgt. Theodore V. Meigs correlates cloud cover from an ESSA picture with surface pressure patterns in Det. 3 weather station in Sunnyvale, CA. (U.S. Air Force Photo)



IMAGES OF THE PAST -- In the top photo, Lieutenant Meigs flies a P-40 over the coastal waters of Florida. The other photo shows the B-24 which he commanded while flying missions over northern Japan during World War II sits on the pierced steel planking parking ramp at Attu, AK. (U.S. Air Force Photo)

24th WS base unit praised

The Base Weather Station, 24th Weather Squadron, 3rd Weather Wing, received laudatory comments recently from Col. John W. Collens, commander of the Air Weather Service as result of the squadron's performance in providing outstanding weather observing and forecasting service during an aircraft mishap at Randolph AFB, TX January 7.

Particularly pointed out for outstanding services during the emergency situation were James W. Walker, a 24th WS forecaster and SSgt. William C. Schreffler, an observer with the squadron.

The mishap involved two T-38 Talon aircraft which had been performing high and low altitude fingertip formation training when the duty forecaster determined that the weather conditions (ceiling) would be lower than the recovery forecast. The supervisor of flying (SOF) recalled all airborne T-37 and T-38 aircraft. All but two of the T-38s returned without incident.

The two Talons missed two Ground Control Approaches (GCA) and on the third attempt tried to circle the field keeping it in sight. The two aircraft approached the landing in a two-ship formation. One of the Talons landed on that approach but one was not aligned with the runway. On the second approach under GCA the plane was still not aligned with the runway. However, the pilot spotted concrete and landed on a taxiway with extremely low fuel supply remaining. Neither of the two aircraft were damaged.

According to a Headquarters AWS memorandum, the forecaster Mr. Walker, had accurately forecast a very difficult weather situation of low ceilings and visibility and he then used extra effort to keep the SOF well informed on the worsening situation. The memo also stated that during critical weather periods "highest priority must still be given to taking observations."

During that time Sergeant Schreffler, through his observations, was credited with providing the forecaster (Walker) timely and accurate information which enabled the forecaster to provide outstanding weather decision assistance to the SOF.

In his letter of commendation to the 3d Weather Wing, Colonel Collens said, "That through his (Walker) dedicated efforts the SOF was able to use his weather decision assistance to best advantage" and that, "SSgt. Schreffler's seven observations during this critical period of deteriorating weather were most impressive."

Colonel Collens further stated, "that the observer and forecaster must put first things first when the weather is lousy."

'Brown Shoe Day' lieutenant retires as 'Jet Set' CMSgt.

To the old timers in the Air Force today this story will make them recall the "brown shoe days" and to today's "jet set" the story will bring forth just a touch of Air Force history.

A chief master sergeant with Det. 3, Headquarters, Air Weather Service, Sunnyvale, CA retired May 1 after having served in World War II and the eras of the Korean and Vietnam Wars.

CMSgt. Theodore V. Meigs, better known to his friends as Ted, entered the service in July 1942 through the Aviation Cadet program and was commissioned a second lieutenant in March 1943. After a brief, but concentrated flying training program in B-24 Liberators, he was qualified as an Aircraft Commander, had a crew assigned to him, and was transferred to the North Pacific as a replacement unit to fight the war against the Japanese.

On his third mission over Northern Japan, a 20mm explosive projectile from a Zero (Japanese fighter aircraft) shattered the windshield of the B-24. Fragments of the shell shattered his jaw, and entered his vocal cords and chest.

Through a joint effort of the remainder of his crew, they brought the damaged aircraft and injured pilot, Lieutenant Meigs, to Attu, AK. After a considerable medical patch-up job, Meigs chose to return to duty in lieu of a medical discharge and was retrained into fighter aircraft.

From then until he took a discharge in 1948 he flew a variety



YOUNGER DAYS -- CMSgt. Meigs as he looked in 1947 when he was a second lieutenant. (U.S. Air Force Photo)

of aircraft as training officer and instructor pilot. Some of them include the P-40, War Hawk; P-51, Mustang; C-47, Skytrain; and the B-25, Mitchell. During that time, 1947-1948, he was assigned at Key Field, Meridian, MS, which was a tactical and photo reconnaissance training base and later at Rapid City, SD.

During 1947 and 48 he flew support for the 7th Geodetic Mapping Squadron AFB, FL. He left the service in 1948, but in March 1949 enlisted as a master sergeant in the field related to his previous training - meteorology.

One of Sergeant Meigs' more memorable experiences which caused "me to gain great respect for the weather was when I was flying a C-47 from Boston to Westover AFB, MA in 1947. The flight which was proceeding rather quietly was suddenly interrupted by the airways warning of thunderstorms building in my flight path and suggesting that we return to Boston." To that Ted replied, "No

sweat Buddy, I've got a date in Westover."

Meigs went on to say that, "A short time later, in the middle of the thunderstorm, one of our engines quit, and then I wished we had turned back to Boston." He said later that he felt that luck, more than good sense, brought them through that experience.

During his career, Sergeant Meigs has had overseas tours in Japan and Taiwan. Some of his awards and decorations are the Distinguished Flying Cross, the Meritorious Service Medal, Purple Heart, and the Air Force and Army Commendation Medals.

At the time of his retirement, Meigs was the ranking enlisted man in the AWS with a date of rank of June 1, 1960.

The sergeant said that he and his wife, Ruth, have built a cabin in a remote area of the Northern California mountains where they plan to enjoy the outdoor type of life. They will receive mail through an address at East 10104 Mission Ave., Spokane, WA 99206.

Freedoms Foundation Award

PETERSON FIELD, CO -- A 12th Weather Squadron sergeant was presented the Freedom Foundation Honor Certificate Award for her Armed Forces letter "Human Goals; Values for Living."

Sgt. Brenda C. Nelson, of Detachment 6, here was presented the award by her commander, Maj. John H. Taylor during the Unit Commander's Call in March.

Sergeant Nelson submitted the letter which reads in part:

"As a citizen of the United States of America, and more important, as a member of the United States Air Force, my goals are to remain loyal to my country and help maintain our peace and great freedoms at all costs. However, as a human being, I wish to extend the realities of peace and freedom to all people in all countries."



POSTING A WEATHER CHART -- Sgt. Brenda Nelson works in the Det. 6 weather station as a weather observer, but her letter writing won a Freedoms Foundation Certificate this year. (U. S. Air Force Photo)

Births in AWS

Dolson, Capt. and Mrs. Daniel E., a daughter, Angela Mary, Feb. 20. Father is assigned to AESU, 12th WS, Ent AFB, CO.

Stogsdill, Capt. and Mrs. Estel, a son, Timothy Daniel, Mar. 5. Father is assigned to Det. 20, 3d WW, Barksdale AFB, LA.

Perry, Lt. and Mrs. Charles A., a son, Nathan Charles, March 22. Father is a forecaster at Det. 14, 12th WS, Richards-Gebaur AFB, MO.

Ferguson, A1C and Mrs. Berry, a son, Berry Louis, Mar. 9. Father is Administrative Specialist at Hq., 3d WW, Offutt AFB, NE.

West, 2d Lt. and Mrs. Rodney A., a son, Matthew Christopher, Jan. 13. Father is a forecaster at Det. 2, 3d WW, Castle AFB, CA.

Perlow, SSgt. and Mrs. Arno, a son, Christopher Steven, Mar. 23. Father is a forecaster at Det. 28, 15th WS, Ellington AFB, TX.

Eckerts, SSgt. and Mrs. Brian, a daughter, Mary Kristin, Apr. 17. Father is a maintenance technician with Det. 12, 7th WS, Finthen Army Airfield, Germany.

Olive, A1C and Mrs. Robert L., a daughter, Julia Luv, Apr. 18. Father is assigned to Det. 22, 24th WS, Keesler AFB, MS.

WOULD YOU BELIEVE...

A1C Sylvia "Kay" Buchanan, Det. 21, 6th WW completed CDC 25251 and the end-of-course exam with an average score of 96 in just 2 1/2 months. She was the first woman airman to enter and graduate from Rawindonde School and is a rawinsonde operator at Edwards AFB, CA.

Earl W. Langhorne was promoted to Chief Master Sergeant while assigned to Det. 3, Hq., AWS at Sunnyvale AFS, CA. Langhorne received a bachelor of arts degree in Social science from San Francisco State in 1970 through off-duty education.

TSgt. Jerry D. Farley, solar observer assigned to the 1st WW Palehua Solar Observatory, was selected as the Hickam AFB, NCO of the Year for 1973. The sergeant was presented a trophy and citation by Col. W. E. Y. Paxton, commander, 15th Air Base Wing.

Lt. Col. Lawrence S. Hansrote retired Jan. 31 with more than 23 years of service. He was awarded the Meritorious Service Medal for outstanding noncombat meritorious service from June 1971 to Oct. 30, 1973 while assigned as commander, Det. 8, 20th WS at Kadena AB, Japan.

TSgt. James P. Lee, received the 5th WW Maintenance Man of the Year award for 1973. Lee is assigned to Det. 4, at Pope AFB, NC where he also serves as first sergeant and senior enlisted advisor.

TSgt. Raymond D. Glass, 10th WS NCOIC of Administration was recently awarded the Human Goals Award at Udorn RTAFB by Col. Robert W. Clement, 432nd Tactical Reconnaissance Wing commander. He was cited for his capacity to "positively communicate" with all personnel regardless of race, sex, creed, religion or national origin.

SMSgt. Arthur A. Francis, a 27-year member of the Air Weather Service, the Naval Weather Service and one of the early members of the Space Environmental Support System (SESS) was awarded the Meritorious Service Medal for outstanding achievements and performance while assigned to OL B, 12th WS, the Sagamore Hill Radio Observatory located in Hamilton, MA.

Sergeants Dana L. Bass and Gary A. Ouder-kirk have rejoined Det. 21, 3rd WW, Minot AFB, SD, after completion of the 21st Air Force Leadership School at McGuire AFB, NJ. Sergeant Bass was honor graduate of the class.

TSgt. Samuel De Jesus, 53rd WRS, Keesler AFB, MS was named Maintenance Man of the Month for March 1974. The sergeant is NCOIC of the maintenance administration section.

Nine members of the 53rd WRS, Keesler AFB, MS received the Air Force Commendation Medal. They are MSgts. Oscar T. Benavidez, Frederick J. Furches, James A. Jackson, Kenneth J. Mills; SMSgts. Marlan E. Richter and John C. Clup, SSgts. Roy D. Bredahl and Daniel E. Rose and Sgt. Billy R. Joseph.

During the same ceremony TSgt. Nicola D. Rogers was awarded the Bronze Star.

Capt. Choi Jeong Boo, commander of Det. 8, 731st WS, Republic of Korea Air Force was presented a letter of appreciation for providing outstanding support to Kunsan's Det. 10, 20th WS. Capt. William B. Maxwell Jr., commander of Det. 10 made the presentation.

Det. 23, 6th WW, Kirtland AFB, NM recently received the wing ground safety award for 1973. This is the fourth consecutive year that the detachment has not had a reportable accident. Capt. Carl Curtola and SSgt. Anthony A. Bransford, safety officer and NCO respectively, accepted the award from Col. Joseph Lambert, 6th WW vice commander.

Det. 3, 3rd WW, Fairchild AFB, WA was recently designated as the best weather detachment in the 15th Air Force for 1973. Lt. Gen. William F. Pitts, 15th AF commander presented the award to Capt. Charles E. Schulze Jr., detachment commander.

SSgt. John R. Sturgeon III, was awarded the Air Force Commendation Medal recently for meritorious service while assigned as a member of the Special Warfare Weather Team, 10th WS, Udorn Airfield, Thailand from September 1972 to November 1973. Sturgeon is presently a member of the 12th WS at Ent AFB, CO where he assigned to the Aerospace Environmental Support Unit.

MSgt. John E. Brady and TSgt. Walter G. Wilkinson of the 20th WS, Fuchu AS, Japan recently received Air Force Commendation Medals. Brady received his for service while at Vandenberg AFB, CA, and Wilkinson received his for service at the Asian Tactical Forecast Unit, at Fuchu AS. Col. William E. Smurro, 20th WS commander, presented the awards.

Sgt. David N. Runyan, Det. 4, 31st WS, RAF Bentwaters, England was named 2nd WW Outstanding NCO of the Quarter. He was cited in part for his outstanding support of deployed tactical units during recent exercises.

TSgt. William I. Willis, Det. 9, 16th WS, Ft. Rucker, AL received the Bronze Star for service as a forecaster at Det. 17, 10th WS, Ubon, Thailand. Det. 9 commander, Lt. Col. Robert E. McGee, Jr., presented the medal.

Capt. Stephen A. Machovic, OIC Intermediate Maintenance Shop, Det. 17, 20th WS, Yokota AB, Japan received the Bronze Star for meritorious service as an Electronic Systems Officer, 17th Radar Sq., Ko Kha Air Station, Thailand from October 1972 to October 1973. The captain became a recognized expert in all phases of contract monitoring at the new SPACETRACK site.

SSgt. David A. Scribner, Intermediate Maintenance Shop, Material Control NCOIC, was selected as the 20th WS NCO of the Quarter for the last quarter 1973.



Mrs. DeMare



Mrs. Cory

Secretaries get 30-yr. awards

Although they are hundreds of miles apart and probably have never seen each other, two secretaries who work for the Air Weather Service recently celebrated having attained 30 years of Federal service.

Mrs. Helen DeMare is a secretary in the 3d Weather Wing at Offutt AFB, NE while Mrs. Dorothy F. Cory is a secretary in the 9th Weather Wing at McClellan AFB, CA.

If one were to ask what it took to be an outstanding secretary, he would in all likelihood, be referred to these two women as examples.

The members of the 3d WW gathered recently to affirm that thought during a ceremony which was highlighted by personal calls, letters or congratulatory messages from many distinguished people that Mrs. DeMare has served throughout her career.

A personal communication from Col. John W. Collens, AWS commander, headed the list of congratulations which included a personal note from Lt. Gen. George H. McKee, commander, 8th Air Force. Mrs. DeMare recalls working with General McKee when he was a major and they were both assigned to Command Control, Headquarters, SAC.

Col. Berry W. Rowe, commander, 3d WW presided over the ceremony and summarized the words of six former wing commanders by saying, "I guess we all know who is the real commander of the 3d WW." He

then presented Mrs. DeMare with a certificate and pin certifying 30 years of "Faithful Federal Service" and an engraved plaque commemorating that she has had 15 years of service with the 3d WW.

Mrs. Cory began her Federal career at McClellan AFB in 1942 where she worked as a secretary in base supply and transportation section. At present she is the only civilian secretary in the operations section of the 9th WRW and is called the "Girl Friday" to more than 30 operations personnel.

During a recent ceremony in which she received the Department of the Air Force Certificate of Service for 30 years of "Faithful Federal Service", she was described as having an "outstanding character and bubbling personality." According to her boss, Col. Foster A. Post, director of operations, 9th WRW, "Dottie (as she is known to her fellow employees) is amazing. She just keeps saying yes, I will have it finished when you need it. And it is always there, complete, 100 per cent correct and on time."

In addition to being an excellent secretary, Mrs. Cory is also termed an expert seamstress.

Both Mrs. DeMare and Mrs. Cory made similar statements about their careers which can be summed up that both having weathered the first 30 years of Federal service, believe that the next 30 should be a snap.

2nd WW men speak to AMS

FEUCHT AAF, Germany -- Lt. Col. (col. Sel.) Donald C. Hansen and CMSgt. John Mazzella, 2d WW, spoke to more than 300 German meteorologists at the conference of the German Meteorological Societies at Bad Hamburg March 29.

The conference, which is held every three years, included several presentations on objective forecast techniques.

Hansen and Mazzella presented their paper, "An Objective Procedure for Forecasting

Fog at Selected Bases in the Central Portions of the Federal Republic of Germany." It included examples of the application of systematic procedures to terminal weather forecasting and emphasized the use of probabilities when presenting the results of studies. A sample fog study illustrated the use of mountain-station observations to derive low-level moisture and hydro lapse indices that are related to the visibility at an airbase adjacent to the mountain.



HURLBURT FIELD, FL -- The annual Red Cross blood drive was highly successful here - thanks in part to the "eye catching" publicity stunt of the people of Det. 75, 5th WW. Led by their Detco, Lt. Col. Bob Fisher, the weathermen "streaked" to the service club, where they discarded the sign and lined up (in gym shorts) to donate a pint of blood. More than 30 per cent of the Det. 75 people participated

in the drive. The streakers were, (left to right) Lt. Col. Fisher, 1st Lt. Alan Adams, Sgt. Robert Eugene, TSgt. Charles Irby, Sgt. Raymond Delmore, Capt. Warren Nielsen, SMSgt. Henry Kelly, Sgt. Gary Ashby, SSgt. Richard Walker, and MSgt. Juan Longoria. These streakers urge everyone to support their local blood drives. (U.S. Air Force Photo)

1973 MAC maintenance awards

Aircraft

AWS congratulates

Ground CEM



TSgt. Loran C. Brumfield
58th WRS, Kirtland AFB, NM

Maintenance NCOs of the Year

Under the provisions of MR 900-1, outstanding people and units are recognized for their outstanding contributions to the MAC mission. We are presenting those recognized in the categories applicable to AWS on this page.



MSgt. Robert W. Booth
Det. 10, 6th WW, Eglin AFB, FL

Maintenance Airmen of the Year

Sgt. Eastin
1973
MAC
Maintenance
Airman
of the Year



A1C Mark L. Shreve
55th WRS, McClellan AFB, CA



Sgt. Howard H. Eastin, Det. 12, 10
WS, Takli AB, Thailand.

58th WRS Maint. Staff Kirtland AFB

Maintenance Units of the Year

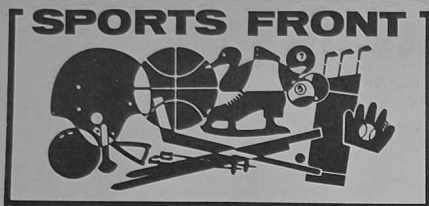
Det. 25, 5th WW Howard AFB, CZ



SMSgt. Herman Thibodeau, maintenance supervisor; Capt. Don Karl, Chief of Maintenance; TSgt. Raymon Pritchett, NCOIC, Mobility.

All photos are

U.S. Air Force Photos



Det. 25 wins again

For the second consecutive year Det. 25, 5th WW's golf team won the Howard-Albrook base golf championship. They compiled an 8-1 record this year and a 9-0 record last year. Team members were James Cameron, Robert Orshoski, Richard Kamp, Charles Tuttle, C. V. Armenta, Charles Starkey and Bobby Spurlock.

Detco's son wins state wrestling tourney

Donald Bahr, son of Maj. Donald Bahr, commander, Det. 4, 5th WW, Pope AFB, NC won the North Carolina Wrestling Championship in the 148 pound division this year. Don, a 5-foot, 8-inch senior at Pinecrest High School finished the season with a 23-1 record and an overall six-year career record of 180-2. His regular season record of 12-0 consisted of nine pins and three decisions and he won the conference title with a 34-second pin, good enough to earn the trophy for the quickest pin.

Breese plays raquetball

Richard P. Breese, commander, Det. 16, 24th WS Webb AFB, TX placed second in the Big Spring YMCA Invitational Raquetball Tournament in March.

Hot bowler at Webb

Thomas M. Davis, observer at Det. 16, 24th WS Webb AFB, TX finished first in the base bowling tournament. Of 24 bowlers entered, Davis had high average - 213, high game - 269, and high game series - 723. Davis was scheduled to represent Webb AFB at the ATC Bowling Tournament at Lackland AFB, TX April 16, 17, and 18. The Observer had not received the results at press time. Davis began bowling in 1958 and has bowled a high game of 300 and holds the Big Spring (Texas) City Bowling Association's high series record of 772.

Marathon runner finishes 8th

Bruce A. Milliman, a weather equipment maintenance technician in the base weather services division, 6th WW, finished 8th in a field of 96 in the marathon run at the Florida Relays in Gainesville March 30. Milliman completed the 26-mile course in 2 hours and 40 minutes. He started competitive running when he was a sophomore in high school and was an all-state competitor in both his junior and senior years. He ran in the all-Air Force meets at



NUMBER ONE -- Gen. George S. Brown, Air Force Chief of Staff, congratulates Albert H. (A1) Swihart, editor of the Observer for having the best Class II (A) official newspaper in the Air Force for 1973. Swihart accepted the

newspaper award during a recent ceremony in Washington, D.C. on behalf of all AWS personnel who contributed to the paper's success. (U. S. Air Force Photo)

AWS Meteorologist

Hitches a ride under a cloud

KIRTLAND AFB, N.M. -- "The tow plane takes up about 2,000 feet, and you look around for the right thermal. You fly around the core of the thermal updraft until you get as high as you can and then decide to bust out, and you hitch a ride under the clouds!"

This was how Capt. Bob Endlich of Det. 23, 6th WW described one of man's oldest flying sports -- gliding and soaring. He is a staff meteorologist for the Air Force Weapons Laboratory.

He has been gliding since the summer of 1970 and is a member of the Albuquerque Soaring Club.

"I was interested in planes and flying; that's why I joined the Air Force. Soaring to me is a lot more fun than regular aircraft flying because I am a meteorologist. Soaring enables me to combine the theory of meteorology with the real atmosphere to see how it all works together. I can see clouds forming and evaporating and sense the turbulence at different levels. I use all of my senses to fly the glider in an area where the atmosphere is going up."

"Soaring gives me a sense of accomplishment because I'm almost getting something for nothing. You have to work to fly the glider so it becomes a personal challenge. Can I make it stay up? Can I keep it up there?"

Soaring is accomplished either by thermal gliding, usually in the summer, or by wave soaring, in the winter. When the sun shines and the earth is heated, columns of air rise up from the earth's surface. Between these updrafts are areas where the air is going down. The object is to fly the glider where the air is going up. If the wind is blowing

too fast, it will mix up the atmosphere and destroy the organized thermals (columns of air), so the typical day for thermal soaring is a day with light winds, plenty of sunshine and in the warmer part of the year.

By flying the glider in an updraft, the pilot can reach great heights. "I was able to go over 22,000 feet last winter from a wave," said Endlich.

"A good deal of learning to soar is meteorology -- how the atmosphere behaves, the various weather reports describing such things as cloud cover, wind and temperature at the surface and aloft," he reiterated. "The pilot must interpret this data on the ground as well as in the air so he can make decisions where in the area the air is going up."

"The tow is usually up to 2,000 feet, and your first step is to get from the point of release to the next thermal, losing the minimum of height yet getting there as quickly as possible. As the glider's airspeed goes up, the drag goes up thus the faster the skyplane glides the faster it comes down. But there is one speed which will lose the minimum altitude and that's called the "speed to fly." By working it out on a slide rule, the pilot can figure out the best speeds to fly in advance so he can use this information in the air.

"You get as high as you can and then leave the thermal before it starts to weaken you look around for another thermal and they fly around the core of it where the lift is the greatest and make the decision: this is the last circle, I'm going to head out. So you wrap it up at a very tight angle of bank, nose down, prepare for a fair amount of sink and bust out."

A glider is like a conventional airplane except it lacks an engine, of course, and is built to stand greater stress and to be more maneuverable. When the pilot is landing, spoilers on the wings destroy the lift-producing capacities of the wing and also increase the drag so it will come down at a high rate of speed without a high forward speed.

"One day last summer I was flying cross-country and was as far as Santa Rosa and the air turned lousy, with no lift at all. I landed on a farmer's little road about 100 yards long. I used maybe 100 feet of that."

"When you know you're going to fall out of the sky, you choose your landing spot and land. You just walk up to the closest farm house and say, Ma'am, I'd like to borrow your phone. I landed my glider out there in the back pasture and I have to call my ground crew. People are very nice about it."

"My wife is my ground crew. She chases me on the ground and has great fun doing it. We have a radio in the car and one in the glider, so we can talk to each other. Gliders are made so the wings come off and the whole thing will load onto a trailer."

"Gliding looks easy before you learn and after you learn, but the learning part is not so easy," he summarized.

"There's an old saying: 'Aviation, like the sea, is not inherently dangerous, but it is terribly unforgiving of the ignorant.' There are always new challenges. It sounds dangerous, because people wonder how are you going to fly and land without an engine. That's the crux of it -- you're taught to fly and spot land the glider, and then it's like shooting fish in a barrel."