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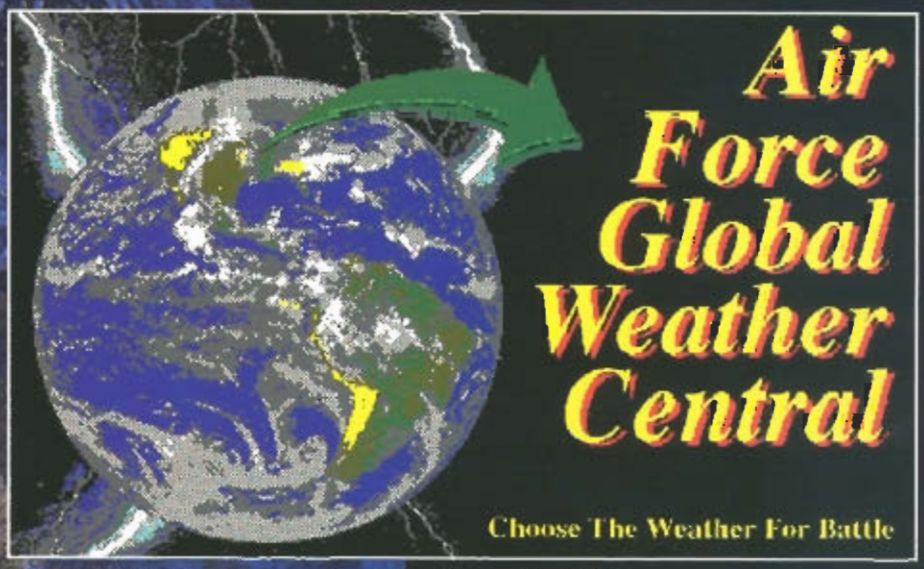

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AFGWC...

On The Move

What's Inside for May 1996

SPOTLIGHT

SPOTLIGHT

Air Force Global Weather Central -- A closer look into the "Heart of Air Force Weather"...

Cover artwork and photos on pages 12-15 courtesy of AFGWC.

Headquarters
Air Weather Service

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perspectives from the top

Observing The Weather

The Lifeblood Of Air Force Weather

by Brig. Gen. Thomas J. Lennon
Air Force Director of Weather

The weather, and its exploitation, are essential to battlespace control and key to obtaining battlefield advantages during wartime. Observing the weather remains the foundation for our overall capability.

History has proved the value of observations to combat planning and execution. During OPERATION OVERLORD, the Allied invasion of France during World War II, observers not only helped influence planning but also fought alongside the actual assault forces.

Elements of the 21st Weather Squadron, led by Lt. Col. (later lieutenant general) Thomas Moorman, Sr., parachuted with the 82nd and 101st Airborne Divisions five hours before the invasion to provide weather observations.

These weather observers deployed behind German lines to provide target weather information to Allied Air Forces and critical weather observations to the invasion armada crossing the English Channel.

History has confirmed that the absence of reliable and frequent observations can have a detrimental effect on a combat mission.

The failure of DESERT ONE, the unsuccessful attempt to rescue hostages in Iran in 1980, was partly caused by weather-related actions that contributed to mission abort.

Although alerted to the potential for suspended dust, mission commanders decided to continue the mission, based on no firm evidence of suspended dust occurring along flight routes. Unfortunately, these routes were in data-void areas where observations weren't available.

So why are observations so important? There are several reasons.

First, they provide the "ground truth" to what is currently happening with the weather and how it may affect the combat mission. Whether it's launching or recovering aircraft, executing airborne assaults, or positioning spacecraft, the observation is what the operational commander needs first, right now, to make operational decisions.

The second reason observations are so vital is they provide the basis for successfully executing our other core missions of forecasting and tailored applications.

> **"As our bedrock core competency, weather observations are our lifeblood. As 'ground truth,' they set the stage for the battlefield commander to act."**
>
> ***Brig. Gen. Thomas J. Lennon***
> ***Air Force Director of Weather***

Simply, forecasts are limited by the goodness of the observations. Each bit of weather information in the observation (such as cloud ceilings, heights, types of clouds, pressure, etc.) tells a story about the current, and possibly future weather conditions.

During OPERATION OVERLORD, Allied meteorologists and forecasters painstakingly analyzed every bit of observed weather information, fused it into a weather picture, and using fundamental forecasting techniques, depicted the ground truth location, movement, and development of weather systems affecting the invasion area.

As a result, Supreme Allied Commander Gen. Dwight D. Eisenhower initiated the "go" order based on the forecast.

Finally, observations are collected, archived and used throughout the Air Force Weather community as operational tools for short and long term planning, studies, and simulations.

For example, the Air Force Combat Climatology Center maintains climatological databases of observed weather information and produces specific climatology services for ongoing and future missions like Bosnia.

Air Force Global Weather Central and the 50th Weather Squadron process, package and transform observations into specific operational forecasts for Army, Air Force, Navy and space missions throughout the battlespace. The effectiveness of these forecasts is directly related to the accuracy and thoroughness of the observations.

In other words, weather forecast quality out depends on weather observation quality in.

As our bedrock core competency, weather observations are our lifeblood. As "ground truth," they set the stage for the battlefield commander to act. Our observations must be reliable, accurate and representative — we, as warfighters, expect no less.

With quality observations, our ability to anticipate and exploit the weather for battle will continue to make the difference.

Have a question for General Lennon? Write to: HQ USAF/XOW, 1490 Air Force Pentagon, Washington, D.C. 20330-1490.

command line

Who's Counting?

Our AFW Customers Need Our Accurate Support

by Col. Joseph D. Dushan
Commander
Air Weather Service

Have you noticed how much press coverage *accountability* has been getting lately? It is crystal clear that senior Air Force leaders expect us all to be personally accountable for our actions. Sometimes this is perceived as a negative, but it is directly in line with the third of our core Air Force values: Excellence. Air Force Chief of Staff Gen. Ronald Fogleman made a telling point when he wrote:

"In today's society, some people resign themselves to just getting by. Because we've been entrusted with our nation's security and because our mission often involves the risk of human life, the obligation to excel is a moral obligation for members of a professional military force."

This is exactly true for Air Force Weather (AFW). Severe weather warnings, forecasts for Army maneuvers in marginal conditions, and aircraft recovery forecasts for in-flight emergencies are just some examples. I use accountability and the search for excellence, however, to offer a broader, professional context for an issue that is apparently causing some controversy in AFW — namely, technical verification and individual metrics on forecast success.

Why verify? We do so to measure our technical performance, giving us a baseline for comparison and a clear target for improvement. Success is difficult to achieve if you don't define it. Someone once said: "You won't know when you arrive unless you know where you're going." Technical verification is quite simply a way to gauge progress for units and individuals.

We use a variety of ways to chart technical "goodness." All are just tools and have no intrinsic value beyond the value of any yardstick. Persistence measures forecast skill against no forecast at all. Terminal Aerodrome Forecast verification (TAFVER) uses standard categories to assess forecast success across the entire functional community. Standard thresholds allow us to automate the TAFVER process and ease the workload on individual units.

Operational verification (OPVER) first arrived on the scene in the 1970's and measures success against specific user mission thresholds. The OPVER program also offers a way to educate users on the capabilities and limitations of our technical services.

"The real value of any measurement scheme depends on how you use the results."

Col. Joseph D. Dushan
Commander, Air Weather Service

The real value of any measurement scheme depends on how you use the results. From my point of view, the best use for forecast verification statistics is to guide training. For a long time, we used to tell ourselves false alarms for weather warnings didn't matter so long as conditions for severe weather reasonably existed.

I well remember all the rationale, but we were fooling ourselves. We are in the business of producing accurate weather intelligence for users who depend on us. If we can measure our capability, we can improve it. Training is the key and technical improvement must be the goal.

Now let's talk about individual metrics. Everything we say about verification being a way to focus technical improvement for units applies to us as individuals, too. We can't improve our own skills without a baseline for comparison and a target or standard to strive to achieve.

In Quality terms, this is simply "benchmarking". I suspect concerns about individual accountability stem from fears about how verification statistics might be misused. "Will my Enlisted Performance Report (EPR) be dinged if I get poor TAFVER scores?" "Are you going to use forecast skill scores to decide who gets a 'Definitely Promote (DP)'?"

No leader worthy of the name would permit such a thing. If you have examples where this is happening, please contact me.

So who's counting? We all should be. After all, the warfighting users of AFW are counting on us to deliver accurate support when they need it most. That's our warfighting responsibility. Nobody else can do it for us.

We can best step up to the challenge by a steadfast focus on technical quality and a fierce determination to improve. Verification, both team and individual, gets us started in the right direction.

In closing, let me paraphrase a point made by Army Gen. Donn Starry more than 10 years ago:

"In peacetime, we practice observing, forecasting, and briefing. We must develop the courage to make a commitment to real competence and excellence. We can afford to do no less, for the time is short and the stakes are high."

Have a question for Colonel Dushan? Write to: HQ AWS/CC, 102 W. Losey St., Rm. 105, Scott AFB, Ill. 62225-5206.

enlisted view

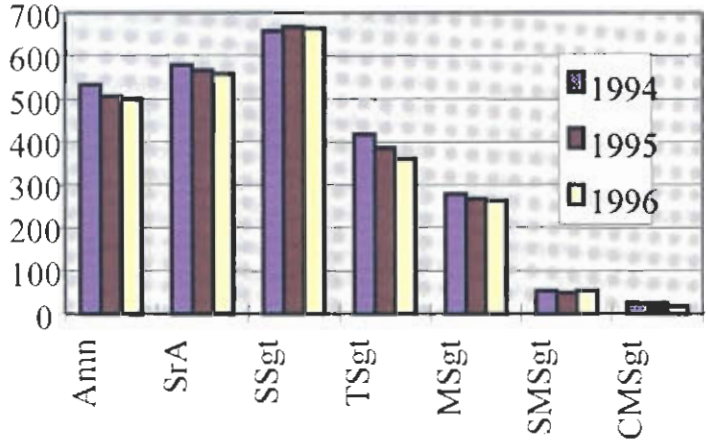
Facts And Figures

Statistics Show Trends In Air Force Weather

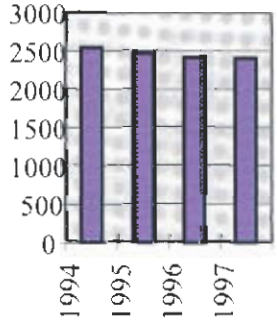
by Chief Master Sgt. Jim Hoy
Air Force Weather
Superintendent of Weather

The words in this month's article will be few — which may please many of you! I'm going to present several graphs displaying various aspects of Air Force Weather. They are all pretty much self-explanatory, so I'll just add a few editorial comments as we go along. One item to note is that the title "Amn" represents Airman Basic through Airman First Class.

Air Force Weather Authorizations

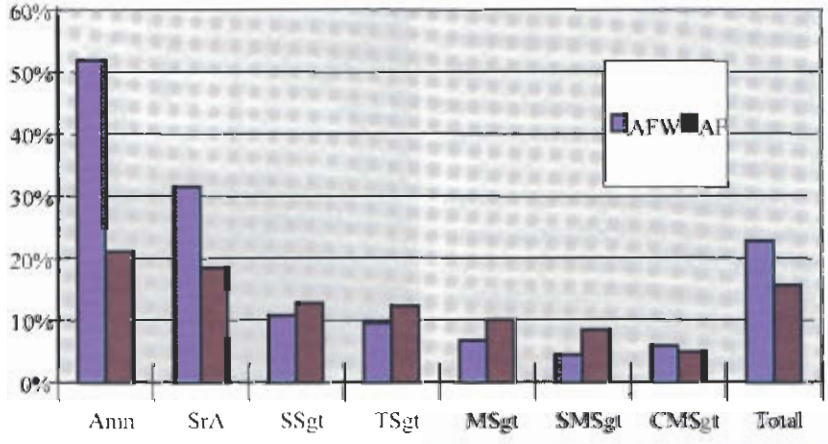


The career field enlisted authorizations in 1987 were approximately 3,600. We will end FY 1996 with 2,400, while the curve to the end of 1997 is nearly flat. Approximately one-third of the enlisted force is stationed outside the Continental United States (CONUS).



Women in AFW and the Air Force

Women comprise over fifty percent of the first-termers in our career field. Interestingly, we do not have a woman instructor at the Combat Weather Facility. Haven't had any volunteers — anyone interested?



See STATS
continued on Page 22

educational opportunities

Air Force Institute of Technology

New In-Residence Meteorology Program Helps Prepare Officers

by Maj. Jason Tuell and
Capt. Jay DesJardins
Air Force Institute of Technology
Wright-Patterson AFB, Ohio

I heard you got an Air Force Institute of Technology assignment! Great! Where are you going — Penn State or Texas A&M?"

That short conversation has been repeated hundreds of times over the past few years. Now add Wright-Patterson AFB, Ohio, to that list of destinations. Beginning with the 1995-96 academic year, AFIT is offering an in-residence graduate meteorology program.

The new program was created at the request of Air Force Director of Weather Brig. Gen. Thomas J. Lennon, who wanted a program focusing on the military applications of meteorology. The program's concept was approved by Air University in May 1995 and, less than two months later, the new faculty and staff were in place at Wright-Patterson AFB. The first class of nine students began studies in September 1995 and graduate March 1997.

The purpose of the in-residence meteorology program is to produce mission-ready advanced weather officers who are capable of meeting the technical challenges of military meteorology, emphasizing military applications throughout the entire curriculum. Instead of fostering narrow specialization, the in-residence program provides a broad meteorological education, resulting in weather officers prepared for the technical challenges encountered during an Air Force career.

The program is designed to accommodate up to 15 meteorology students in each class. Their research focuses on the needs of military meteorology and how to improve weather support to combat operations. This program also complements programs offered by civilian institutions, but doesn't replace them. The Air Force will continue to send students to civilian universities for education in areas where the AFIT program offers little expertise, like dynamic meteorology.

However, the AFIT program differs from it civilian counterparts in its emphasis on military applications and in the length of the course. The AFIT program leads to a master's degree in 18 months, compared to 21 months for the typical civilian program.

The in-residence program is built around an integrated course of study, with an entire quarter devoted to research. The course work is divided into three areas: core courses, applications courses, and electives.

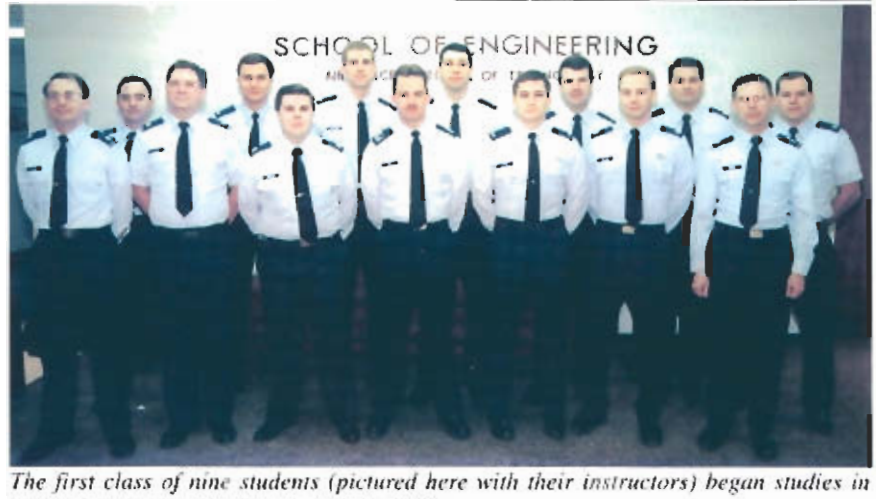
The core courses consist of classes in advanced dynamic meteorology, radiative transfer, and advanced synoptic meteorology. These core courses have graduate-level prerequisites in dynamic meteorology, physical meteorology and synoptic meteorology. Students who meet these prerequisites may choose additional electives in their place.

The applications courses consist of mesoscale meteorology, numerical weather prediction, satellite meteorology, tropical meteorology, radar meteorology, and climatology. Electives include courses in applied mathematics, statistics and computer science.

Synoptic meteorology and the applications courses use the meteorology lab extensively. The lab consists of a NEXRAD PUP, four Sun SPARC 20 workstations, a suite of observing equipment and personal computers, and an Interactive Video Disk training system . Two software packages allow the students to do worldwide synoptic and climatological studies using weather data from Air Force Global Weather Central (at Offutt AFB, Neb.) and the Air Force Combat Climatology Center (at Scott AFB, Ill.), as well as data from the National Center for Environmental Prediction (NCEP and other national weather centers.

AFIT presently has four faculty mem-

See AFIT continued on Page 22



The first class of nine students (pictured here with their instructors) began studies in September 1995 and graduate March 1997.

For more information about the Air Force Institute of Technology in-residence meteorology program, contact Maj. John Murphy at HQ Air Weather Service, Director of Personnel (AWS/RMP), 102 West Losey St., Room 105, Scott AFB IL 62225-5206 or DSN 576-4895, ext. 344, or E-Mail "murphyj@hqaws.safb.af.mil".

officer talk

Centers Of Opportunity

Global, Combat Climo Offer Many Challenges

by Maj. John D. Murphy
Air Weather Service
Chief of Personnel

Since this edition of the *OBSERVER* features Air Force Global Weather Central (AFGWC), we'll discuss the opportunities available to officers in the Air Weather Service centers. A job is what you make of it, and there are many excellent branch and work center chief positions in AWS centers that will enhance promotion opportunities.

The centers are undergoing many dynamic changes in the way centralized support and products are created. The days of "pushing" products to field users whether they want to use them or not are over. Today's focus is on customer needs and being the "supplier of choice." The recent emphasis on "visualization" products is the realization that products can be designed for the end users in mind and not just the meteorologists. Dial-in systems at the centers have allowed customers to "pull" what they need, when they need it.

> "There are many critical leadership positions requiring field experience at Air Force Global Weather Central and Air Force Combat Climatology Center."
>
> *Maj. John D. Murphy*
> *Chief of Personnel, Air Weather Service*

There are many critical leadership positions requiring field experience at AFGWC and Air Force Combat Climatology Center (AFCCC).

One of many examples is the Operations Center Team Chief position, which was known as the Global Duty Officer (GDO) position. The Ops Chief is often the first contact for any issue relating to AFGWC. During non-duty hours, the Ops Chief is the center's senior ranking person and represents the AFGWC commander — an awesome responsibility and opportunity for senior captains and majors.

At AFCCC, there are several key branch chief positions that provide constant challenges in thinking of better ways to collect, save, and apply weather data to generate environmental products in support of worldwide operations of the Air Force, Army, and other DOD and U.S. Government agencies.

Other opportunities at AWS centers include the many Advanced Academic Degree captain and major positions that exploit an officer's advanced learning to improve techniques and products used to support nearly every single military operation, contingency mission, and humanitarian relief effort conducted by the United States.

In addition to the normal opportunities mentioned above, there are many new and interesting opportunities appearing as a result of "regionalization" efforts at AFGWC, and the stand-up of the DOD's Air and Space Natural Environment (Weather) Modeling and Simulation (M&S) Division at AFCCC. These changes provide many new opportunities for innovative "free-thinkers."

At AFGWC, "regionalization" will provide many new and exciting opportunities for the hard-charging, quick-thinking, go-getter. First and foremost will be the three major positions that will lead the regional forecast branches. Each officer will lead a 60-person team providing mission-focused forecasts for air/land operations within their third of the globe.

The DOD's Weather M&S Division at AFCCC will provide a few of its own unique opportunities. The division will support the Commander of AFCCC in his role as Executive Agent for DOD Weather M&S and will be composed of three branches (Requirements Analysis, Technology Integration, and Standardization). These hard-chargers will lead six-person multi-service teams responsible for collecting, developing, coordinating, and advising DOD-wide users of information/guidance on modeling and simulation issues.

They will also identify technologies for solving shortfalls and guide DOD efforts for technology development and implementation to meet those shortfalls. Finally, they'll develop and coordinate standards for weather products and services ensuring interoperability with DOD systems and activities.

AWS centers are not just automated production centers. They are computer-based operations heavily reliant on the interaction between people and computers to provide timely, accurate, and complete services in support of worldwide operational requirements.

AWS centers have many challenging positions for top-notch, quality leaders. Their products and services support warfighters, base and post weather stations, National Programs, command and control agencies and systems, and other validated operational and planning functions.

Contact Maj. John Murphy, HQ Air Weather Service, Director of Personnel (AWS/RMP), 102 West Losey St., Room 105, Scott AFB IL 62225-5206 or DSN 576-4895, ext. 344, or E-Mail "murphyj@hqaws.safb.af.mil".

weather history

Weather In Southeast Asia

Air Weather Service particpation in Vietnam

by Ms. Lil Wilbur
Air Weather Service
Chief of History

Did You Know?

In the late summer of 1965, Det. 2, 1st Weather Wing, began providing weather reports to Strategic Air Command (SAC). It was necessary to have the latest information on visibility, winds, and temperature to allow SAC to succeed in its mission in Southeast Asia. These reports were necessary before each mission the B-52s flew.

Weather reconnaissance played a key role in the air operations in Southeast Asia. The Air Force used several different aircraft for scouting and to provide pathfinder weather reconnaissance support to the fighter aircraft deploying to and from the area.

Air Weather Service's supporr was highlighted by the parricipation in Operation Arc Light, a bombing mission that deployed aircraft from Guam to Southeast Asia.

AWS used WB-47Es to provide dedicated scout reconnaissance on a continual basis from August 1965 until 1969. After 1969, WC-130s and WC-135Bs were used to support the mission. While continuing to support Operation Arc Light, AWS also provided weather scout reconnaissance for deployment of the SR-71 "Blackbird," a high-level reconnaissance aircraft.

Did You Know?

During the Vietnam Conflict, the 30rh WS, the Vietnamese Air Force Weather Division, and the Royal Thai Meteorological Services worked together to provide the latest weather information throughout Southeast Asia.

The raid on the Son Tay Prison camp provided yet another example of excellent weather support. The date of the raid was determined using detailed information on the climatology of the area gathered by Maj. Keith R. Grimes. That information, along with thorough forecasts from AWS people, assisted Brig. Gen. Leroy H. Manor in making his decision to go in a day early.

These Air Force weather troops were assigned to 3rd Brigade, 101st Airborne Division. They are standing in front of a MMQ2 weather van.

Did You Know?

Weather people were everywhere in Southeast Asia! Proof positive was the support Det 7, 30th WS provided to the 2nd Air Division and the U.S. Army's 121st Aviarion Company in the Mekong Delta area.

That supporr included acting as part of the base defense, with weather people operating gun positions.

Did You Know?

Southeast Asia made close combat weather support necessary. Combat weather folks were trained to jump with airborne units straight into battle zones. One of the operations where outstanding weather

Southeast Asia made close combat weather support necessary. Combat weather folks were trained to jump with airborne units straight into battle zones. One of the operations where outstanding weather support was provided by weather people was Operation ATTLEBORO. The operation took place in November 1966.

Photos courtesy of the Air Weather Service History Office

support was provided by weather people was Operation ATTLEBORO, which took place in November 1966. It's success was so dependent on accurate weather observations from Operating Location 1, Det. 26, 5th Weather Squadron, that the entire 18-person team received Bronze Star Medals for their contributions. Although the weather during this entire operation was generally poor, forecasting was accurate, enabling forces to know exactly what to expect.

With Air Force Weather's help, the commanding general of the 1st Infantry Division, Maj. Gen. William E. DePuy, and his staff were better able to make decisions regarding troop and supply airlift, which led to the Viet Cong losing more than 1,100 soldiers.

Did You Know?

The raid on the Son Tay Prison camp provided yet another example of excellent weather support. The date of the raid was determined using detailed information on the climatology of the area gathered by Maj. Keith R. Grimes.

That information, along with thorough forecasts from AWS people like Sergeants Dennis Van Houdt and Gene Ralston, assisted Brig. Gen. Leroy H. Manor in making his decision to go in a day early.

Although the camp was empty, the raid brought hope to POWs when they realized they were not abandoned!

Navy Lt. Cmdr. Charles Stackhouse, a former POW , later said that until the Son Tay raid the POWs felt like "the living dead," but that changed after the raid.

Did You Know?

Another unit in the Mekong Delta area, Det. 11, 5th Weather Squadron, at Vinh Long, provided weather reports and much more.

In 1967, they assisted the 9th ARVN Division in assembling high explosive rockets and carrying them to waiting helicopters when the 9th Army of the Republic of Viet Nam Division and 13th Aviation Brigade confronted two Viet Cong battalions.

They also helped evacuate casualties from the helicopters to the dispensary. This was another case of when help is needed, the people of Air Weather Service were there.

Did You Know?

Meanwhile, back in Omaha, Neb., the Automated Weather Network was testing its wings. Initiated in 1965, it was designed as a dedicated communication system that would link weather centrals in Japan, England, and Offutt AFB, Neb.

In 1965, the data was processed and made available not only to Air Force personnel, but to the Navy's Weather Central, and the Meteorological Center of the U.S. Weather Bureau.

Did You Know is brought to you by your friendly Air Weather Service History Office. Materials used come from various sources including AWS Historians past and present. If you have stories, artifacts, old emblems, photos, etc...contact Ms Wilbur at email wilburl@hqaws.safb.af.mil or call 618-256-5654 x258 or DSN 576-5654 x258.

salutes

DEFENSE MERITORIOUS SERVICE MEDAL

Lt. Col. Joseph P. Bassi, Joint Typhoon Warning Center, Guam

AIR FORCE MERITORIOUS SERVICE MEDAL

Master Sgt. Martin W. Sprankle, 607th WS, Yongsan AIN, Korea (2nd OLC)
Master Sgt. Jeffrey P. Cunningham, 607th WS, Yongsan AIN, Korea (2nd OLC)
Master Sgt. Bruce A. Moyer, 607th WS, Yongsan AIN, Korea (1st OLC)
Master Sgt. Rudolph W. Brodsky, Headquarters Air Weather Service, Scott AFB, Ill.
Capt. Kevin P. Callahan, 39th OSS/OSW, Incirlik AB, Turkey
Tech. Sgt. Micahel P. Bloomquist, 39th OSS/OSW, Incirlik AB, Turkey
Senior Master Sgt. David D. Cramblet, OL-B, 18th WS, Fort Eustis, Va. (2nd OLC)
Capt. Thomas A. Guinn, 305th OSS/OSW, McGuire AFB, N.J.
Capt. Ronald L. Brensinger, HQ Air Force Space Command, Peterson AFB, Colo.
Lt. Col. Stephen W. Carroll, HQ Air Force Global Weather Central, Offutt AFB, Neb.
Master Sgt. Jerry L. Sanders, HQ AFGWC, Offutt AFB, Neb.

AIR RESERVE FORCES MERITORIOUS SERVICE MEDAL

2nd Lt. Jeffrey J. Hoffman, 104th WF, Baltimore, Md. (1st OLC)
Tech. Sgt. Michael H. Weir, Jr., 104th WF, Baltimore, Md. (5th OLC)

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Staff Sgt. Shirley A. Brown, JTWC, Guam
Tech. Sgt. Scott Straw, Camp Humphries, Korea
Tech. Sgt. Thomas B. Dahl, 607th WS, Yongsan AIN, Korea
Tech. Sgt. Bradley W. Townsend, HQ AWS, Scott AFB, Ill.
1st Lt. Joseph W. Kurtz, 39th OSS/OSW, Incirlik AB, Turkey
Master Sgt. Richard J. Conklin, 39th OSS/OSW, Incirlik AB, Turkey
Tech. Sgt. Richard W. Nieman, 39th OSS/OSW, Incirlik AB, Turkey
1st Lt. Julia Borowiak, 45th WS, Patrick AFB, Fla.
Staff Sgt. Sandee Keane, 45th WS, Patrick AFB, Fla.
Tech. Sgt. Timothy J. Scheidt, Det. 10, 617th WS, Giebelstadt, Germany
Staff Sgt. Karl N. Kleinbeck, Det. 10, 617th WS, Giebelstadt, Germany
Staff Sgt. Paul T. Richard, Det. 7, 617th WS, Grafenwoehr, Germany
1st Lt. Eric. C. Sorbo, HQ AFGWC, Offutt AFB, Neb.
Tech. Sgt. Patrick A. Therien, HQ AFGWC, Offutt AFB, Neb.
Staff Sgt. Gary A. Hall, 24th WS, Howard AFB, Panama
Staff Sgt. Thomas E. Ziprich, 24th WS, Howard AFB, Panama

ARMY COMMENDATION MEDAL

Staff Sgt. Lajana K. Griffin (Thompson), 39th OSS/OSW, Incirlik AB, Turkey
Staff Sgt. Bill Semler, Det. 3, 617th WS, Illesheim, Germany
Staff Sgt. Jorge C. Benavides, Jr., 24th WS, Howard AFB, Panama

JOINT SERVICE ACHIEVEMENT MEDAL

Capt. John A. Rupp, JTWC, Guam

AIR FORCE ACHIEVEMENT MEDAL

Senior Airman David A. Correa, JTWC, Guam
Staff Sgt. Gary N. Shaw, 12th OSS/DOW, Randolph AFB, Texas
Senior Airman Micahel R. Marston, 39th OSS/OSW, Incirlik AB, Turkey
Senior Airman Frederick Boyd, 45th WS, Patrick AFB, Fla.
Senior Airman Michael P. Bastien, Det. 10, 617th WS, Giebelstadt, Germany
Sgt. Gary R. Watson, 14th OSS/DOW, Columbus AFB, Ga. (2nd OLC)
Master Sgt. Neal Rall, 611th OSF/WE, Elmendorf AFB, Alaska
Senior Airman Tricia Oleska, 611th OSF/WE, Elmendorf AFB, Alaska
2nd Lt. Darryl N. Leon, 314th OSS/OSW, Little Rock AFB, Ark.

ARMY ACHIEVEMENT MEDAL

Senior Airman Shawn Peterson, JTWC, Guam
Senior Airman David W. Anderson, 39th OSS/OSW, Incirlik AB, Turkey

AIR FORCE OUTSTANDING UNIT AWARD

202nd Weather Flight, Massachusetts Air National Guard, Otis ANGB, Mass.
77th Operations Support Squadron, McClellan AFB, Calif.

AIR FORCE GOOD CONDUCT MEDAL

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Senior Airman Frederick Boyd, 45th WS, Patrick AFB, Fla.
Tech. Sgt. Timothy J. Scheidt, Det. 10, 617th WS, Giebelstadt, Germany
Master Sgt. Sandra D. Bradley, Det. 4, 617th WS, Traben Trarbach
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Staff Sgt. Kevin L. Chesebro, HQ AFGWC, Offutt AFB, Neb.
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Staff Sgt. Scott A. Creedon, HQ AFGWC, Offutt AFB, Neb.
Senior Airman Eric S. Dyer, HQ AFGWC, Offutt AFB, Neb.
Tech. Sgt. Ralph Getzendanner, HQ AFGWC, Offutt AFB, Neb.
Staff Sgt. Kevin O. Smallwood, HQ AFGWC, Offutt AFB, Neb.
Master Sgt. Donald E. Ward, HQ AFGWC, Offutt AFB, Neb.
Master Sgt. Victoria L. White, HQ AFGWC, Offutt AFB, Neb.

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Michael Van Sickle, 107th Weather Flight, Selfridge ANGB, Mich. (ANG)
Ryan D. Holman, HQ AFGWC, Offutt AFB, Neb.

Eric G. Fjetland, HQ AFGWC, Offutt AFB, Neb.

Jerry L. Ray, 105th WF, Nashville, Tenn. (ANG)
David L. Whanger, 110th WF, St. Louis, Mo. (ANG)
Mark E. Anderson, HQ AWS/CVV, Scott AFB, Ill.
Gary C. Justus, 25th ASOS, Wheeler AAF, Hawaii
Michael S. Grehan, HQ AFGWC, Offutt AFB, Neb.
John C. Cobb, 207th WF, Indianapolis, Ind. (ANG)
Mark S. Kaufman, 200th WF, Richmond, Va. (ANG)
James C. Lane, 207th WF, Indianapolis, Ind. (ANG)

Alton E. Stiverson, Det. 4, 50th WS, Holloman AFB, N.M.
Shirley A. Brown, JTWC, Guam
Jamee S. Malia, 146th WF, Pittsburgh, Pa. (ANG)
Myron Winters, 319th OSS/OSW, Grand Forks AFB, N.D.
Clifford T. Walton, 12th OSS/DOW, Randolph AFB, Texas
Patrick B. King, 207th WF, Indianapolis, Ind. (ANG)
Ronald C. Leblanc, 131st WF, Westfield, Mass. (ANG)
Thomas P. Polesnak, 200th WF, Richmond, Va. (ANG)

Gary N. Shaw, 12th OSS/DOW, Randolph AFB, Texas
Henry G. Christie, Jr., 107th WF, Selfridge ANGB, Mich. (ANG)
Todd R. Fitch, 107th WF, Selfridge ANGB, Mich. (ANG)
Jon S. Natalle, OL-C 607th WS, Camp Eagle, Korea
Gary A. Clinton, Jr., Air Force Combat Climatology Center, Scott AFB, Ill.
Jason D. MacCartney, OL-C, 18th WS, Fort Knox, Ky.
Michael S. Albanese, HQ AFGWC, Offutt AFB, Neb.
Valerie Smith, 27th OSS/OSW, Cannon AFB, N.M.
Reginald D. Anderson, 111th WF, Houston, Texas (ANG)
Timothy J. Callico, 110th WF, St. Louis, Mo. (ANG)

Deborah A. Custer, 10th ASOS/OSW, Fort Riley, Kan.
Michael E. Adkins, 12th OSS/DOW, Randolph AFB, Texas
Curtiss A. Akim, 195th WF, Channel Island ANGB, Calif. (ANG)
Daryl J. Kaberle, 126th WF, Milwaukee, Wisc. (ANG)
Bryan J. Keating, 165th WF, Louisville, Ky. (ANG)
Jake Arfa, 21st ASOS/ASW, Fort Polk, La.
Tracy R. Bell, HQ AFGWC, Offutt AFB, Neb.
Patrick W. Neberhaus, HQ AFGWC, Offutt AFB, Neb.
Nicole L. Shifflett, 27th OSS/OSW, Cannon AFB, N.M. (below the zone)
John M. Carpenter, 200th WF, Richmond, Va. (ANG)

Margit C. Carson, 10th ASOS/OSW, Fort Riley, Kan.
Jason R. Sinclair, 164th WF, Columbus, Ohio (ANG)
Christopher Turley, 75th OSS/OSW, Hill AFB, Utah
Lance A. Austin, HQ AFGWC, Offutt AFB, Neb.
Joshua G. Maurer, 314th OSS/OSW, Little Rock AFB, Ark.
Rebecca L. Plummer, 314th OSS/OSW, Little Rock AFB, Ark.

Sylvia Farling, 77th OSS/OSW, McClellan AFB, Calif.
Kenneth J. Condon, Jr., 210th WF, Ontario, Calif. (ANG)

Marjorie L. Durkes, 127th WF, Forbes ANGB, Kan. (ANG)
Anson L. Summers, Det. 10, 617th WS, Giebelstadt, Germany
Stacy L. Bennett, HQ AFGWC, Offutt AFB, Neb.
Pamela S. Green, HQ AFGWC, Offutt AFB, Neb.
Zachery R. Sparks, HQ AFGWC, Offutt AFB, Neb.
Brian E. Watkins, HQ AFGWC, Offutt AFB, Neb.

HAILS AND FAREWELLS

Capt. Richard A. Anstett — to JTWC, Guam, from University of North Carolina
Tech. Sgt. Vincent T. Aquon — to U.S. Strategic Command, Offutt AFB, Neb., to JTWC, Guam
Lt. Col. Joseph P. Bassi — to JTWC, Guam, from HQ USAF/XOM, Pentagon, Washington, D.C.
Airman Marsha D. Bogle — to JTWC, Guam, from Keesler AFB, Miss.
Staff Sgt. Shirley A. Brown — to JTWC, Guam, from 14th FTWICCE, Columbus AFB, Miss.
Capt. Bill J. Carle — to JTWC, Guam, from Texas A&M University
Master Sgt. Richard J. Conklin — to 39th OSS/OSW, Incirlik AB, Turkey, to JTWC, Guam
Senior Airman David J. Correa, Jr. — to Keesler AFB, Miss., from JTWC, Guam
Staff Sgt. Linda R. Ham — to JTWC, Guam, from 18th OSS/OSW, Kadena AB, Japan
Capt. Gary B. Kubat — to JTWC, Guam, from Colorado State University
Senior Airman Sean M. McDunn — to JTWC, Guam, from Keesler AFB, Miss.
Staff Sgt. Terry L. Mest — to JTWC, Guam, from Keesler AFB, Miss.
Staff Sgt. Jewel K. Tappy — to 42nd OSS/OSW, Maxwell AFB, Ala., from JTWC, Guam
Airman 1st Class Jeffrey L. Wilkerson — to JTWC, Guam, from 14th OSS/DOW, Columbus AFB, Ga.
Senior Airman Timothy C. Williams — to Keesler AFB, Miss., from JTWC, Guam
Senior Airman Melissa A. Black — to 12th OSS/DOW, Randolph AFB, Texas, from Keesler AFB, Miss.
Airman 1st Class Steven M. Baldinger — to Keesler AFB, Miss., from 12th OSS/DOW, Randolph AFB, Texas
Tech. Sgt. Craig M. Cross — to 257th WF, Indianapolis, Ind., to 107th WF, Selfridge ANGB, Mich. (ANG)
Tech. Sgt. Terry L. Ortegon — to AFGWC, Offutt AFB, Neb., from 607th WS, Yongsan AIN, Korea
Senior Airman Shawn C. McFarlin — to Sheppard AFB, Texas, from 607th WS, Yongsan AIN, Korea
Senior Airman Scott J. McCormick — to Scott AFB, Ill., from 607th WS, Yongsan AIN, Korea
Staff Sgt. Troy Marshall — to Traben Trarbach, Germany, from 607th WS, Yongsan AIN, Korea
Senior Airman Charles Smith — to Sheppard AFB, Texas, from 607th WS, Yongsan AIN, Korea
Senior Airman Aaron Purdum — to Keesler AFB, Miss., from Camp Humphreys, Korea
Staff Sgt. Robert A. Ross — to 607th WS, Yongsan AIN, Korea, from Eglin AFB, Fla.
Senior Airman Alberto Lacayo — to 607th WS, Yongsan AIN, Korea, from Altus AFB, Okla.
Senior Airman Craig A. Musselma — to 607th WS, Yongsan AIN, Korea, from Fort Campbell, Ky.
Senior Airman Robert P. Bleacher — to 607th WS, Yongsan AIN, Korea, from Sheppard AFB, Texas
Airman 1st Class Michael C. Neel — to 607th WS, Yongsan AIN, Korea, from Warner Robbins AFB, Ga.
Senior Airman Shannon Meyer — to Camp Humphries, Korea, from Little Rock AFB, Ark.
Airman 1st Class Kimberly Phegley — to Kadena AB, Japan, from 75th OSS/OSW, Hill AFB, Utah
Master Sgt. Leslie Best — to 75th OSS/OSW, Hill AFB, Utah, from Robins AFB, Ga.
Staff Sgt. Kenneth Asbell — to 75th OSS/OSW, Hill AFB, Utah, from Keesler AFB, Miss.
Senior Airman Rodney L. Storall — to 39th OSS/OSW, Incirlik AB, Turkey, from Vance AFB, Okla.
Staff Sgt. David M. Padgett — to AFGWC, Offutt AFB, Neb., from 39th OSS/OSW, Incirlik AB, Turkey
Capt. Kirth L. Pederson -- to 14th OSS/DOW, Columbus AFB, Ga., from Vance AFB, Okla.
Airman Anthony Kontny -- to 319th OSS/OSW, Grand Forks AFB, N.D., from Keesler AFB, Miss.
Master Sgt. Louis Miller -- to 319th OSS/OSW, Grand Forks AFB, N.D., from Elmendorf AFB, Alaska
Senior Airman Jeffrey T. Thurman -- to Yongsan AIN, Korea, from Fort Hood, Texas
Tech. Sgt. Scott Mazur -- to McChord AFB, Wash., from Camp Stanley, Korea
Staff Sgt. Brett Wisdom -- to Minot AFB, N.D., from Camp Stanley, Korea
Staff Sgt. Dave Haney -- to AFGWC, Offutt AFB, Neb., from Camp Stanley, Korea
Staff Sgt. Michael Butrovich -- to Camp Humphreys, Korea, from Pope AFB, N.C.
Senior Airman Mary Gimler -- to Camp Eagle, Korea, from Fort Rucker, Ala.
Staff Sgt. James Rogers -- to Camp Eagle, Korea, from Fort Bragg, N.C.
Staff Sgt. Stephen Heywood -- to Paleloa Solar Observatory, Hawaii, from Camp Eagle, Korea
Airman Scott Fuller -- to 21st ASOS/ASW, Fort Polk, La., from Keesler AFB, Miss.
Senior Airman Matthew Pettitt -- to 62nd OSS/OSW, McChord AFB, Wash., from Keesler AFB, Miss.
Airman 1st Class Dalia De Leon -- to 12th OSS/DOW, Randolph AFB, Texas, from Keesler AFB, Miss.
Airman 1st Class Steve Baldinger -- to Keesler AFB, Miss., from 12th OSS/DOW, Randolph AFB, Texas
Senior Airman Julie A. Clark -- to 77th OSS/OSW, McClellan AFB, Calif., from Keesler AFB, Miss.
Senior Airman Benjamin X. Wretlind -- to Keesler AFB, Miss. from 412th OSS/OSW, Edwards AFB, Calif.
Airman 1st Class Susan E. Long -- to 412th OSS/OSW, Edwards AFB, Calif., from Keesler AFB, Miss.
Airman Ashish A Kakkad -- to 412th OSS/OSW, Edwards AFB, Calif., from Keesler AFB, Miss.
Airman Brian Macho -- to 27th OSS/OSW, Cannon AFB, N.M., from Keesler AFB, Miss.
Airman Cindy Wright -- to 27th OSS/OSW, Cannon AFB, N.M., from Keesler AFB, Miss.
Staff Sgt. Darrin L. Hughes -- to HQ AFGWC, Offutt AFB, Neb., from 27th OSS/OSW, Cannon AFB, N.M.
Airman 1st Class Nicole L. Shifflett -- to Camp Casey, Korea, from 27th OSS/OSW, Cannon AFB, N.M.
Airman 1st Class Christopher McKenney -- to 62nd OSS/OSW, McChord AFB, Wash., from Keesler AFB, Miss.
Staff Sgt. Thomas E. Ziprich -- to 24th WS, Howard AFB, Panama, from Keesler AFB, Miss.
Airman 1st Class Brad J. Miller -- to 24th WS, Howard AFB, Panama, from Keesler AFB, Miss.
Senior Airman Wesley A. Freese, Jr. -- to 24th WS, Howard AFB, Panama, from Keesler AFB, Miss.
Capt. Bryan E. Adams -- to 24th WS, Howard AFB, Panama, from HQ AWS, Scott AFB, Ill.
Tech. Sgt. Kenneth Phelps -- to 24th WS, Howard AFB, Panama, from Scott AFB, Ill.
Capt. James D. Miller -- to 257th WF, Indianapolis, Ind., from 122nd WF, New Orleans, La. (ANG)
Staff Sgt. Lori B. Cawdrey -- to 123rd WF, Andrews AFB, Md., from 116th WF, McChord AFB, Wash. (ANG)
Senior Airman Derek L. Whitmer -- to 165th WF, Louisville, Ky., from 105th WF, Nashville, Tenn. (ANG)

RETIREMENTS

Lt. Col. Peter A. Morse, JTWC, Guam
Senior Master Sgt. Robert W. Ball, 203rd WF, Fort Indiantown Gap, Pa. (ANG)
Tech. Sgt. Michael Bayne, 18th WS, 6th WF, Fort Rucker, Ala.
Senior Master Sgt. Donald Land, Det. 4, 617th WS, Traben Trarbach, Germany
Senior Master Sgt. Edward J. Ring, 113th WF, Terre Haute, Ind. (ANG)

REENLISTMENTS

Master Sgt. Larry W. Smith, OL-B, 18th WS, Fort Eustis, Va.
Staff Sgt. Shawn Dahl, 319th OSS/OSW, Grand Forks AFB, N.D.
Staff Sgt. Marc Allen, 319th OSS/OSW, Grand Forks AFB, N.D.
Staff Sgt. James Haavisto, 319th OSS/OSW, Grand Forks AFB, N.D.

SEPARATIONS

Senior Airman Shawn Peterson, JTWC, Guam
Staff Sgt. Michelle Hunnell, 75th OSS/OSW, Hill AFB, Utah
Airman 1st Class Melanie Glaab, 319th OSS/OSW, Grand Forks AFB, N.D.
Senior Airman Gregory Bogert, OL-A, Det. 1, 607th WS, Camp Page, Korea
Capt. Ronald L. Breninger, HQ AFSPC, Peterson AFB, Colo.
Senior Airman Sandra Isabel Schroeder, 314th OSS/OSW, Little Rock AFB, Ark.
Senior Airman Jose A. Palacios, 314th OSS/OSW, Little Rock AFB, Ark.
Sergeant Rachel L. Jackson, 412th OSS/OSW, Edwards AFB, Calif.
Senior Airman Lissette A. Meunier, 412th OSS/OSW, Edwards AFB, Calif.
Senior Airman Juan M. Saenz, 27th OSS/OSW, Cannon AFB, N.M.
Capt. Katherine Morilak, 27th OSS/OSW, Cannon AFB, N.M.

EDUCATION

Senior NCO Academy

Senior Master Sgt. Christopher Andrejcik, Det. 4, 50th WS, Holloman AFB, N.M. (Distinguished Graduate)

NCO Academy

Tech. Sgt. Gregory T. Hall, OL-A, 25th ASOS, Bradshaw AAF, Hawaii
Tech. Sgt. Keith Ristuben, 607th WS, Korea

Airman Leadership School

Senior Airman Douglas Merkle, OL-A, 18th WS, Fort Belvoir, Va.
Senior Airman Alberto Ramirez, 6th WF, 18th WS, Fort Rucker, Ala.
Senior Airman Ashleigh Brown, 45th WS, Patrick AFB, Fla.
Senior Airman Dean Harpster, 45th WS, Patrick AFB, Fla. (John Levitow Award winner)
Senior Airman Scott A. Nych, Det. 9, 617th WS, Hohenfels, Germany (Distinguished Graduate)
Senior Airman Michael P. Homan, Det. 5, 10th CWS, Fort Campbell, Ky. (Distinguished Graduate)

CCAF Degree in Weather Technology

Tech. Sgt. Alton E. Silverson, Det. 4, 50th WS, Holloman AFB, N.M.
Senior Airman Jerry L. Andrews, 10th ASOS/OSW, Fort Riley, Kan.
Staff Sgt. Toni V. Carter, 62nd OSS/OSW, McChord AFB, Wash.

U.S. Senate Productivity Award Examiners Course

Master Sgt. Jeffrey B. Dunn, 57th OSS/OSW, Nellis AFB, Nev.

Jumpmaster School (Fort Bragg, N.C.)

Senior Airman John W. Koelzer, 18th WS, Fort Bragg, N.C.

Tropical Meteorology School

Staff Sgt. Robert Kane, 45th WS, Patrick AFB, Fla.
Staff Sgt. James Rosenquest, 45th WS, Patrick AFB, Fla.

Associate of Arts Degree, University of Maryland

Senior Airman Troy D. Schulz, Det. 7, 617th WS, Grafenwoehr, Germany

Weather Apprentice Course Graduates (Class 960205)

Airman Joshua T. Akers
Airman Johnathon P. Barnes
Airman Ashish A. Kakkad (honor graduate)
Airman Brian K. Simcox
Airman Heather D. Davis
Airman Wayne P. Murray

Weather Apprentice Course Graduates (Class 960212)

Airman 1st Class Brian P. Kolts
Airman 1st Class Timothy A. Blair
Airman 1st Class Katherine M. Anholt
Airman 1st Class Susan E. Long
Airman 1st Class Dalia De Leon
Airman 1st Class David S. Gray
Airman Timothy D. Johnson
Airman Andrea Kimsey
Airman James L. McKenzie (honor graduate)
Airman Tina M. Steinbrunner
Airman Corey B. Lane
Airman Patrick J. Holler
Airman Gregory J. Hightower
Airman Tasha N. Fisher
Airman Cindy A. Wright
Airman Jerrod B. Webb
Airman Kevin A. Bochm Jr.
Airman Diane S. Ward
Airman Robert J. Skelton (honor graduate)

Weather Technician Course Graduates (Class 950807)

Senior Airman Brady L. Armistead -- (honor graduate) to Fort Lewis, Wash.
Senior Airman David D. Blankenship -- to Fort Campbell, Ky.
Senior Airman Robert J. Forton -- to Peterson AFB, Colo.
Senior Airman Jose Hurtado -- to Barksdale AFB, La.
Senior Airman Martha A. Roberts -- to Holloman AFB, N.M.
Senior Airman Donald W. Smith -- to Vandenberg AFB, Calif.
Airman Yasmeen A. Wilson -- to Minot AFB, N.D.

AWDS Managers Course

Maj. Charles Buhtala, 319th OSS/OSW, Grand Forks AFB, N.D.

Awarded Weather Craftsman 7 level

Staff Sgt. Marc Allen, 319th OSS/OSW, Grand Forks AFB, N.D.
Senior Airman Thomas Prochazka, 611th OSF/WE, Elmendorf AFB, Alaska (Honor Graduate)

Army Airborne Course (Fort Benning, Ga.)

Staff Sgt. Michael F. Muhr, 1st WS/5OWF, Fort Lewis, Wash.

Introduction to Special Operations Course Graduates

1st Lt. Brian D. Griffith, Det. 5, 10th CWS, Fort Campbell, Ky.
1st Lt. Jason E. Holfman, Det. 5, 10th CWS, Fort Campbell, Ky.
Tech. Sgt. Clyde Hunter, Det. 5, 10th CWS, Fort Campbell, Ky.
Tech. Sgt. John R. Walsh, Det. 5, 10th CWS, Fort Campbell, Ky.

Air Assault School

Airman 1st Class Hilton R. Wells, 21st ASOS/ASW, Fort Polk, La.

Air Command and Staff College

Maj. Michael F. Bonnadonna, HQ AWS/XOOO, Scott AFB, Ill.

See SALUTES
continued on Page 23

Supporting The Warfighter ... At The Heart Of Air Force Weather

Tensions are high. A flotilla of U.S. naval vessels set off from Florida toward Cuba for an open-water memorial after four individuals are killed when their aircraft are shot down by Cuban MiGs.

On the other side of the world, relations are strained as Communist China conducts missile tests and a large-scale military exercise in the Taiwan Strait.

Meanwhile, the spring thaw in Bosnia raises fears melting snow will create flooding problems with the Sava River, and expose land mines.

In each situation, the Air Force Global Weather Central (AFGWC) actively supports the U.S. military response — with state-of-the-art numerical weather prediction model output; with tailored weather forecasts, graphical and alphanumeric; and with high-resolution weather satellite imagery.

As the heart of Air Force Weather, AFGWC is involved in all phases of military operations, from initial planning to the last airman or soldier out. AFGWC anchors the team of weather warriors that gives our leaders, battlefield commanders, front-line soldiers and airmen the knowledge they need to exploit the weather for victory.

From flight weather forecasts for aircraft patrolling the Straits of Florida, to medium-range outlooks for the Taiwan Strait, to current assessments of precipitation and snow depth over data-sparse Bosnia, AFGWC is actively supporting our forces throughout the world.

AFGWC was established March 15, 1949, to support the Strategic Air Command. Today, the Air Force Global Weather Central builds the world's most comprehensive weather database and applies it in real-time to satisfy the worldwide operational requirements of the Air Force, Army and Joint combat forces.

AFGWC integrates data from military, civilian and foreign weather satellites, conventional surface observations, upper air weather data and pilot reports, and gridded data from computer models, to produce over 45,000 individual products each day. Global analyses and forecasts are distributed to weather units around the world and provide the foundation for tailored weather support to Air Force and Army planners and operators. AFGWC also creates turbulence and icing forecasts for military flyers, protects military assets at over 300 locations with site-specific point weather warnings and tracks typhoon and hurricane positions all over the world.

AFGWC, housed inside the massive Martin Marietta building on Offutt AFB, Neb., is a wing-level organization aligned under Headquarters Air Weather Service, a Field Operating Agency (FOA).

AFGWC has one subordinate unit, Det. 7 at Tinker AFB, Okla., which man-ages the Automated Weather Network (AWN). AFGWC's 800-member work force features a mix of active duty military, civilians and private contractors. More than one-third of the military personnel are computer programmers and operators. The majority are weather troops.

The opening scenarios summarized AFGWC's daily involvement in Air

Force, Army and other military operations — but that's just one part of its mission.

The other part is to "manage change," keeping the "heart" of Air Force Weather at the cutting edge of science and technology, pumping out the best possible products to warfighters, worldwide. Change — perhaps, metamorphosis is a better description — is underway at Air Force Global Weather Central.

What does the future hold for AFGWC? Improved product accuracy, improved product precision, and improved product timeliness and accessibility are just some of what the weather warfighter can expect.

Regionalization — it has been a concept ... now it is a reality! This ongoing initiative transforms AFGWC weather forecast production from a primarily synoptic-scale focus to a meso-scale focus. Theater forecast teams aligned to support unified command areas of interest are being created within AFGWC. These theater teams will use high-resolution numerical weather prediction models centered over these high-interest areas and will provide a suite of automated and forecaster-in-the-loop products tailored to the unified command's specific regional requirements.

(From left) Master Sgt. Doug Wilkerson, Senior Airman Otto Walker, and Capt. Jay Smith put the finishing touches on a 24-hour precipitation forecast for the East Strategic Region.

A U.S. European Command (EUCOM) theater weather forecast team became operational in January and is currently providing a number of products that complement those already available in theater. Feedback from U.S. Air Forces in Europe (USAFE) has been extremely positive.

Other theater teams will activate this summer for Southwest Asia, the Western Pacific, and North America. AFGWC will retain its contingency weather forecast team to support short-notice operations anywhere in the world.

In addition to the theater teams described above, AFGWC is transforming its remaining synoptic-scale operations concept to one that uses three strategic cells to cover the globe — from the North to the South Pole. These strategic cells will focus on synoptic-scale flight hazards and cloud forecasts to respond to areas not covered by the theater teams. They will support strategic airlift, strategic reconnaissance, and other long-haul DoD missions.

To increase the precision of its products and services, AFGWC requires better observations and more accurate numerical weather prediction (NWP) models. The AFGWC Global Spectral Model (GSM) has served the Air Force well during the past decade, but it will soon be retired.

AFGWC, in cooperation with the Navy's Fleet Numerical Meteorology and Oceanography Center (FNMOC), is quickly transitioning to the Navy Operational Global Atmospheric Prediction System (NOGAPS) model.

The NOGAPS model is superior to the GSM and will be used to generate strategic products for each of the three regions up to five days, and it will initialize theater-scale NWP models.

In addition to NOGAPS, AFGWC is using National Centers for Environmental Prediction (NCEP, formerly the National Meteorological Center) Medium Range Forecast (MRF) data to produce atmospheric outlooks to 10 days and beyond.

AFGWC's three-tiered strategy for becoming the warfighter's supplier of choice for weather information

The Relocatable Window Model (RWM) is AFGWC's primary theater-scale model running with approximately 30-50 nautical mile grid spacing over selected areas. The RWM is the primary tool for building the war-fighter visualizations produced at AFGWC.

AFGWC is actively acquiring a very high-resolution mesoscale NWP model. In cooperation with the Argonne National Laboratory and the National Oceanic and Atmospheric Administration (NOAA) Forecast Systems Laboratory (FSL), AFGWC will prototype products using the Penn State University (PSU) MM-5 model.

The prototype will run at 10-kilometer grid spacing and will include high-resolution terrain. The output from the mesoscale model will be visualized using FSL's WFO-Advanced visualization platform. The cooperation between the national laboratories and NCEP is one way AFGWC is leveraging national assets to provide warfighters the best products available today, while minimizing the development costs.

Increased precision of regional forecasts requires more accurate observations. AFGWC receives its conventional observations (surface observations, raobs, etc.) via the Automated Weather Network (AWN) managed by AFGWC's Det. 7, Tinker AFB, Okla.

Photos by Airman Quinton Burris, 55th Wing Audiovisual

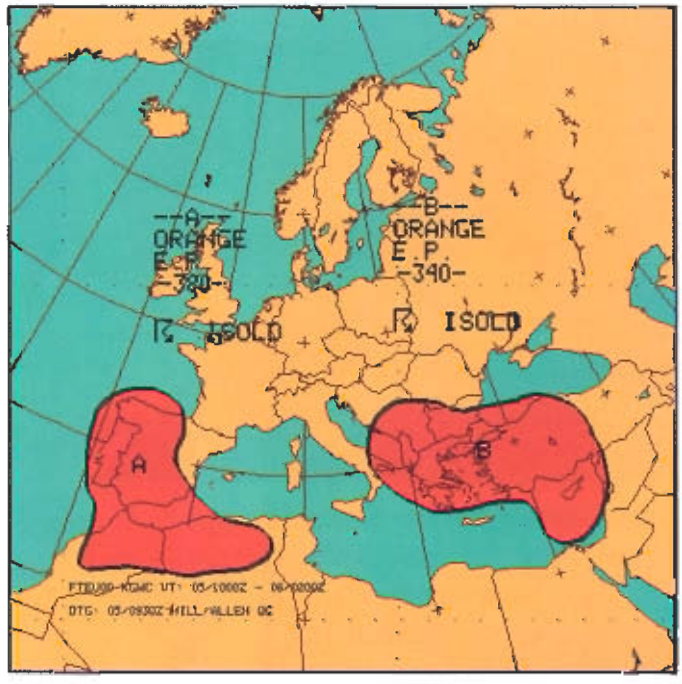
Tech. Sgt. Ted Mustaikes (left) and Staff Sgt. Mickey Hayes review a visualization product of data from the Relocatable Window Model.

Another source of observations are the civil (NOAA) and defense (DMSP) meteorological satellites (METSATs). AFGWC ingests more METSAT data than any organization in the world. The METSAT data is used to initialize the different NWP models run at AFGWC and to produce warfighter images and visualizations. The Real-Time Nephanalysis (RTNEPH) is a one-of-a-kind high resolution global cloud data base built using multiple METSAT and conventional observations.

Many of the METSAT images and RTNEPH databases directly support the Joint Chiefs of Staff, National Programs, and the National Command Authorities.

The AFGWC METSAT exploitation section has recently developed techniques to combine visible and infrared METSAT data to produce multispectral images useful for distinguishing low and high clouds, and other salient features.

These products are available today on the AFGWC Dial-In Subsystem and the Air Force Weather Information Network. In addition, techniques for inferring snow cover, snow depth and soil wetness using microwave imager data in data sparse areas are in development. In



An example of the AFGWC Relocatable Window Model output showing weather over Bosnia. The RWM is AFGWC's primary theater-scale model running with approximately 30-50 nm grid spacing over selected areas. The RWM is the primary tool for building the warfighter visualizations produced at AFGWC.

the future, these and other techniques will be harnessed by sophisticated weather analysis and forecast models to provide worldwide very high resolution forecasts hourly.

The increased precision and accuracy resulting from AFGWC's regionalization effort is of little use to the field if the warfighrer doesn't have access to the information in a timely manner. AFGWC has not overlooked this critical step.

The AFGWC Dial-In Subsystem (AFDIS) will receive a face lift this summer, enhancing the accessibility and "tailorability" of AFGWC products by forecasters in the field.

AFGWC's newest communication system is the Air Force Weather Information Network (AFWIN) providing easy point-and-click product retrieval capability via the Internet (the Uniform Resource Locater, or URL, is *http://afwin.offutt.af.mil:443*).

AFGWC is exploring more enhancements to AFWIN, including alphanumeric and other capabilities, and will be working to merge AFDIS with AFWIN in the near future.

If you are thinking "AFWIN is great for unclassified operations, but I fight the war in the classified environment," don't worry! The same communication technology available on the unclassified systems is available on the classified networks and AFGWC is working to exploit these as well.

The regionalization products available on AFWIN will soon be available on the Global Command and Control System (GCCS on the Secure Interuet Protocol Router Network (SIPRNET)) and the Joint Worldwide Intelligence Community System (JWICS and Intellink). A prototype of one classified communication system will be tested this summer using the Joint (Air Force and Navy) Weather Anchor Desk system, which is an Internet-like homepage, where multiservice products are available at the click of your mouse.

Communication to the weather and non-weather warfighter is a necessity. AFGWC participated in PROJECT STRIKE 95 where AFGWC products were delivered to the cockpit of a B-1B in real-time. The B-1B aircrew was redirected in-flight, and was able to receive an updated flight weather briefing, complete with visualizations, without leaving the flight deck.

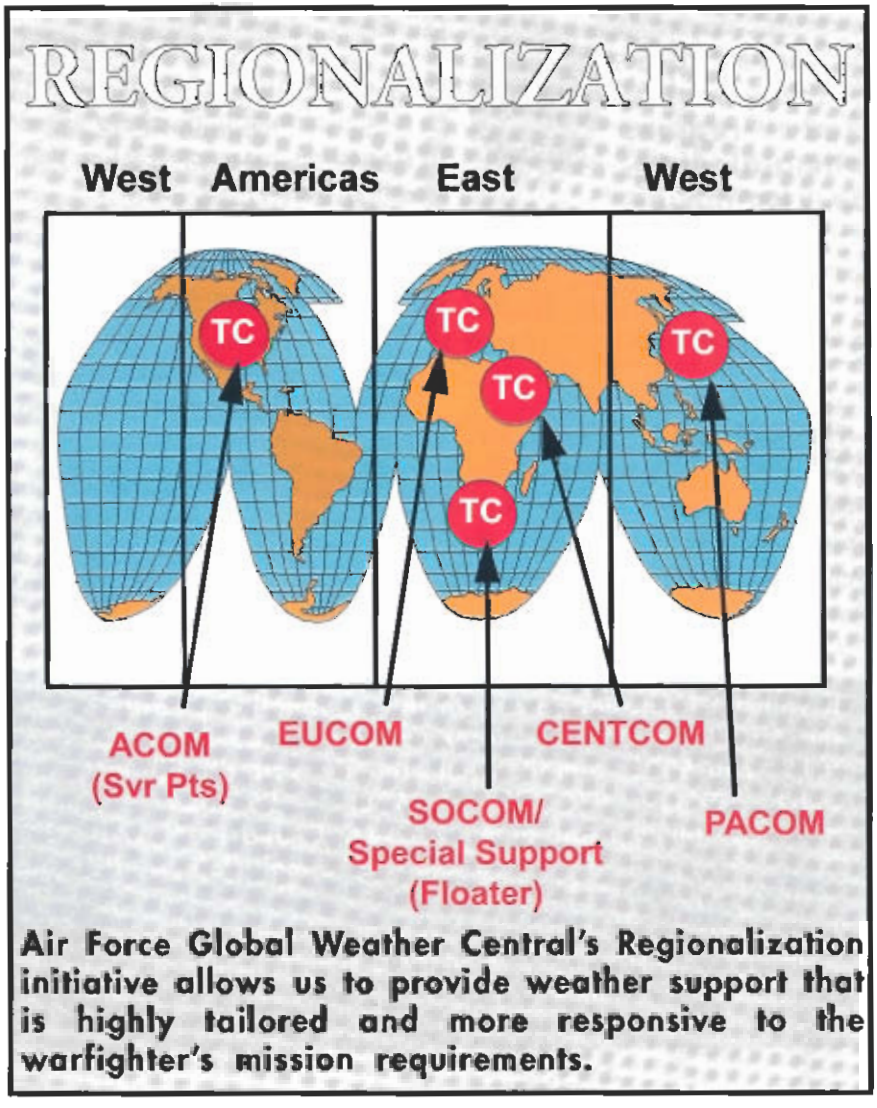
For communication between major weather centers within the United States, AFGWC has acquired state-of-the-art Asynchronous Transfer Mode (ATM) connections with FNMOC and NOAA.

These connections allow us to rapidly pull in the best these agencies have to offer for AFW operations (within seconds as opposed to hours using standard communication systems). AFGWC and U.S. Space Command are exploring similar ATM connectivity.

The ATM connections may open up additional relationships with agencies such as NOAA National Environmental Satellite, Data, and Information Service (NESDIS) and the NCEP Storm Prediction Center (SPC, Norman, Okla.) and the Aviation Weather Center (AWC, Kansas City, Mo.). Leveraging the NWS is a win-win situation for both the civil and defense sectors of government.

In summary, Air Force Global Weather Central is working aggressively to keep AF Weather at the cutting edge by improving the accuracy, precision, timeliness and accessibility of AFGWC products.

These are exciting times at AFGWC! Watch closely over the coming months for a new generation of products tailored specifically to your needs -- the needs of the warfighter.



Air Force Global Weather Central's Regionalization initiative allows us to provide weather support that is highly tailored and more responsive to the warfighter's mission requirements.

air force combat climatology center

Descriptive Climatologies

A Powerful Weather Planning Tool For The Warfighter

by Mr. Ken Walters
AFCCC Readiness Support Branch

Eight years ago we restarted the production of descriptive, or narrative, climatological studies. Why? Because these studies fill the large gap that opens when you ask "what causes the weather in this area?"

Preparing wearher warfighters requires both summarized point data and descriptive studies.

To achieve this, we instituted a descriptive climatology program. The Readiness Branch was converted into a study production cell. Branch members do library research, analyze information from various sources, and integrate the results of that analysis with satellite imagery and summarized data.

Tbeir findings are then written clearly and succinctly so that everyone in AFW can read, understand, and apply them in giving warfighters that added edge.

Our descriptive climatologies are produced on three scales: continent-sized regions (regional climatologies), small areas (countries, provinces, or states), and points (cities or similar sized areas).

Our regional studies are written as master reference works fot Ait Force Weather (AFW). As such, they follow a standard fotmat. The small area and point studies, on the other hand, are tailored to the requester's desires.

Where we stand now

REGIONAL CLIMATOLOGIES — By the end of 1996, all except Siberia, South Asia, and the Western Pacific Basin will be complete. Our completion target date for the remainder is Summer 1998.

"Our descriptive climatologies are produced on three scales: continent-sized regions (regional climatologies), small areas (countries, provinces, or states), and points (cities or similar sized areas)."

Mr. Ken Walters
AFCCC Readiness Support Branch

SMALL AREA/COUNTRY STUDIES — Sixty-five of these studies are complete, all driven by international events. A list, current as of April 5, is included at the end of this article.

POINT STUDIES — Studies are complete for approximately 210 points. Many of these cover specific times of the year, while others cover the entire year.

Normally, we don't produce studies on "speculation." We will, on rare occasions, prepare such a study as part of a package to support possible contingency operations. Such studies can be prepared in less than 24 hours.

Finally, the AFCCC started a program to prepare Theater Climatic Files (TCF) on CD-ROMs. Built around a hypertexted regional climatology, these are designed as master weather warfighter references.

Also on the CD-ROM are all available point/small area studies in the regional area, data summaries, cloud ceiling and EO climatologies for the area, MODCURVES, MODCV, NITELIGHT, and UACLIMO.

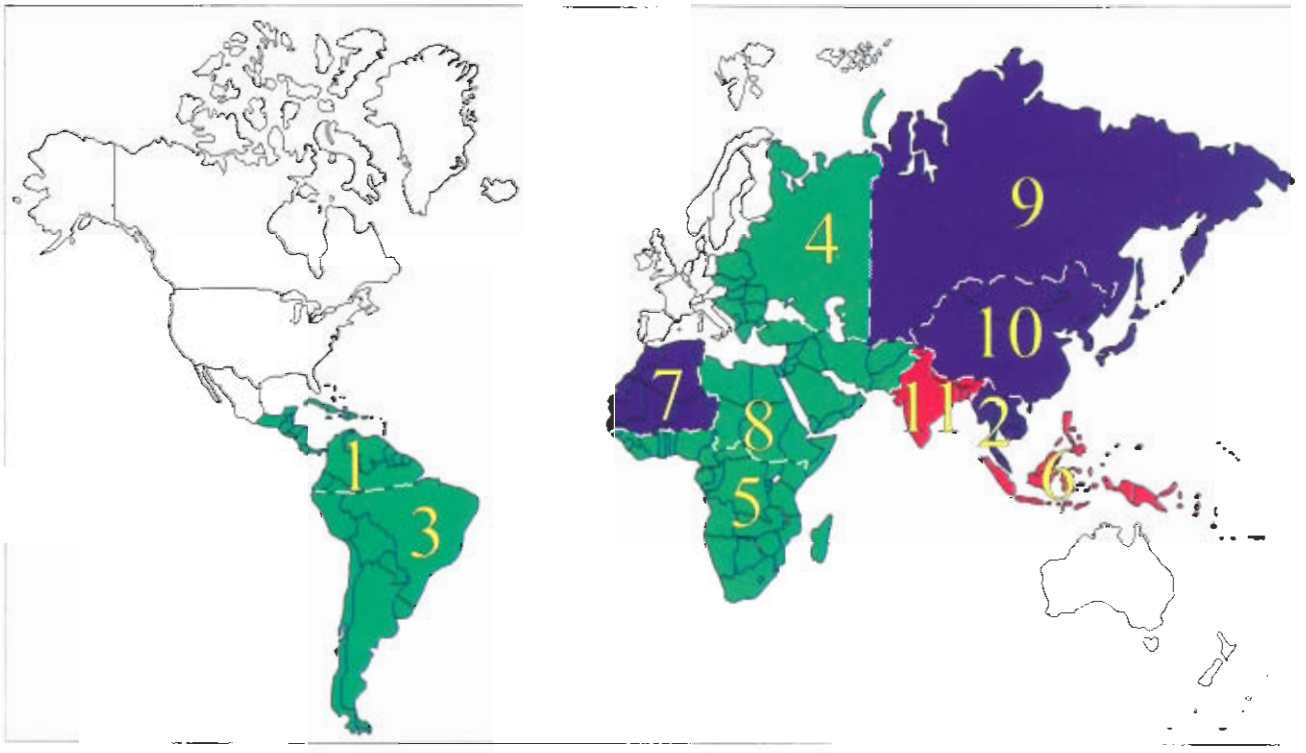
The prototype, which covers eastern Europe, is in final production. We aim to complete TCFs for all the regional climatology areas by late 1999.

If you are interested in any of this information please contact the Air Weather Service Technical Library (DSN 576-5023 or (618) 256-5023, e-mail awstl@thunder.safb.af.mil); AFCCC/DOO (DSN 576-4024, (618) 256-4024, e-mail afcccdoo@thunder.safb.af.mil); or AFCCC/DOJ (DSN 576-3465 (STU-III capable), (618) 256-3465, or e-mail dojkrw@thunder.safb.af.mil).
For emergency/after hours/weekend/holiday support, call DSN 576-6232, ext. 2278 (AFCCC beeper) and then key in your phone number.

Unpublished Country/Area Studies

Albania	Germany	Montenegro	Taiwan
Algeria	Gabon	The Netherlands	Tajikistan
Arctic Norway	Georgian Republic	Nigeria	Tanzania
Argentina	Greece	Northeast Spain	Thailand
Nangui	Golan Heights	Northhampton Uplands (UK)	The Transcaucusus
Bangladesh	Grand Cayman Islands	Panama	Tunisia
Belgium	Iran	Peru	Turkey
Burndi	Italy	Pembroke Co. (UK)	United Arab Republics
Caribbean Islands	Japan	Persian Gulf	Venezuela
Central Bolivia	Jordan	Rwanda/Burundi	Vietnam
Colombia	Kamchatka	Sardinia	Rhein Valley (Germany)
Cuba	Kashmir	Sierra Leone	Alpine Foothills (Germany)
Cyprus	North Korea	Somalia	Rhein Plain (Germany)
Denmark	South Korea	South Baltic Sea	Whitehorn Hills (UK)
Eritrea	Madagascar	Southwest Norway	Yugoslavia (former)
Ethiopia	Mexico	Sri Lanka	Zimbabwe

TASKED REGIONAL CLIMATOLOGIES



1 Caribbean
2 Southeast Asia
3 South America
4 Eastern Europe
5 Equatorial & Southern Africa
6 Western Pacific Basin
7 Northwest Africa
8 Southwest Asia-Northeast Africa
9 Siberia
10 East Asia
11 South Asia

Green = Published Blue = Working Red = Future

OBSERVATIONS

Alaskan Weather Units Get 'Northern Exposure'

by 1st Lt. Michael S. Petrocco
354 OSS/OSW
Eielson AFB, Alaska

At midday March 11, a host of aircraft departed from Eielson and Elmendorf Air Force Bases, Alaska, to respond to Scud missile attacks over central Alaska.

Now this Scud attack was not real of course, but the scenario served as a backdrop for COPE THUNDER 96-01 — a two-week Pacific Air Forces (PACAF) exercise designed to provide realistic training for aircrews, logistics personnel, and selected command and control operators in a simulated combat environment.

This exercise involved over fifty Air Force and Navy aircraft flying more than one hundred sorties per day over the northern skies of Alaska.

Each year, Eielson hosts an average of four COPE THUNDER exercises and accommodates units not only PACAF, but also from Canada, Asia, Australia, and the Royal Air Force.

During a typical COPE THUNDER exercise, the men and women of Eielson Base Weather, the Alaskan Weather Operations Center, Elmendorf Base Weather, and select units from Japan, Korea, and the RAF join together to provide operational weather support. During COPE THUNDER 96-01, weather forecasters from Alaska and Japan provided over one dozen mission control forecasts, and over twenty simulcast mass-weather briefings.

These simulcast briefings are part of a live data link between Eielson and Elmendorf and ensure consistency between pilots and planners.

Each exercise presents new challenges for us here in Alaska. From predicting snow showers during the winter, to predicting thunderstorms and rain showers during the summer, working a COPE THUNDER is a unique and challenging experience. The area of coverage incorporates more than 66,000 square miles of airspace, more than 28 threat systems, more than 235 targets for range exercises, and over 90,000 acres of range-complex impact area.

The Alaskan forecasters are continuing to improve weather support for COPE THUNDER operations by extracting previously unavailable weather data from the range-complex areas, and integrating "weather" into mission planning.

During COPE THUNDER 96-01, the combined efforts of the forecasters saved more than 200 sorties by accurately forecasting the only two days with unfavorable flying conditions. It is ongoing efforts like the above which allow us to anticipate and exploit the weather for all levels of operations.

Former Navy Officer Joins Air Force At Army Post

It was an unusual scene at the 10th Air Support Operations Squadron, Fort Riley, Kan., when Navy Lieutenant Keith A. Buckley raised his right hand for his commissioning as an Air Force officer, in a ceremony on an Army post.

Buckley is a former Navy lieutenant who spent 10-1/2 years in the Navy after his commissioning through the Naval Reserve Officer Training Corps in 1984. He spent his Navy career in various jobs, serving both ship and shore assignments.

On Jan. 31, the Virginia Military Institute graduate took his oath as an Air Force Reserve officer, which was administered by his wife, Maj. Sharon A.W. Buckley. Major Buckley is the 10th ASOS weather flight commander at Fort Riley.

The newly-commissioned Captain Buckley is assigned to the 1st Fighter Wing weather flight, Langley AFB, Va., as an individual mobilization augmentee (IMA), and also serves as the staff weather officer to the 160th Fighter Squadron, Dothan, Ala. The captain performs his routine training at the Fort Riley weather station. Buckley received a master's degree in meteorology and physical oceanography from the Naval Postgraduate School in 1990.

Capt. Keith A. Buckley (right) receives the Air Force commissioning oath from his wife, Maj. Sharon A.W. Buckley, at Fort Riley, Kan. Captain Buckley was a former Naval officer.

U.S. Air Force photo

FROM THE FIELD

Weather Student Puts Training To Quick Use During Keesler Class

by Ed Ring
Weather Training Flight
Keesler AFB, Miss.

It doesn't often happen that weather forecasters see severe weather developing on the radar in front of them immediately after learning how to recognize it.

The forecasters learn about the indicators of severe weather in school, but rarely find them while still in training. This wasn't the case, however, for Staff Sgt. Jay Curtis, a forecaster from Travis AFB, Calif.

Curtis was at the weather schoolhouse at Keesler AFB, Miss., taking the month-long Doppler Radar Principle User Process (PUP) course when he spotted severe weather indicators on his PUP. The class had just learned to interpret derived radar products when Curtis found a severe storm system over southern Mississippi, March 13. He investigated the system further and found a tornado signature, a mesocyclone and strong updrafts.

"It was great to apply the new information I learned in the course right away," Curtis said. "The storm was headed for Jones County, Miss. I just wish I could have issued a warning for them."

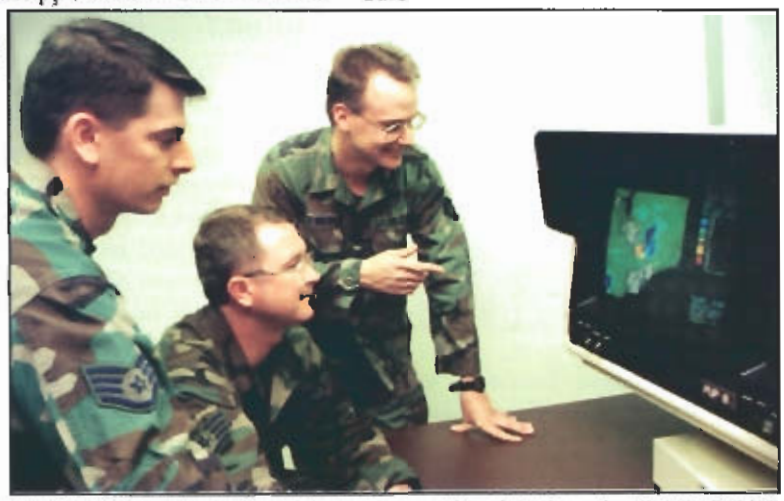
Staff Sgt. Robert Steenburgh, an instructor, had just finished teaching the class about severe weather indicators on Doppler radar.

"It was a rare opportunity for the class, because severe weather doesn't always occur during the course," Steenburgh said. "Usually we use archived data from other storm systems to teach these concepts. I was really impressed by the class' enthusiasm."

Reports from the area showed one-and-three-quarter-inch hail and 65-knot winds. Two houses were destroyed, two people were injured, and trees and power lines were downed. The class developed a display of the radar products and made it available for the rest of the school to view.

Curtis, a Rialto, Calif., native, cross-trained into the weather career field four years ago and was in one of the last forecasting classes at Chanute AFB, Ill., a base which has now closed.

U.S. Air Force photo



Staff Sgt. Jay Curtis (center) analyzes the severe weather data from the NEXRAD PUP with instructors Staff Sgt. Larry McCoy and Staff Sgt. Robert Steenburgh.

Radar Troubleshooters Earn Customer Service Excellence Award

by Daryl Covey and Barry Reichenbaugh
National Oceanic and Atmospheric Administration
Washington, D.C.

A team of radar experts who run a troubleshooting hotline at the WSR-88D Operational Support Facility at Norman, Okla., were recently honored with the U.S. Department of Commerce Customer Service Excellence Award.

The team, which includes several Air Force members, was commended for putting customers first and for its outstanding success rate.

"The WSR-88D Hotline staff ranks among the best help-line services in both government and private industry," said Dr. Elbert W. "Joe" Friday, Director of the National Weather Service. "They provide a vital service in helping keep the nation's network of weather radar 'sentinels' ready to warn people of severe weather situations."

These meteorologists and electronics technicians manage the weather radar hotline 24 hours a day, seven days a week, offering help by phone to all of the more than 125 Doppler weather radars currently operating in the United States. The 30-member staff gets an average of more than 1,500 calls each month.

Since the hotline began in 1991, the staff has helped offices around the nation with radar-related problems during more than 150 severe weather events, enabling each site to get back into operation quickly and meet their critical warning responsibilities.

During the past four years, the WSR-88D experts have received more than 20,000 requests for help. Of these, the team has resolved 99.8 percent of the problems

See OBSERVATIONS continued on Page 22

oh, by the way

Lightning Detector's First Year Of Operation Reveals Startling Facts

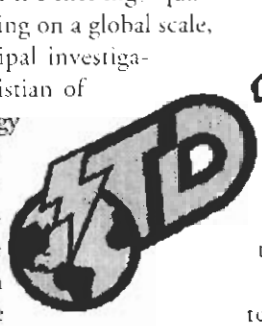
During its first year in orbit, a NASA lightning monitoring instrument called the Optical Transient Detector has uncovered tantalizing links between space-based lightning measurements and the intensity of severe storms.

Launched into Earth orbit on April 3, 1995, by an Orbital Sciences Corporation Pegasus rocket, the orbiting detector has produced the first high-quality images of lightning on a global scale, according to principal investigator Dr. Hugh Christian of the Global Hydrology and Climate Center, Huntsville, Ala.

"Using the instrument we have determined that, in some cases, there are up to 20 times more lightning flashes within clouds than observed by the ground-based network," Christian said. "This is significant because lightning flash rates offer the intriguing possibility of assisting predictions of tornado formation."

Data from the instrument shows that severe thunderstorms tend to produce lightning within clouds while the storms are building, and then more of a mixture of cloud and ground lightning as the storms dissipate. The quantity of cloud-to-ground lightning strikes, which can be detected by the present ground-based network, increase only after the storm has matured. "This case study indicates that space-based observations may provide a more advanced warning of severe weather," said Christian.

The instrument also has observed that more lightning is produced during the northern hemisphere summer than during the southern hemisphere summer.



The experiment was made possible by a streamlined design and development approach for a new technology system.

"This highly compact lightning detector represents a sophisticated new research tool in space," said project manager Roger Chassay of the Science and Applications Projects Office at the Marshall Space Flight Center, Huntsville, Ala. "The Marshall team placed the lightning detector development on a fast track when given the opportunity to fly the instrument on the Orbital Sciences Corp. satellite, Microlab-1."

The detector was built, tested, and delivered in less than a year. "Our experience clearly shows that, for payloads involving small-to-medium size and complexity, we can definitely streamline the development process and provide flight hardware of high quality that produces valuable new science."

The Optical Transient Detector is a highly compact combination of optical and electronic elements. The optics and the electronics are a little bigger than a two-pound coffee can and a typewriter, respectively. In spite of its small size, the detector represents a major advance over previous technology, given its ability to detect lightning under bright, daytime conditions as well as at night.

The Optical Transient Detector is a pathfinder for a follow-on lightning detector called the Lightning Imaging Sensor, scheduled for launch in 1997 by a Japanese rocket on the Tropical Rainfall Measuring Mission spacecraft.

"Looking to the future, this instrument is showing us that lightning observations from geostationary orbit could be very valuable for severe weather prediction and warnings," said Christian.

Data from the lightning detector is analyzed by scientists at the Global Hydrology and Climate Center. The center is operated under cooperative agreement between NASA, the University of Alabama in Huntsville and the Universities Space Research Association.

Images and motion sequences of Optical Transient Detector cloud and lightning observations are available via the World Wide Web at the following URL: "http://wwwghcc.msfc.nasa.gov:5678/otd.html".

Photo by Staff Sgt. Steve Elliott

Assisting The Observers

Senior Airman Jerome Hernandez works on his Observer Assistant program during a recent five-day visit to Headquarter Air Weather Service, Scott AFB, Ill., as part of the new Weather Internship Program. Hernandez is an observer from Altus AFB, Okla. The Observer Assistant program is designed to act as a quick reference observing aid which HQ AWS will distribute to weather units this year. If you have an idea, but don't have the time "back home" to work on it, the internship program can help. After gaining permission from your commander to go TDY to Scott AFB, call HQ AWS/XON at DSN 576-4721, ext. 447.

OBTW
News You Can Use

NAIC Holds First IntelMet Conference

The National Air Intelligence Center held its first Intelligence-Meteorology (IntelMet) Conference at Wright-Patterson AFB, Ohio Feb. 6-9, 1996.

The purpose of the conference was to bring weather and intelligence people from around the world to discuss how the two communities work together and how they can continue to cooperate in the future.

In the past, weather and intelligence have had an almost adversarial relationship. The intelligence analysts couldn't get timely and accurate weather information, while weather personnel couldn't get intelligence information (targeting, tactics, materials, etc.) needed to accurately run atmospheric models like the Electro-Optical Tactical Decision Aid.

When it comes down to facts, weather and intelligence are two like fields; both are required to make accurate "forecasts," often with little information. Another goal was to inrroduce the concept of how and where intelligence and weather fit into information warfare.

For more information about the conference, contact Capt. Fred Fahlbusch, Chief, Atmospheric and Space Environmental Sciences, NAIC, ar DSN 787-7071 or CMCL (513) 257-7071 or by electronic mail at "flf111@naic.wpafb.af.mil".

Aerospace Sciences Division Blossoms At Air Weather Service

The Headquarters Air Wearher Service Technology Training Division (AWS/XOT) has now become the HQ AWS Aerospace Sciences Division (AWS/XON).

With the name change also comes a change in the E-Mail comment address. The new address is : "hqawsxon@hqaws.safb.af.mil".

The 24-hour voice mail comment line remains the same at DSN 576-4721, ext. 441, or CMCL (618) 256-4721, ext. 441.

Stan Eval Schedule

There has been another change to the Headquarters Air Weather Service Stan Eval schedule. MacDill AFB, Fla., which was scheduled for Dec. 9-13, 1996, has been cancelled. No replacement has been named at this time.

The Stan Eval visit schedule for June-Dec. 1996 is:

June 3-7	*Fort Carson, Colo. (ACC)*
June 24-28	*Luke AFB, Ariz. (AETC)*
July 8-12	*Wheeler AFB, Hawaii (PACAF)*
July 15-19	*Hickam AFB, Hawaii (PACAF)*
Aug. 5-9	*Fort Eustis, Va. (ACC)*
Aug. 19-23	*Charleston AFB, S.C. (AMC)*
Sept. 9-13	*F.E. Warren AFB, Wyo. (AFSPC)*
Sept. 16-20	*Fort Hood, Texas (ACC)*
Sept. 30 - Oct. 4	*Fort Lewis, Wash. (ACC)*
Oct. 7-11	*McChord AFB, Wash. (AMC)*
Nov. 4-8	*Fort Belvoir, Va. (ACC)*
Nov. 18-22	*TBD (ACC)*
Dec. 2-6	*Fort Benning, Ga. (ACC)*

oh, by the way

Sixteen Sergeants Sew On Seventh Stripe

Sixteen master sergeants in the 1W0X1 career field will sew on their senior master sergeant stripes.

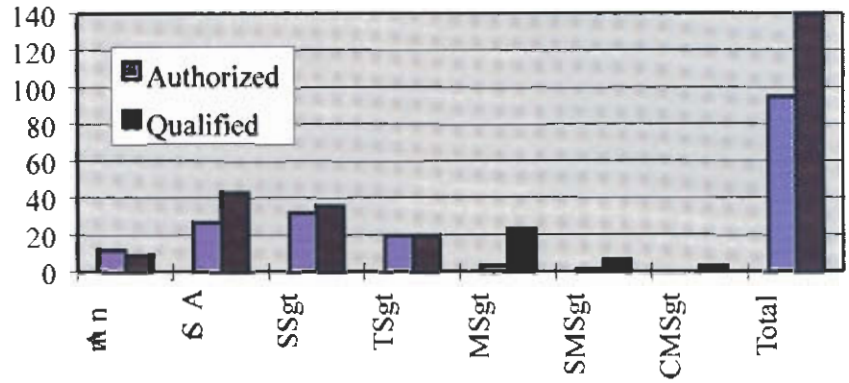
Air Force-wide, the selection rate in Cycle 96E8 was 7.31%, with 1,546 people selected out of the 21,139 who were eligible.

The selectees are: Kim M. Anderson, Peterson AFB, Colo.; Mark J. Campbell, Eielson AFB, Alaska; Robert F. Dufrane, Laughlin AFB, Texas; Jeffrey B. Dunn, Nellis AFB, Nev.; Jeffrey A. Fluegge, Hickam AFB, Hawaii; Jeffrey A. Fries, Maxwell AFB, Ala.; Robert L. Haines, Air Force Combat Climatology Center, Scott AFB, Ill.; Robert L. Hugg, Det. 7, Air Force Global Weather Central, Tinker AFB, Okla.; David V. Jenkins, Robins AFB, Ga.; Jacob R. Lee, Jr., Pope AFB, N.C.; Pierre A. Mercier, Headquarters Air Weather Service, Scott AFB, Ill.; Frederic Patterson, Langley AFB, Va.; Neal R. Roll, Elmendorf AFB, Alaka; Dennis A. Rucker, Hanscom AFB, Mass.; G.D. Strohm, Patrick AFB, Fla;. Kim Van Vleet, Peterson AFB, Colo.

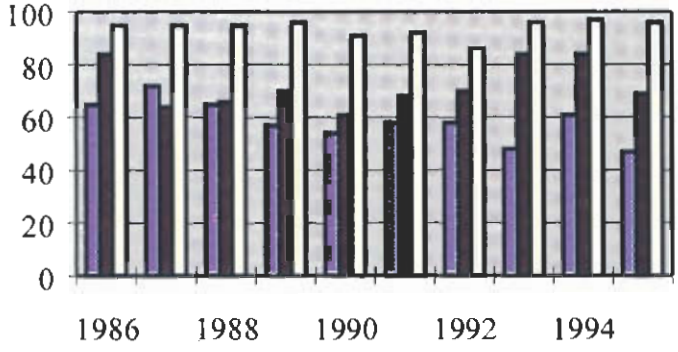
STATS
continued from Page 5

Parachutist manning continues to get our attention. Maybe it's because I am one. We've reached nearly 85 percent manning in our 95 billets. But don't stop volunteering — as a matter of fact, we're looking forward to some personnel changes that may help us get "better." More on that later.

AFW Parachutists



AFW Reenlistment Rates



Lastly, reenlistment rates always get our attention. They affect our manning, our skill, and the dollars that you get paid when you reenlist.

The Air Force first-term rate is 63 percent; second term is 77 percent; and career is 96 percent. The 1WXXX rates for 1995 were 47, 74, and 95 percent for first-, second-, and career, respectively. Our reenlistment rates exceed the Air Forces at the second term and for the career force.

Bonus are paid when an AFSC's reenlistment rates are "significantly" lower that the Air Forces'. Reviews are usually conducted semi-annually and one was done in April this year.

AFIT
continued from Page 22

bers dedicated to the in-residence programs in meteorology and space environmental support. The faculty and staff are: Lt. Col. Mike Walters, Maj. Jason Tuell, Maj. (select) Cliff Dungey, Capt. Derrill Goldizen, and Master Sgt. Pete Rahe.

When General Lennon visited the class recently, he told them that many of them would immediately return to base weather stations (BWS) to provide scientific leadership. The new AFW vision includes putting more advanced-degree officers in the field. This is to reap the full benefits of all the new technology in the BWS, such as NEXRAD and the Automated Weather Distribution System (AWDS). After graduation, the AFIT-educated officers will be ready to make an immediate contribution because of their broad meteorological education and its emphasis on worldwide military applications.

AFIT has a history of responding quickly to the changing needs of the U.S. Air Force, creating new educational programs designed to meet new and evolving technologies. The new in-residence graduate meteorology program is just one example of AFIT meeting Air Force needs in a timely and meaningful way.

(Editor's note: Tuell is an AFIT assistant professor of atmospheric physics, while Captain DesJardins is a student in the meteorology program).

OBSERVATIONS
continued from Page 19

-- and more than 75 percent have been solved in less than one hour. Past and present team members recognized by this award are:

Meteorologists: Mark Albertelly, Dan Berkowitz, Tim Burke, Cindy Chrisman, Navy Chief Aerographer's Mate Nickie Flambures, Dan Frashier, Dave Gaede, Teresa Havel, Steve Hunter, Brian Klein, Ed Mahoney, Vance Mansur, Delbert Matney, Tony Ray, Rudy Schaar, Air Force Tech. Sgt. Robin Smith.

Electronics Technicians: Mark Benner, Don Byrer, Jeff Engel, Chris Fotinos, Dan Garcia, Frank Hewins, Lee Huber, Al Jarvi, David Jerkins, Paul Kzenek, Matt Lynch, Eddie Maynard, Air Force Staff Sgt. Jeff Mott, Ron Pattison, Chris Price, Jummy Roper, Dennis Schuelka, Air Force Staff Sgt. Mike Shattuck, Bill Taylor.

SALUTES

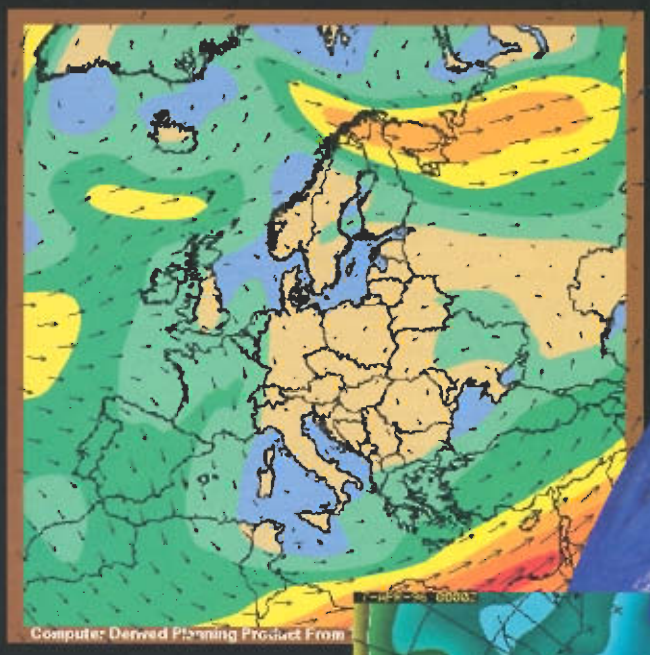
continued from Page 10-11

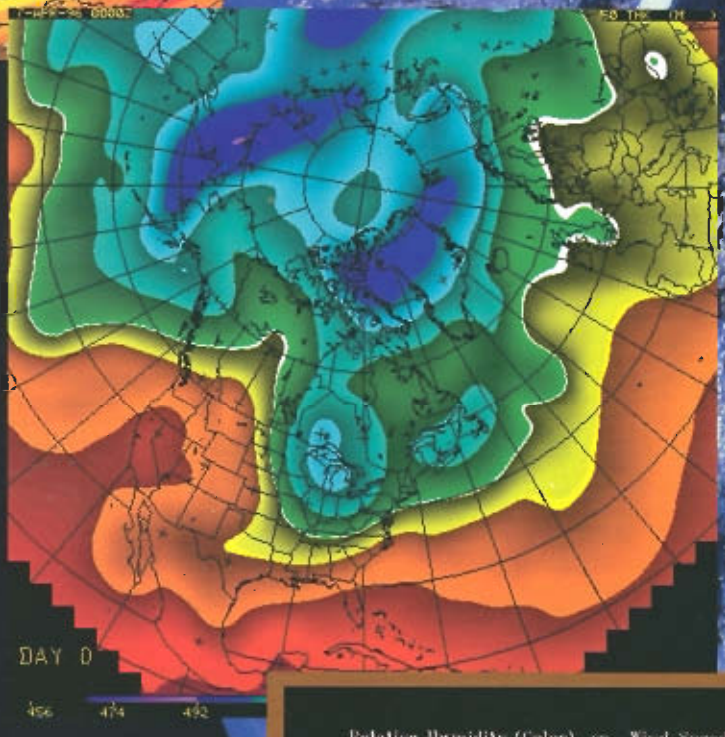
AWARDS

Headquarters Air Weather Service Company Grade Officer of the Quarter (Jan.-Mar. 1996)
Capt. Terry Givens, HQ AWS/SY, Scott AFB, Ill.
HQ AWS Senior NCO of the Quarter
Senior Master Sgt. Terry W. Langley, HQ AWS/XO, Scott AFB, Ill.
HQ AWS NCO of the Quarter
Tech. Sgt. Doug Rishel, HQ AWS/XO, Scott AFB, Ill.
HQ AWS Senior Civilian of the Quarter
Mr. Bob McPeek, HQ AWS/SY, Scott AFB, Ill.
HQ AWS Junior Civilian of the Quarter
Ms. Denise Schau, HQ AWS/RMH, Scott AFB, Ill.
10th ASOS Airman Of the Quarter (Oct.-Dec. 1995)
Airman 1st Class Brian D. Davidson, 10th ASOS/OSW, Fort Riley, Kan.
10th ASOS NCO of the Year
Tech. Sgt. David E. Jarvis, 10th ASOS/OSW, Fort Riley, Kan.
10th ASOS Senior NCO of the Quarter
Master Sgt. Thomas M. Simon, 10th ASOS/OSW, Fort Riley, Kan.
3rd ASOG Company Grade Officer of the Quarter
2nd Lt. Craig E. Downey, 10th ASOS/OSW, Fort Riley, Kan.
131st WF Airman of the Year
Senior Airman Shawn M. Harvey, 131st WF, Westfield, Mass. (ANG)
Air Education and Training Command Weather Company Grade Officer of the Year
Capt. John Shepley, 97th OSS, Altus AFB, Okla.
AETC Weather Senior NCO of the Year
Master Sgt. Richard A. Pratt, 42nd OSS, Maxwell AFB, Ala.
AETC Weather NCO of the Year
Tech Sgt. Steven M. Pickard, 42nd OSS, Maxwell AFB, Ala.
AETC Weather Airman of the Year
Senior Airman Timothy K. Schwader, 71st OSS, Vance AFB, Okla.
AETC Williams Award
97th OSS/OSW, Altus AFB, Okla.
AETC Pierce Award
Staff Sgt. Kurt R. Rohl, 47th OSS, Laughlin AFB, Texas
AETC Dodson Award
Senior Airman Randel D. Pollock, 97th OSS, Altus AFB, Okla.
AETC Moorman Award
334th TRS/Weather Training Flight, Keesler AFB, Miss.
AETC Best Award (Officer)
Capt. Benny D. Holbrook, 334th TRS/Weather Training Flight, Keesler AFB, Miss.
AETC Best Award (NCO)
Master Sgt. Theresa A. DeBoer, 334th TRS/Weather Training Flight, Keesler AFB, Miss.
AETC Civilian Forecaster of the Year
Richard D. Zentz, 14th OSS/DOW, Columbus AFB, Ga. (2nd consecutive year)
57th OSS/57th OG Company Grade Officer of the Quarter
1st Lt. J.J. Golembiouski, 57th OSS/OSW, Nellis AFB, Nev.
57th OSS/57th OG NCO of the Year
Tech. Sgt. Steven R. Grimes, 57th OSS/OSW, Nellis AFB, Nev.
Scott AFB, Ill., NCO of the Quarter
Tech. Sgt. Mike Nelson, HQ AWS/CVV, Scott AFB, Ill.
75th OSS Airman of the Quarter (Oct.-Dec. 1995)
Senior Airman Augustus Mendenhall, 75th OSS/OSW, Hill AFB, Utah
75th OSS Airman of the Year
Senior Airman Augustus Mendenhall, 75th OSS/OSW, Hill AFB, Utah
75th OSS NCO of the Quarter
Tech. Sgt. Michael Sincore, 75th OSS/OSW, Hill AFB, Utah
Air Force Outstanding Unit Award
39th Wing, 39th OSS/OSW, Incirlik AB, Turkey, July 1, 1993-June 30, 1995
39th OSS Company Grade Officer of the Year
Capt. Kevin P. Callahan, 39th OSS/OSW, Incirlik AB, Turkey
ACC Senior NCO of the Year
Master Sgt. Jeffrey A. Fries, 6th WF, 18th WS, Fort Rucker, Ala.
18th WS Senior NCO of the Quarter (Oct.-Dec. 1995)/Year
Master Sgt. Jeffrey A. Fries, 6th WF, 18th WS, Fort Rucker, Ala.
18th WS NCO of the Quarter/Year
Tech. Sgt. Daniel J. Geis, 18th WS, Fort Bragg, N.C.
18th WS Airman of the Year
Senior Airman Jamey Tate, 6th WF, 18th WS, Fort Rucker, Ala.
OL-A, 18th WS Forecaster of the Quarter (Oct.-Dec. 1995)
Staff Sgt. Richard W. Willard, Fort Belvoir, Va.
OL-A, 18th WS Observer of the Quarter
Airman 1st Class Clinton N. Dobry, Fort Belvoir, Va.
OL-B, 18th WS Airman of the Quarter
Airman 1st Class Allyson P. Strickland, Fort Eustis, Va.
OL-B, 18th WS NCO of the Year
Staff Sgt. Dale L. Payne, Fort Eustis, Va.
U.S. Air Forces in Europe Weather NCO of the Year
Tech. Sgt. Patrick J. Flieg, 52nd OSS/WEF, Spangdahlem AB, Germany
76th OSS NCO of the Year
Master Sgt. Paul Pinkerton, 76th OSS/OSW, Kelly AFB, Texas
Inspector General "Professional Performer" Awards
Senior Airman Dean Harpster, 45th WS, Patrick AFB, Fla.
Senior Airman Barbara Correa, 45th WS, Patrick AFB, Fla.
Volunteer of the Year, 45th Space Wing
Bill Roeder, 45th WS, Patrick AFB, Fla.
Air Force Space Command Company Grade Officer of the Year
Capt. Tim Rollins, 45th WS, Patrick AFB, Fla.
AFSPC Civilian of the Year
Ed Priselac, 45th WS, Patrick AFB, Fla.
AFSPC Observer of the Year
Airman 1st Class Patrick Berry, 45th WS, Patrick AFB, Fla.
AFSPC Best Award
Bill Boyd, 45th WS, Patrick AFB, Fla.
AFSPC Merewether Award
Bill Roeder, 45th WS, Patrick AFB, Fla.
ACC Company Grade Officer of the Year
Capt. Frederick D. Williams, USCENTAF/A3-DOOW, Shaw AFB, S.C.
319th OG NCO of the Year
Staff Sgt. Shawn Dahl, 319th OSS/OSW, Grand Forks AFB, N.D.
AMC Forecaster of the Year
Staff Sgt. Shawn Dahl, 319th OSS/OSW, Grand Forks AFB, N.D.
319th OSS/OSW Company Grade Officer of the Quarter
1st Lt. Cindy Rosa, 319th OSS/OSW, Grand Forks AFB, N.D.
611th OSF/611th AOG/11th AF Company Grade Officer of the Quarter (Oct.-Dec. 1995)
Capt. Teresa Ratledge, 611th OSF/WE, Elmendorf AFB, Alaska
611th OSF Company Grade Officer of the Year
1st Lt. Susan Pittman, 611th OSF/WE, Elmendorf AFB, Alaska
19th ASOS/18th ASOG NCO of the Year
Staff Sgt. Brian W. Anderson, Det. 5, 10th CWS, Fort Campbell, Ky.
Australian Parachutist Wings
1st Lt. Brian D. Griffith, Det. 5, 10th CWS, Fort Campbell, Ky.
Tech. Sgt. John R. Walsh, Det. 5, 10th CWS, Fort Campbell, Ky.
AMC Outstanding Weather Station of the Year
62nd OSS/OSW, McChord AFB, Wash.
AMC Weather Operations NCO of the Year
Tech. Sgt. John S. Galliano, 62nd OSS/OSW, McChord AFB, Wash.
62nd OG NCO of the Year
Tech. Sgt. John S. Galliano, 62nd OSS/OSW, McChord AFB, Wash.
McChord AFB Forecaster of the Year
Mr. Duane E. Klenke, 62nd OSS/OSW, McChord AFB, Wash.
McChord AFB Observer of the Year
Airman 1st Class Frank S. Howard, 62nd OSS/OSW, McChord AFB, Wash.
AFMC Outstanding Weather Airman of the Year
Senior Airman Sonia Heath, 76th OSS/OSW, Kelly AFB, Texas
76th OSS Airman of the Year
Senior Airman Sonia Heath, 76th OSS/OSW, Kelly AFB, Texas
San Antonio Air Logistics Center Airman of the Year
Senior Airman Sonia Heath, 76th OSS/OSW, Kelly AFB, Texas
Alamo Chapter, Air Force Association Blue Suit Award
Senior Airman Sonia Heath, 76th OSS/OSW, Kelly AFB, Texas
76th OSS NCO of the Year
Master Sgt. Paul Pinkerton, 76th OSS/OSW, Kelly AFB, Texas
1995 Pacific Air Forces Dodson Award
Senior Airman Tammie R. Carroll, 12th OSS/DOW, Randolph AFB, Texas
1995 Operations Support Specialist of the Year
Tech. Sgt. Donna L. Lacourse, 12th OSS/DOW, Randolph AFB, Texas
12th OSS Company Grade Officer of the Quarter (Oct.-Dec. 1995)
Capt. Patrick P. Ludford, 12th OSS/DOW, Randolph AFB, Texas
12th OSS/DOW Forecaster of the Quarter
Staff Sgt. Jimmy Odom, 12th OSS/DOW, Randolph AFB, Texas
12th OSS/DOW Observer of the Quarter
Airman 1st Class Steve Baldinger, 12th OSS/DOW, Randolph AFB, Texas
305th OSS Weather Forecaster of the Year
Staff Sgt. James Graefe, 305th OSS/OSW, McGuire AFB, N.J.
27th FW NCO of the Year
Staff Sgt. Kirk D. Bailey, 27th OSS/OSW, Cannon AFB, N.M.
27th OSS/OSW Forecaster of the Year
Senior Airman Joseph A. Kempfer, 27th OSS/OSW, Cannon AFB, N.M.
27th OSS/OSW Airman of the Quarter (Oct.-Dec. 1995)
Senior Airman Joseph A. Kempfer, 27th OSS/OSW, Cannon AFB, N.M.
27th OSS/OSW Forecastee of the Quarter
Senior Airman Joseph A. Kempfer, 27th OSS/OSW, Cannon AFB, N.M.
27th OSS/OSW Observer of the Quarter
Senior Airman Joan M. Saenz, 27th OSS/OSW, Cannon AFB, N.M.
62nd AW First Sergeant's Look Sharp Award (Jan.-Mar. 1996)
Airman 1st Class Janel P. Heidebrink, 62nd OSS/OSW, McChord AFB, Wash.
Pennsylvania Gen. Thomas J. Stewart Medal
Capt. Christopher S. Strager, 146th WF, Pittsburgh, Pa. (ANG)
State of Maryland Commendation Medal
Capt. David R. Helms, 104th WF, Baltimore, Md. (ANG)
Maj. Gen. John W. Collens Award (tactical)
209th Weather Flight, Austin, Texas (ANG)
Maj. Gen. John W. Collens Award (non-tactical)
159th Weather Flight, Camp Blanding, Fla. (ANG)
131st WF Airman of the Year
Senior Airman Shawn M. Harvey, 131st WF, Westfield, Mass (ANG)

BIRTHS

Antoine T. Griffin, to **Airman 1st Class Margit C. Carson**, 10th ASOS/OSW, Fort Riley, Kan.
Diane Nicole Fitzpatrick, to **Capt. and Mrs. Michael Fitzpatrick**, 45th WS, Patrick AFB, Fla.
Ryan Tyler Starrs, to **Staff Sgt. and Mrs. Shawn Starrs**, 45th WS, Patrick AFB, Fla.
Jose Palacios III, to **Senior Airman Jose and Amber Palacios**, 314th OSS/OSW, Little Rock AFB, Ark.


WIND SPEED
30,000 Feet
36 Hour For
For: 09 A
Computer Derived Planning Product From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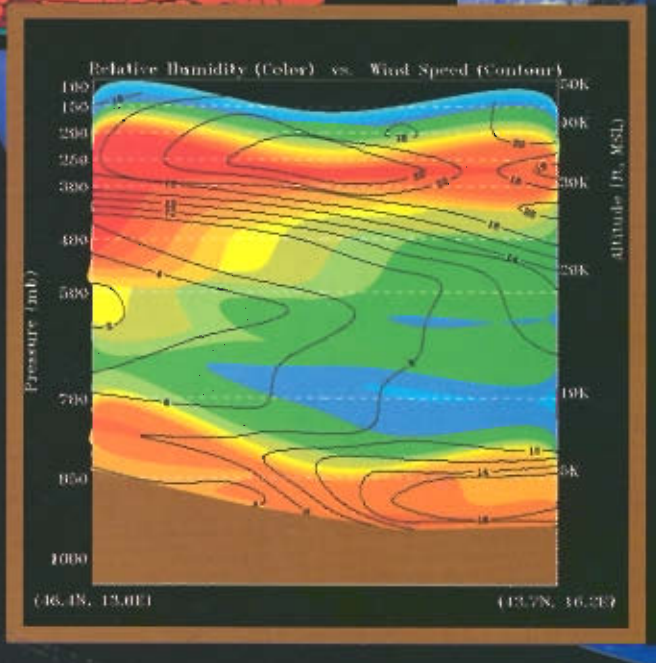
Relative Humidity (Color) vs. Wind Speed (Contour)
Pressure (mb)
Altitude (ft, MSL)
100
150
200
250
300
400
500
700
850
1000
50K
90K
130K
250K
150K
(46.4N, 19.0E)
(43.7N, 16.3E)
CROSS
SECTION
Valid At
08Apr96/1200Z